TOWN OF KIAWAH ISLAND

2020 LOCAL COMPREHENSIVE BEACH MANAGEMENT PLAN

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TABLE OF CONTENTS

1. INTRODUCTION 1

Section 1.1 Purpose 1

Section 1.2 History of Plan Approvals and Revisions 1

Section 1.3 Overview of Municipality/History of Beach Management Approaches 1

Section 1.4 Current Beach Management Issues 2

2. INVENTORY OF EXISTING CONDITIONS 3

Section 2.1 General Characteristics of the Beach 3

Section 2.2 General Land Use Patterns 9

Section 2.2.1 Beach Uses 11

Section 2.2.2 Benefits and Values of the Beach 11

Section 2.3 Beachfront Developments and Zoning 13

Section 2.3.1 Beachfront Structural Inventory 14

Section 2.4 Natural Resources and Ecological Habitats 14

Section 2.4.1 Threatened and Endangered Species 15

Section 2.4.2 Turtle Nesting 22

Section 2.5 Existing Public Access and Map 25

3. BEACHFRONT DRAINAGE PLAN 26

Section 3.1 Drainage Plan Details 26

4. BEACH MANAGEMENT AND AUTHORITIES 27

Section 4.1 State Authorities 27

Section 4.1.1 Overview of State Policies 27

Section 4.1.2 Beachfront Setback Area 28

Section 4.2 Local Government and Authorities 30

Section 4.2.1 Municipality's Comprehensive Plan 31

Section 4.2.2 Municipality's Hazard Mitigation Plan 32

Section 4.2.3 Municipality's Disaster Preparedness and Evacution Plan 32
Section 4.2.4 Beachfront Development Regulations 34
Section 4.2.5 Regulations on Beach and Shoreline Protection 34
Section 4.2.6 Other Regulations on Beach Management 36

5. EROSION CONTROL MANAGEMENT 37
Section 5.1 Shoreline Change Analysis 37
Section 5.1.1 Beach Profiles 37
Section 5.1.2 Long-Term Erosion Rates and Shoreline Change 38
Section 5.2 Beach Alteration Inventory 42
Section 5.2.1 Beach Renourishment 42
Section 5.2.2 Emergency Orders and Sandbags 46
Section 5.2.3 Previous Hurricane and Storm Events 47
Section 5.3 Discussion of Erosion Control Alternatives 51
Section 5.3.1 Beach Renourishment..... 52
Section 5.3.2 Other Measures 52

6. NEEDS, GOALS, AND IMPLEMENTATION STRATEGIES 53
Section 6.1 Retreat Strategy 53
Section 6.2 Strategy for Preserving and Enhancing Public Beach Access 53

7. APPENDIX 54
Section 7.1 Beach Management Overlays 55
Section 7.2.1 Structures Inventory Table 58
Section 7.2.2 Structures Inventory Maps 59
Section 7.3 Public Access Inventory Table 77
Section 7.4 Prior Studies 78
Section 7.5 Beach Profiles at 61 Monitoring Stations on Kiawah Island 80
Section 7.6 Short-term and Long-term Shoreline Volume Changes at 61 Monitoring Stations on Kiawah Island 142
Section 7.7 Copies of Local Laws and Ordinances 204
Section 7.8 Kiawah Emergency Preparedness Plan 233

SECTION 1

INTRODUCTION

The Town of Kiawah Island Local Comprehensive Beach Management Plan has been created to fulfill requirements established by the South Carolina Department of Health and Environmental Control's Office of Coastal Resource Management (OCRM) for beachfront municipalities.

Section 1-1 Purpose

This document will serve as an important planning and decision-making tool for the Town of Kiawah Island.

Section 1-2 History of Plan Approvals and Revisions

The Town of Kiawah Island was incorporated in 1988 and its first Local Comprehensive Beach Management Plan was produced and approved in 1992. In 2006, Town Staff completed a complete revision of the document and submitted it to OCRM. The document was given "conditional approval" on August 30, 2006 but was never officially approved by OCRM. A complete revision was also conducted in 2012 and approved by OCRM on December 3, 2012.

Section 1-3 Overview of Municipality/History of Beach Management Approaches

Kiawah Island is gated residential-resort community located 20 miles southwest of Charleston. Approximately 4,100 of the island's 10,000 acres are 5 feet or more above mean sea level. Development of Kiawah Island began in the 1960's and continues today. The island is home to 5 golf courses, 1 hotel, villas, and single-family homes.

Kiawah's beach is very healthy and requires very little maintenance. There have been 4 beach management projects in the past 25 years. The first was a very small-scale sand-scraping project in 1996 to address some minor erosion along Eugenia Avenue. The second was a large-scale beach renourishment project conducted in 2006 on the eastern end of the island in response to extensive erosion along the beachfront adjacent to the Ocean Course Golf Club. The project plan was designed by the Town's beach consultant, Dr. Tim Kana, incorporating suggestions from several state and federal agencies. L. Dean Weaver Construction, Inc. was contracted to do the work and officially started on June 8, 2006. The primary objective of the project was to close an existing beachfront creek and open a new channel to the east, in order to reestablish the natural flow of sand to the beach in this area. In addition, 550,000 cubic yards of sand was placed along heavily eroded beachfront areas from the Ocean Course Clubhouse down to the 16th fairway. Work was done with land-based equipment and the project was completed on July 28, 2006. The Town funded the majority of this $3.6 million project with the balance being covered by financial contributions from the Kiawah Island Golf Resort (KIGR),

Kiawah Development Partners (KDP), and the Kiawah Island Community Association (KICA).

The third project was conducted in 2015 and was similar in design to the 2006 project, although the scale of the project was much smaller. The project was designed by Coastal Science and Engineering in consultation with state and federal agencies. A total of 100,000 cubic yards of sand was excavated from intertidal sand bars and used to close an existing beachfront creek that was causing erosion adjacent the Ocean Course Golf Course driving range and clubhouse. A new inlet channel was also excavated further to the east to divert the flow of water in the area. Work was performed by Lake Moultrie Construction between May 18-June 11, 2015. The cost for construction was $538,000 and the total project cost, including required mitigation, was approximately $992,000.

The fourth and final project was a sand scraping project conducted in 2017-18 after Hurricane Irma. This project was conducted in two phases and work was performed by RE Goodson Construction. Phase 1 (October 10-November 1, 2017) was competed under an emergency permit and rebuilt the primary dune along 7,010 feet of beach, primarily along the Turtle Point and Ocean Course golf courses. Phase 2 (December 11, 2017-January 11, 2018) was completed under an individual OCRM permit following the same guidelines as Phase 1. The second phase restored the primary dune along 8,700 feet of beach shoreline. The total cost of this project was $176,552.50 (Phase 1 - $112,119, Phase 2 - $64,433.50).

Section 1-4 Current Beach Management Issues

Kiawah Island has a very healthy beach that requires very little management or manipulation to maintain. Kiawah's main issues are dog management, beach walkover maintenance, and protection of critical wildlife habitat areas.

SECTION 2

INVENTORY OF EXISITING CONDITIONS

Section 2.1 General Characteristics of the Beach

Kiawah Island is a ten-mile long barrier island bounded on the east by the Stono Inlet and Folly Beach, and on the west by Captain Sam's Inlet and Seabrook Island. The center of Kiawah Island is located 15 miles southwest of the Charleston Harbor Entrance (Figure 1).

The beach along Kiawah Island is composed of well-sorted, fine to very fine sands. The beach tends to be relatively wide and flat, and is backed by one or more dune ridges along most of the island's length. The areas adjacent to the inlets may not exhibit this characteristic profile due to the effects of inlet shoal bypassing and inlet migration.

Tides in the vicinity of Kiawah Island are semidiurnal, with a mean tide range of 5.2 feet. Waves along the shoreline tend to be relatively small, approaching the beach from the south and southeast during the summer months, and from the northeast during the winter. South/southeast waves are the most common but northeast waves tend to be stronger. This means that the net direction of sediment transport along Kiawah's beach is from east to west.

Large-scale coastal processes

The beaches and barrier islands of the Atlantic coast all respond to winds, waves, and tides that predominate in a particular area. No physical process is more complex or variable than the interaction of loose sediments with breaking waves and currents. It is little wonder then that confusion abounds in discussions of beach erosion. Even coastal experts, who know much about one site or type of coast, may have erroneous notions regarding the processes controlling beach changes at another site. Conditions, processes, and solutions should not be extrapolated from one site to another.

South Carolina beaches and barrier islands differ greatly from North Carolina or Florida beaches. South Carolina's higher tide range (averaging 5.4 ft in Charleston, but exceeding 8 ft during some new moon periods), lower average wave heights, and finer sand all contribute to our coast's unique character. Stronger tides allow more inlets to form and persist. Gentle slopes of the coastal plain and continental shelf allow sand to accumulate in beach ridges (ancient foredunes), offshore bars, and inlet deltas. As Hayes et al. (1984) described, South Carolina's tidal inlets and their affiliated seaward shoals (called ebb-tidal deltas) contain hundreds of millions of cubic yards of beach-quality sand. In fact, there is probably more sand trapped in inlets south of Charleston than exists above the low-tide line of every barrier island in the region. As it turns out, the shape,

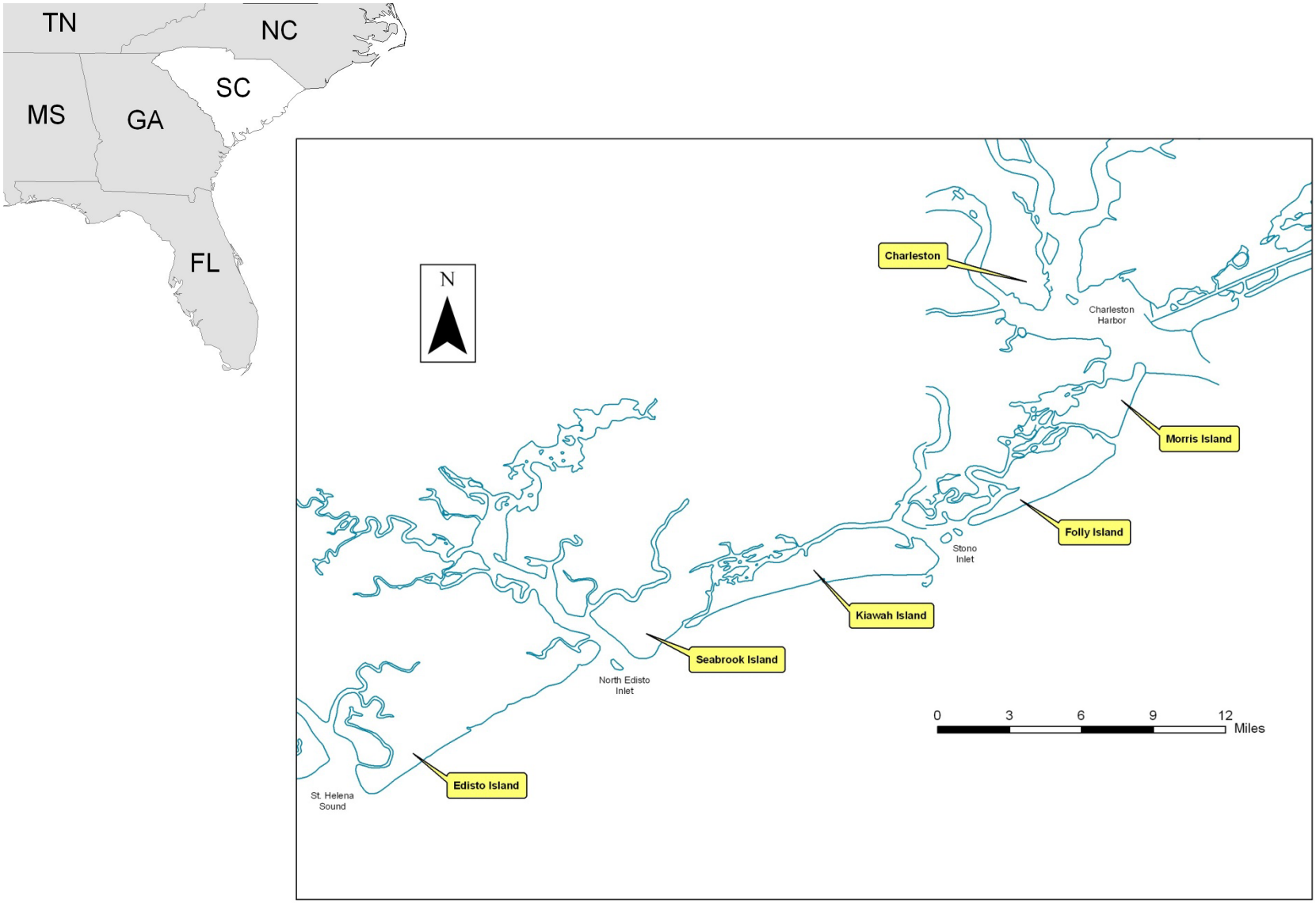


Figure 1. Kiawah Island location map.

orientation, and modern shoreline evolution of all South Carolina barriers are intimately linked to the sand bars of the adjacent inlets. Ebb-tidal deltas may withhold sand from the beach, or just as often, release it to move downcoast under the influence of winds and waves.

Kiawah's consistent seaward growth this century is remarkable, especially considering many of its neighbors to the north and south have eroded. The shoals of Stono Inlet are responsible for this. Inlet sandbars act as natural breakwaters, sheltering the east end of Kiawah Island from northeast winds and waves. This creates a shadow zone in the lee of the shoals where sand can settle out of suspension. Strong currents in the inlet tend to hold most sandbars offshore. Periodically, however, Stono's entrance channel meanders, changing the position and orientation of the shoals. This triggers the release of sand from the inlet and begins a process of beach building--we refer to as "shoal bypassing" (Figure 2). Once freed of the currents in the inlet, isolated sandbars can be pushed shoreward by waves. Every five years or so, a sandbar containing upwards of one million cubic yards (the equivalent of ten football fields filled 60 feet high each) is released from Stono Inlet to Kiawah's east end. As the bar attaches to the beach, the shoreline jumps seaward by hundreds of feet. Once attached, the sandbar is spread in either direction with parts of it moved by waves along the oceanfront, and the remainder shifted back toward Stono Inlet. The massive bulge in the shoreline, produced where bars attach, contributes to the impression of the "drumstick" shape of Kiawah Island. Each sandbar added to Kiawah's east end is a form of natural beach nourishment. These free sand additions are the cornerstones of Kiawah's healthy beach. With a plentiful sand supply in place, islands like Kiawah begin to grow.

Geologists have long debated theories about barrier island formation. But the recent shoal-bypassing event at Kiawah proves one supremely important factor--plentiful sand supplies. In this case, the new supply overwhelmed the energy of waves and currents to move it, resulting in accumulation well seaward of the original shoreline. Windblown sand built a new dune line above the normal tides and added acres of dry-beach habitat. Once again, Kiawah is confounding conventional wisdom and showing us that barrier beaches can form quickly despite sea-level rise and a host of erosion-causing processes.

Sediment Transport at Smaller Scales

As sand enters Kiawah's beach system around Stono Inlet, it is subject to breaking waves and fluctuating tide levels. Waves are the primary agents of sand transport along Kiawah Island. As waves propagate onshore, they act on the bottom to move sand in a number of ways or modes (Figure 3). Depending on the wave characteristics, such as wave height, period, and direction, each of these transport modes can act to move sediment parallel to the shoreline (longshore direction) and/or perpendicular to the shoreline (cross-shore direction). Movement of sand in the longshore and cross-shore directions is often considered separately.

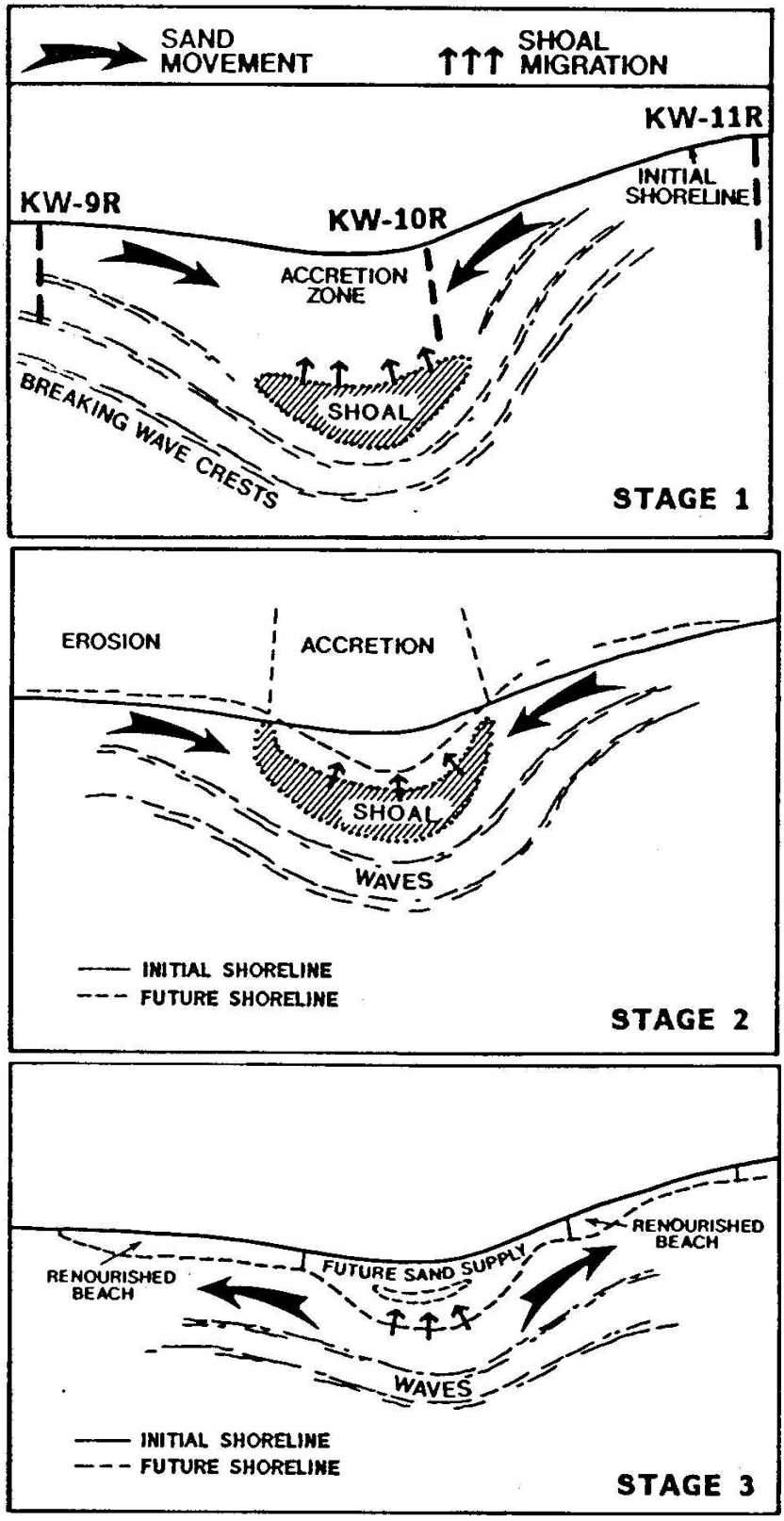


Figure 2. Conceptual model of “shoal bypassing” events at the east end of Kiawah Island.

Longshore Sediment Transport

Waves may travel great distances through the open ocean while losing little of their energy. This is due, in part, to the fact that waves move the water beneath them in circular orbits so that once a wave has passed a point, the water at that point has experienced no net movement. When waves reach shallower waters, however, some of their energy impacts the bottom, vertically deforming the circular orbits into ellipses and changing the shape of the wave. Finally, when the water becomes too shallow, the wave breaks and its energy is transformed into the forward flow of water and turbulence. The turbulence suspends sand from the bottom and the forward flow of water carries it up onto the beach. The flow of water back into the ocean then carries much of the sand back down the beach in sheet flow.
If the waves break at an angle to the shoreline, the forward flow of water (and therefore the direction of movement of sand) will also be at an angle to the shoreline. Since the flow of water back to the ocean occurs under the influence of gravity, it is always in a shore perpendicular direction. Thus, sand is transported in a saw-toothed pattern with the net movement in the longshore direction (Figure 4).

Along the coast of Kiawah Island, wave direction varies with the seasons. In the summer months, waves generally approach the shore from the southwest, while in the winter, wave approach is from the northeast. This means that sand generally moves to the east in summer and to the west in the winter. Furthermore, wave energy varies with the square of the wave height--meaning that a wave which is twice as high as another contains four times the energy (and thus four times the ability to move sand). As a result, periodic storm events tend to be much more significant to the movement of sand than the average day-to-day wave conditions. Since the wave climate is generally more severe in winter (larger waves and more frequent storms), the net direction of sand transport on Kiawah Island is from east to west. Although there are a number of other modes of wave-driven, longshore sand transport, the above-described movement in the surf and swash zones is the dominant one along Kiawah Island.

Cross-shore Sediment Transport

The dynamics of cross-shore sediment transport are significantly more complex, and even a simplified description is beyond the scope of this document. However, there are distinct seasonal cross-shore trends that can be commented upon without reference to the precise mode of transport.

It is well known that beach profiles adjust to variations in wave energy conditions. Under high-energy conditions (i.e., large waves), sand erodes from the upper beach and is deposited lower in the profile. If large waves persist over time, the beach face will flatten and an offshore bar may form. Under low energy conditions (i.e., small waves), sand is moved up the beach face. If small waves persist over time, the beach face will steepen and the offshore bar, if present, will weld onto the shoreline.

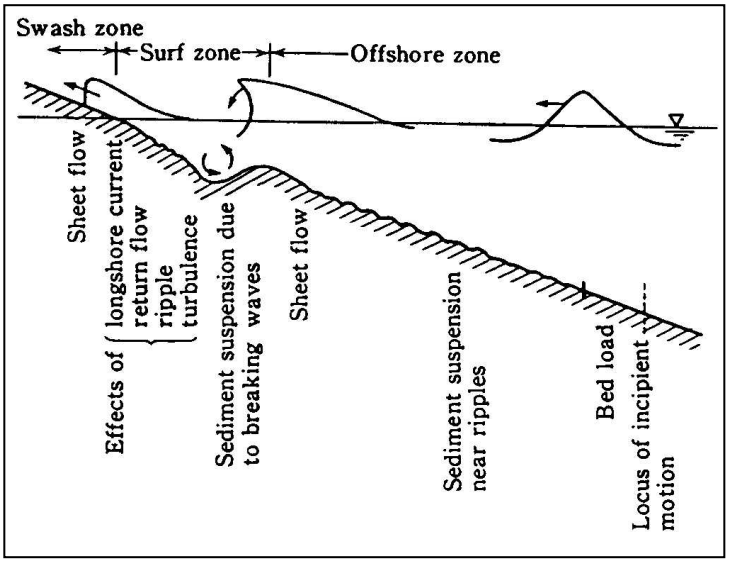


Figure 3.

Cross-shore variation of sediment transport modes. [1999 Kana Report]

At Kiawah Island, winter wave conditions generally fall in the high-energy category, and erosion occurs along the entire island as waves get larger. Summer wave conditions, however, generally fall in the low energy category, and the sand deposited offshore over the fall and winter is moved back to the upper beach throughout the spring and summer.

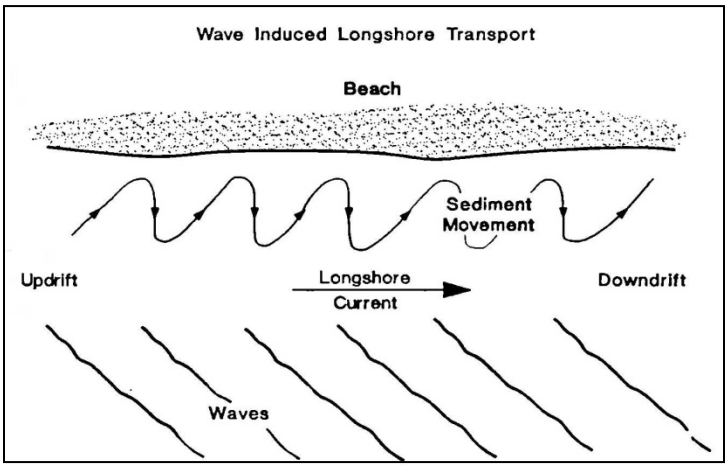


Figure 4. Movement of sand in the surf.

In addition to wave-energy conditions, there is also a seasonal variation in sea level that contributes to the cycle of winter erosion and summer accretion. Data summaries by Hicks et al. (1983) show that water levels at Charleston are up to 0.5 foot (ft) higher in the autumn than in the spring. Although this is a function of storm frequencies as well as astronomical factors, it can be assumed that higher water levels allow waves to attack the beach higher in the profile, triggering the seasonal change to a “winter” profile.

Section 2.2 General Land Use Patterns

Land use and development on Kiawah Island are regulated by the Kiawah Island Municipal Code, specifically Article 12; the Kiawah Island Comprehensive Plan; the 2013 Amended and Restated Development Agreement with Kiawah Resort Associates; the 2010 Development Agreement with Kiawah Island Golf Resort; Kiawah Island Community Association's Covenants; the Architectural Review Board; and state/federal regulations.

Kiawah Island's beaches are also under the jurisdiction of OCRM. Using historic shoreline and present-day profile information, OCRM designates a baseline and setback line along the coast. The baseline is typically placed at the crest of the primary sand dune (that is the dune immediately adjacent to the ocean) while the setback line is demarcated landward of the baseline. The setback line's distance from the baseline varies along the coast. It is determined by the annual erosion rate in that particular area. Stable or accreting beaches have a minimum 20' setback line, while erosion areas have setbacks of as much as 400'. These lines are revised every 8-10 years as required by the South Carolina Coastal Zone Management Act. The last revisions were made in 2017-18.

History of Land Use, Zoning and Subdivision Control

Prior to the Town of Kiawah Island's incorporation on September 13, 1988, development was governed by the Charleston County Zoning Ordinance, subject to the approved modifications in the Planned Development District (PDD-1A). The 1975 PDD-1A provided specific development criteria for each of the major use sub-districts on Kiawah Island.

As part of the PDD process, the Kiawah Island General Covenants were recorded in Charleston County to control specific matters pertaining to construction siting and appearance on the Island. The General Covenants delegated this control to the Architectural Review Board. Today, any new construction or alteration of existing construction, excepting certain areas that pre-dated the PDD, must comply with the General Covenants, other specific Covenants, and the ARB.

In 1994, the state legislature mandated that all municipalities prepare a Comprehensive Plan and revise zoning ordinances to be consistent with it. The Town concurrently developed and approved in September 1994 their first comprehensive plan, zoning ordinances, and a development agreement with the Island's developer. Together, these replaced PDD-1A and regulated development within the Town of Kiawah Island.

Land Use/Zoning Ordinance

The Town's zoning ordinance is included as Article 12 in the Town's Municipal Code. The Town's Planning Department administers the provisions of the ordinance. Article 12 has been revised from time to time since 1994. The Ordinance was rewritten in 2005. While many of the specifications remained the same, some items

were changed and the entire ordinance was reformatted. In 2010, with the adoption of a Development Agreement with Kiawah Island Golf Resort, Article 12 was revised again and the zoning map and land use maps were republished. The zoning map and land use maps can be found in Appendix 7.1.

Article 12 describes, in detail, the zoning categories and standards for all classes of use, e.g., residential, resort, commercial, etc. Standards include permitted density, lot size and coverage, and supplemental regulations. It applies to all land, property and development in the Town of Kiawah.

Table 1. Kiawah Island Zoning Districts.

R-1, Residential	CS, Community Support
R-2, Residential	CS-2, Community Support – 2
R-3, Residential	PR, Parks & Recreation
R-2 / Commercial	PR-OC, Parks & Recreation – Ocean Course
R-3 / Commercial	RST-1, Resort
C, Commercial	RST-2, Resort
PD, Planned Development	RST-1 / R-3
KC, Conservation District	Resort Overlay District
R-2-O Residential Overlay District	

The Zoning Map defines the boundaries of each district and is available at the Town Municipal Center and on the Town's website at www.kiawahisland.org for review.

Conservation District

The purpose of the Conservation District (KC) is to protect and preserve areas that are outside the OCRM Critical Line or define other sensitive areas, which are unsafe or unsuitable for permanent structures or developments. The zoning standards for KC are:

1. Accreted lands shall become part of the KC, Conservation District.

2. No development is allowed in this district.

3. Uses permitted in KC district shall be limited to boardwalks for beach access, unpaved temporary parking and non-habitable structures controlled by the Town relating to public health, safety and welfare.

Land Use

Land use on Kiawah considers existing and future land use by categories, including residential, commercial, industrial, agricultural, forestry, mining, public and quasi-public, recreation, parks, open space, and vacant or undeveloped. As reflected in the Comprehensive Plan's Vision statement, the "The Town of Kiawah Island is a residential community incorporating a world-class resort and a unique, vibrant shopping village within a natural maritime setting that is being preserved and

enhanced for current and future generations." Its residents and guests share an overwhelming commitment to the natural environment and wildlife. For this reason, land use on the Island is oriented toward residential, parks, open space, recreation, and limited commercial development to service residents and visitors. The incorporated boundaries of the Town of Kiawah Island also include a considerable amount of marsh and water features.

Figure 5 and 6 on the following page, provide land use statistics for the Town of Kiawah Island. A considerable amount (56 percent) of the total area of the Town consists of marsh and water. Parks, recreation and open space encompass the next largest percent of area (16 percent). Excluding marsh and water (hereinafter referred to as adjusted land area), parks, recreation and open space is the largest use of land on Kiawah Island, accounting for 38 percent (Figure 6). The Land Use map in Appendix 7.2 demonstrates that open space and recreational uses are located throughout the Island in the form of parks, boat landings, wildlife viewing areas, recreational facilities and golf courses.

Single Family Residential encompass 12 percent of the Town's total incorporated area and 27 percent of the adjusted land area, while vacant residential parcels total 7 percent and 16 percent, respectively. Road right-of-ways consist of 10 percent of the adjusted land area. Multi-family and commercial land uses each consist of 3 percent of the adjusted land area. Single family residential areas are found throughout the Island, while multi-family residential uses are located solely on the western part of the Island.

Commercial land use makes up a very small percent of the land use. Commercial development has occurred (restaurants, retail shops, convenience stores, etc.) in Freshfield's Village and in proximity to the East and West Beach Resort facilities and at the Main Security Gate. Additionally, there are 5 golf courses (4 public, 1 private) on the island, each with a clubhouse and pro shop. The clubhouses at Turtle Point, Cougar Point, Osprey Point, the Ocean Course, and the River Course all have restaurants. In addition, the private Kiawah Island Beach Club located beachfront on the eastern end of the island has dining facilities as well.

Section 2.2.1 Beach Uses

Kiawah's beach is used for a variety of purposes and is a big attraction for residents and visitors to the island. Uses include: swimming, surfing, surf fishing, bird watching, dog walking, bicycling, walking, and running. The western end of the beach near Captain Sam's inlet is a popular spot for viewing dolphins and birds. The eastern end of the beach (east of the Ocean Course Golf Course) is also a popular birding and fishing location.

Section 2.2.2 Benefits and Values of the Beach

The beach is a major attraction for both residents and visitors to the island. It is one of the island's best amenities. Beachwalker County Park was ranked as the 10th best beach in the country in 2020 by Dr. Stephen Leatherman (Dr. Beach). The

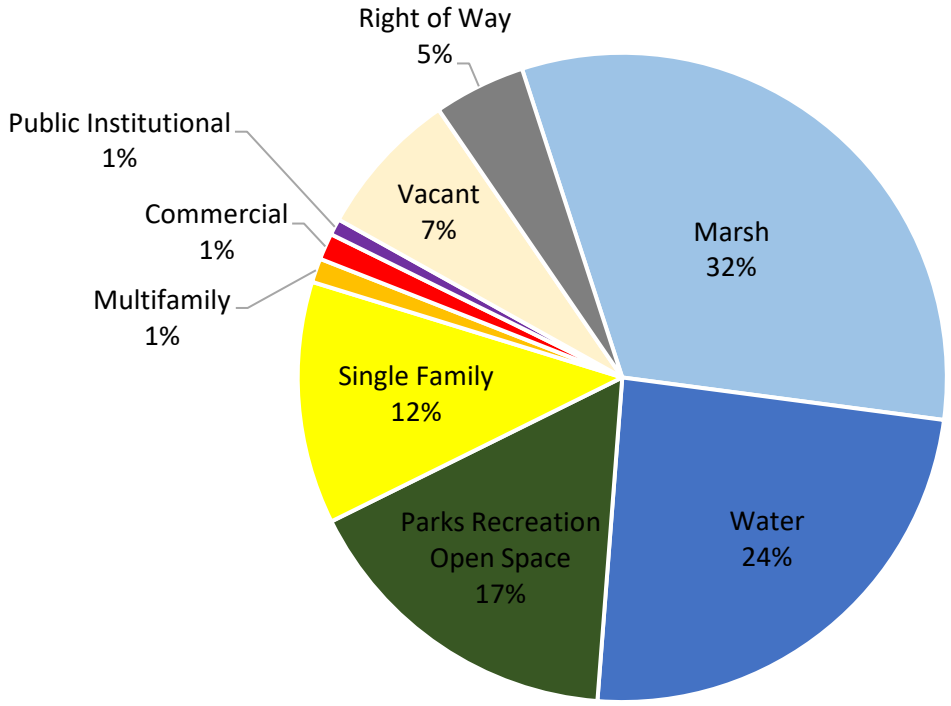


Figure 5. Percentage of Existing Land Use of Total Incorporated Area

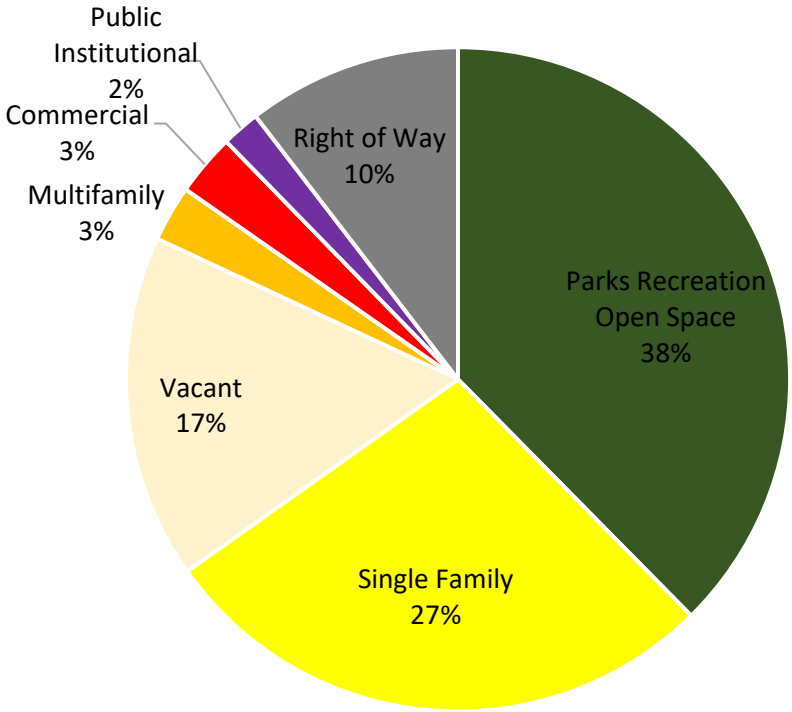


Figure 6. Percentage of Existing Land Use of Total Incorporated Area Excluding Marsh and Water

beach has a tremendous economic impact to the Town and serves as a major tourism generator for the local community. The beach draws many of the nearly 200,000 visitors per year to the Town, generating $1.1 million in State Accommodations Tax funding for the Town of Kiawah Island.

Section 2.3 Beachfront Developments and Zoning

One of Kiawah Island's greatest assets is its natural beach/dune system. Prudent planning and development practices have protected this natural environment. The Town of Kiawah Island recognizes the importance of maintaining the natural beach/dune system in the future, and will work cooperatively with island developers, property owners and governmental agencies to minimize and eliminate conflicts between development and the oceanfront environment. The Town shall employ appropriate land use measures to ensure this outcome. To ensure that Kiawah's greatest asset is sustained, all beachfront developments and projects shall obtain proper permits and approvals through an array of review processes from local, state and private entities. The site plan review process administered by the Town of Kiawah Island Planning Department ensures compatibility with the Beach Management Plan.

The Sanctuary

The Kiawah Island Golf Resort opened The Sanctuary Hotel, a commercial facility adjacent to the beach, in 2005. The Sanctuary offers 255 deluxe guest rooms, a spa, meeting facilities and fine dining. The Resort plays host to a variety of Fortune 250 companies annually. It also sponsors several high-profile golf and tennis tournaments that work to spotlight Kiawah Island and all of Charleston to national and international audiences.

Beachwalker Ocean (Parcel 13)

Parcel 13 located on the western end of the island, approximately 24 acres, is one of the primary remaining large tracts of land available for beachfront development. In 2018, Timbers Kiawah Ocean Club and Residences Resorts operating on approximately 3.4 acres (2.8 highland acres) opened a new multifamily residential development adjacent to the beach providing 21 oceanfront residences and a private beach club. In 2019, the approval of up to 84 residential multifamily dwelling units were approved on approximately 13.8 acres of Beachwalker Parcel 13.

Captain Sam's Spit

At the western extent of the island, the 2013 Amended and Restated Development Agreement with Kiawah Resort Associates grants entitlements of 50 single family residential dwelling units for this beachfront area.

Development Agreements

The Town and Kiawah Island Company entered into the first development agreement in 1994, replacing the entitlements outlined within the original Planned Development District with Charleston County. In 2005 a new development agreement was entered between the Town and the developer. This development agreement updated development patterns and parameters based on new information and newly developed neighborhoods since 1994. The current development agreement still in place was entered in 2013. This 2013 Amended and Restated Development Agreement guides planning and development for the remaining property holdings of the developer. The primary properties subject to this agreement include Beachwalker Office Park, Marsh Point Residual, Beachwalker Park, Beachwalker Ocean (Parcel 13), Captain Sam's Spit, River Course, Beach Club, and Ocean Park. The development agreement is consistent with the Town's Comprehensive Plan and Land Development Regulations. In June 2019, the Town and Kiawah Partners extended the 2013 Amended and Restated Development Agreement to January 1, 2026.

The 2010 Development Agreement between the Town and the Kiawah Island Golf Resort guides planning and development for property holdings of the golf resort. Properties subject to this agreement include Mingo Point, West Beach Village properties, East Beach Village and Ocean properties, Cougar Point, Osprey Point, Turtle Point and Ocean Course Golf Courses, Ocean Course residential, Willet Island and the Utility Tract properties. This development agreement is also consistent with the Town's Comprehensive Plan, Land Development Regulations and Zoning Ordinance and shall expire on July 11, 2027.

Section 2.3.1 Beachfront Structural Inventory

An inventory of all structures along the beachfront has been conducted. Excluding beach walkovers, there is only 1 structure located seaward of the OCRM Setback Line on Kiawah Island. This structure is a covered deck attached to a boardwalk. Appendix Section 7.2.2 provides a series of 17 maps showing the entire Kiawah Island beachfront, including detailed information on structures, beach walkovers, beach vehicular accesses, and more. Appendix 7.2.1 provides details on the 1 structure seaward of the OCRM Setback Line.

Section 2.4 Natural Resources and Ecological Habitats

Development on Kiawah Island has taken place in such a way that much of the island's 10,000 acres have been preserved in their natural state. Approximately 3,800 acres have been or will be developed. The island contains significant salt and freshwater wetlands, maritime forest, dune fields, and wide beaches. As such, the island provides habitat for a variety of coastal plant and animal species.

Section 2.4.1 Threatened and Endangered Species

There are a number of plant and animal species that have been classified by either state or federal agencies as endangered or threatened ("endangered species" include any species which is in danger of extinction throughout all, or a significant portion of its range; "threatened species" include any species which is likely to become endangered within the foreseeable future). Other species have been identified as being of special concern by the South Carolina Department of Natural Resources (SCDNR) because of restricted or declining populations, and threats to habitat and food sources. The species listed in Table 2 are classified as either endangered, threatened or of special concern, and are found along the beachfront of South Carolina.

Table 2. Endangered, Threatened and Protected Species Regularly Found Along the Shoreline of Kiawah Island, South Carolina.

Species	Latin Name	Federal Status*	State Status*	Habitat
Loggerhead Sea Turtle	*Caretta caretta*	T	T	Beach
Leatherback Sea Turtle	*Dermochelys coriacea*	E	-	Beach
Green Sea Turtle	*Chelonia mydas*	T	T	Beach
Island Glass Lizard	*Ophisaurus compressus*	-	SC	Dunes
Brown Pelican	*Pelecanus occidentalis*	-	SC	Beach
Wilson's Plover	*Charadrius wilsonia*	-	T	Beach, dunes
Piping Plover	*Charadrius melodus*	E,T	E	Beach, dunes
Red Knot	*Calidris canutus*	T	-	Beach
Least Tern	*Sternula antillarum*	-	T	Beach
Bald Eagle	*Haliaeetus leucocephalus*	-	T	Beach
Seabeach Amaranth	*Amaranthus pumilus*	T	-	Dunes
Sweetgrass	*Muhlenbergia filipes*	-	SC	Dunes
Beach Morning Glory	*Ipomoea pes-caprae*	-	SC	Dunes

* E = endangered, T = threatened, SC = species concern

The leatherback sea turtle is the only federally "endangered" species that occurs along the beaches of Kiawah Island, however, there are five federally "threatened" species: loggerhead sea turtle, green sea turtle, piping plover, red knot and seabeach amaranth. Additionally, the Wilson's plover, bald eagle and least tern are listed as state "threatened", and the island glass lizard, brown pelican, sweetgrass, and beach morning glory are of "special concern". Efforts will be made to monitor the presence and abundance of these species along the beach.

<u>Piping Plover</u>

Piping plovers are typically found along South Carolina beaches from July through May where they utilize beaches and intertidal sandflats for feeding and roosting. On Kiawah Island, piping plovers are most common on the extreme western and eastern ends of the beach, however during fall and spring migration piping plovers can be found anywhere along the front beach. This is especially true in March during the

peak of spring migration when it is possible to have more than 50 birds scattered along the front beach. The wintering population tends to be restricted to the ends of the beach.

The United States Fish and Wildlife Service (USFWS) designated critical habitat areas for wintering piping plovers along the Atlantic coast in 2001 (Figure 7). Both the western and eastern ends of Kiawah Island were identified in this report as offering suitable habitat for these birds. During 2005, the Town of Kiawah Island designated two areas as piping plover critical habitat. The Town-designated areas (Figure 8-9) include the locations where piping plovers are known to occur and are located within USFWS-designated critical habitat areas. Dogs are not allowed in these areas at any time.

As a result of the East End Beach Renourishment Project in 2006, the USFWS mandated that the Town of Kiawah Island conduct piping plover surveys within the project area for 6 years post-project. In addition to the required surveys, the Town began surveying for piping plovers on the west end and the front beach in 2007. Surveys were conducted twice every ten days with one survey occurring at low tide and one survey occurring at high tide during the fall (August-October) and spring (March-April) migration periods. Less intensive surveys occurred during the winter (November-February) with surveys occurring twice per month (one survey at low tide and one survey at high tide).

In 2015, a second beach renourishment project was conducted on the east end of Kiawah and piping plovers surveys were again required by USFWS. Surveys were to be conducted one year pre-project and 5 years post-project. These surveys were to cover the entire Kiawah beachfront during fall migration (September), winter (December-February), and spring migration (March). During fall and spring, 3 mid to low tide surveys are conducted per month. In winter, 2 low tide surveys and 1 high tide survey are required each month.

During the monitoring period between 2006 and 2011 , wintering piping plovers decreased dramatically on the east end of the beach from 23.2 birds per survey to 2.5 birds per survey. Alternatively, plover numbers increased moderately on the west end of the beach from 1.6 birds per survey to 5.3 birds per survey. Following the 2015 Beach Renourishment Project, the wintering piping plover population on the east end increased slightly each year until 2018 from approximately 3.5 birds per survey to 6.6 birds per survey. In 2019, the east end experienced a significant decrease in the population to 1.9 birds per survey. Piping plovers were primarily absent on the west end during this time due to the relocation of Captain Sam’s Inlet, which moved suitable habitat from Kiawah to Seabrook Island. The ends of the island are very dynamic due to their proximity to major river inlets and large changes in elevation and habitat availability can occur in very short periods of time. These changes affect the plover’s preferred food sources causing populations to shift from year to year.

Figure 7. Map showing the general location of Piping Plover Critical Habitat near Kiawah Island, South Carolina.

Figure 8. Map of the western end of Kiawah Island showing Town-designated piping plover critical habitat.

Figure 9. Map of the eastern end of Kiawah Island showing Town-designated piping plover critical habitat.

Wilson's Plover

The Wilson's plover is found along the South Carolina coast and nests primarily from March to June along our beaches. Nests are found singly or in very loose colonies often near low-lying vegetation. On Kiawah Island, their nesting is restricted to the ends of the beach. In recent years, an effort has been made to locate nests and monitor their success. Because Wilson's plovers usually nest higher up the beach, they are not as susceptible to being overwashed by high tides and storm surges. Predation and disturbance by dogs and people are a significant threat to their nesting success. Signs are placed around nesting areas at both ends of the beach to restrict people and dogs from entering the area.

Least Tern

Least terns are frequent visitors to the Kiawah Island coasts during the summer months. It is during this time of year that these birds are initiating nests and raising their young. During the last 10-12 years, least terns have been nesting on the east end of Kiawah Island. In 2010, least terns began nesting on the west end of the island, possibly for the first time since 1979. Unfortunately, most of the nests are overwashed during extreme high tide events. Currently, the only successful nesting occurs on the east end. The best nesting year was in 2009 when an estimated 78 nests were recorded. Since then, much fewer nests have been reported probably due to the area becoming more vegetated. In addition to becoming overwashed, predation and disturbance by dogs and people are a significant threat to nesting success. Signs are placed around nesting areas at both ends of the beach to restrict people and dogs from entering the area.

Red Knots

Red knot populations have decreased dramatically across their range in recent decades and in 2014 were listed as "threatened" under the Endangered Species Act. Red Knots occur on the beaches of Kiawah Island from November through May. During the winter months, Kiawah may have between 200-500 birds but their numbers increase to several thousand between March and May. Red Knots have one of the longest migrations traveling more than 9,300 miles from their wintering grounds in South American to their breeding grounds in the high Arctic and repeating the process in reverse in fall. Kiawah Island is an important staging site for red knots during their spring migration. The birds use Kiawah Island to rest and "fatten-up" for the next leg of their migration. Town of Kiawah Island biologists work closely with state and federal agencies to monitor and conduct research on red knots on Kiawah Island.

Bald Eagles

Bald eagles are commonly seen on Kiawah Island during fall, winter, and spring. During 2018, there were 2 active eagle nests on the island. The first was located along the Kiawah Island Parkway near the fire station and the second was located

along Ocean Course Drive near Willet Pond. Bald eagles can be seen throughout the island and are commonly seen on the eastern end of the beach. Town of Kiawah Island biologists work closely with state and federal agencies to monitor and protect nesting bald eagles on Kiawah.

Seabeach Amaranth

Seabeach amaranth is an annual plant that is typically found on barrier islands. Its primary habitat includes overwashed sand flats at accreting ends of barrier islands and lower foredunes and upper strands of noneroding beaches. While the ends of Kiawah Island appear to be suitable habitat for this species, there are no known plants in existence at the present time. Attempts were made to reintroduce this plant to Kiawah Island in the late 1990s but no evidence of survival of the plants is currently available. Monitoring of the island for the presence of this plant is ongoing and involves personnel from SCDNR and USFWS. In cooperation with these entities, plans could be formulated to monitor and maintain populations of this plant if it is documented.

Leatherback Sea Turtles

Leatherback Sea Turtles are commonly found in the nearshore waters off Kiawah Island, particularly during spring and fall. These very large sea turtles (1,000 pounds or more) typically nest in Florida, the Caribbean, and Central and South America, but do nest in South Carolina in very low numbers. Kiawah has only had 2 leatherback nests since 2000. Leatherback nests that occur on Kiawah's beach are marked and monitored by the Kiawah Island Turtle Patrol, following the same general protocol used for loggerheads (Section 2.4.2).

Green Sea Turtles

Green sea turtles do not typically nest in South Carolina, though juveniles are commonly found in nearshore waters between April and November. Green sea turtles weigh up to 350 pounds and typically nest in Florida and the Caribbean. Kiawah has only had 2 green sea turtle nests since 2000. Green sea turtle nests that occur on Kiawah's beach are marked and monitored by the Kiawah Island Turtle Patrol, following the same general protocol used for loggerheads (Section 2.4.2).

Loggerhead Sea Turtles

Loggerhead sea turtles are commonly found in coastal waters near Kiawah Island. These large turtles can weigh up to 350 pounds. Females come ashore, between May-August, to dig nests and lay their eggs. Females typically lay several clutches per season. Kiawah Island has one of the highest densities of nesting loggerheads in the state of South Carolina, averaging 266 nests per year over the last 10 years. Details on the Kiawah Island Turtle Nesting Program can be found in Section 2.4.2.

Other Species

There are 4 other state protected species that are listed as “species of special concern”. These include: brown pelicans, sweetgrass, beach morning glory, and the island glass lizard. Populations of each of these species, with the exception of the island glass lizard, are found on Kiawah Island though there is no data available on their abundance.

Section 2.4.2 Turtle Nesting

A program to protect the nests of loggerhead turtles on the beach of Kiawah Island has been in operation since 1973. In the early years, support came from the Kiawah Island Community Association (KICA) and the island developers, but since 1990, the Town of Kiawah Island has provided funding for the program. Beginning in 1998, the turtle program has operated under a permit from the South Carolina Department of Natural Resources under authority granted through Cooperative Agreements with the United States Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) under Section 6 of the Endangered Species Act.

The program has four major components: (1) protect the rookery, (2) maintain records of nesting and hatching activity, (3) educate residents and visitors of the island, and (4) conduct cooperative research projects with state and federal agencies. Protection of the rookery requires the monitoring of nest laying as well as nest hatching. During the nesting phase, trained volunteers patrol the length of the beach by truck at daybreak looking for turtle crawls. Nests are located and marked with numbered posts. Nests too far seaward on the beach are relocated landward to prevent future wash-over by spring tides. When nests begin to hatch, approximately 55 to 60 days later, volunteers patrol segments of the beach on foot to inspect each nest for signs of hatchling emergence. Several days after emergence, each nest is excavated to conduct a complete inventory of hatching success.

Historic records show that the Kiawah beach is an important site for loggerhead turtle nesting, with a density of 20 to 25 nests per mile. This rate is among the highest in the state for developed areas. Nesting turtles showed some preference for the undeveloped east end of the island before 1990, but that preference has diminished since then. Figure 10 shows the location of turtle nests on the Kiawah beach for during 2017 and 2018). The total number of nests per year between 1999-2018 can be found in Figure 11.

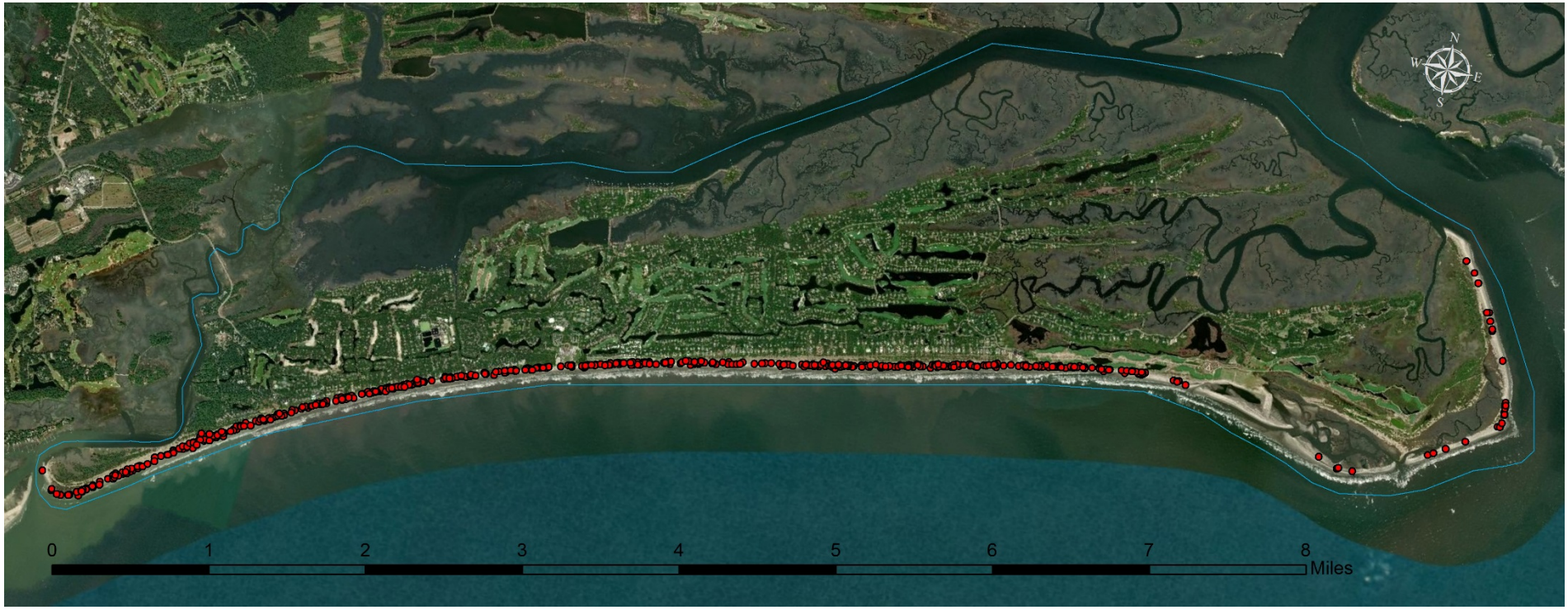


Figure 10. Location of loggerhead turtle nests during 2017 -2018 on Kiawah Island, South Carolina.

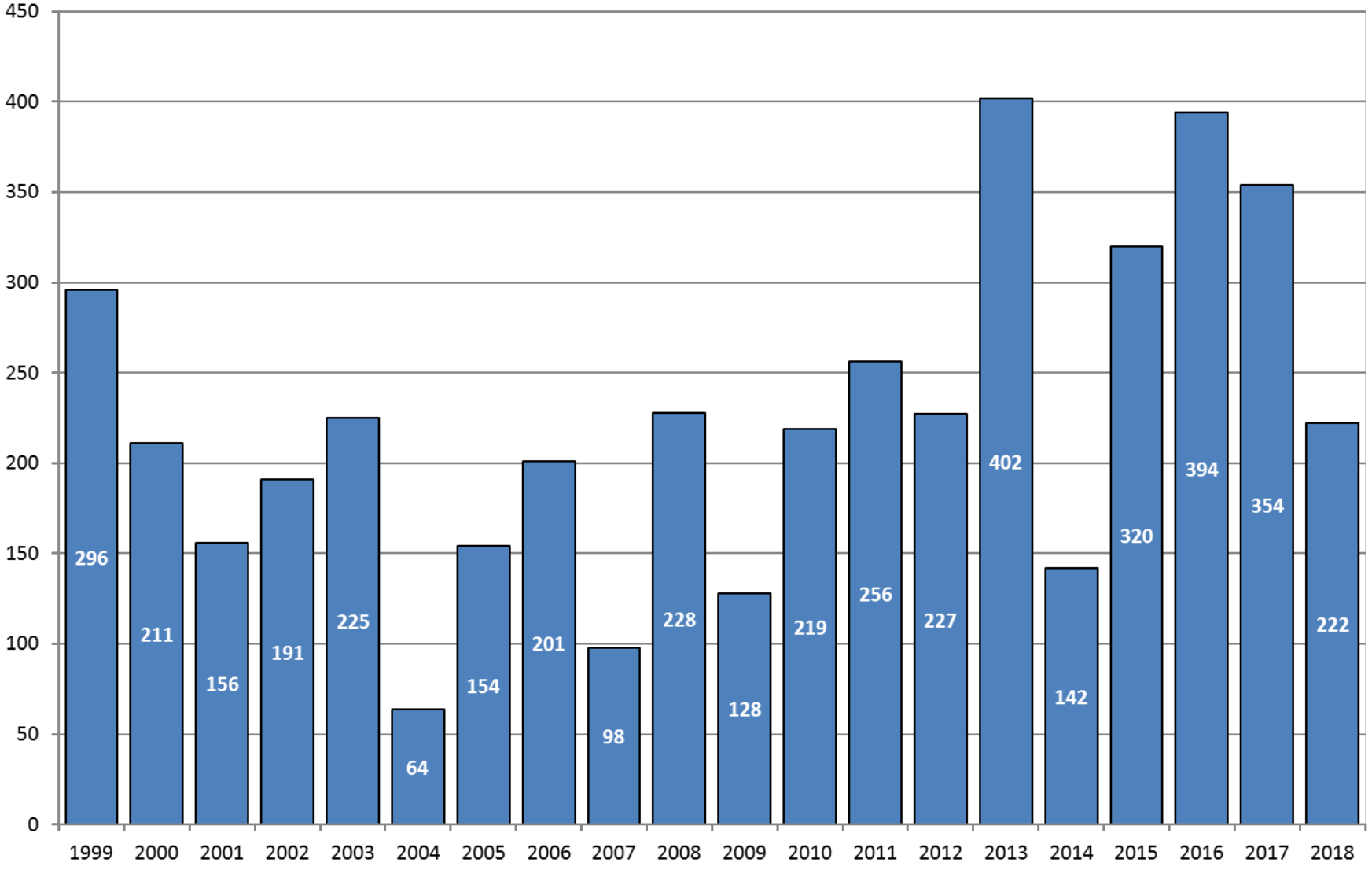


Figure 11. Annual numbers of loggerhead turtle nests between 1999-2018 on Kiawah Island, South Carolina.

Section 2.5 Existing Public Access and Map

There are 177 pedestrian access points to the Kiawah Island beachfront. A breakdown of these accesses by ownership type is below. Maps of all of these accesses can be found in Appendix 7.2.2.

- 135 of these accesses are privately owned by Kiawah Island homeowners.
- 25 are owned by the Kiawah Island Community Association
- 4 are owned by the Kiawah Island Golf Resort
- 3 are owned by Kiawah Partners (private entity)
- 9 are owned by Regimes
- 1 is public

The only full and complete public access, as defined by OCRM, is Beachwalker County Park. It has 180 parking spaces and is classified as a Regional Public Access Park. By definition this park provides full and complete access to 1 mile of beach to the east and 1 mile of beach to the west of this location. A table and additional details can be found in Appendix 7.3.

SECTION 3

BEACHFRONT DRAINAGE PLAN

Section 3.1 Drainage Plan Details

The Town shall encourage all property owners and developers to use those guidelines and best management practices outlined in the Stormwater Management and Sediment Control Handbook for Land Disturbance Activities.

Controlling stormwater and other discharges along the beachfront areas of Kiawah Island is a priority of the Town. Direct discharge to the beach leads to erosion of dune and beach areas and can also affect water quality and clarity.

Since the mid-1980's, the South Carolina Department of Health and Environmental Control has been actively monitoring beach water quality at five (5) sites along the Kiawah Island beach. Tests are conducted to determine the levels of Enterococcus bacteria at each site twice per month. Results from Kiawah Island have shown consistently low bacteria levels and there has never been a beach closure due to elevated bacterial levels.

The Town of Kiawah Island adopts, as part of this plan, a policy to prohibit any outfalls or other means of direct discharge to the beach. Currently, there are no outfalls or direct discharges to the beach. Prudent development practices along the shoreline have controlled beachfront construction and instituted sound stormwater management practices. Lot coverage by impermeable surfaces has been restricted and alteration of natural areas has been minimized. Landscaping, construction or grassed swales, construction of retention/detention areas and similar means of controlling runoff have been incorporated into the overall development scheme on Kiawah Island.

In the event that erosion of dune areas takes place and the potential for direct discharge of stormwater, pool overflow or golf course runoff to the beach increases, the Town shall require developers and property owners to redirect any potential discharges away from the beach. The Town shall work in conjunction with all affected groups to restore and maintain natural dune areas along the shoreline as a means of reducing or eliminating the potential for direct discharge to the beach. However, property owners should not rely only on the Town's dune program to control discharge.

Another priority of the Town is maintaining native vegetation in dune areas. Irrigation and runoff from upland development and golf courses to dune areas shall be controlled so that non-native vegetation does not displace native grasses and ground covers.

SECTION 4

BEACH MANAGEMENT AND AUTHORITIES

A number of agencies have responsibility and authority relating to beachfront management on Kiawah Island. Details are provided in this section, including

Section 4.1 State Authorities

4.1.1 Overview of State Policies (Beachfront Management Act)

DHEC-OCRM is responsible for the management of the state's beaches and coastal areas. In 1988, the State Beachfront Management Act was adopted by the General Assembly. This Act increased the state's authority to manage the coastal zone and beaches.

The Act included several key legislative findings, including (summarized):

- the importance of the beach and dune system in protecting life and property from storms, providing significant economic revenue through tourism, providing habitat for important plants and animals, and providing a healthy environment for recreation and improved quality of life of all citizens;
- unwise development has been sited too close to and has jeopardized the stability of the beach/dune system;
- the use of armoring in the form of hard erosion control devices such as seawalls, bulkheads, and rip-rap to protect erosion-threatened structures has not proven effective, has given a false sense of security, and in many instances, has increased the vulnerability of beachfront property to damage from wind and waves while contributing to the deterioration and loss of the dry sand beach;
- inlet and harbor management practices, including the construction of jetties which have not been designed to accommodate the longshore transport of sand, may deprive downdrift beach/dune systems of their natural sand supply;
- it is in the state's best interest to protect and promote increased public access to beaches for visitors and South Carolina residents alike;
- a coordinated state policy for post-storm management of the beach and dunes did not exist and that a comprehensive beach management plan was needed to prevent unwise development and minimize adverse impacts.

The Beachfront Management Act then established eight state policies to guide the management of ocean beaches:

1. Protect, preserve, restore, and enhance the beach/dune system;
2. Create a comprehensive, long-range beach management plan and require local beach management plans for the protection, preservation, restoration,

and enhancement of the beach/dune system, each promoting wise use of the state's beachfront;

3. Severely restrict the use of hard erosion control devices and encourage the replacement of hard erosion control devices with soft technologies which will provide for the protection of the shoreline without long-term adverse effects;
4. Encourage the use of erosion-inhibiting techniques which do not adversely impact the long-term well-being of the beach/dune system;
5. Promote carefully planned nourishment as a means of beach preservation and restoration where economically feasible;
6. Preserve existing public access and promote the enhancement of public access for all citizens including the handicapped and encourage the purchase of lands adjacent to the Atlantic Ocean to enhance public access;
7. Involve local governments in long-range comprehensive planning and management of the beach/dune system in which they have a vested interest; and
8. Establish procedures and guidelines for the emergency management of the beach/dune system following a significant storm event.

DHEC-OCRM is responsible for implementing these policies through a comprehensive management program that includes research and policy development, state and local planning, regulation and enforcement, restoration, and extension and education activities.

4.1.2 Beachfront Setback Area

§ 48-39-280 of the Beachfront Management Act, as amended, requires DHEC-OCRM to establish and periodically review (once every seven to ten years) the position of the two lines of beachfront jurisdiction, the baseline and the setback line, as well as the average annual erosion rate for all oceanfront land that is developed or potentially could be developed. The purpose of these jurisdictional lines is to implement § 48-39-280(A) of the statute, which reads as follows:

> *"A policy of beach preservation is established. The department must implement this policy and utilize the best available scientific and historical data in the implementation. The department must establish a baseline that parallels the shoreline for each standard erosion zone and each inlet erosion zone."*

The baseline is the more seaward line of jurisdiction and is typically located at the crest of the primary oceanfront sand dune. The setback line is the landward line of jurisdiction and is established landward of the baseline at a distance equal to 40 times the average annual erosion rate, as calculated from the best historical and scientific data, or at a minimum distance of 20 feet landward of the baseline for stable or accretional beaches.

To establish the baseline position, the shoreline must first be classified as an inlet zone or a standard zone. Areas that are close to inlets and have non-parallel offshore bathymetric contours and non-parallel historical shoreline positions are classified as inlet zones, while all other areas are classified as standard zones. Inlet zones are further classified as stabilized if jetties, groins, or seawalls are present, or as unstabilized. In unstabilized inlet zones, the baseline is located at the most landward shoreline position at any time during the past 40 years, unless the best available data indicate the shoreline is unlikely to return to its former position. The baseline position in the unstabilized inlet zones at either end of the island was established by reviewing historical aerial photographs and selecting the most landward shoreline position in the last 40 years.

In stabilized inlet zones and standard zones, the baseline is located at the crest of the primary oceanfront sand dune using beach survey data or dune field topographic data such as LiDAR (Light Detection and Ranging). If the shoreline is armored with a seawall or bulkhead and no primary oceanfront sand dune exists, then a theoretical dune crest position is calculated from beach survey data.

Setback Area Regulations (summary)

- No new construction, with the exception of wooden walkways not more than six feet wide, wooden decks no larger than 144 square feet, public fishing piers, golf courses, normal landscaping, pools that were located landward of existing functional erosion control structures, groins, or structures permitted by a DHEC-OCRM special permit. A DHEC-OCRM permit is required for all of the above actions except the construction of wooden walkways.

- Owners may replace habitable structures within the setback area that have been destroyed beyond repair by natural causes after notifying DHEC-OCRM. The new structure must not exceed the original square footage or shoe-parallel linear footage and can be no further seaward than the original structure. New habitable structures within the setback area are limited to 5,000 square feet of heated space and must be located as far landward on the property as practicable.

- No new erosion control devices are allowed in the setback area except to protect a public highway that existed prior to the enactment of the Beachfront Management Act. Erosion control devices which existed on the effective date of the Act must not be repaired or replaced if destroyed more than 50% above grade on a parcel-by-parcel basis. These structures may be repaired within their existing dimensions using like materials if they are not damaged more than 50%.

- No new pools are allowed in the setback area, unless they are located as landward as possible of an existing, functional erosion control device. Pools that existed prior to 1988 may be repaired or replaced if destroyed beyond repair. The owner must certify that the new pool is located as landward as

practical, is no larger than the original pool, and is constructed in such a manner that it cannot act as an erosion control device.

Maps of the current setback lines for Kiawah Island can be found in Appendix 7.2.2.

Section 4.2 Local Government and Authorities

The Town of Kiawah Island, South Carolina, was incorporated by the State of South Carolina on September 13, 1988. The Town of Kiawah Island operates as a Mayor-Council form of government, i.e., strong mayor. The Town Council is composed of a Mayor and four Council Members. Terms for Mayor and Council Members are two years. The current term (2010-2012) is the twelfth full administration. The at-large elections are non-partisan. Currently, there are over 1,600 voters on the rolls. These elected officials are volunteers who receive no compensation or salary.

The Mayor and four Council Members comprise the legislative branch of the Town. It is their duty to set overall policy in matters concerning the operation of the Town's affairs. The Mayor is further charged with the administrative functions of Town management. He is responsible for coordinating and carrying out the policies established by the Town Council and for seeing that the duties of all Town employees are performed efficiently and effectively. The Town Administrator provides support and advice to the Mayor on these matters. Since incorporation, the Town has grown from 1 full-time employee to 10 full-time employees.

The Town of Kiawah Island is unique among other South Carolina municipalities. Its uniqueness stems from the fact that a private, non-profit organization, the Kiawah Island Community Association (KICA), provides many services that are typically performed by governments. Examples include road and drainage maintenance, public safety, and recreation. The Town, however, does provide services to its citizens including, but not limited to:

- Public Safety: Island-wide law enforcement through a contract with Charleston County Sheriff's office and code enforcement;

- Street and Drainage Maintenance: Beachwalker Drive, Kiawah Island Parkway from the roundabout at Betsy Kerrison Parkway to the front gate;

- Solid Waste Disposal: garbage, recycling, yard debris, brown trash and household hazardous waste collection and disposal for all residential property, excepting villas;

- Planning and Zoning Administration: through the Town Planning Department

- Criminal Court Administration: as part of the unified judicial system in South Carolina, it hears and determines offenses of a criminal nature which may be subject to a fine not exceeding $500 or imprisonment not exceeding 30 days as well as cases arising under the ordinances of the municipality;

- Beach Maintenance and Safety: Beach patrol, solid waste collection and beach condition monitoring;

- Communications: Town website and quarterly newsletter (*Town Notes*);

- Wildlife: Monitors, manages, and researches the Island's native wildlife species and habitats while educating the general Island public in these areas.

4.2.1 Municipality's Comprehensive Plan

The Comprehensive Plan seeks to accomplish the Town's Vision by articulating goals to guide future Town Council actions regarding the pattern and intensity of land use, the provision of public facilities and services, economic development, housing availability, and natural and cultural resources. The Plan also sets forth specific criteria that will guide future Town Council actions to accomplish the Plan's goals, thereby realizing its Vision. That Vision and the guiding basis for the Plan is that "The Town of Kiawah Island is a residential community incorporating a world-class resort and a unique, vibrant shopping village within a natural maritime setting that is being preserved and enhanced for current and future generations".

The Town's Vision Statement was originally developed as part of the Town's 1994 Comprehensive Plan. Research conducted to update that Plan in 2005 supported the Vision statement and concluded that it should be continued. The Planning Commission completed a 2010 review with input from the public and support and guidance from the professional staff of the Town of Kiawah Island and the Charleston County Planning Department. The Comprehensive Plan ten-year review was conducted and amended in 2015. Accordingly, the Comprehensive Plan seeks to accomplish the Town's Vision by articulating goals to guide future Town Council actions regarding the pattern and intensity of land use, the provision of public facilities and services, economic development, housing availability, and natural and cultural resources.

The Town's pre-eminent goal is to protect and preserve the residential character of the community while maintaining the benefits inherent in the resort component. As a result, the Plan encourages high quality development of residences and resort, commercial and recreational facilities in an environmentally compatible setting. Low density development that is designed in harmony with nature is consistent with this Vision while tall, massive buildings are inconsistent because they dominate the landscape rather than blending-in and meshing with it. Large homes, hotels, and other large buildings should be located on large parcels or lots and should be set back from property lines to reduce their visual impact from streets, the beach, other open spaces, and neighboring lots. Careful citing and attention to

design will serve to achieve this goal and to retain the natural character of Kiawah Island.

4.2.2 Municipality's Hazard Mitigation Plan

The Town of Kiawah Island is a participating member of the Charleston Regional Hazard Mitigation Project Committee which is recognized as a continuing entity charged with reviewing, maintaining in accordance with Community Rating System, Flood Mitigation Assistance, and Disaster Mitigation Act requirements, and periodically reporting on the progress towards and revisions to the plan to the Charleston County Council.

The Charleston Regional Hazard Mitigation Project Committee prepared the *Charleston Regional Hazard Mitigation Plan*, which was originally adopted by the Town of Kiawah Island on June 22, 1999 and is subsequently readopted annually. Also, the Town of Kiawah prepares an annual action plan that delineates the various activities that it will complete to ensure compliance with the Hazard Mitigation Plan. A summary of these actions is listed in the Town's Action Plan in *Figure 1.*

4.2.3 Municipality's Disaster Preparedness and Evacuation Plan

The Town of Kiawah has an Emergency Committee that consists of key entities on and off the Island. The committee has representation from various entities to include the Town of Kiawah Island, Kiawah Island Community Association, the Kiawah Island Golf Resort, Kiawah Island Utility, and Kiawah Development Partners, Freshfields Village, St. Johns Fire District, Charleston County Sheriff's Office, Berkeley Electric Cooperative, Kiawah Island Utility and Phillips & Jordan Disaster Recovery Specialists. Each entity has developed individual plans to address the preservation of life and property within their individual scopes of authority and responsibility. Each year prior to hurricane season, the Town coordinates an annual emergency preparedness meeting with these various entities to ensure the Disaster Preparedness and Evacuation Plan is updated.

The Town's plan includes working in cooperation with all appropriate local entities, such as those listed above, as well as with Charleston County, State and Federal agencies, to effectively prepare and recover from severe storm or natural disaster damage. Preparedness goals include minimizing potential injury and damage and expediting recovery and redevelopment. Readiness and coordination activities include:

1. Meeting annually with representatives from local entities, such as those listed above, to review the status of preparations for evacuation, re-entry, response and recovery. Town will also meet as needed to discuss specific events that may affect the area.

2. Participating in Charleston County Emergency Operations Center and or Web Emergency Operations Center.

3. Updating communications, such as telephone and cell numbers, email addresses, and contact names.

4. Keeping residents informed of important evacuation or disaster-related procedures that should be followed. The Town holds an annual Disaster Awareness Day seminars; includes emergency preparation tips in its monthly newsletter and on its website (www.kiawahisland.org) and prepares and distributes the Emergency Preparedness Plan (for property owners); and continuously updates property owner phone numbers for the emergency telephone communication network (Code Red).

5. In the event of a disaster, coordinating actions, and those of residents and property owners, with all appropriate agencies involved in response and recovery actions.

Refer to the Town of Kiawah Island Emergency Preparedness Plan for more information about preparedness activities. The Town's plan is available on the website at wwww.kiawahisland.org. A copy can be found in Appendix 7.8.

Damage Assessments

Following a severe storm, one of the first priorities of the Town shall be to assess damage to the beaches, dunes and upland development, and to institute emergency protective measures to prevent further damage. Town representatives shall work closely with representatives of OCRM, FEMA and the Corps of Engineers to complete damage assessments quickly.

OCRM, as part of its Disaster Management Plan, will dispatch a damage assessment team to conduct the initial damage assessments of all erosion control structures, buildings and pools located seaward of the setback area. The first stage of the assessment will involve deciding which structures are undamaged or well under the percentages required to qualify as destroyed beyond repair (DBR). Inasmuch as few structures (and only one habitable structure) encroach into the current 40-year setback zone, it is quite likely the Town will be called upon to aid OCRM in its damage assessment endeavors.

Recovery and Redevelopment

All recovery and redevelopment shall be consistent with the Town's Land Use Planning/Zoning Ordinance, the Development Agreements with the Developer and Resort, the Comprehensive Plan, this Local Comprehensive Beach Management Plan, the requirements of the Beachfront Management Act, and other Town regulations and ordinances.

4.2.4 Beachfront Development Regulations

Recognizing that the State of South Carolina has provided authority to coastal municipalities to enact beach regulations, the Town of Kiawah has adopted a variety of ordinances that pertain to the protection of the beach, dune system and the wildlife found on the beach. Article 16 of the Town Code of Ordinances addresses a variety of matters pertaining to the beach including: beach lighting, beach traffic, control of pets, critical habitat areas, beach and dune protection, threatened and endangered species and beach and recreation area regulations. In 2017, the Town amended Article 16-Beach Management, Chapter 4: Beach and Dune Protection to ensure that property owners along the beach adhered to the requirements to construct and maintain dune walkovers compliant with State and Town law and to allow adequate time to resolve any deficiency that may exist. Additionally Chapter 4: Beach and Dune Protection was amended to regulate holes being dug on the beach that could produce potential problems on the beach such as impede turtle access to nesting areas, slow vehicles down when responding to emergencies or injure persons on the beach who do not expect to come across holes in the sand.

In March 2019, Article 16 – Beach Management, Chapter 1 - Beach Lighting was amended to aide in the deterrence of artificial light impacting nesting sea turtle and hatchlings along the beach. For new developments no artificial light shall illuminate any area of the beaches of Kiawah Island and that no artificial light shall be visible form the beach.

Additionally, in 2019, Article 14 – Chapter 4 – Regulation of Single Use Plastics was created in the best interest of the environment and marine life across the island and on the beach. This ordinance prohibits the possession or use of all single-use plastic carryout bags, all plastic straws, all polystyrene/plastic foam products, and all balloons on the beach. A complete listing of beach related ordinances is incorporated in Appendix 7.5.

4.2.5 Regulations on Beach and Shoreline Protection

Through its zoning regulations as cited in Article 12, the Town has limited development in waterfront areas. The Conservation District was created specifically to protect and preserve areas which are outside the OCRM critical line or define other sensitive areas which are unsafe or unsuitable for permanent structures or development. For example, in this district only beach access, unpaved parking or uninhabitable structures are allowed.

<u>Protection and Restoration of Sand Dunes</u>

The Town of Kiawah Island recognizes the important protective and ecological functions that a healthy dune system provides. The Town also recognizes that a healthy dune system along the oceanfront must be carefully managed to insure that these important functions are not lost. Hence, the Town adopts the following policies regarding dune protection and restoration.

- Work with property owners and island entities to protect, enhance, and restore the dune system along Kiawah Island.

- Any activity, construction, or alteration of sand dunes seaward of the OCRM setback line must be approved in advance by the Town and OCRM. These activities are reviewed through the site plan review process administered by the Town's Planning Department. The purpose of a site plan review is to ensure that all applicable requirements of the zoning ordinance are complied with prior to the issuance of a zoning and building permit. The SPR Committee consists of representatives from various state and local agencies who will address the issues of the project including zoning, building codes, health standards, environmental, traffic/highway regulations, drainage/road requirements, compliance with wetland regulations and Storm Water regulations. Prior to any construction or activity along the beach the applicant should contact the Town to ensure consistency with the Beach Management Plan. Refer to the Town of Kiawah Island Land Use Planning and Zoning Ordinance for more information about site plan review process.

- Sand dunes seaward of the setback line must not be altered unless there is no feasible alternative. Permanent alterations should be conducted in such a way as to minimize disturbance to the dune system. In the case of temporary alterations, the dune system must be restored to its pre-existing condition.

- The Town may, at its discretion, require mitigation for the permanent alteration or destruction of dune areas seaward of the setback line. Such mitigation may include: creation of new dune habitat, enhancement of existing dune habitat, installation of protective fencing or walkover structures, dedication of land or easements for access to the beach, or monetary contribution to the Town of Kiawah Island.

- All approved permanent structures constructed seaward of the setback line must be elevated at least two feet above grade. This provision applies to decks, walkways, and other similar structures.

- Sand dunes designated as critical habitat should not be altered, except when all other options have been exhausted.

- Dune construction, restoration, revegetation, and fencing must be carried out in accordance with Town-approved procedures.

- All activities should be confined to the winter/spring season (November 1 – April 15) when possible to avoid conflicts with nesting loggerhead sea turtles.

4.2.6 Other Regulations on Beach Management

The Town of Kiawah values the importance of the Beach to the island and has enacted a number of ordinances, projects or initiatives to further its protection. Oceanfront beach and dunes serve several important functions. These include: storm protection for upland areas, habitat for a variety of plant and animal species (such as important daytime resting cover for bobcats and nesting for sea turtles and beachfront birds), and recreation for Town residents, property owners and guests.

Critical Habitat Areas

In October 2005, Town Council designated both ends of Kiawah Island's beach as critical habitat. The critical habitat designation prohibits pets from entering these areas at any time. Both areas provide vital habitat for a variety of shorebirds, including: Piping Plovers, Wilson's Plovers, American Oystercatchers, Least Terns, Black Skimmers, and Red Knots. A map of these areas, including all beach pet restrictions, can be found on the following web page: https://www.kiawahisland.org/beaches/

SECTION 5

EROSION CONTROL MANAGEMENT

Section 5.1 Shoreline Change Analysis

The Beachfront Management Act, as amended, requires DHEC-OCRM to establish and periodically review (once every seven to ten years) the position of the two lines of beachfront jurisdiction, the baseline and the setback line, as well as the average annual erosion rate for all oceanfront land that is developed or potentially could be developed.

The Beachfront Management Act defines three types of shoreline zones.

- Standard Erosion Zone – a segment of shoreline which is not directly influenced by an inlet or associated shoals

- Unstabilized Inlet Erosion Zone – a segment of shoreline along or adjacent to a tidal inlet which is directly influenced by an inlet or its associated shoals which is not stabilized by jetties, terminal groins, or other structures.

- Stabilized Inlet Erosion Zone – a segment of shoreline along or adjacent to a tidal inlet which is directly influenced by the inlet and its associated shoals and which is stabilized by jetties, terminal groins, or other structures.

The south-western end of Kiawah Island adjacent to Captain Sam's Inlet (west of DHEC-OCRM monument 2625) is an Unstabilized Inlet Zone. The northern end of the island adjacent to Stono Inlet (east of DHEC-OCRM monument 2735) is also an Unstabilized Inlet Zone. The middle part of the island (between DHEC-OCRM monuments 2625 and 2735) is classified as a Standard Zone.

5.1.1 Beach Profiles

Representative beach profiles measured from fixed starting points provide the best means of quantifying short-term beach changes. These data allow changes in beach width (in feet) and beach volume (expressed in cubic yards per foot of shore length) to be assessed. Twenty-five permanent beach profile monuments have been installed by DHEC-OCRM along the Town of Kiawah Island's beaches. These monuments have been surveyed routinely since 1987. In recent years, Coastal Science and Engineering has collected beach profile data from 61 monitoring station along Kiawah's beach, which includes all 25 OCRM monuments.

Beach profile figures and tables of sand volume data are presented for all 61 stations in Appendix 7.5. Appendix 7.6 provides short-term (January 2019-November 2019) and long-term (October 2012-November 2019) shoreline volume changes for the same 61 stations.

List of OCRM Beach Monuments by Erosion Zone:

Unstabilized Inlet Zone – Captain Sam's Inlet
2620 and 2625

Standard Zone
2630, 2635, 2640, 2645, 2660, 2665, 2675, 2680, 2685, 2690, 2695, 2700, 2705, 2715, 2720, 2725, and 2730

Unstabilized Inlet Zone- Stono Inlet
2735, 2750, 2760, 2765, 2775, and 2780.

5.1.2 Long-Term Erosion Rates and Shoreline Change

The setback line position depends upon the baseline position and the local long-term annual erosion rate. The erosion rates at all DHEC-OCRM beach monitoring stations statewide are recalculated every seven to ten years using the best available historical shoreline data. In most cases, the best available data includes historical shoreline positions from as early as the 1850s. These older shoreline positions have also been used by the federal government to analyze shoreline change, and are considered to be accurate. The long-term erosion or accretion rate at each station is calculated by using a least-squares best fit regression through all data points. For the jurisdictional lines proposed by DHEC-OCRM in October 2017, the long-term shoreline change rates were calculated statewide at a spacing of 200 feet along the shoreline. The resulting erosion rates are the official long-term rates used by DHEC-OCRM to update the beachfront setback line position. A variety of factors can cause short-term rates of change to be significantly different from the long-term erosion rates, but the setback line is based on a long-term trend. The adopted erosion rate at each station, expressed in feet per year, is then multiplied by 40 to obtain a 40-year setback distance. The setback line is drawn this distance landward of the baseline. For stable or accretional beaches, the setback line is located a minimum of 20 feet landward of the baseline.

All original baselines and setback lines on Kiawah Island became final in 1990. The jurisdictional lines for Kiawah Island were next revised in September 1999, October 2009, and most recently in October 2017. The baseline was established in 2018 by Act 173, the Beachfront Management Reform Act, as the most seaward baseline of either the 2008-2010 baselines or the DHEC-OCRM proposed 2017 baselines. Per the Act, the baseline must not move seaward as set forth in SC Code Section 48-39-280(A)(4).

In general, Kiawah is one of the most stable barrier islands in the state, although the eastern and western ends of the island are more dynamic due to their proximity to inlets.

Kiawah Island has now suffered direct impacts from several storms over the past five years, including hurricanes *Joaquin* (2015), *Matthew* (2016), *Irma* (2017), *Florence* (2018), *Michael* (2018), and *Dorian* (2019). Hurricane *Matthew* caused dune recession ranging from ~15 feet (ft) to 40 ft along most of the residential beachfront, and even higher rates of loss were observed west of Beachwalker Park. The storm also damaged walkovers, but there was no significant property damage. Hurricanes *Irma* (September 2017), *Florence* (September 2018) and *Michael* (October 2018) caused high surf and winds, but fortunately not as much beach and dune erosion. In September 2019, Hurricane *Dorian* caused similar impacts. Each successive storm has interrupted the natural re-building of the beach needed since the erosion due to *Matthew*.

Despite the string of storm impacts, the island has generally been in a state of beach recovery since 2016 (Figure A).

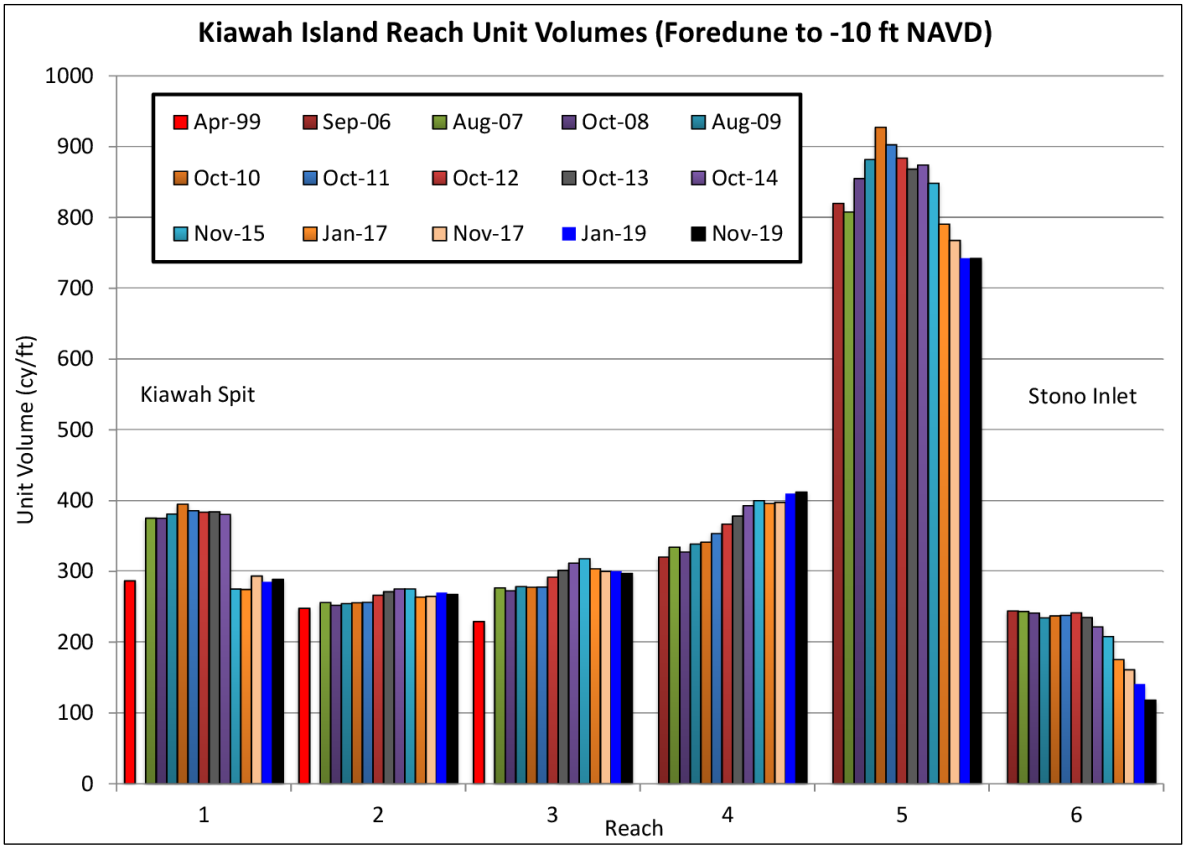


FIGURE A. Unit volumes as measured by reach since April 1999 (September 2006 along the Ocean Course and East End). Overall, the beach had less sand in November 2019 than October 2008 as a result of ~7 years of accretion followed by ~5 years of erosion (on average). However, as this figures illustrates, more than half of the island had more sand on the beach above -10 ft NAVD as of November 2019 than in September 2006 (April 1999 for the three westernmost reaches – Turtle Point, West Beach, and Kiawah Spit).

CSE tracks conditions by section of the island ('reaches') in terms of sand volumes in the dunes, along the visible beach, and in the underwater zone. As of November 2019, much of the island continued to show growth of the dry-sand beach and foredune. Along the entire shoreline from Captain Sams Inlet to Stono Inlet, the island lost ~173,500 cy of sand from January 2019 to November 2019 (Table A).

TABLE A. Beach volumes and unit volumes*, along with respective changes for applicable time periods, for each reach and the entire island between 2007 and 2019. Volumes are to −10 ft NAVD. Reach boundaries are described in the report. Red indicates erosion since the prior survey. Average unit volumes for all reaches are weighted by the applicable reach length.

			Reach Total Volume (cy)														
Reach	Name	Length	Apr-99	Sep-06	Aug-07	Oct-08	Aug-09	Oct-10	Oct-11	Oct-12	Oct-13	Oct-14	Nov-15	Jan-17	Nov-17	Jan-19	Nov-19
1	Kiawah Spit	8,820	2,527,990		3,309,434	3,308,176	3,360,442	3,482,539	3,403,430	3,385,060	3,387,780	3,355,774	2,426,028	2,421,235	2,587,554	2,516,429	2,545,308
2	West Beach	11,798	2,925,119		3,018,972	2,973,269	3,002,842	3,016,726	3,023,391	3,143,512	3,200,438	3,247,900	3,246,474	3,109,992	3,123,811	3,186,466	3,153,949
3	Turtle Point	13,614	3,119,193		3,768,036	3,711,347	3,791,886	3,780,710	3,783,778	3,973,563	4,103,395	4,242,815	4,328,658	4,133,108	4,083,240	4,087,595	4,041,965
4	Ocean Course	9,000		2,881,490	3,008,223	2,946,188	3,047,332	3,071,534	3,182,156	3,301,984	3,403,054	3,535,481	3,599,780	3,562,542	3,577,236	3,690,347	3,707,191
5	Lagoon	8,000		6,559,380	6,462,016	6,840,138	7,055,611	7,419,125	7,222,197	7,071,272	6,946,031	6,993,814	6,787,731	6,325,250	6,139,954	5,939,621	5,936,206
6	Stono Inlet	6,000		1,464,695	1,460,076	1,447,219	1,406,546	1,422,719	1,427,296	1,448,756	1,408,636	1,328,992	1,248,369	1,052,076	966,215	845,351	707,753
1-6	**All**	**57,232**			**21,026,757**	**21,226,337**	**21,664,658**	**22,193,353**	**22,042,249**	**22,324,146**	**22,449,334**	**22,704,776**	**21,637,039**	**20,604,203**	**20,478,010**	**20,265,811**	**20,092,373**
			Reach Unit Volume (cy/ft)														
Reach	**Name**	**Length**	**Apr-99**	**Sep-06**	**Aug-07**	**Oct-08**	**Aug-09**	**Oct-10**	**Oct-11**	**Oct-12**	**Oct-13**	**Oct-14**	**Nov-15**	**Jan-17**	**Nov-17**	**Jan-19**	**Nov-19**
1	Kiawah Spit	8,820	286.6		375.2	375.1	381.0	394.8	385.9	383.8	384.1	380.5	275.1	274.5	293.4	285.3	288.6
2	West Beach	11,798	247.9		255.9	252.0	254.5	255.7	256.3	266.4	271.3	275.3	275.2	263.6	264.8	270.1	267.3
3	Turtle Point	13,614	229.1		276.8	272.6	278.5	277.7	277.9	291.9	301.4	311.7	318.0	303.6	299.9	300.2	296.9
4	Ocean Course	9,000		320.2	334.2	327.4	338.6	341.3	353.6	366.9	378.1	392.8	400.0	395.8	397.5	410.0	411.9
5	Lagoon	8,000		819.9	807.8	855.0	882.0	927.4	902.8	883.9	868.3	874.2	848.5	790.7	767.5	742.5	742.0
6	Stono Inlet	6,000		244.1	243.3	241.2	234.4	237.1	237.9	241.5	234.8	221.5	208.1	175.3	161.0	140.9	118.0
1-6	**All**	**57,232**			**368.0**	**369.5**	**379.2**	**387.2**	**384.3**	**391.6**	**394.2**	**398.4**	**378.6**	**365.4**	**361.7**	**354.3**	**337.2**
			Reach Volume Change Since Previous (cy)														
Reach	**Name**	**Length**			**Aug-07**	**Oct-08**	**Aug-09**	**Oct-10**	**Oct-11**	**Oct-12**	**Oct-13**	**Oct-14**	**Nov-15**	**Jan-17**	**Nov-17**	**Jan-19**	**Nov-19**
1	Kiawah Spit	8,820				-1,258	52,266	122,097	-79,109	-18,370	2,719	-32,006	-929,746	-4,793	166,319	-71,125	28,879
2	West Beach	11,798				-45,703	29,573	13,884	6,665	120,120	56,926	47,462	-1,426	-136,481	13,818	62,656	-32,517
3	Turtle Point	13,614				-56,689	80,539	-11,176	3,068	189,784	129,833	139,419	85,843	-195,550	-49,869	4,356	-45,630
4	Ocean Course	9,000			126,733	-62,036	101,144	24,202	110,622	119,828	101,070	132,427	64,299	-37,239	14,695	113,111	16,844
5	Lagoon	8,000			-97,364	378,122	215,473	363,514	-196,928	-150,924	-125,241	47,784	-206,084	-462,481	-185,296	-200,333	-3,415
6	Stono Inlet	6,000			-4,620	-12,857	-40,673	16,174	4,577	21,459	-40,119	-79,644	-80,624	-196,292	-85,861	-120,864	-137,598
1-6	**All**	**57,232**				**199,580**	**438,321**	**528,695**	**-151,105**	**281,897**	**125,188**	**255,442**	**-1,067,737**	**-1,032,836**	**-126,194**	**-212,199**	**-173,437**
			Reach Unit Volume Change Since Previous (cy/ft)														
Reach	**Name**	**Length**			**Aug-07**	**Oct-08**	**Aug-09**	**Oct-10**	**Oct-11**	**Oct-12**	**Oct-13**	**Oct-14**	**Nov-15**	**Jan-17**	**Nov-17**	**Jan-19**	**Nov-19**
1	Kiawah Spit	8,820				-0.1	5.9	13.8	-9.0	-2.1	0.3	-3.6	-105.4	-0.5	18.9	-8.1	3.3
2	West Beach	11,798				-3.9	2.5	1.2	0.6	10.2	4.8	4.0	-0.1	-11.6	1.2	5.3	-2.8
3	Turtle Point	13,614				-4.2	5.9	-0.8	0.2	13.9	9.5	10.2	6.3	-14.4	-3.7	0.3	-3.4
4	Ocean Course	9,000			14.1	-6.9	11.2	2.7	12.3	13.3	11.2	14.7	7.1	-4.1	1.6	12.6	1.9
5	Lagoon	8,000			-12.2	47.3	26.9	45.4	-24.6	-18.9	-15.7	6.0	-25.8	-57.8	-23.2	-25.0	-0.4
6	Stono Inlet	6,000			-0.8	-2.1	-6.8	2.7	0.8	3.6	-6.7	-13.3	-13.4	-32.7	-14.3	-20.1	-22.9
1-6	**All**	**57,232**				**3.5**	**7.7**	**9.2**	**-2.6**	**4.9**	**2.2**	**4.5**	**-18.7**	**-18.0**	**-2.2**	**-3.7**	**-3.0**

Most of these losses (~137,600 cy) occurred along Stono inlet. Since 2011, the Lagoon and Stono Inlet Reaches have lost sand between nearly every survey. These ongoing losses are related to the volume of sand migrating onshore from the tidal delta shoals. The last notable shoal bypass event ended by January 2017, and the next shoal moving onshore remained ~1,000 ft off the visible beach as of November 2019.

The central three reaches (West Beach, Turtle Point, and Ocean Course) lost a total of ~61,300 cy (1.8 cy/ft) between January 2019 and November 2019. At the western end of the island, Kiawah Spit gained ~29,000 cy due to extension of the spit towards Seabrook Island. Volume changes for each reach are provided in Table A.

Official OCRM Long-Term Erosion Rates for Kiawah Island Beach Monuments

Monument	Long-Term Average Shoreline Change Rate (ft/yr)
2620	+6.2
2625	+1.1
2630	-1.2
2635	-1.5
2640	-2.1
2645	-2.7
2660	-2.9
2665	-2.9
2675	-2.6
2680	-2.6
2685	-1.2
2690	-0.6
2695	+1.7
2700	+1.7
2715	+1.7
2720	+1.7
2725	+5.3
2730	+5.3
2735	+5.3
2745	+5.3
2750	+5.3
2760	+8.8
2775	+8.8
2780	+27.7
2785	+27.7
2790	+27.7
2792	+27.7

Section 5.2 Beach Alteration Inventory

Kiawah Island has a natural beach and has no groins, bulkheads, revetments, or sea walls. Kiawah's beach is one of the few beaches in the state that has generally been accreting sand over the last 100 years or more. For this reason, there has been no need to "armor" the beach front. Kiawah's eastern end has experienced several periods of severe erosion since 2004.The Town has conducted two beach renourishment projects in this area, the first in 2006 and second in 2015. Details on these projects can be found below in Section 5.2.1.

5.2.1 *Beach Renourishment*

2006 East End Beach Restoration Project

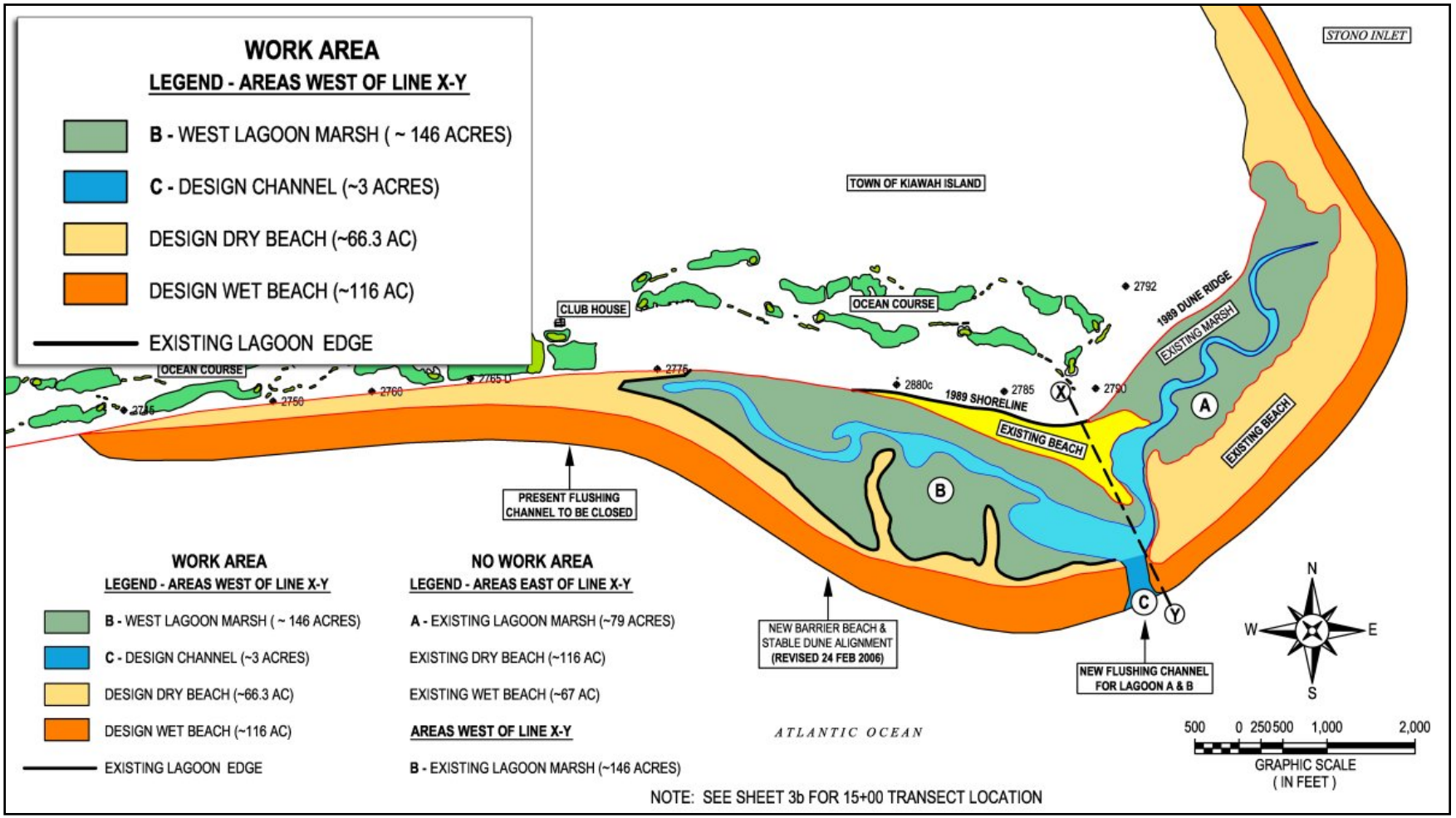
The Town and its beach consultant, Coastal Science and Engineering (CSE) applied for a permit to conduct the East End Beach Restoration Project on September 15, 2005. Based on feedback received during several meetings with the U.S. Fish and Wildlife Service (USFWS) during late 2005 and early 2006, the original construction plan was substantially modified and reduced in scale. The predominant concern of the USFWS was that the project might have negative impacts on the state and federally threatened piping plovers that utilize the eastern end of Kiawah Island (the area is designated as Federal Critical Habitat). Piping plovers are small shorebirds that winter and feed on sand and mud flats in this area.

The final project plan (Figure 13) and mitigation package was agreed to in March 2006. The Town reduced the fill volume from 1.2 million cubic yards to 550,000 cubic yards, reduced the constructed dune heights from 7 to 5.5 feet (to promote overwash), eliminated direct impacts to piping plover feeding areas, and agreed to a 6-year piping plover monitoring plan.

On May 4, 2006, the South Carolina Wildlife Federation and the National Audubon Society (petitioners) filed a request for a contested case hearing before the Administrative Law Court in Columbia to effectively stop the Town's beach project. The Town of Kiawah Island, Kiawah Island Golf Resort (KIGR), and the SC Office of Coastal Resource Management (OCRM) were listed as respondents in the lawsuit. The petitioners argued that the Town's project would cause irreparable harm to the piping plover. The Town retained Mr. Ellison Smith, of Smith, Bundy, Bybee, and Barnett, to represent its interests in this matter.

The Town received all necessary state and federal permits to conduct the project on June 6, 2006. Work began on June 8, 2006. In response, the petitioners requested an emergency hearing and an injunction to stop the project. On June 28, 2006 the case was heard before Judge John Geathers in Columbia, SC. After a full day of motions and testimony, Judge Geathers ruled that the petitioners had not proven that there would be "harm" to the piping plover and that the project could continue as planned.

Figure 13. Project design map for the East End Beach Renourishment Project.



L. Dean Weaver Construction Company, Inc. of Pamplico, SC conducted the beach project for the Town. The primary objective of the project was to close an existing beachfront creek and open a new channel to the east in order to reestablish the natural flow of sand to the beach in this area. In addition, 550,000 cubic yards of sand was placed along heavily eroded beachfront areas from the Ocean Course Clubhouse down to the 16th fairway.

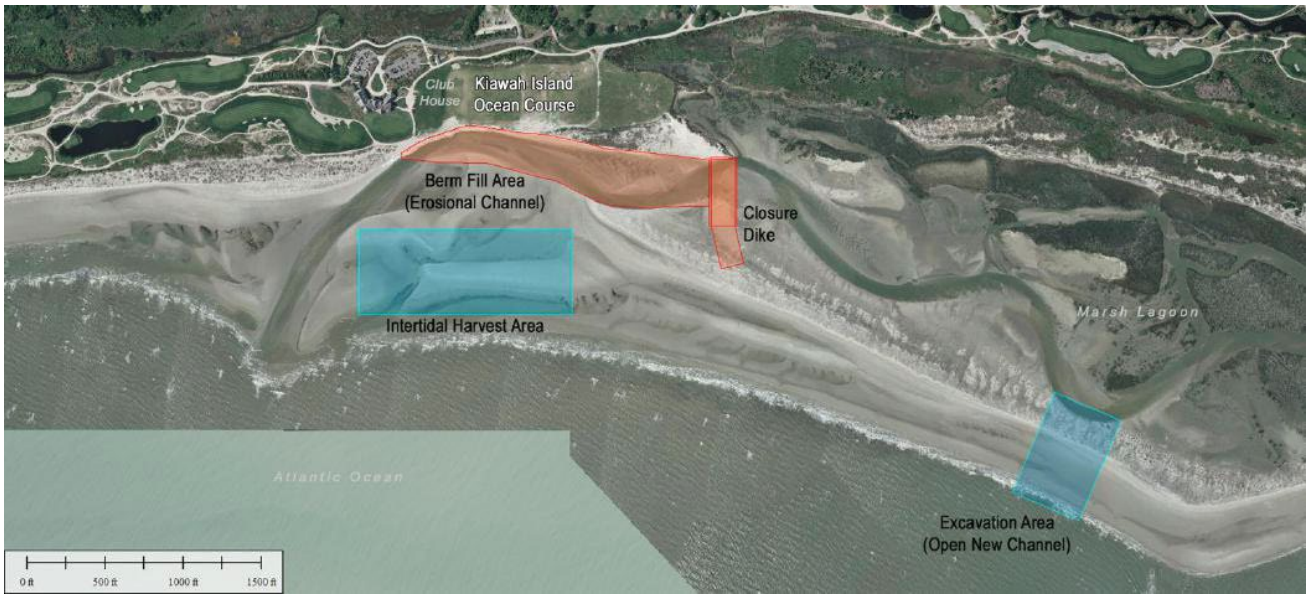
Several different types of equipment were utilized to excavate the new channel and move sand to the west. This equipment included 4-5 track hoes, 16-18 off road trucks, 3-4 bulldozers, and 2 pan scrapers. The primary mode of sand transport was with off road trucks loaded by track hoes (see picture above). Work was completed on July 28, 2006. The Town funded the majority of this $3.6 million project with the balance being covered by financial contributions from Kiawah Island Community Association (KICA), KIGR, and Kiawah Development Partners (KDP).

Before and after photos of the East End Project Area.

2015 East End Channel Realignment Project

The 2006 beach restoration project proved effective in restoring a dry sand beach along the Ocean Course. The new flushing channel relocated naturally in 2007 to a point in the middle of the open lagoon area. Between 2007 and 2013, the channel meandered across the intertidal beach; however, the throat of the channel remained east of the 2006 closure dike. In early 2014, the channel began to encroach on the closure dike, and the Town began planning for another channel relocation in the event the channel continued to migrate west. The plan called for periodic relocation of the flushing channel, using the minimal amount of sand necessary, if the channel migrated west beyond its position in February 2014. A permit application was

submitted in May 2014 with the intended construction window of September–October; however, by the fall of 2014, the migration of the channel expedited and quickly eroded much of the dune area fronting the Ocean Course driving range. The Town applied for a one-time modification to the construction window to allow for construction during the spring-summer time frame, which was granted by regulatory agencies.



Generalized 2015 Project Plan

The 2015 project was constructed between May and June 2015 by Lake Moultrie Construction Company Inc (DBA Ashridge Inc) of St. Stephen, SC, at a cost of $538,000. A total of 100,000 cy of sand was transferred, and the new inlet was opened ~3,000 ft to the east. A closure dike was built across the original channel, connecting to the remaining portion of the 2006 closure dike. Excess sand was placed along the seaward edge of the driving range to facilitate recovery of the eroded areas and protect the range. The completed project accomplished the goal of eliminating the cause of erosion along the Ocean Course while minimizing the construction impacts through lower volumes and limited manipulation of the beach area.

Aerial image of the completed 2015 channel relocation project in July 2015. The new inlet was opened ~3,000 ft east of the old channel.

5.2.2 Emergency Orders and Sandbags

If necessary, the Town may issue appropriate emergency orders allowing property owners to undertake emergency sand scraping and sand bagging as allowed under OCRM Critical Area Regulations. Emergency orders and protective work shall be consistent with the Town's erosion control plan (see Section 5.3).

The Town of Kiawah Island has only issued a handful of emergency orders in the last 20 years. All of these orders were issued to the Ocean Course Golf Course, LLC between 2005 and 2006 to combat significant erosion adjacent to the 18th green of the Ocean Course Golf Course. There were a total of 10 Emergency Beach Scraping Orders and 1 Emergence Sandbagging Order issued. The issue dates of the orders are below:

Emergency Beach Scraping Orders

- 2005 – May 9, June 7, July 5, August 16, September 14, October 14, December 12,
- 2006 – January 12, February 12, May 11

Emergency Sandbagging Order

- September 15, 2005

5.2.3 Previous Hurricane and Storm Events

Hurricanes and tropical storms pose a significant threat to Kiawah Island in the summer and early fall. Seventy-eight (78) hurricanes have affected this area between the years of 1686 – 1999. The most recent memorable storms have been Hurricane Hugo (1989) and Hurricane Floyd (1999).

The Charleston Regional Hazard Mitigation Plan, which is updated regularly by Charleston County and communities within the County, contains descriptions of storm and flood events. The following descriptions of significant storm and flooding events have been excerpted primarily from this plan:

September 29, 1959 – Hurricane Gracie: Hurricane Gracie moved inland on September 29. The eye of the storm passed over the South Carolina coast at St. Helena Sound about 10 miles east of the City of Beaufort. Damage of disastrous proportions occurred in the coastal region from Beaufort to Charleston, and considerable, additional damage occurred in the area of Walterboro. An enormous number of trees were felled, causing considerable random damage. There was a great deal of crop damage, especially to unpicked cotton. A barometric pressure of 905 nb (28.06 inches) was reported in Beaufort. The total damage inflicted by the storm was estimated at $14 million. High water marks, which were reported near the Town of Edisto Beach, South Carolina, ranged from 7.3 to 11.9 feet msl.

September 5, 1979 – Hurricane David: Hurricane David was a Category 2 storm prior to entering the U.S. in Florida. It diminished to a borderline Category 1 storm upon exiting Florida and came ashore near Savannah (GA). It produced a minimal surge and high waves which damaged property in Edisto Beach and Seabrook Island. Kiawah Island experienced dune erosion and minor damage to some walkovers as well as localized flooding. At Seabrook, sections of a seawall around the Beach Club collapsed, and waves pushed large boulders into the main access road along the oceanfront.

July 24, 1985 – Hurricane Bob: Hurricane Bob entered the coast near Fripp Island as a low Category 1 storm. It caused minor flooding and uprooted trees at Kiawah Island.

September 19, 1989 – Hurricane Hugo: On September 19, 1989, emergency officials recognized Hugo as a “real” and “major” threat based on National Weather Service information. Hurricane Hugo was 997 miles southeast of Charleston at 6:00 P.M. The coastal counties released hurricane evacuation information through the media.

On September 20, a voluntary evacuation took place in the afternoon and throughout the night. At 6:00 P.M. Hugo was 584 miles southeast of Charleston. The Governor

declared a State of Emergency to exist at approximately 7:00 P.M. (Executive Order 89-32)

On September 21, a hurricane warning was issued for the entire South Carolina coast at 6:00 A.M. The Governor issued an Evacuation Order for the peninsulas, barrier islands, and beach front with the exception of the City of Charleston. By 10:00 P.M. Charleston had high winds and many power outages. Communications were difficult. Hugo made landfall just after midnight.

Hugo, a Category 4 Hurricane (the second most powerful classification), moved ashore with high winds. Tidal surges north of the city were recorded at 19.8 feet and 11.8 feet in the Peninsula City. The hurricane struck at high tide. Its recorded diameter was over 500 miles.

Preliminary Damage Assessment: Although Hugo had high winds and a large storm surge, only four (4) people were killed and scores injured. The low death toll was largely due to the adequate warning and successful evacuation of the barrier islands, which were hit hardest.

Even with the success came destruction, Hurricane Hugo's strike resulted in an estimated damage of $7 billion for the total area. The insurance payouts for the unincorporated areas alone were estimated to be at $909 million. Throughout the Region, an estimated 36,980 buildings suffered damages ranging from minor to total destruction. Heavy rains three (3) days later added to the damage that already existed.

September 15, 1999 – Hurricane Floyd: This hurricane was a Category 3 hurricane when it brushed the South Carolina Coast on September 15, 1999. Sustained winds of 58 miles per hour were recorded in downtown Charleston with gusts up to 85 miles per hour. Generally 3-5 inches of rainfall occurred in the Charleston area associated with Hurricane Floyd. An estimated $10.5 million in damages occurred in the Charleston region as a result of Hurricane Floyd mostly as a result of the high winds. Minor to moderate beach erosion occurred along the South Carolina coast. Tides were 3.5 feet above normal during the hurricane.

September 17, 2003 – Hurricane Isabel: This storm created 8 foot surf at Kiawah Island and had wind gusts of 40 mph offshore and 20 mph in downtown Charleston when it passed offshore of Charleston County. Coastal erosion was expected, as tides were 6 to 12 inches above normal.

August 14-15, 2004 – Hurricane Charley: This storm made landfall near McClellanville as a Category 1 storm. An estimated 4 inches of rain fell in 2 hours in the Northern part of Charleston County on August 14, 2004, flooding low lying areas and areas with poor drainage (National Weather Service Storm Data and Unusual Weather Phenomena, 2004, August). Storm surge was estimated at 4-6 feet from Oyster Landing to the Cape Romain Wildlife Refuge in the northern portions of Charleston County. Barrier islands in Charleston County called for voluntary evacuations, and 4 emergency shelters were opened for Charleston

County residents. Minor property and tree damage occurred as a result of this storm. The storm also dropped 1.5 inches of rain over 4 hours in Charleston, causing minor flooding of roadways in low- lying areas. The storm caused an estimated damage of $2 million in South Carolina, and the Governor declared a state of emergency in South Carolina. The highest wind gusts in the central portions of the county associated with this storm were 63 mph at the Isle of Palms, 58 mph at Folly Beach, and 51 mph in downtown Charleston.

August 29, 2004 – Hurricane Gaston: Hurricane Gaston (originally classified as a Tropical Storm, but reclassified as a hurricane on November 22, 2004) made landfall near Awendaw with sustained winds of 75 mph. The storm brought a 4 foot storm surge into Bull's Bay; caused an estimated $4.8 million in damages to homes, primarily in areas east of the Cooper River; created debris with an estimated clean up cost of $2.2 million county wide; left nearly all of the customers of South Carolina Electric and Gas without electrical power; and ultimately resulted in a Presidential Disaster Declaration for Public Assistance for Charleston County. The storm dropped an estimated 6-10 inches of rain on Sullivan's Island, the Isle of Palms, and Mt. Pleasant, flooding numerous roads and retention ponds. Maximum wind gusts from this storm were 81 mph at the Isle of Palms, 59 mph at Pineville, 55 mph at the Charleston airport, 51 mph at Folly Beach, and 48 mph in downtown Charleston. Over 3,000 structures in Charleston, Berkeley, and Dorchester counties sustained minor damages. At the height of the storm, there were over 150,000 people in the area without power. Total estimated damages, per the National Weather Service, were $7.6 million in Charleston County. Total estimated damages, per the National Weather Service, were $7.6 million in Charleston County.

September 6, 2004 – Tropical Storm Frances: This storm created nearly 6 ft. surf, dropped nearly 5 inches of rain, and had winds of 35 mph when it struck Charleston County on Labor Day. The storm caused mostly nuisance-type flooding in Charleston County, and blew down trees along the Hwy. 52 Connector in North Charleston. The storm spun off nearly 2 dozen tornadoes, one of which touched down at Northwoods Mall in North Charleston, causing minor tree damage.

September 27, 2004 – Tropical Storm Jeanne: This storm brushed the Charleston County coast. This storm, combined with the other tropical systems that affected the region during 2004, resulted in 40ft. of beach erosion on the north end of Folly Beach. A flood watch was posted in Charleston County for September 27, 2004, on the anticipation that the area could receive 3-6 inches of rain from this storm. Maximum wind gusts in Charleston County from this storm were 41 mph in downtown Charleston and at the Charleston airport. Maximum wind gusts at Folly Beach were 38 mph. Non-tornadic damage was limited to a few trees falling on cars.

September 13, 2005 – (Tropical Storm Ophelia): This storm, which was especially difficult to track as it moved towards the Eastern Atlantic Coast ended up brushing the Charleston County area as a tropical storm with 75 mph winds. McClellanville experienced hurricane force winds within 10-20 miles of the coast, and power outages occurred as a result of the storm in multiple areas east of the Cooper River. Trees were knocked down in McClellanville and Mt. Pleasant. Beach erosion

occurred on Folly Beach and other beaches along the South Carolina coast. One surfer lost his life while surfing near Folly Beach when this storm was in the area.

October 5, 2005 – (Tropical Storm Tammy): This storm struck Folly Beach with 54 mph wind gusts and dropped more than 4 inches of rain on Folly Beach. The storm caused power outages to at least 3,500 properties in Charleston County, flooded roads and yards, and brought down tree limbs. This storm also caused significant beach erosion at Edisto Beach and the Isle of Palms.

August 31, 2006 – (Tropical Storm Ernesto): After crossing through South Florida, Tropical Storm Ernesto was predicted to make landfall in Charleston County which prompted Charleston County to fully activiate its Emergency Operations Center and multiple closings of schools and offices in Charleston County. Folly Beach City Hall recorded the highest wind speed associated with this system of 40 mph gusts (Petersen, 2006, September 1). The storm ultimately made landfall in North Carolina and traveled further North causing wind and flood damages.

June 2, 2007 – (Remnants of Tropical Storm Barry): This storm system brought heavy rains, strong winds and rough surf in coastal Charleston County. This storm system dropped up to 3 inches of rain in the Lowcountry, took out electric service to 13,900 customers of SCE& G and Berkeley Electric Cooperative, mostly in the Summerville area, caused vessels to break their lines, and flooded streets, particularly on the Charleston Peninsula. Wind gusts up to 60 mph were recorded from this storm at the Ben Sawyer Bridge.

September 5, 2008 – (Tropical Storm Hanna): This storm passed by to the east of coastal South Carolina, resulting in strong wind and localized heavy rain in the Charleston County area. Flooding was reported throughout downtown Charleston.

September 17, 2010 – (Hurricane Igor): This Category 2 hurricane passed off-shore approximately 800 miles from South Carolina and caused high waves and some minor beach erosion.

August 19, 2011 – (Hurricane Irene): This Category 2 hurricane passed off-shore the South Carolina coast and caused high waves and beach erosion in Charleston County. Winds of 40-50 miles an hour were recorded along the coast as the stormed passed by. Folly Beach experienced severe beach erosion during this storm. Kiawah Island also had minor beach erosion.

October 1-5, 2015 – (Hurricane Joaquin): This Category 4 hurricane stayed well offshore but a persistent plume of tropical moisture associated with Joaquin brought record rainfall to portions of South Carolina. The Charleston area saw 15-20 inches of rain over a 5-day period causing significant flooding.

October 8, 2016 – (Hurricane Matthew): This Category 5 hurricane weakened to a Category 1 as it traveled past Kiawah in the Atlantic before making landfall near McClellanville. This storm produced a storm surge of 6 feet in Charleston and

caused significant flooding and beach erosion on Kiawah. Most sections of Kiawah's beach suffered 30-50 feet of erosion.

September 11, 2017 – (Hurricane Irma): This Category 5 hurricane made landfall in Florida (as a Category 4) and had weakened to a tropical storm as it entered Georgia. This storm produced a storm surge of 4 feet in Charleston and caused significant flooding and beach erosion on Kiawah. Most sections of Kiawah's beach suffered 30-50 feet of erosion.

Extratropical Storms (Northeasters): Kiawah Island is subject to extratropical storms that occur frequently, mostly during winter months. Northeasters occurring in quick succession some winters have produced significant erosion along the oceanfront. The winters of 1982-1983 and 1986-1987 had significant storms that eroded upward of one million cubic yards from the upper beach. Sand which moved offshore during these northeasters eventually returned to the visible beach within about two years. Significant storms also occurred from late fall 1992 to March 1993.

Northeasters along the South Carolina coast tend to be less intense compared with New England storms. Typical peak winds are likely to be 30-40 mph, versus >60 mph in New England. Dune erosion is most common during northeasters when they occur in phase with maximum lunar tides (ie., "spring" tides which occur during full moon and new moon phases). Storms on New Year's Day 1987 and on March 13, 1993, were among the worst northeasters to impact Kiawah in the past 30 years. Some emergency beach scraping and dune restoration were performed at Kiawah following the New Year's Day storm.

Section 5.3 Discussion of Erosion Control Alternatives

Given the natural setting that exists along the beaches of Kiawah Island, the Town will encourage erosion control strategies that work in concert with local coastal processes and will discourage strategies that harden the shoreline. The 1990 Beachfront Management Act prohibits the construction of bulkheads, seawalls, and revetments, except to protect public highways that existed prior to June 25, 1990.

The preferred erosion control strategies and techniques for protecting the ocean shoreline of Kiawah Island are:

- Dune restoration and revegetation
- Beach renourishment using approved borrow sources
- Sand scraping and sand bagging (under emergency conditions)

All erosion control activities will be approved by DHEC-OCRM, other appropriate state and federal agencies, and the Town. Preferred borrow sources and transportation/placement methods are as follows (Note: this does not constitute Town approval for specific projects):

- Beach scraping from the low tide beach, using land-based equipment

- Borrowing sand from inlet shoals at Stono Inlet, using land-based equipment or hydraulic dredge
- Borrowing sand from the end of the spit at Beachwalker Park, using land-based equipment or hydraulic dredge
- Upland sources of beach-compatible sand, hauled to the site by truck or other approved means

The Town may issue emergency scraping and sand bagging orders to protect homes, golf courses and non-habitable structures as allowed by law. The Town must approve, in advance, all erosion control projects along Kiawah Island, including any that use the beaches, dunes, or adjacent tidal inlets for borrowing, transportation, or placement of sand. The Town must approve any future inlet relocation projects at Captain Sam's Inlet.

5.3.1 Beach Renourishment

The Town of Kiawah Island has conducted two beach renourishment projects in its history. Each project is described in detail in Section 5.2.1. Due to the healthy nature of Kiawah's beach, there are no plans to renourish the beach, barring a natural disaster.

5.3.2 Other Measures

There are no other erosion control alternatives in use on Kiawah Island.

SECTION 6

NEEDS, GOALS AND IMPLEMENTATION STRATEGIES

Section 6.1 Policy of Beach Preservation

The Beachfront Management Act states very clearly that the policy of South Carolina is to protect, preserve, restore and enhance the beach/dune system. This act also calls for promoting wise use and development of the state's beachfront by implementing regulatory standards on the ocean side of the DHEC-OCRM setback line. Management strategies within this area include limiting the size of habitable structures, requiring oceanfront habitable structures and pools to be located as far landward on a lot as possible, prohibiting new shore-parallel erosion control structures, and promoting beach and dune restoration projects. The Town of Kiawah Island shares the objectives of the State, and will accomplish those objectives through its Local Comprehensive Beach Management Plan.

At this time, there are no habitable structures or erosion control structures located seaward of the setback line. There is 1 covered beach walkover deck (49 Eugenia) seaward of the setback line.

Section 6.2 Strategy for Preserving and Enhancing Public Beach Access

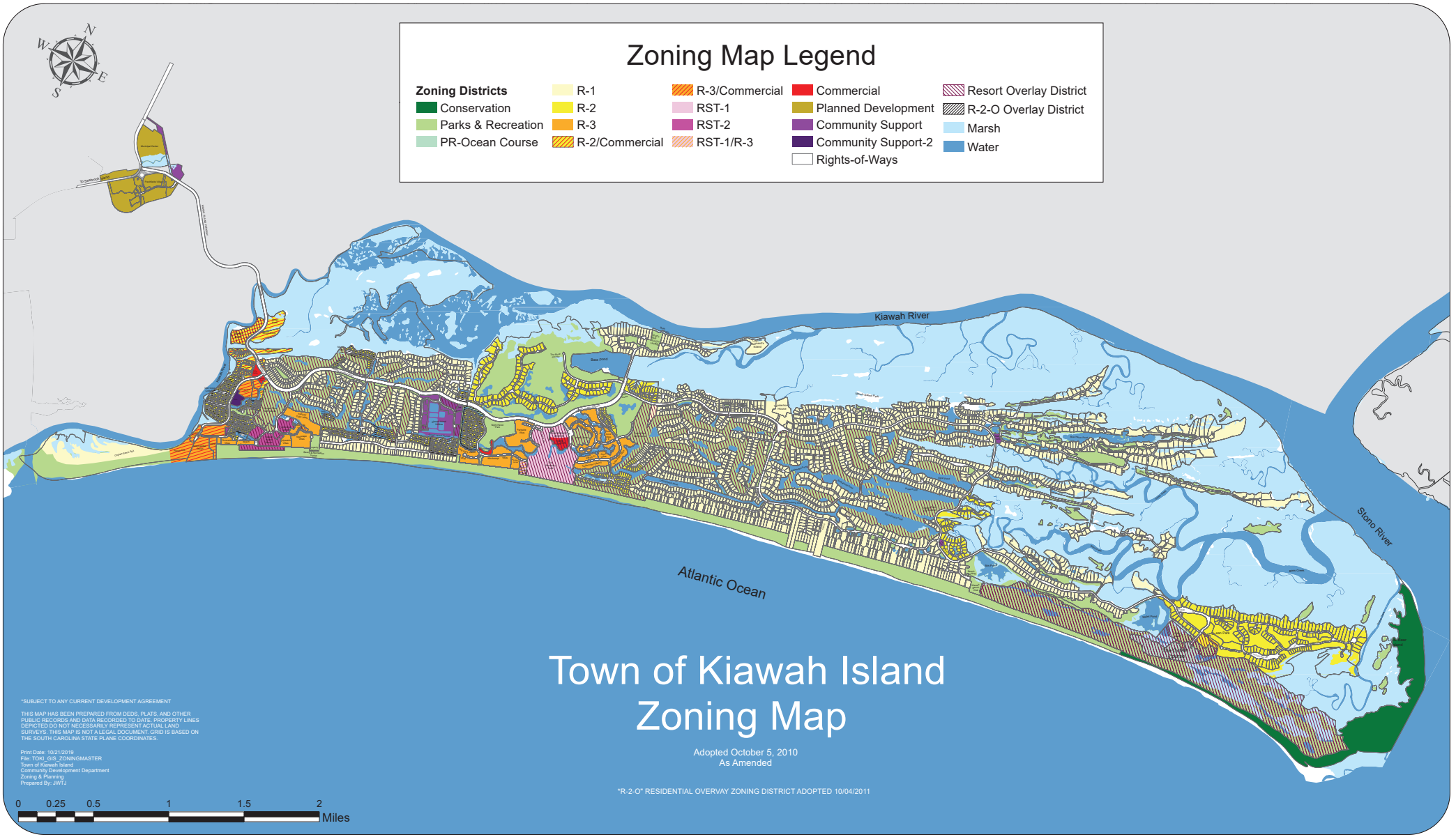
Beachwalker County Park offers the only "true" public access to the Kiawah Island beach. The Town will make all efforts to maintain the county park and the public access it provides.

In fiscal year 2013, the Town of Kiawah Island received a Transportation Sales Tax grant from Charleston County totaling $60,000 to construct an asphalt bike path along Beachwalker Drive into the County Park. This addition will further enhance access to the public beach and park.

SECTION 7

APPENDIX

Appendix 7.1 Beach Management Overlays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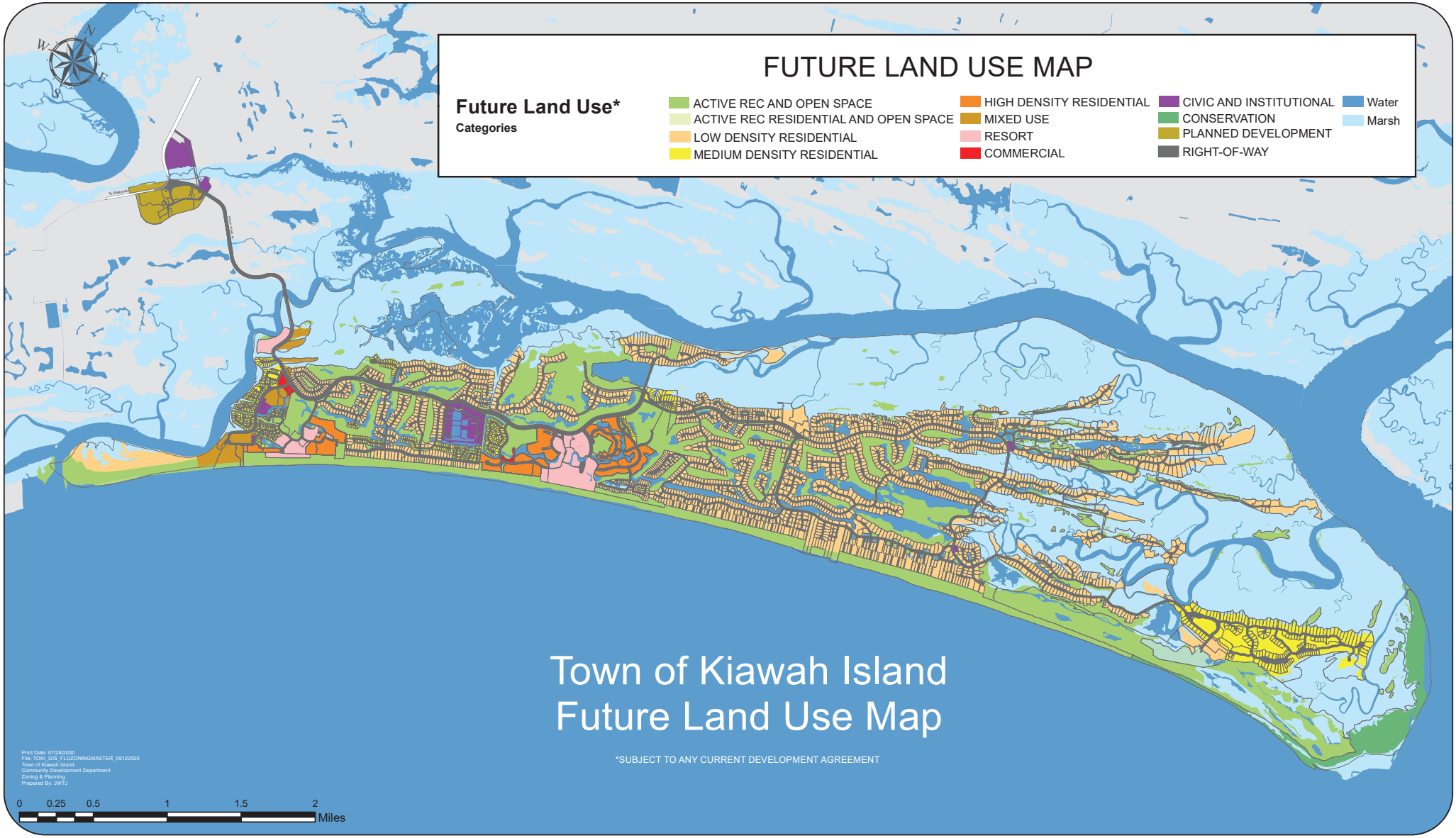
Conservation
Parks & Recreation
PR-Ocean Course
R-1
R-2
R-3
R-2/Commercial
R-3/Commercial
RST-1
RST-2
RST-1/R-3
Commercial
Planned Development
Community Support
Community Support-2
Rights-of-Ways
Resort Overlay District
R-2-O Overlay District
Marsh
Water
Kiawah River
Stono River
Atlantic Ocean
Town of Kiawah Island
Zoning Map
Adopted October 5, 2010
As Amended
*R-2-O" RESIDENTIAL OVERVAY ZONING DISTRICT ADOPTED 10/04/2011
*SUBJECT TO ANY CURRENT DEVELOPMENT AGREEMENT
THIS MAP HAS BEEN PREPARED FROM DEDS, PLATS, AND OTHER PUBLIC RECORDS AND DATA RECORDED TO DATE. PROPERTY LINES DEPICTED DO NOT NECESSARILY REPRESENT ACTUAL LAND SURVEYS. THIS MAP IS NOT A LEGAL DOCUMENT. GRID IS BASED ON THE SOUTH CAROLINA STATE PLANE COORDINATES.
Print Date: 10/21/2019
File: TOKI_GIS_ZONINGMASTER
Town of Kiawah Island
Community Development Department
Zoning & Planning
Prepared By: JWTJ
0 0.25 0.5 1 1.5 2
Miles

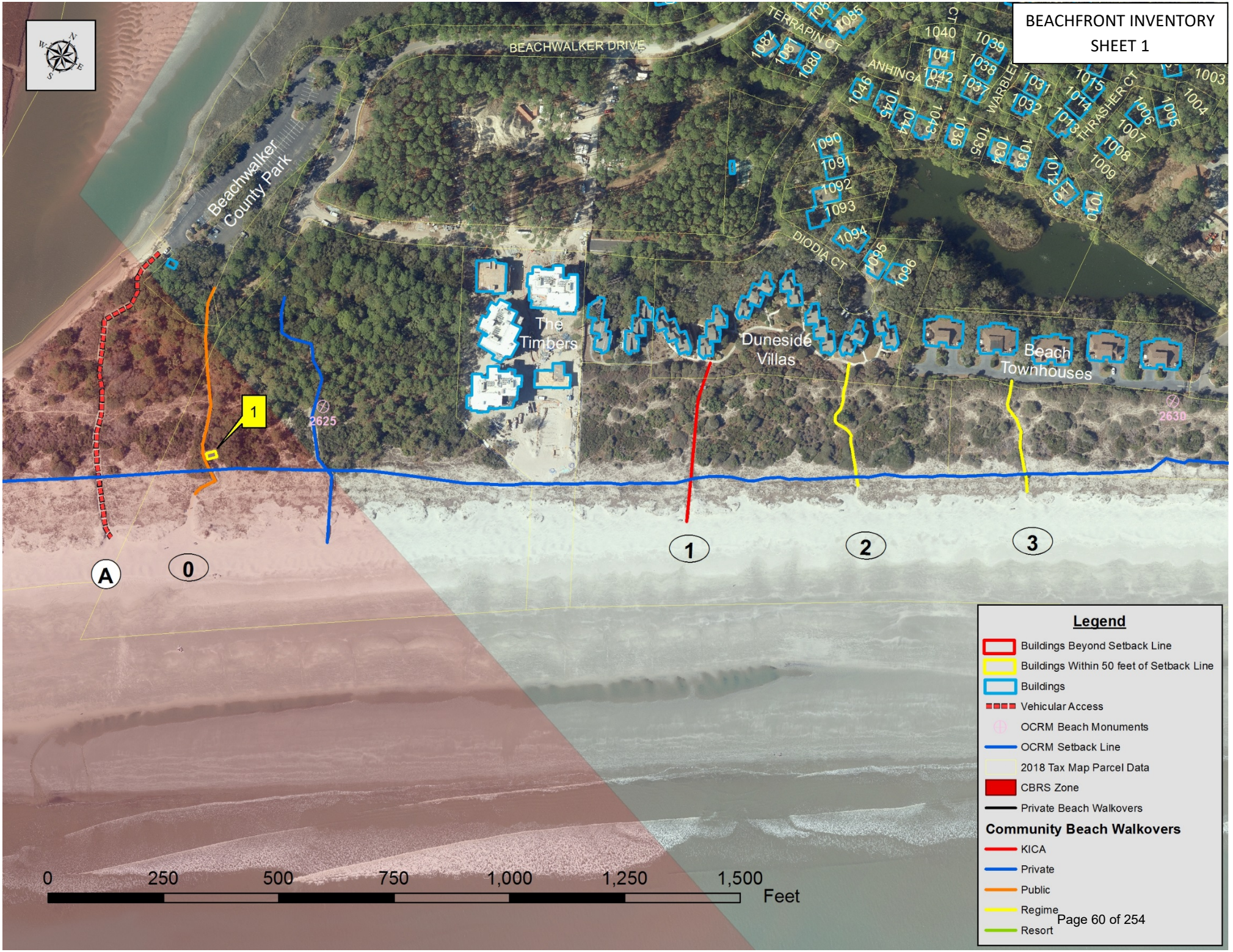

FUTURE LAND USE MAP
Future Land Use*
Categories
ACTIVE REC AND OPEN SPACE
ACTIVE REC RESIDENTIAL AND OPEN SPACE
LOW DENSITY RESIDENTIAL
MEDIUM DENSITY RESIDENTIAL
HIGH DENSITY RESIDENTIAL
MIXED USE
RESORT
COMMERCIAL
CIVIC AND INSTITUTIONAL
CONSERVATION
PLANNED DEVELOPMENT
RIGHT-OF-WAY
Water
Marsh
Town of Kiawah Island
Future Land Use Map
*SUBJECT TO ANY CURRENT DEVELOPMENT AGREEMENT
Print Date: 07/28/2020
File: TOKI_GIS_FLUZONINGMASTER_06122020
Town of Kiawah Island
Community Development Department
Zoning & Planning
Prepared By: JWTJ
0 0.25 0.5 1 1.5 2
Miles

Appendix 7.2.1 Structures Inventory Table

Map ID	Street	Tax Map Number	Parcel Number	Structure Inventory	Structure Distance from OCRM Setback Line
1	Eugenia Avenue	2090500004	49	Covered Deck	10 feet

Appendix 7.2.2 Structures Inventory Maps

A series of 17 map sheets showing the entire Kiawah Island beachfront.


BEACHFRONT INVENTORY
SHEET 1
BEACHWALKER DRIVE
TERRAPIN CT
ANHINGA CT
WARBLE
THRASHER CT
DIODIA CT
Beachwalker County Park
The Timbers
Dunesidé Villas
Beach Townhouses
2625
2630
1
A
0
1
2
3
Legend
Buildings Beyond Setback Line
Buildings Within 50 feet of Setback Line
Buildings
Vehicular Access
OCRM Beach Monuments
OCRM Setback Line
2018 Tax Map Parcel Data
CBRS Zone
Private Beach Walkovers
Community Beach Walkovers
KICA
Private
Public
Regime
Resort
0
250
500
750
1,000
1,250
1,500
Feet


BEACHFRONT INVENTORY
SHEET 2
West Beach Tennis Courts
Courtside Villas
SHIPWATCH ROAD
SPARROW RD
DAVID STREET
West Beach Village
Shipwatch Villas
Seascape Villas
The Sandcastle
2635
2640
4
5
6
7
8A
8B
0
250
500
750
1,000
1,250
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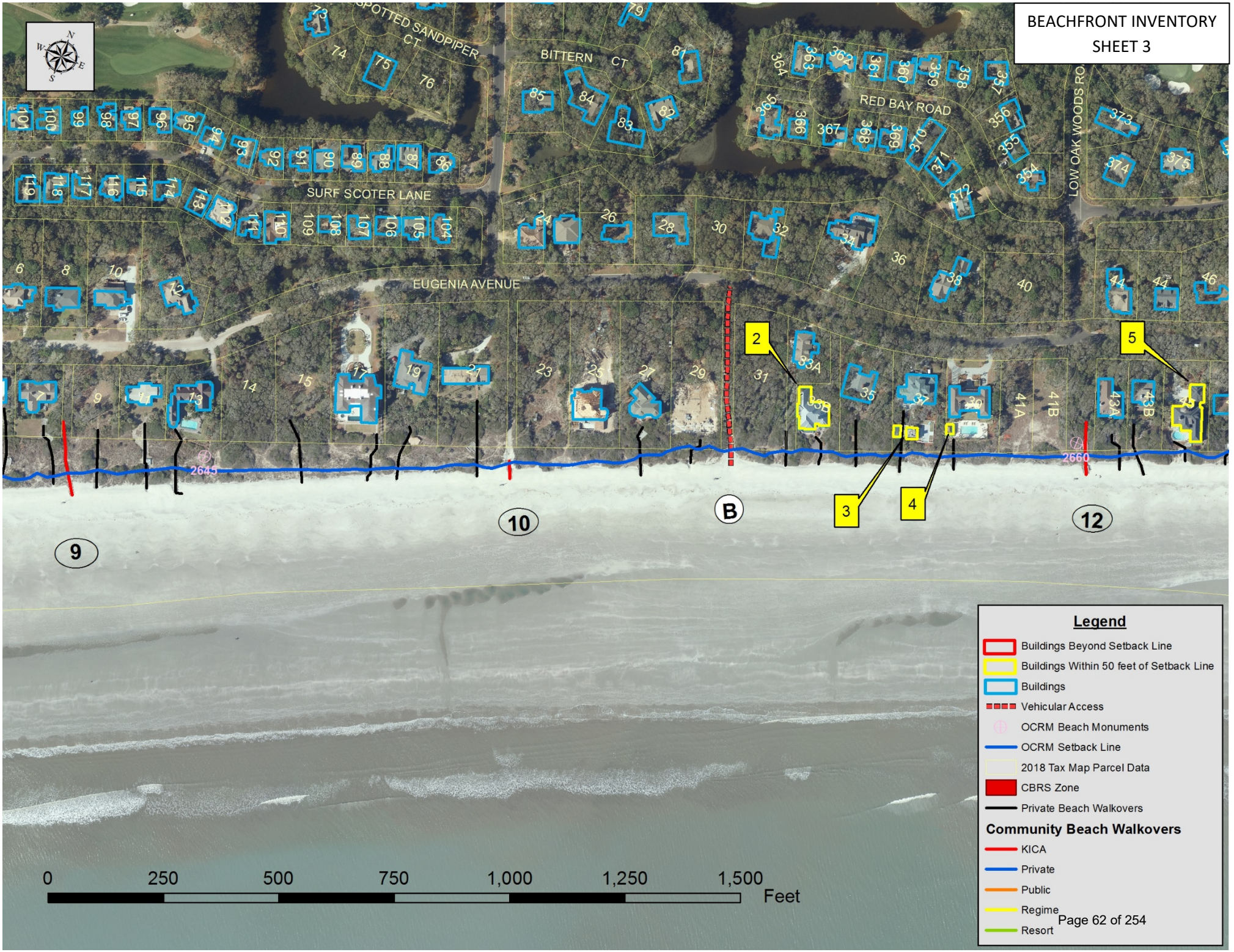
Feet
Legend
Buildings Beyond Setback Line
Buildings Within 50 feet of Setback Line
Buildings
Vehicular Access
OCRM Beach Monuments
OCRM Setback Line
2018 Tax Map Parcel Data
CBRS Zone
Private Beach Walkovers
Community Beach Walkovers
KICA
Private
Public
Regime
Resort


BEACHFRONT INVENTORY
SHEET 3
SPOTTED SANDPIPER CT
BITTERN CT
RED BAY ROAD
LOW OAK WOODS RD
SURF SCOTER LANE
EUGENIA AVENUE
2645
2660
9
10
B
12
2
3
4
5
Legend
Buildings Beyond Setback Line
Buildings Within 50 feet of Setback Line
Buildings
Vehicular Access
OCRM Beach Monuments
OCRM Setback Line
2018 Tax Map Parcel Data
CBRS Zone
Private Beach Walkovers
Community Beach Walkovers
KICA
Private
Public
Regime
Resort
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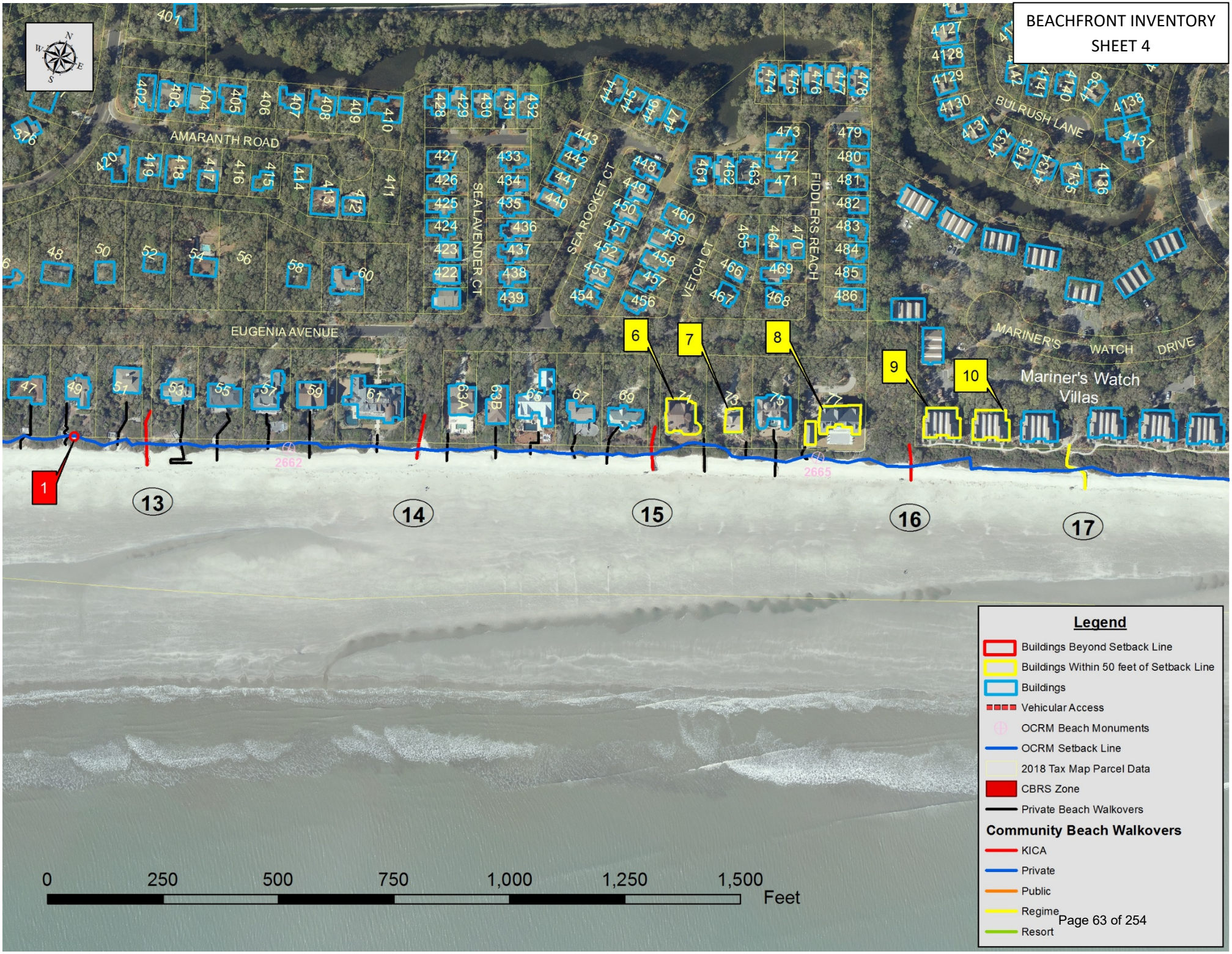
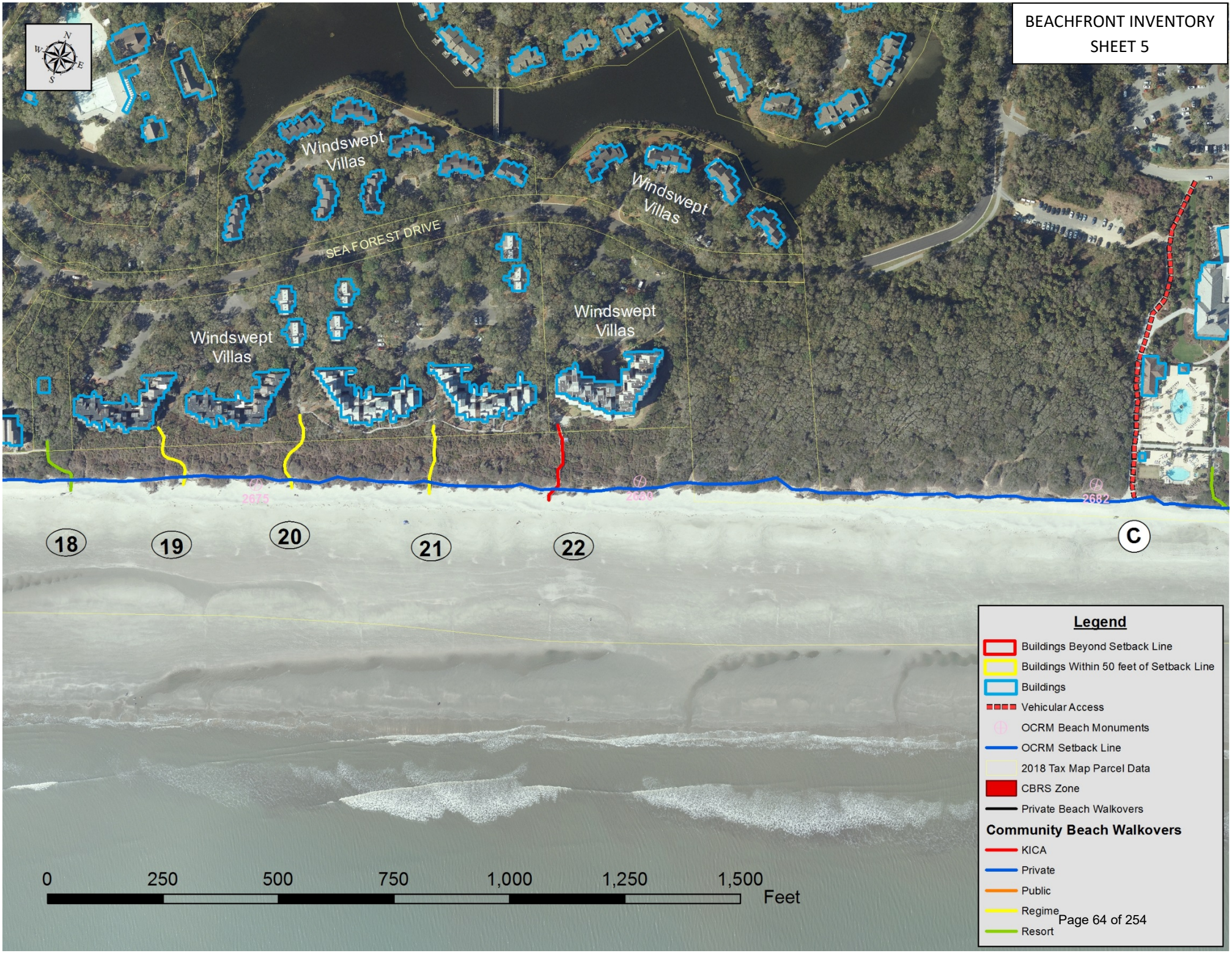
Feet

BEACHFRONT INVENTORY
SHEET 4




BEACHFRONT INVENTORY
SHEET 5
Windswept Villas
Windswept Villas
Windswept Villas
Windswept Villas
SEA FOREST DRIVE
18
19
20
21
22
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2675
2680
2682
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Feet
Legend
Buildings Beyond Setback Line
Buildings Within 50 feet of Setback Line
Buildings
Vehicular Access
OCRM Beach Monuments
OCRM Setback Line
2018 Tax Map Parcel Data
CBRS Zone
Private Beach Walkovers
Community Beach Walkovers
KICA
Private
Public
Regime
Resort


BEACHFRONT INVENTORY
SHEET 6
Maritime at Kiawah Villas
GREEN DOLPHIN WAY
Turtle Point Villas II
Turtle Point #17
MUIRFIELD LANE
The Sanctuary Hotel
TURTLE BEACH LANE
ATLANTIC BEACH
Turtle Point #16
Turtle Point #15
2685
C
27
28
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250
500
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Feet
Legend
Buildings Beyond Setback Line
Buildings Within 50 feet of Setback Line
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Vehicular Access
OCRM Beach Monuments
OCRM Setback Line
2018 Tax Map Parcel Data
CBRS Zone
Private Beach Walkovers
Community Beach Walkovers
KICA
Private
Public
Regime
Resort


BEACHFRONT INVENTORY
SHEET 7
Turtle Point #13
Turtle Point #14
Turtle Point #15
SURFSONG ROAD
NICKLAUS LANE
CH COURT
2687
2690
2692
29
30
31
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250
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Feet
Legend
Buildings Beyond Setback Line
Buildings Within 50 feet of Setback Line
Buildings
Vehicular Access
OCRM Beach Monuments
OCRM Setback Line
2018 Tax Map Parcel Data
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Private Beach Walkovers
Community Beach Walkovers
KICA
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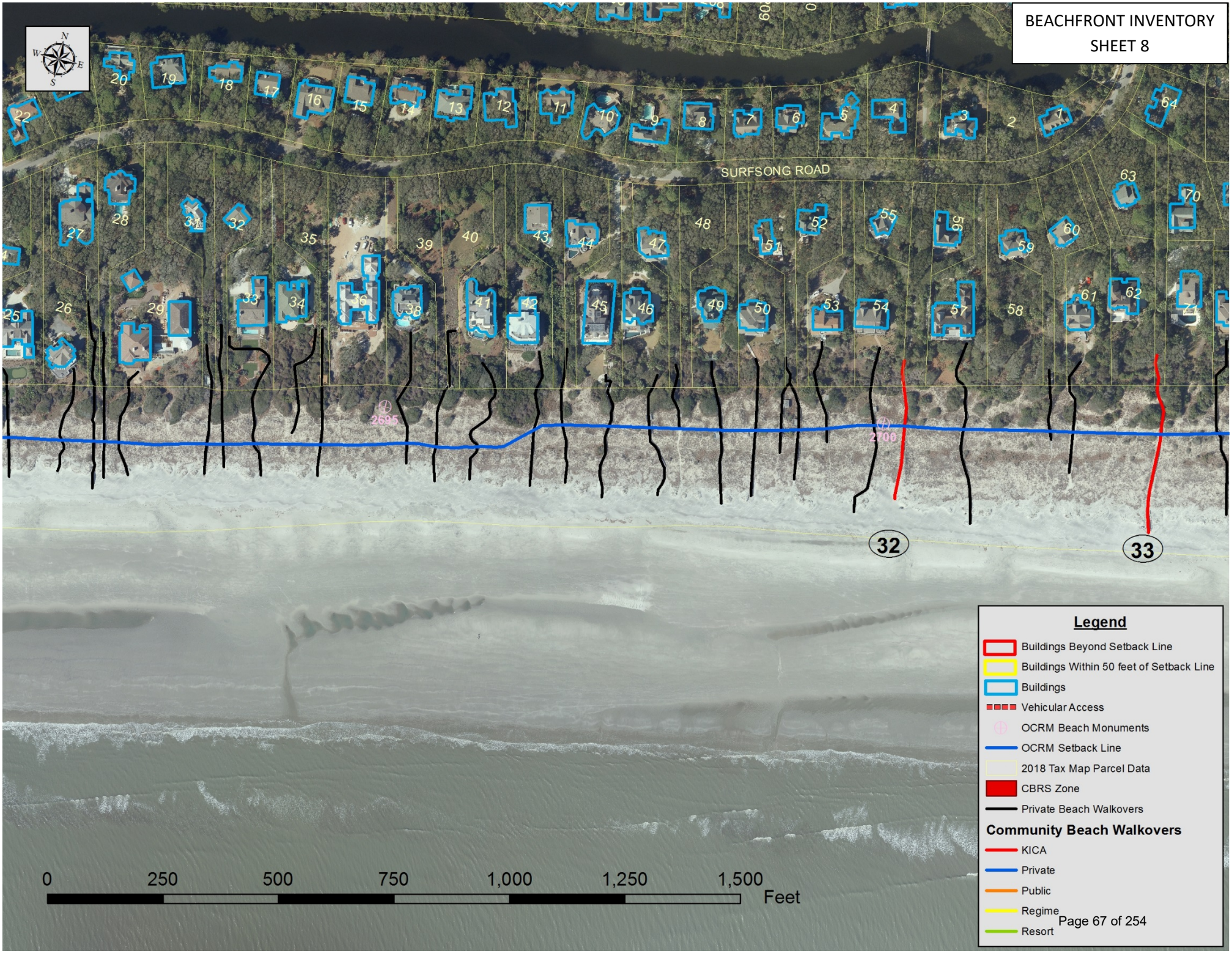
Public
Regime
Resort


BEACHFRONT INVENTORY
SHEET 8
SURFSONG ROAD
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Community Beach Walkovers
KICA
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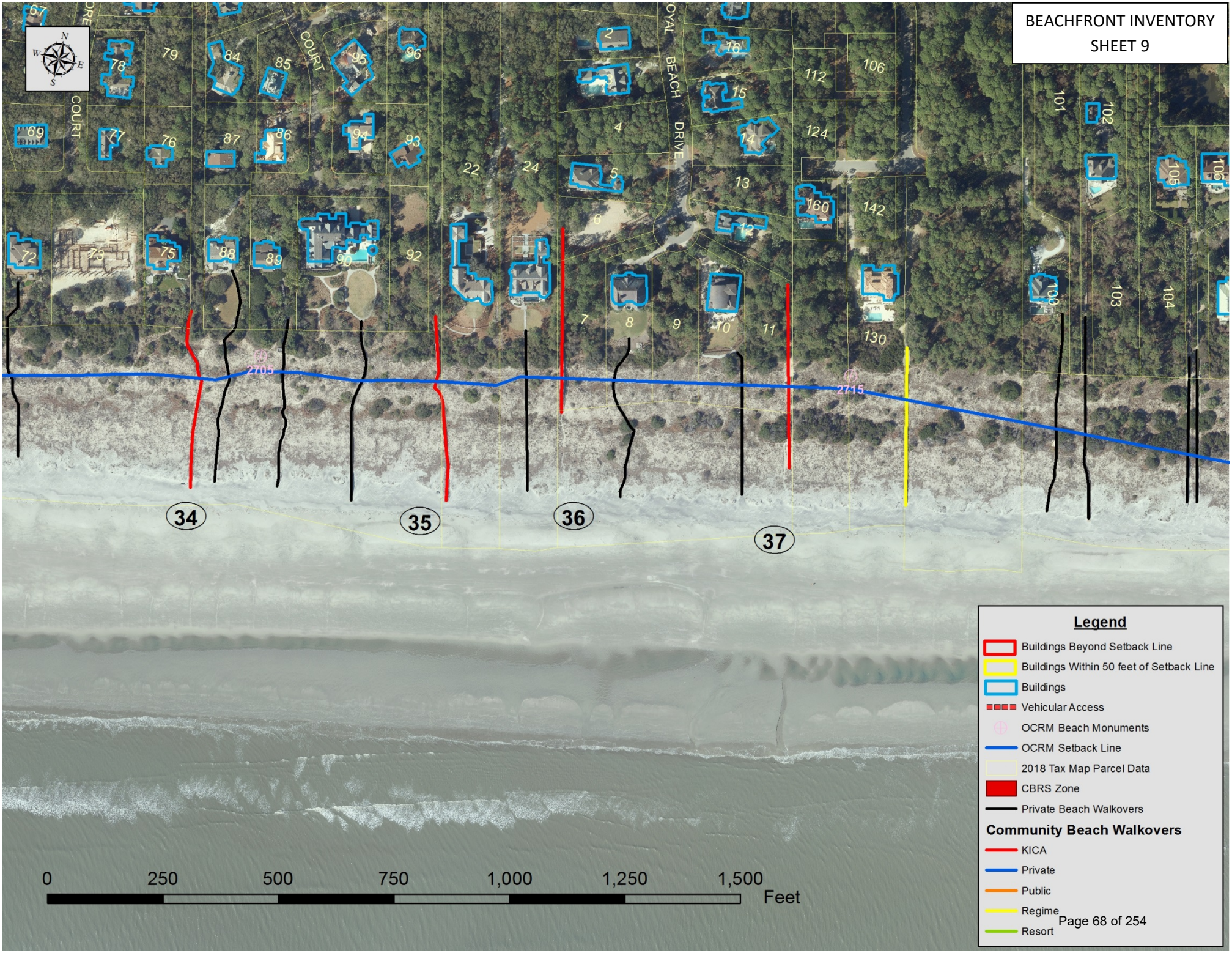
Public
Regime
Resort


BEACHFRONT INVENTORY
SHEET 9
COURT
BEACH DRIVE
2705
2715
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35
36
37
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Buildings Beyond Setback Line
Buildings Within 50 feet of Setback Line
Buildings
Vehicular Access
OCRM Beach Monuments
OCRM Setback Line
2018 Tax Map Parcel Data
CBRS Zone
Private Beach Walkovers
Community Beach Walkovers
KICA
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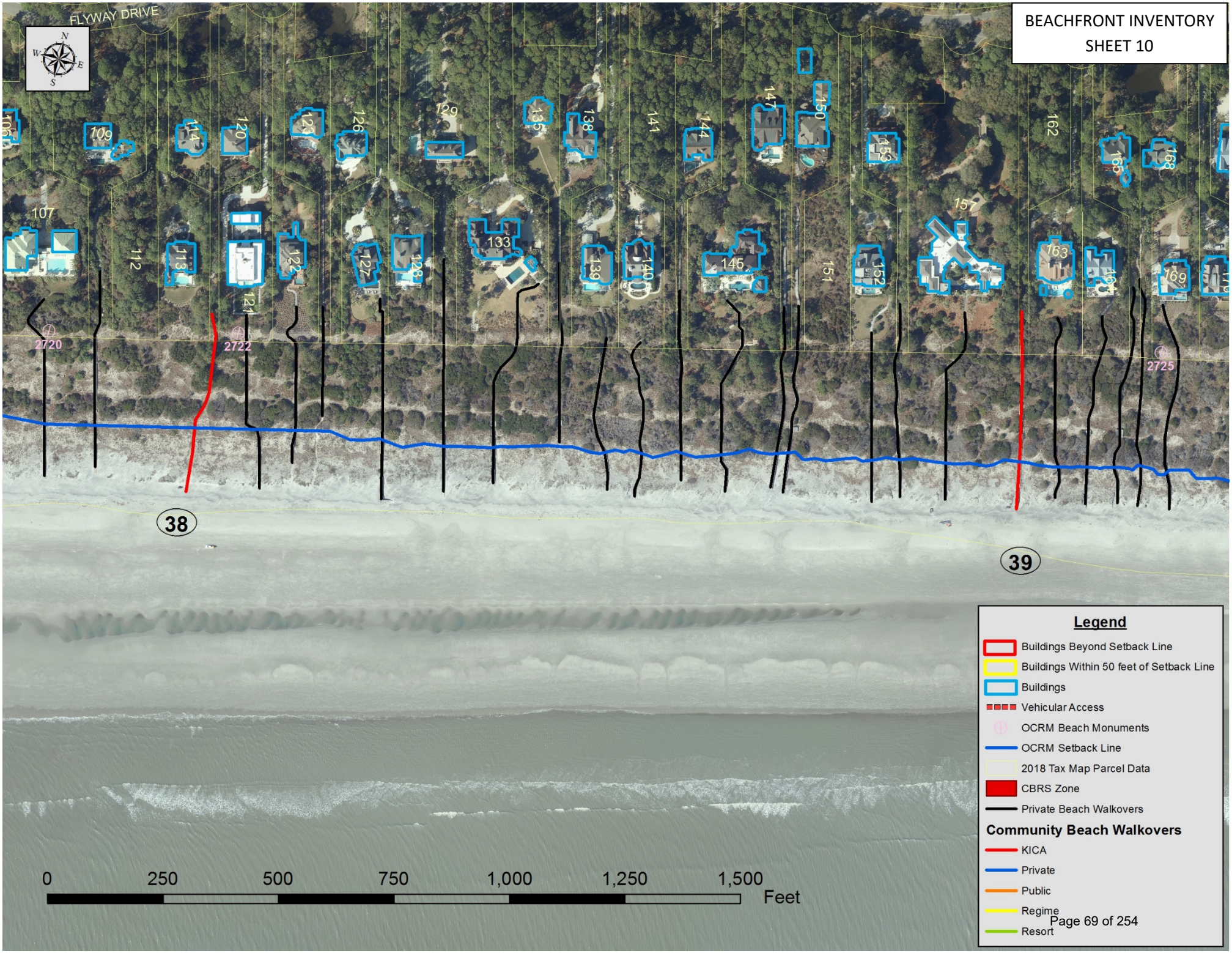
Public
Regime
Resort


BEACHFRONT INVENTORY
SHEET 10
FLYWAY DRIVE
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152
155
157
162
163
168
169
2720
2722
2725
38
39
Legend
Buildings Beyond Setback Line
Buildings Within 50 feet of Setback Line
Buildings
Vehicular Access
OCRM Beach Monuments
OCRM Setback Line
2018 Tax Map Parcel Data
CBRS Zone
Private Beach Walkovers
Community Beach Walkovers
KICA
Private
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Regime
Resort
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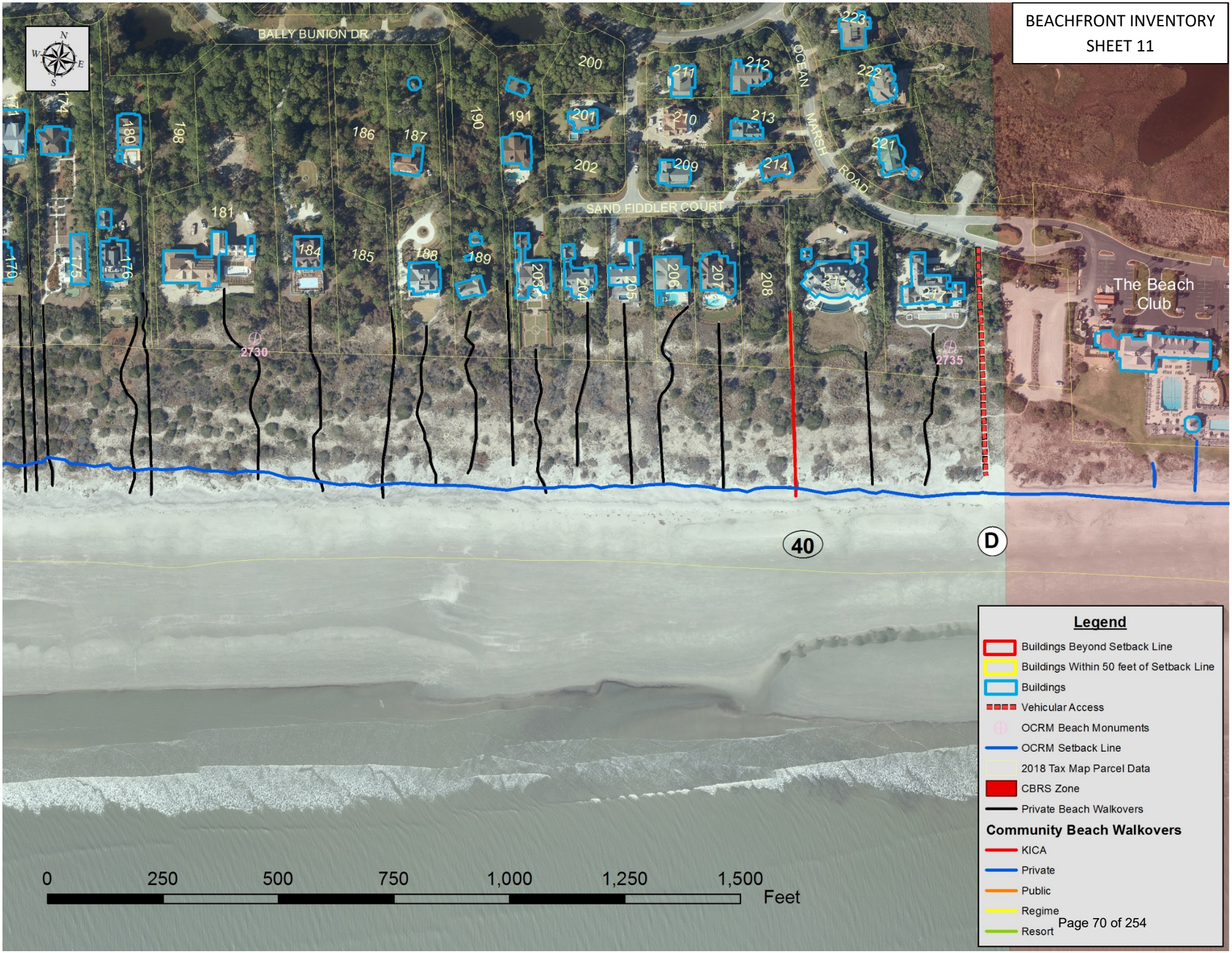
BEACHFRONT INVENTORY
SHEET 11
BALLY BUNION DR
SAND FIDDLER COURT
OCEAN
MARSH
ROAD
The Beach Club
2730
2735
40
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OCRM Beach Monuments
OCRM Setback Line
2018 Tax Map Parcel Data
CBRS Zone
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Community Beach Walkovers
KICA
Private
Public
Regime
Resort


BEACHFRONT INVENTORY
SHEET 12
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Ocean Course #13
Ocean Course #12
Ocean Course #14
Ocean Course #15
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Feet
Legend
Buildings Beyond Setback Line
Buildings Within 50 feet of Setback Line
Buildings
Vehicular Access
OCRM Beach Monuments
OCRM Setback Line
2018 Tax Map Parcel Data
CBRS Zone
Private Beach Walkovers
Community Beach Walkovers
KICA
Private
Public
Regime
Resort


BEACHFRONT INVENTORY
SHEET 13
N
W
E
S
Ocean Course #10
Ocean Course #11
Ocean Course #17
Ocean Course #16
2750
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250
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750
1,000
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Feet
Legend
Buildings Beyond Setback Line
Buildings Within 50 feet of Setback Line
Buildings
Vehicular Access
OCRM Beach Monuments
OCRM Setback Line
2018 Tax Map Parcel Data
CBRS Zone
Private Beach Walkovers
Community Beach Walkovers
KICA
Private
Public
Regime
Resort


BEACHFRONT INVENTORY
SHEET 14
Ocean Course #10
Ocean Course #18
Ocean Course
Driving Range
2760
2770
E
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1,000
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Feet
Legend
Buildings Beyond Setback Line
Buildings Within 50 feet of Setback Line
Buildings
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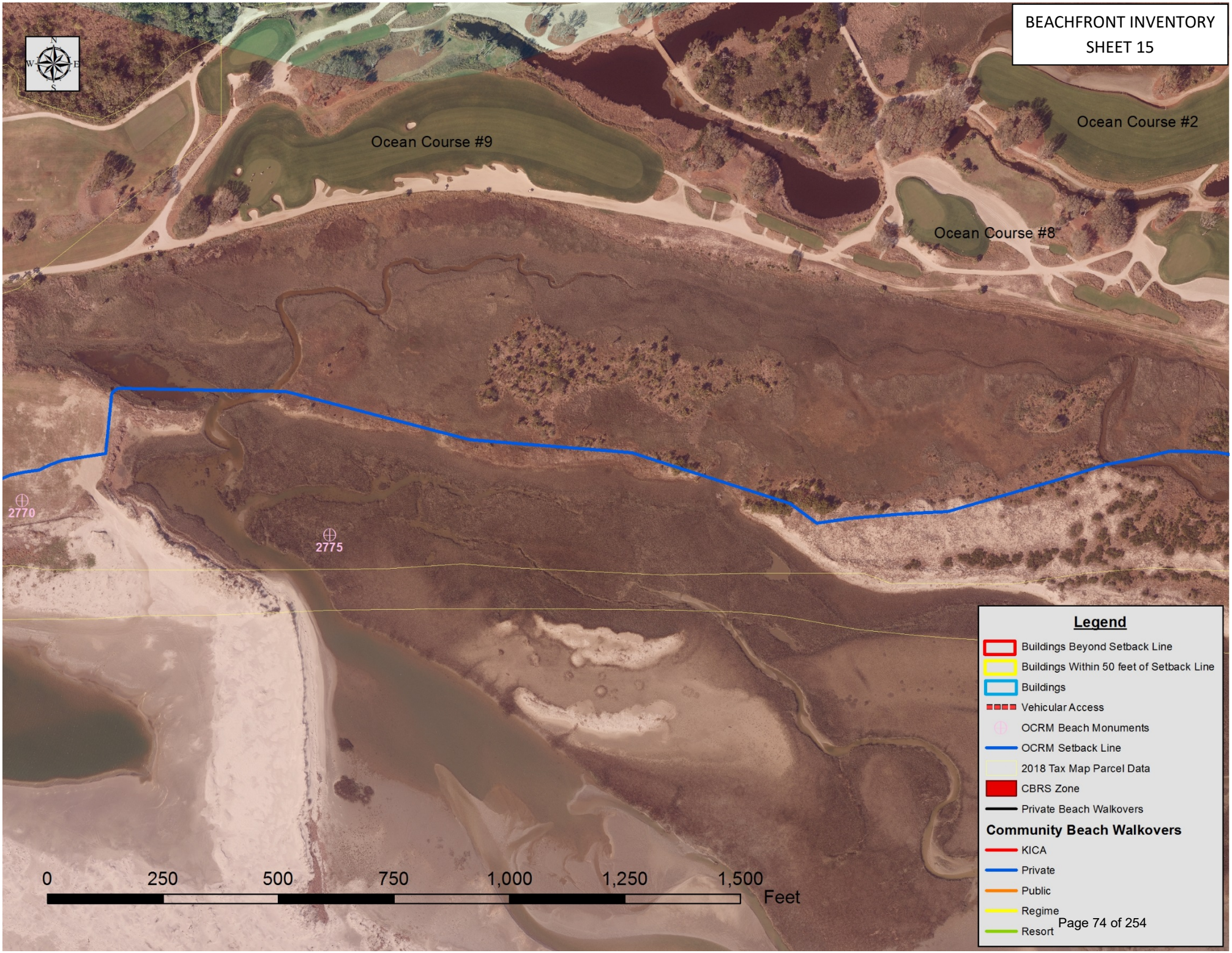
Community Beach Walkovers
KICA
Private
Public
Regime
Resort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Ocean Course #9
Ocean Course #2
Ocean Course #8
2770
2775
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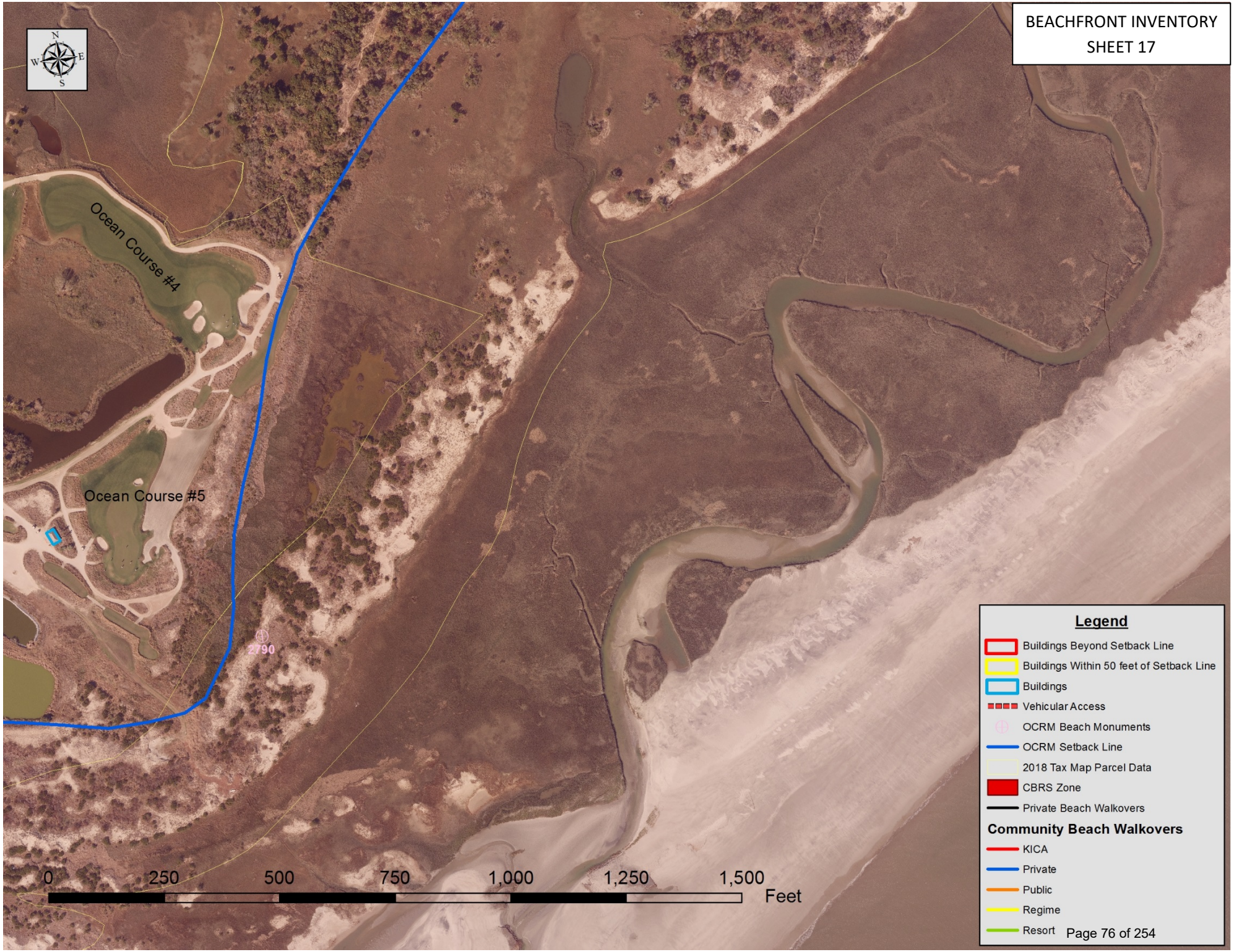
Legend
Buildings Beyond Setback Line
Buildings Within 50 feet of Setback Line
Buildings
Vehicular Access
OCRM Beach Monuments
OCRM Setback Line
2018 Tax Map Parcel Data
CBRS Zone
Private Beach Walkovers
Community Beach Walkovers
KICA
Private
Public
Regime
Resort


BEACHFRONT INVENTORY
SHEET 16
Ocean Course #3
Ocean Course #6
Ocean Course #7
2777
2785
Legend
Buildings Beyond Setback Line
Buildings Within 50 feet of Setback Line
Buildings
Vehicular Access
OCRM Beach Monuments
OCRM Setback Line
2018 Tax Map Parcel Data
CBRS Zone
Private Beach Walkovers
Community Beach Walkovers
KICA
Private
Public
Regime
Resort
0
250
500
750
1,000
1,250
1,500
Feet


BEACHFRONT INVENTORY
SHEET 17
Ocean Course #4
Ocean Course #5
2790
0
250
500
750
1,000
1,250
1,500
Feet
Legend
Buildings Beyond Setback Line
Buildings Within 50 feet of Setback Line
Buildings
Vehicular Access
OCRM Beach Monuments
OCRM Setback Line
2018 Tax Map Parcel Data
CBRS Zone
Private Beach Walkovers
Community Beach Walkovers
KICA
Private
Public
Regime
Resort

Appendix 7.3 Public Access Inventory Table

The only full and complete public access, as defined by OCRM, is Beachwalker County Park. It has 180 parking spaces and is classified as a Regional Public Access Park. By definition this park provides full and complete access to 2 miles of the Kiawah Island beach. This park provides a number of amenities. Year-round amenities include: dressing areas, restrooms, picnic areas with grills, drink vending, boardwalks, and handicap-accessible ramps. Seasonal amenities (summer months) include: lifeguards, outdoor showers, snack bar, beach and umbrella rentals, and beach-accessible wheelchairs.

Street	Tax Map Number	Parcel Number	Facility Type
Beachwalker Drive	2070500001	N/A	RPAP

Appendix 7.4 Prior Studies

A considerable amount of effort has been devoted to the description and analysis of shoreline changes and coastal processes along Kiawah Island. The Coastal Research Division of the University of South Carolina Geology Department conducted most of the early work after the island was purchased by the Kiawah Island Company in 1974. Later studies by various consultants, the South Carolina Coastal Council (SCCC), and DHEC-OCRM documented shoreline changes and established construction setback lines along the Kiawah Island shoreline using beach profile data and aerial photographs. Some of the more significant historical reports are summarized below.

Beach Erosion Inventory of Charleston County, South Carolina – A Preliminary Report, March 1975, by M. F. Stephen, P.J. Brown, D.M. Fitzgerald, D.K. Hubbard and M.O. Hayes. This report provided the first assessment of historic shoreline changes along Kiawah Island using 1939-1973 aerial photographs. The report classified all but the extreme east and west ends of the island as stable; the ends were generally unstable due to changes near Stono and Captain Sam's inlets.

Environmental Inventory of Kiawah Island, 1975, by the Environmental Research Center. This inventory included the first comprehensive description of local coastal processes and geomorphology.

Development of Kiawah Island, South Carolina, 1977, by M.O. Hayes. This report summarized the results of several studies related to shoreline dynamics and coastal processes along Kiawah's beaches. The report included a discussion of the impacts of the Charleston Harbor jetties on Kiawah Island and described the construction setbacks recommended to the island's developer.

Shoreline Stability of Kiawah Island, South Carolina and Shoreline Changes along Kiawah Island, a series of reports by Research Planning Institute and Coastal Science and Engineering from 1981-1987. This serials of reports documented shoreline changes, including the impacts of shoal attachments and storms, based on beach profiles and aerial observations.

Calculation of Interim Baselines and 40-Year Setback Lines, 1988, by C.P. Jones, D.M. Scaturo, T.W. Kana, and W.C. Eiser. This report, prepared for the SCCC, established the June 1988 locations of the interim baselines and setback lines for Kiawah Island.

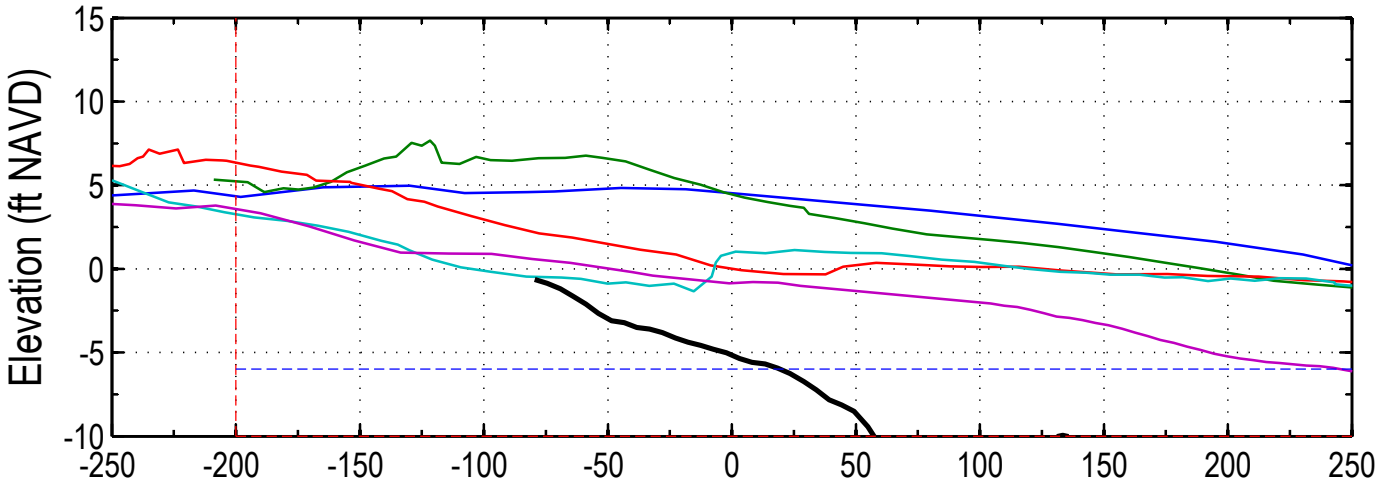
Summary of Proposed Revision to Interim Baseline and Setback Line at Kiawah Island, January 1989, by C.P. Jones. The results from this report were used by SCCC to revise baseline and setback lines in January 1989.

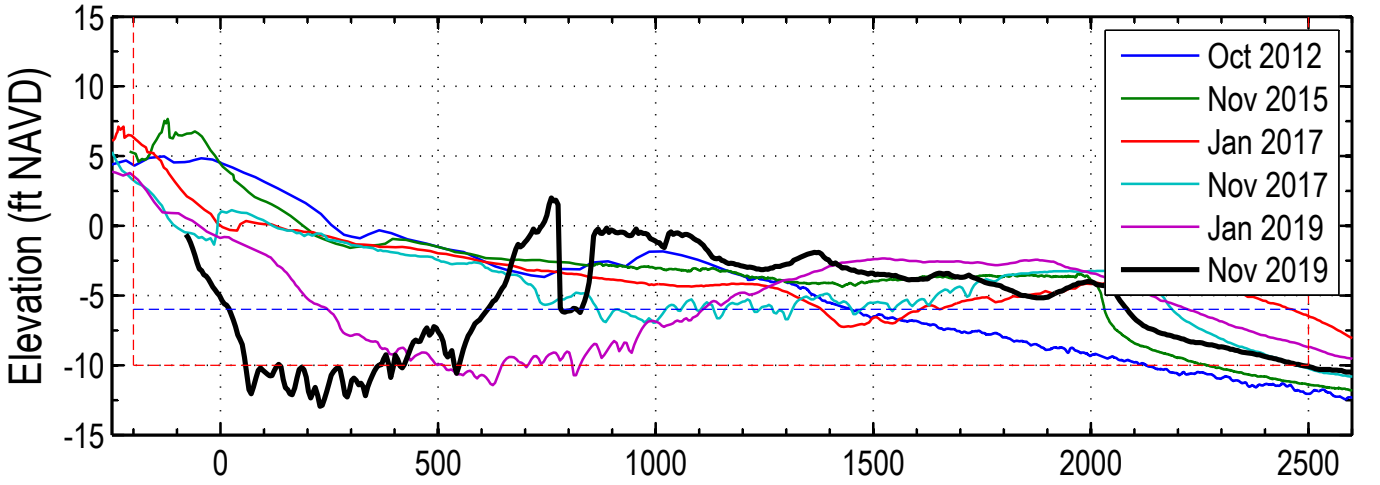
An additional list of beach surveys and reports can be found in the table on the next page.

Author	Year	Title
ATM, Inc.	2005	East end erosion assessment
Anders et al.	1990	Shoreline movements: Tybee Island (GA) to Cape Fear (NC) 1851-1983
Baca & Lankford	1987	**Environmental report: Captain Sams Inlet relocation**
Barwis	1976	Internal geometry of Kiawah Island beach ridges
Barwis	1978	Stratigraphy of Kiawah Island beach ridges
Barwis	1979	The sedimentological and stratigraphical characteristics of beach ridge and tidal channel deposits in mesotidal barrier systems
Barwis & Sexton	1986	Mesotidal barrier island depositional environments, Kiawah Island
Brown	1977	Variations in South Carolina coastal morphology
CSE Baird	1996	**Final survey report — 1996 beach scraping — Kiawah Island**
CSE Baird	1997	**State of Kiawah's beach 1997**
Duc and Tye	1987	Evolution and stratigraphy of a regressive barrier/back-barrier complex
ERC	1975	Environmental inventory of Kiawah Island
Eiser & Kana	1987	**Summary of shoreline changes along Kiawah Island**
Hayes	1977	Development of Kiawah Island
Hayes	1994	Georgia Bight
Hayes & Kana	1976	*Terrigenous Clastic Depositional Environments*
Hayes et al.	1975	Coastal processes and geomorphology — Kiawah Island
Hayes et al.	1976	Geomorphology of Kiawah Island, South Carolina
Hubbard et al.	1977	Sediment transport in South Carolina inlets
Kana et al.	1981	**Bathymetry of Kiawah River/Stono River, historical changes in Stono Inlet**
Kana et al.	1981	**Preliminary design/permit application for breaching Kiawah spit**
Kana et al.	1983	**Shoreline changes along Kiawah Island, May 1972 through May 1983**
Kana et al.	**1999**	**Updated shoreline assessment and condition of the beach**
Kana at al.	**2005**	**East end erosion - Opinion of probable causes and alternative strategies for management and mitigation**
Kana at al.	**2006-12**	**East end Renourishment Project Annual Reports – Annual reports on east end project, results, and analysis**
Katmarian & Kana	1996	**Shoreline assessment and recommendations for dune/beach restoration**
Leatherman	**2004**	**Kiawah Island Shoreline Assessment**
Moslow	1980	Stratigraphy of mesotidal barrier islands
Moslow & Davies	1979	Late Holocene depositional history of regressive barrier islands
NOAA	1983	Cooperative shoreline movement study: Cape Fear (NC) to Tybee Island (GA)
Neal et al.	1984	*Living with the South Carolina Shore*
SCCC	1990	Calculation of SCCC jurisdictional baselines and setback lines
SCCC	1991-94	*Annual State of the Beaches Report*
Sexton et al.	1981	**Shoreline stability of Kiawah Island, October 1975 through July 1981**
Stapor & Matthews	1976	Mollusc C-14 ages in the interpretation of South Carolina barrier island deposits and depositional histories
Stephen et al.	1975	Beach erosion inventory of Charleston County
Ward	1978	Physical and sedimentological processes in a salt marsh tidal channel
Williams & Kana	1985	**Shoreline changes along Kiawah Island, June 1984 — June 1985**
Zarillo et al.	1985	*An Illustrated History of Tidal Inlet Changes in South Carolina*

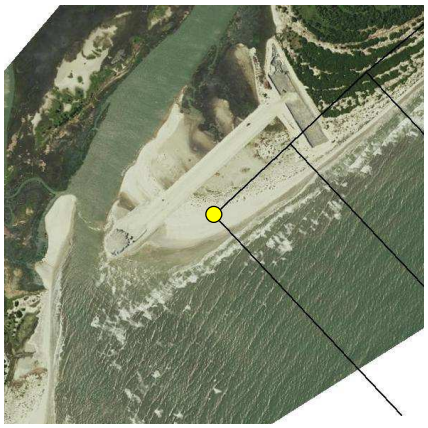
Appendix 7.5 Beach profiles at 61 monitoring station on Kiawah Island

Kiawah Line 01

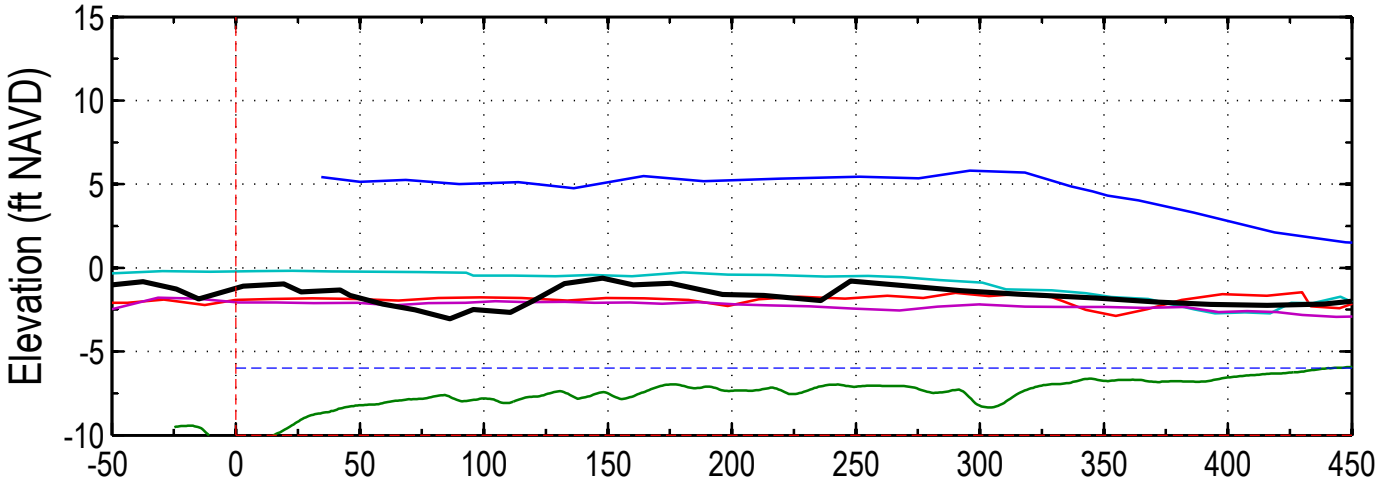


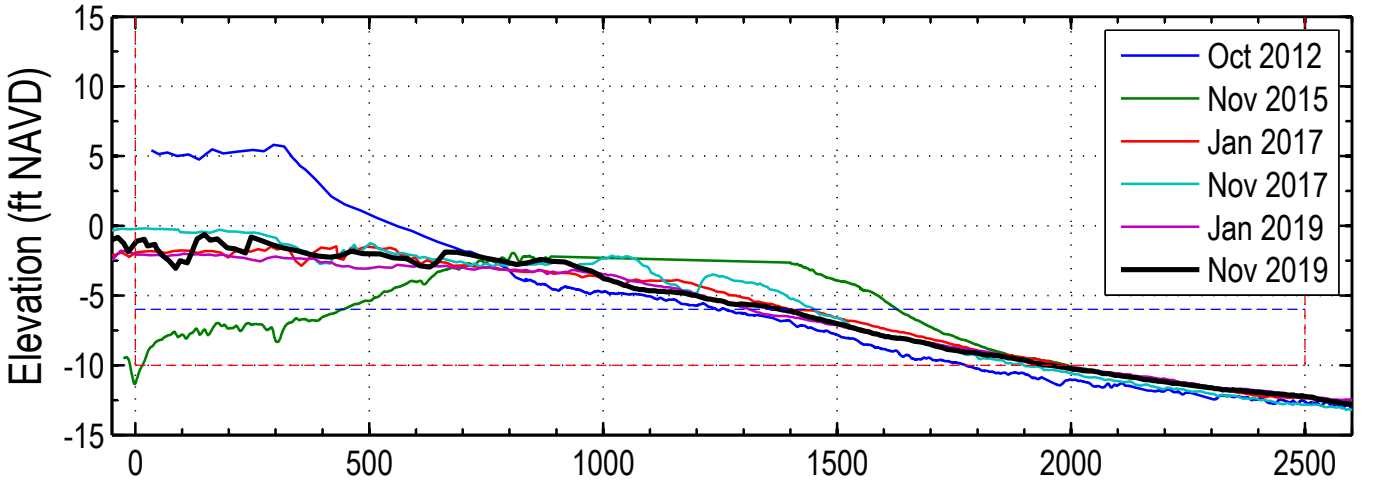


Date	Vol to -6	Vol -6 to -10	Vol to -10
Oct 2012	307.6	294.3	601.9
Nov 2015	353.0	341.4	694.4
Jan 2017	274.7	393.2	667.9
Nov 2017	225.3	367.1	592.4
Jan 2019	181.6	298.0	479.6
Nov 2019	196.5	288.9	485.4

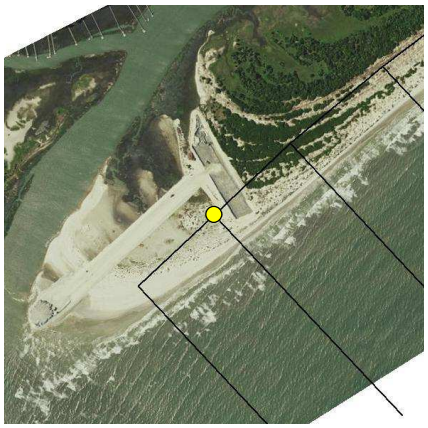


Kiawah Line 02

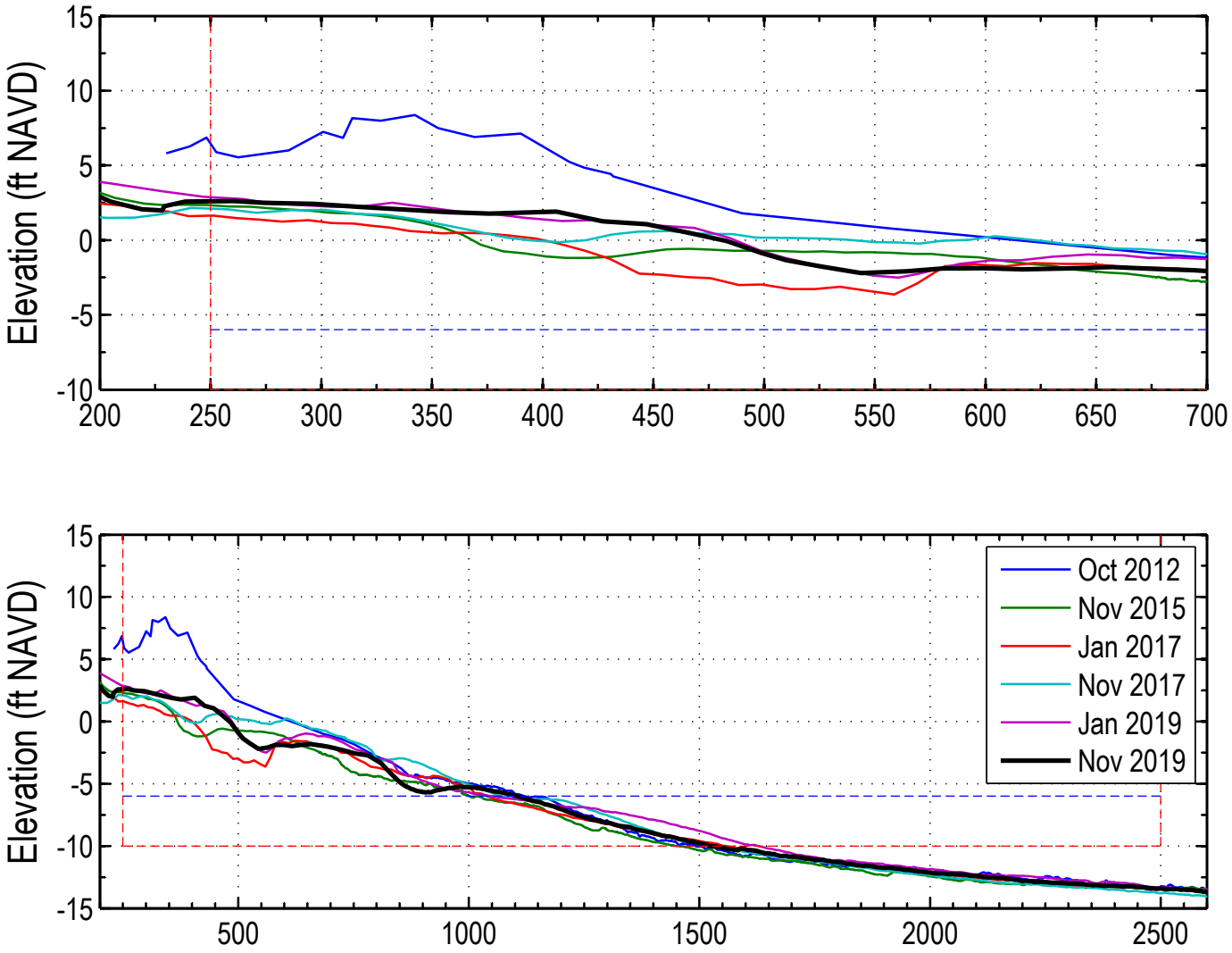




Date	Vol to -6	Vol -6 to -10	Vol to -10
Oct 2012	265.2	224.1	489.3
Nov 2015	123.9	238.2	362.0
Jan 2017	155.7	250.3	406.0
Nov 2017	192.4	242.9	435.3
Jan 2019	137.1	241.9	379.0
Nov 2019	157.9	242.8	400.6

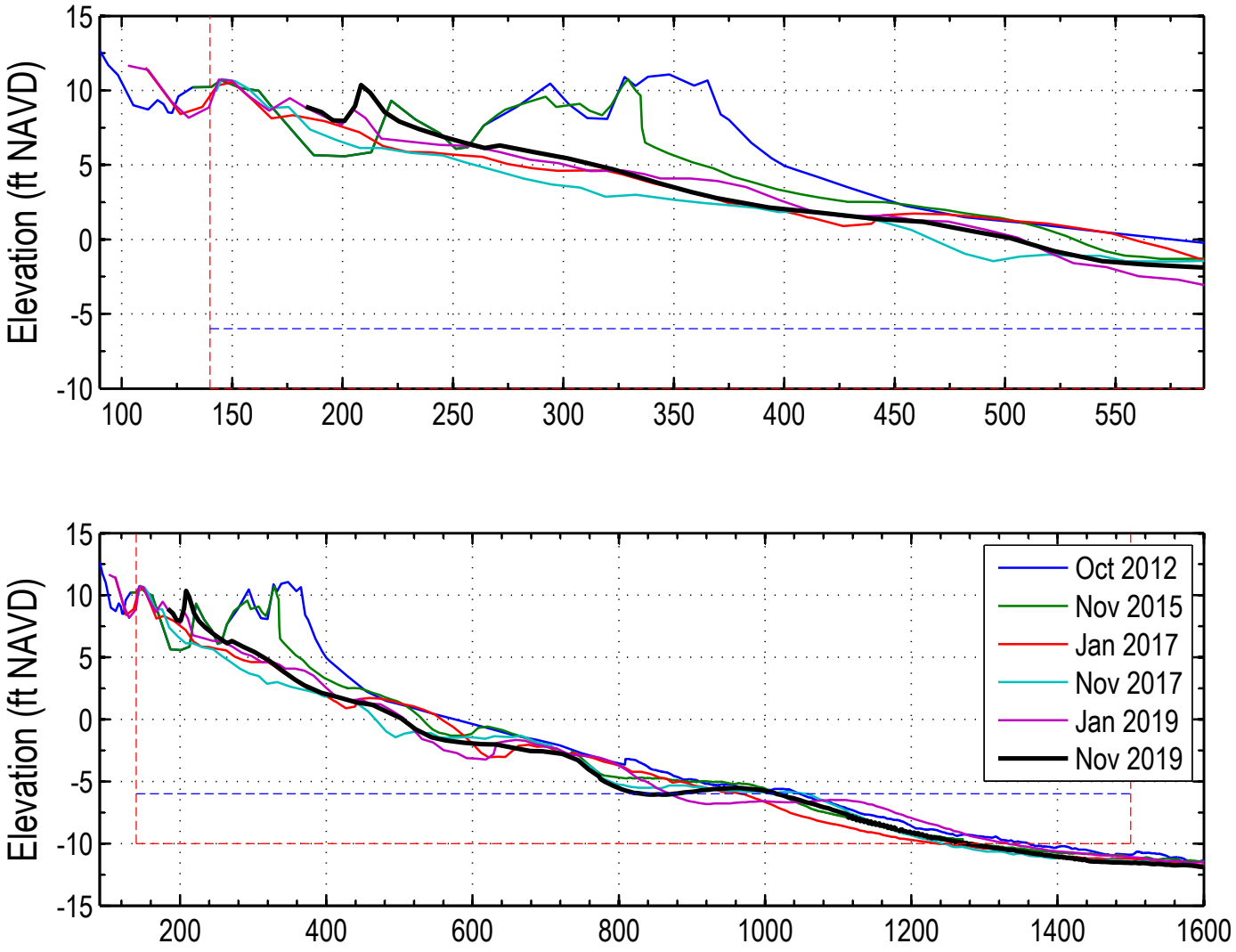


Kiawah Line 03



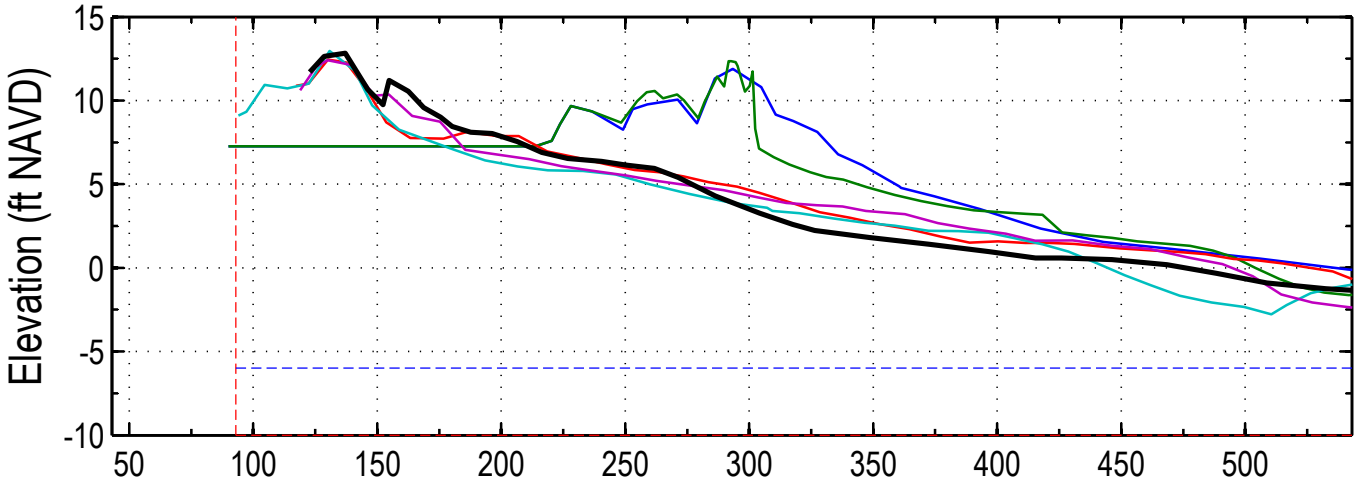
Date	Vol to -6	Vol -6 to -10	Vol to -10
Oct 2012	184.6	155.1	339.7
Nov 2015	107.4	145.4	252.8
Jan 2017	104.5	152.1	256.5
Nov 2017	141.6	160.4	302.0
Jan 2019	129.2	167.7	296.9
Nov 2019	122.6	155.4	278.0

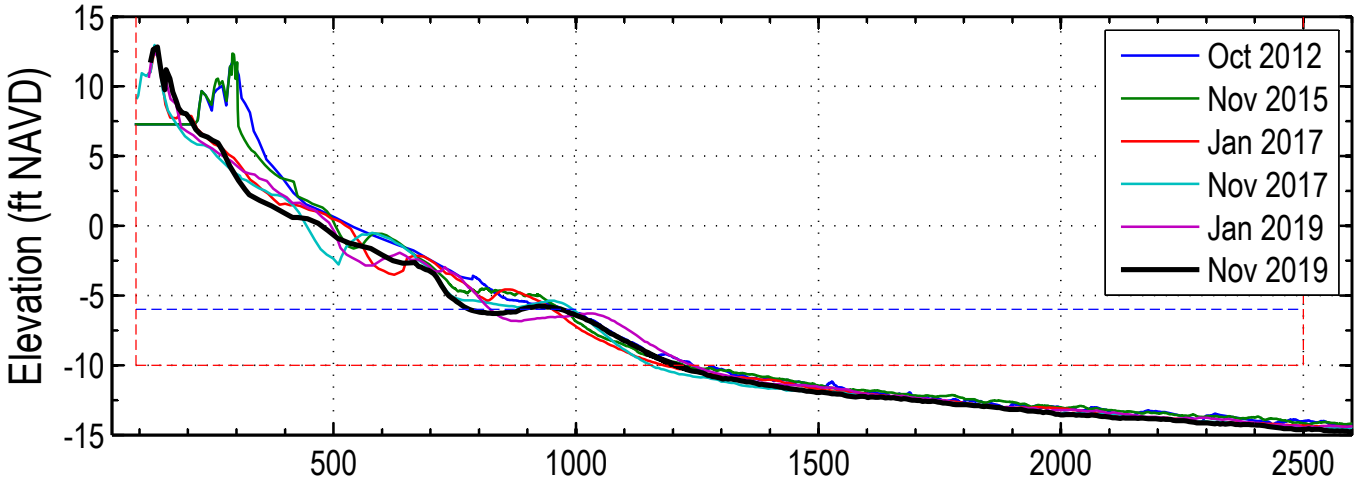
Kiawah Line 04 (OCRM 2615)



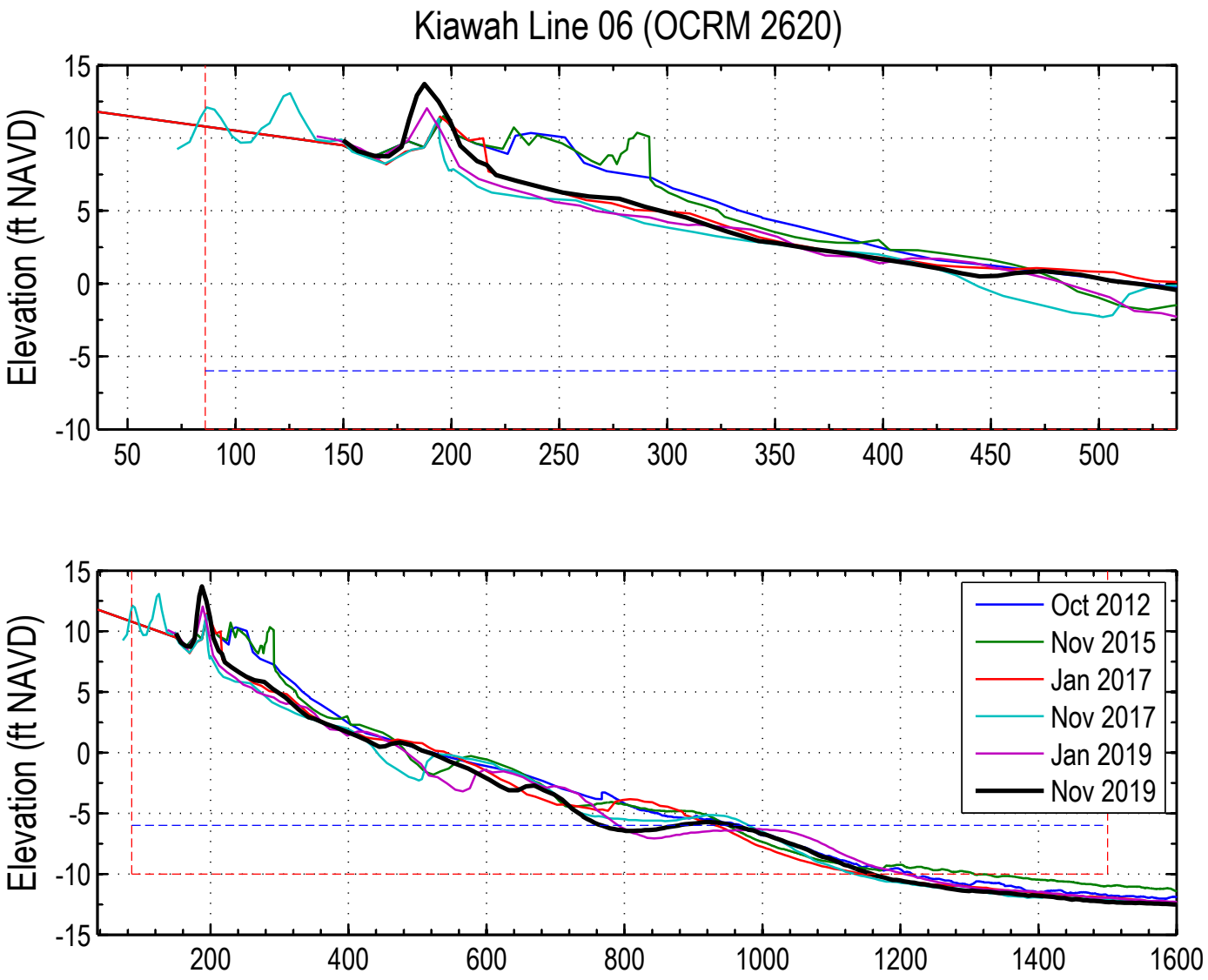
Date	Vol to -6	Vol -6 to -10	Vol to -10
Oct 2012	234.6	153.6	388.2
Nov 2015	214.7	146.2	360.9
Jan 2017	191.6	138.8	330.5
Nov 2017	177.4	148.2	325.6
Jan 2019	187.9	152.5	340.4
Nov 2019	184.7	147.3	331.9

Kiawah Line 05

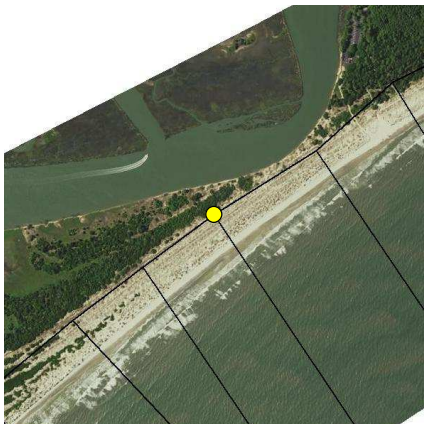




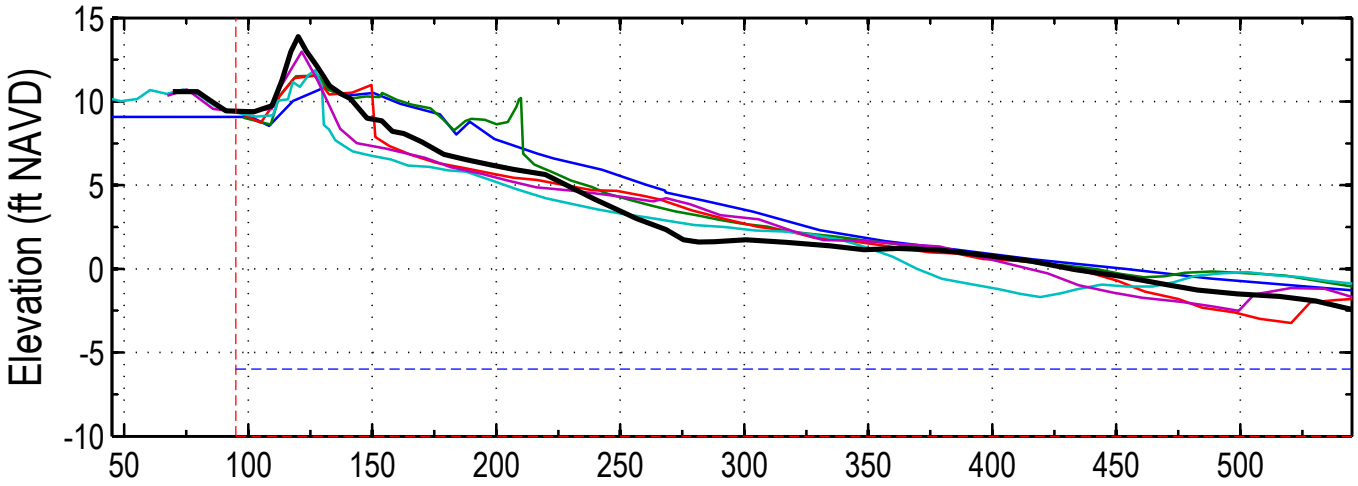
Date	Vol to -6	Vol -6 to -10	Vol to -10
Oct 2012	235.1	149.3	384.3
Nov 2015	227.3	145.0	372.2
Jan 2017	209.7	141.4	351.2
Nov 2017	196.4	144.6	341.0
Jan 2019	203.4	149.5	352.9
Nov 2019	196.2	146.7	342.9

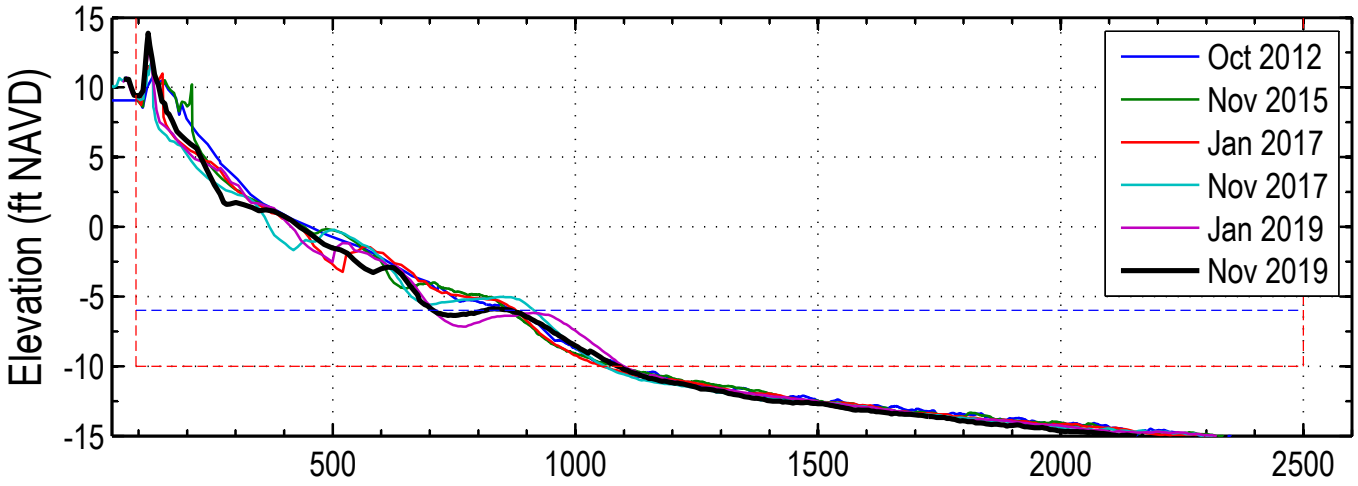


Date	Vol to -6	Vol -6 to -10	Vol to -10
Oct 2012	238.1	146.4	384.5
Nov 2015	234.1	144.1	378.2
Jan 2017	218.8	138.3	357.1
Nov 2017	206.8	142.8	349.6
Jan 2019	204.7	146.0	350.8
Nov 2019	206.9	143.4	350.3



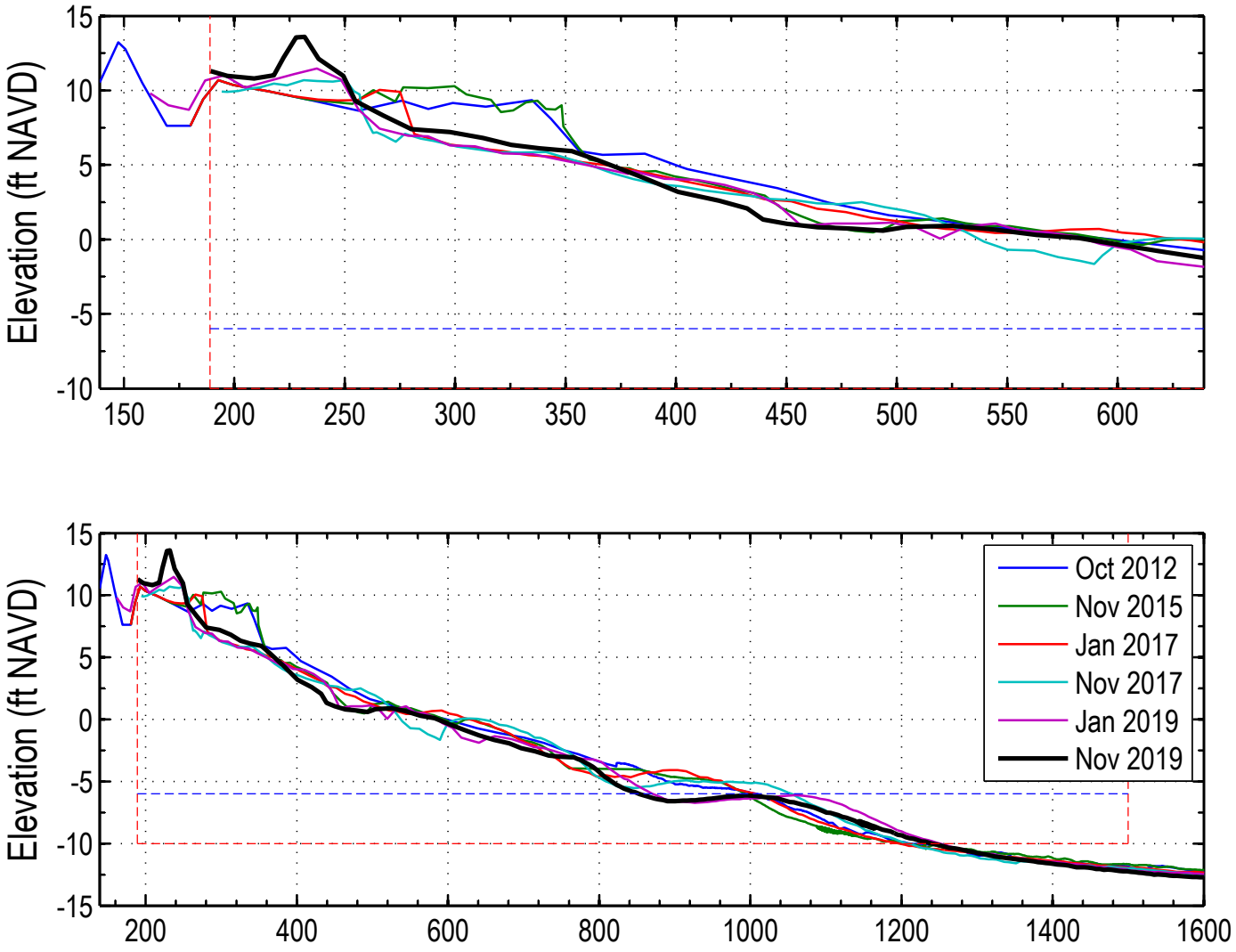
Kiawah Line 07





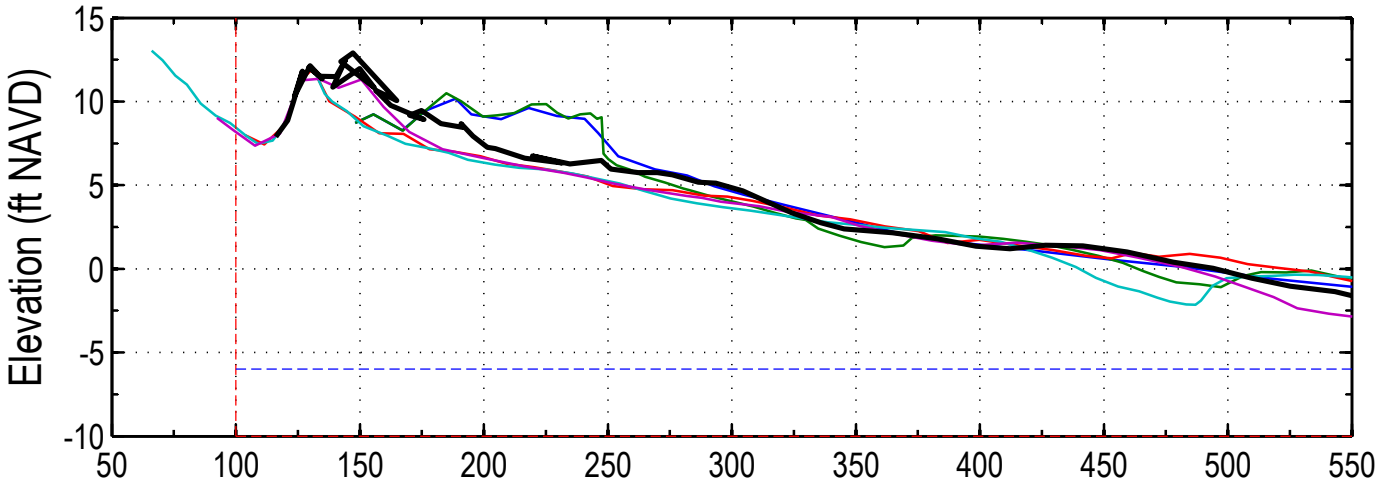
Date	Vol to -6	Vol -6 to -10	Vol to -10
Oct 2012	187.4	129.3	316.7
Nov 2015	184.3	126.6	310.8
Jan 2017	173.8	126.6	300.4
Nov 2017	162.7	131.2	293.9
Jan 2019	163.9	132.0	296.0
Nov 2019	162.6	129.9	292.6

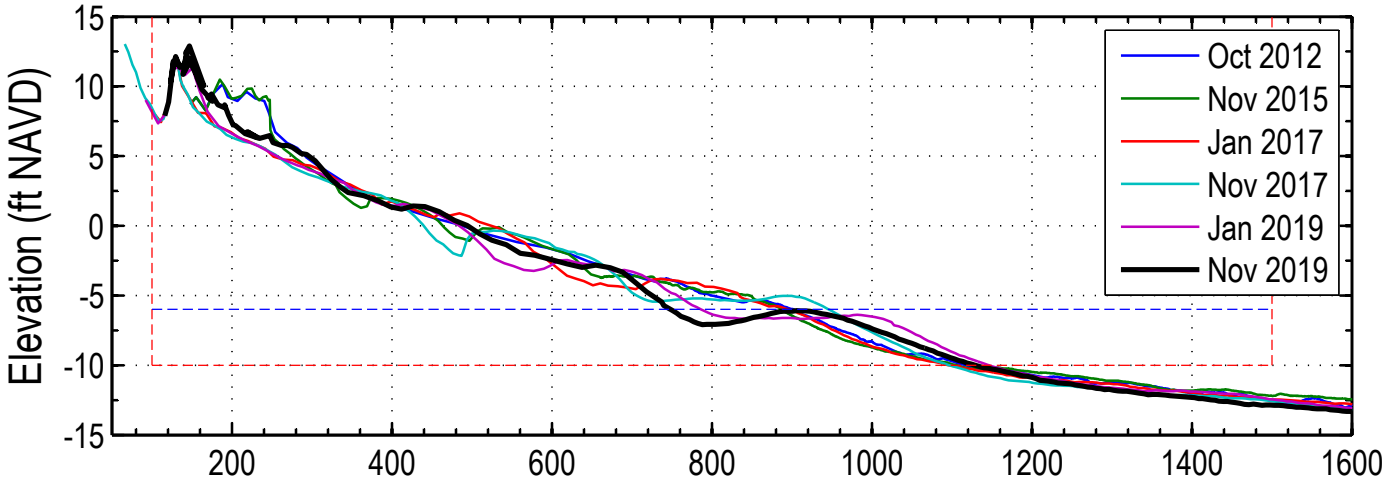
Kiawah Line 08 (OCRM 2625)



Date	Vol to -6	Vol -6 to -10	Vol to -10
Oct 2012	213.0	134.6	347.6
Nov 2015	209.6	130.5	340.1
Jan 2017	201.1	133.2	334.3
Nov 2017	198.6	138.4	337.0
Jan 2019	191.0	141.1	332.1
Nov 2019	189.9	137.0	326.9

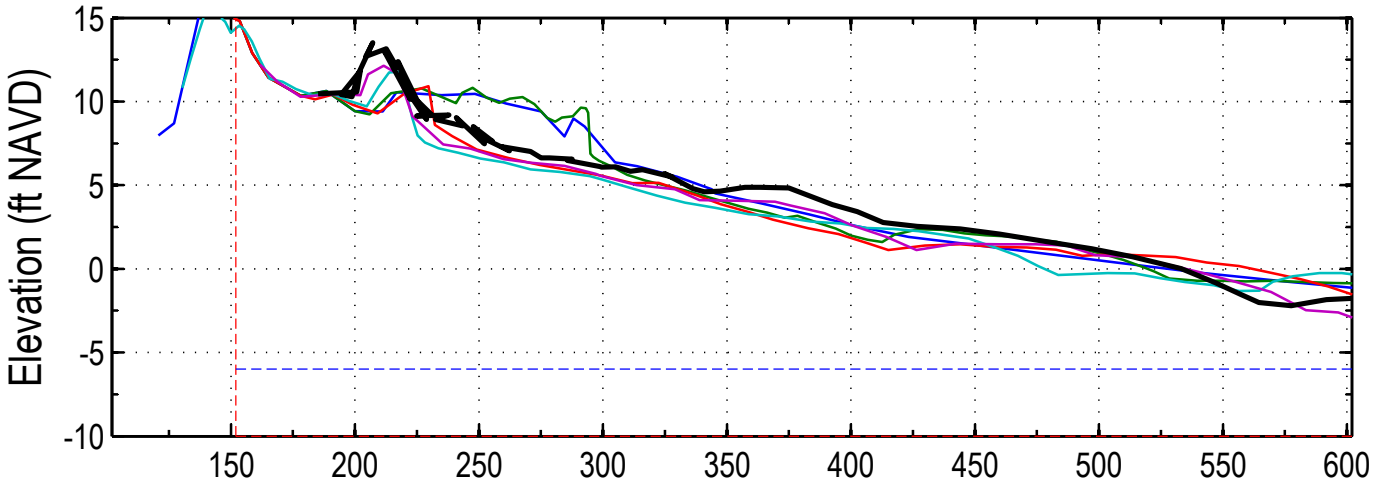
Kiawah Line 09

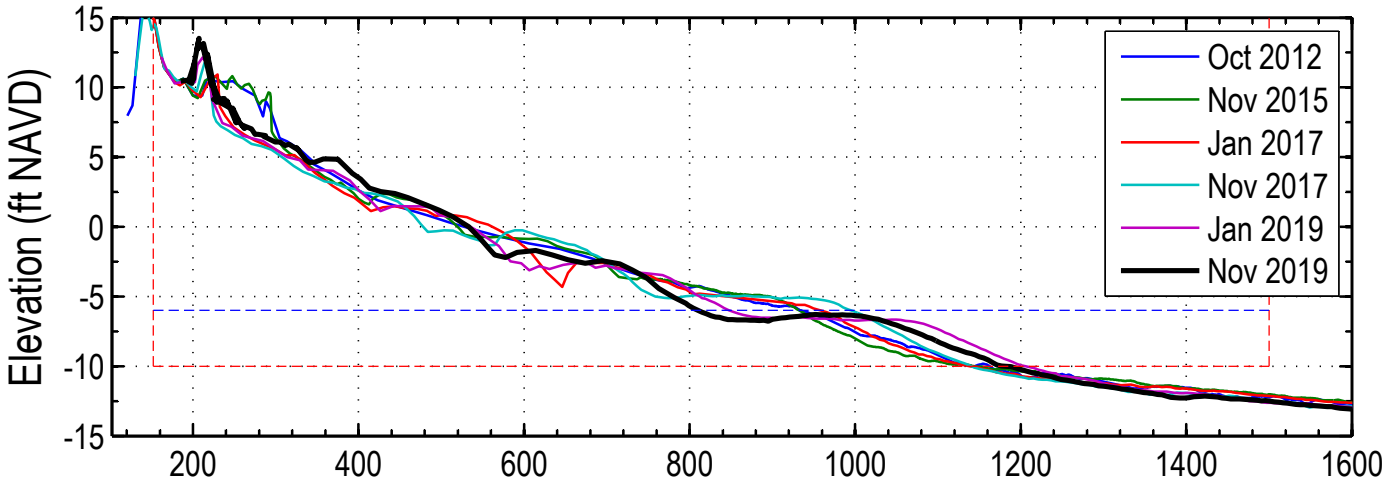




Date	Vol to -6	Vol -6 to -10	Vol to -10
Oct 2012	202.8	132.2	334.9
Nov 2015	200.0	129.3	329.3
Jan 2017	190.3	130.4	320.7
Nov 2017	185.9	135.6	321.5
Jan 2019	183.3	138.4	321.7
Nov 2019	190.7	133.8	324.5

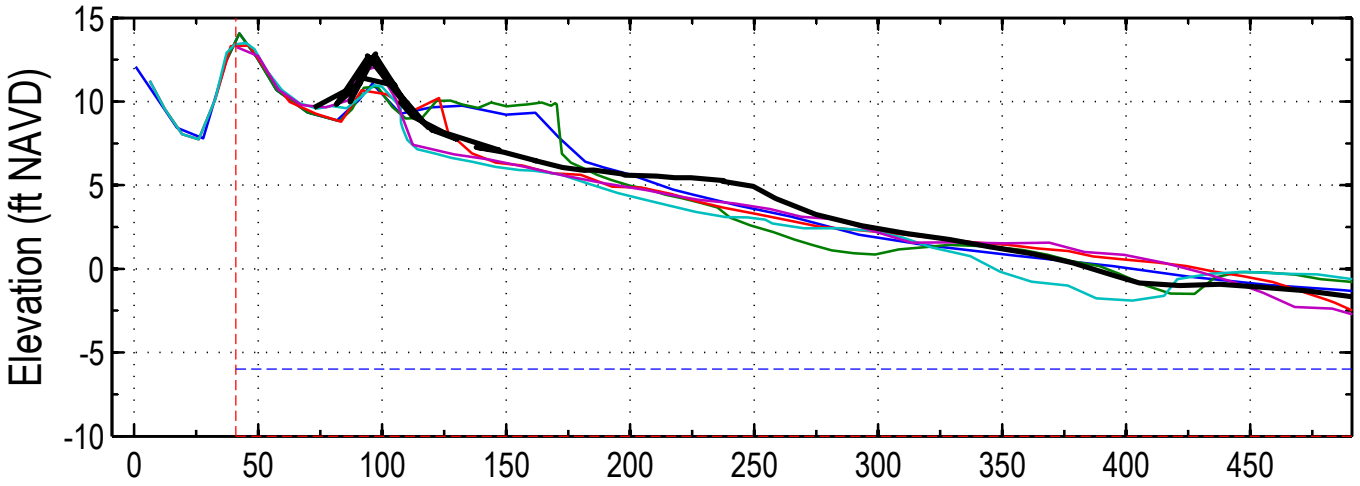
Kiawah Line 10 (OCRM 2630)

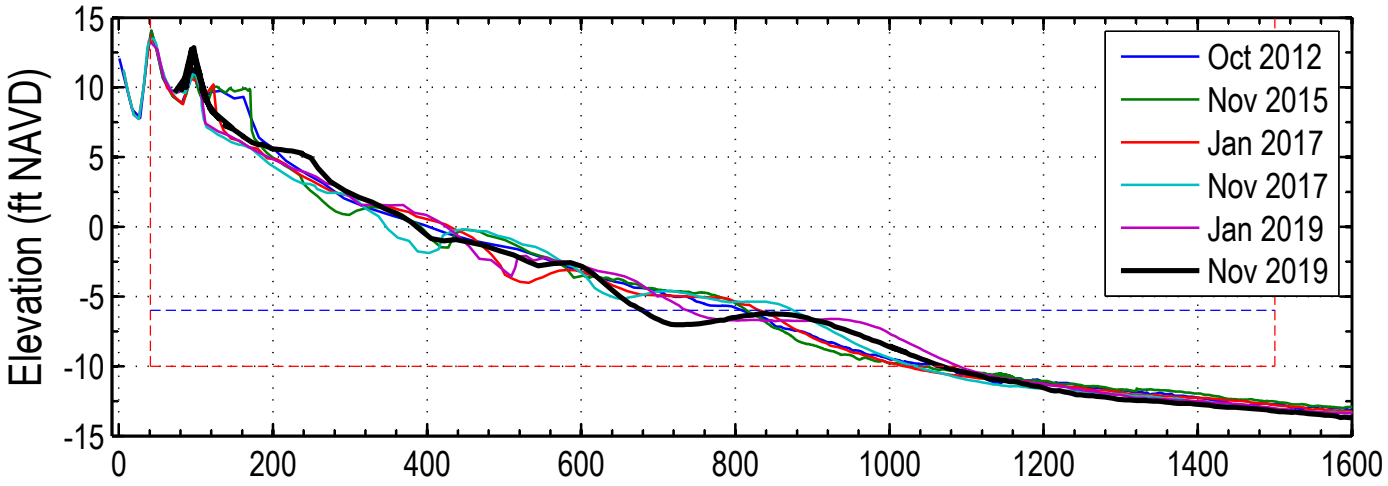




Date	Vol to -6	Vol -6 to -10	Vol to -10
Oct 2012	205.0	130.8	335.8
Nov 2015	206.5	126.9	333.3
Jan 2017	192.4	130.7	323.1
Nov 2017	193.3	135.2	328.4
Jan 2019	188.8	139.6	328.4
Nov 2019	195.5	135.4	330.9

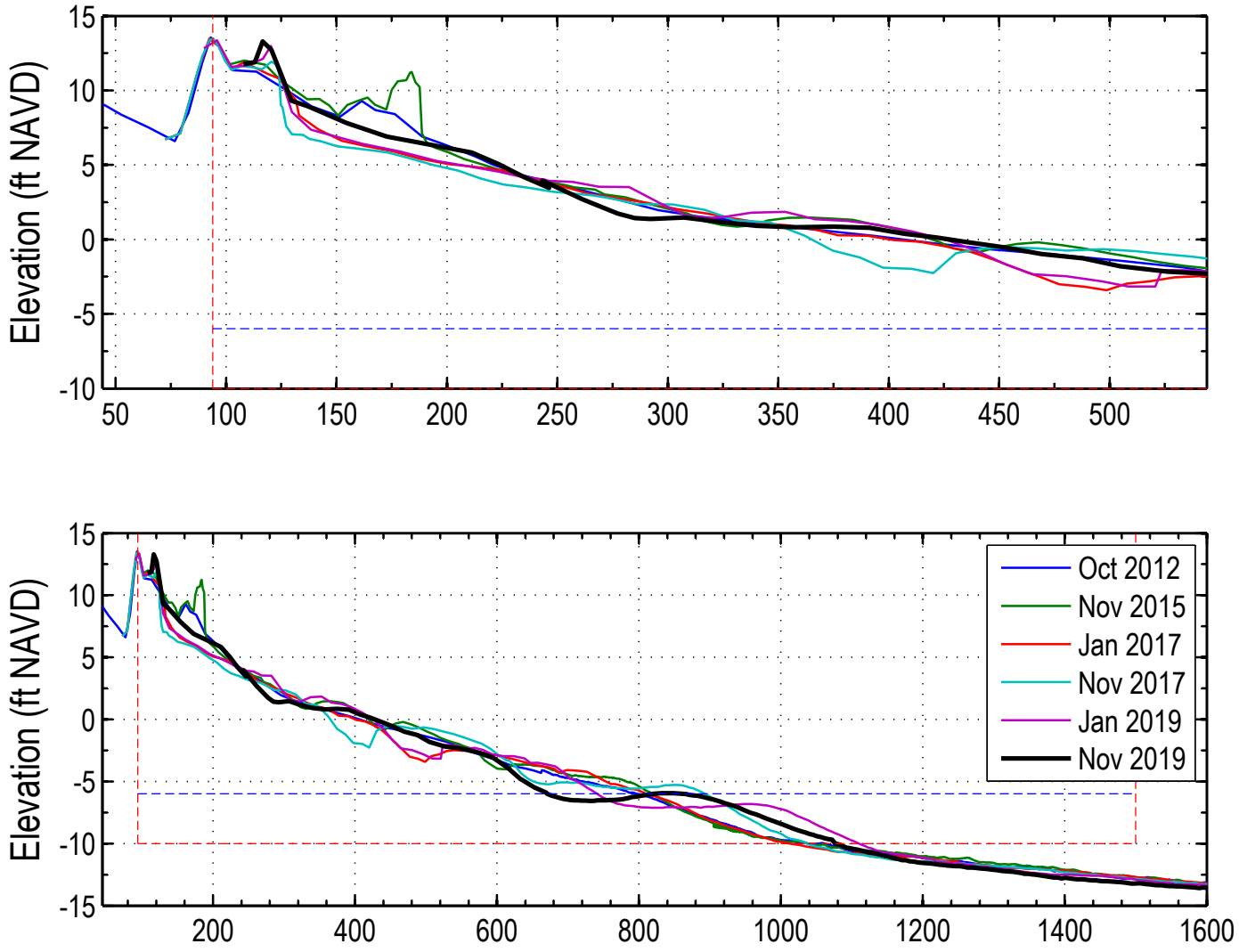
Kiawah Line 11 (OCRM 2635)





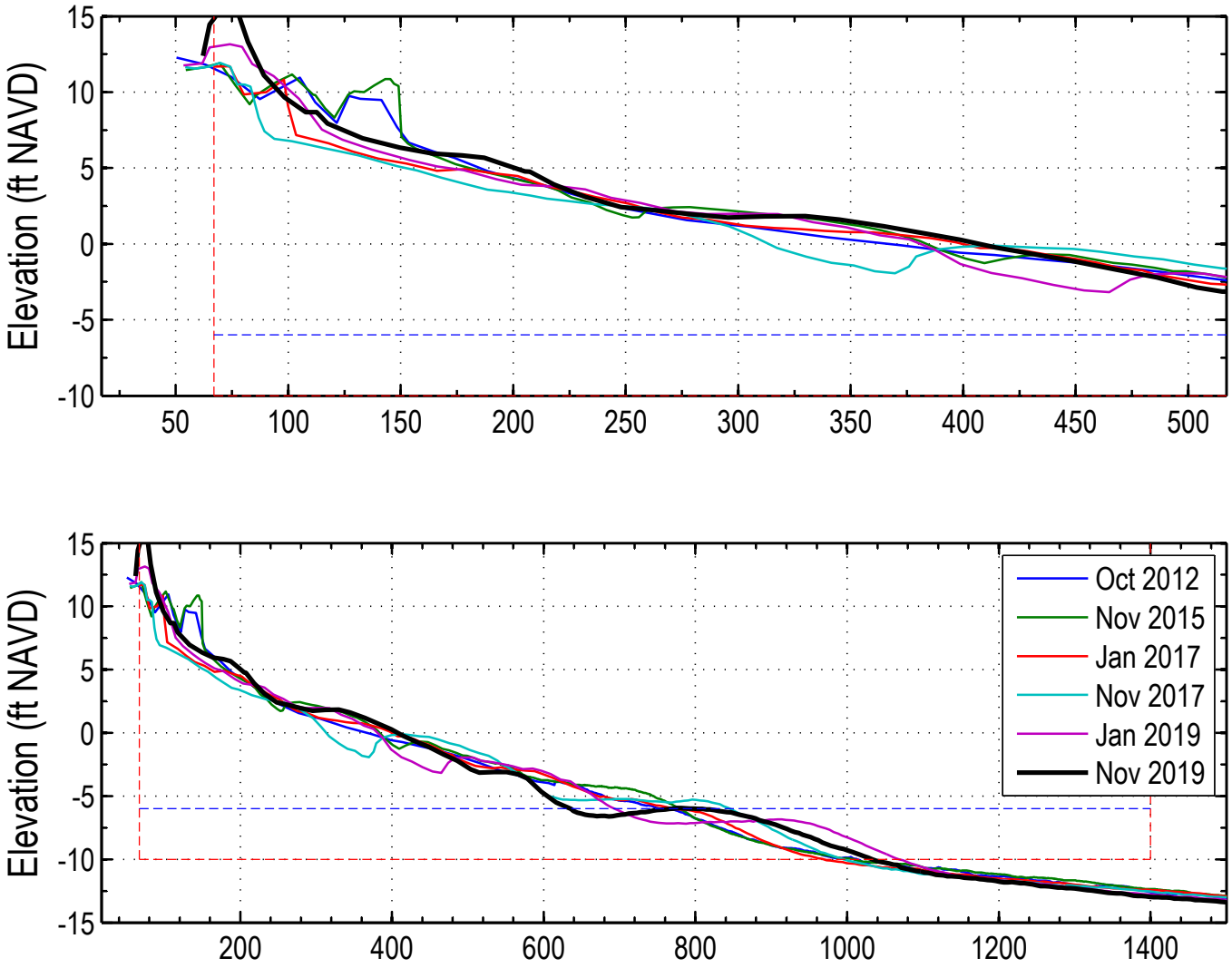
Date	Vol to -6	Vol -6 to -10	Vol to -10
Oct 2012	194.5	129.3	323.8
Nov 2015	194.0	126.1	320.0
Jan 2017	185.6	129.0	314.6
Nov 2017	183.3	134.1	317.4
Jan 2019	187.4	138.8	326.1
Nov 2019	184.9	133.3	318.2

Kiawah Line 12 (OCRM 2640)

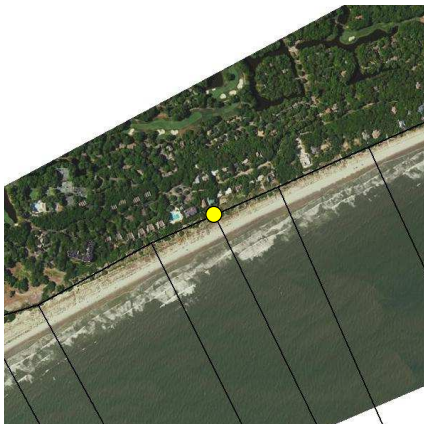


Date	Vol to -6	Vol -6 to -10	Vol to -10
Oct 2012	165.1	119.8	284.8
Nov 2015	173.4	119.1	292.5
Jan 2017	159.0	119.8	278.8
Nov 2017	157.4	128.0	285.4
Jan 2019	161.5	130.9	292.5
Nov 2019	156.5	129.3	285.8

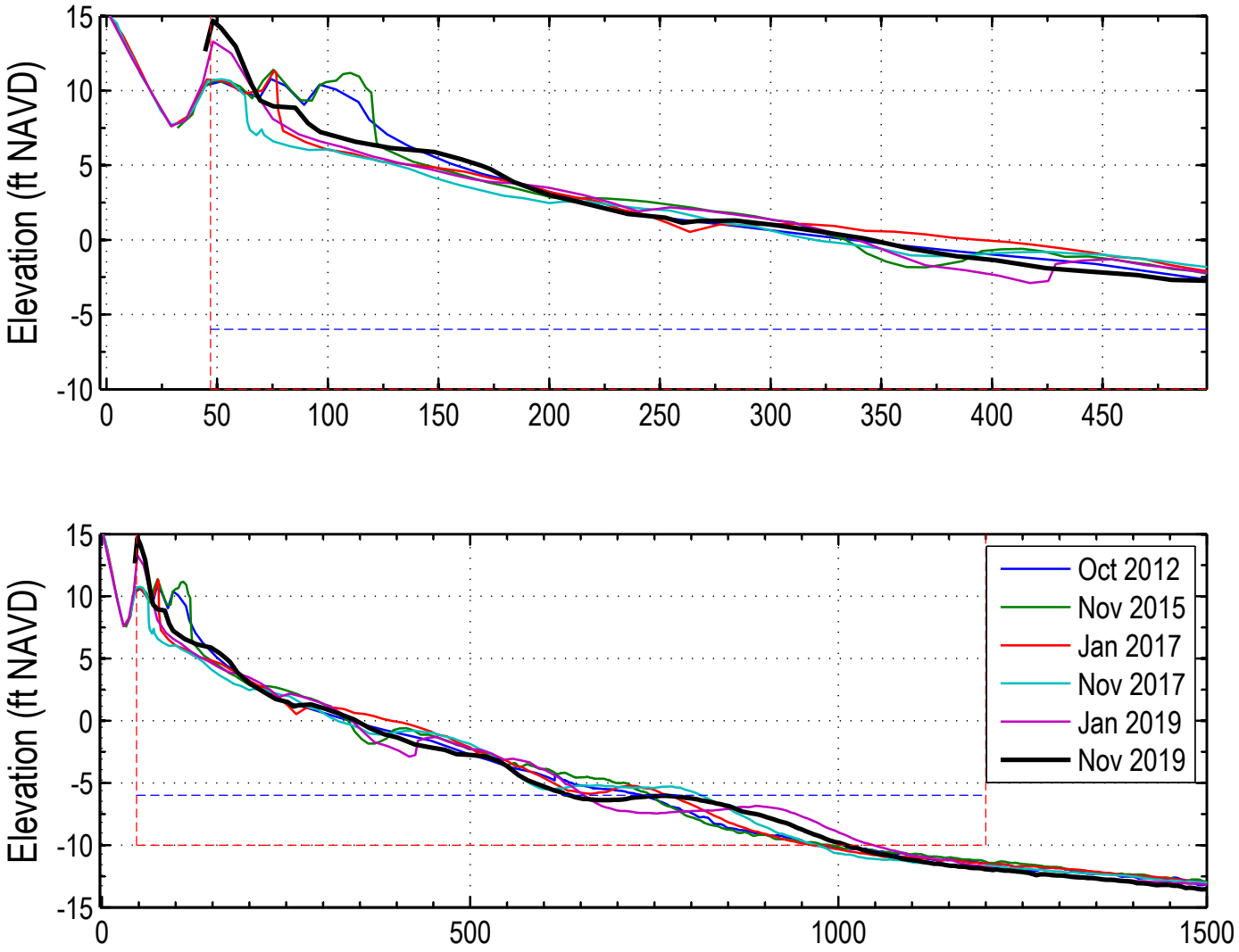
Kiawah Line 13



Date	Vol to -6	Vol -6 to -10	Vol to -10
Oct 2012	159.5	118.2	277.8
Nov 2015	169.3	118.0	287.3
Jan 2017	157.3	119.4	276.7
Nov 2017	148.3	125.7	274.0
Jan 2019	156.9	128.3	285.3
Nov 2019	158.2	127.0	285.2

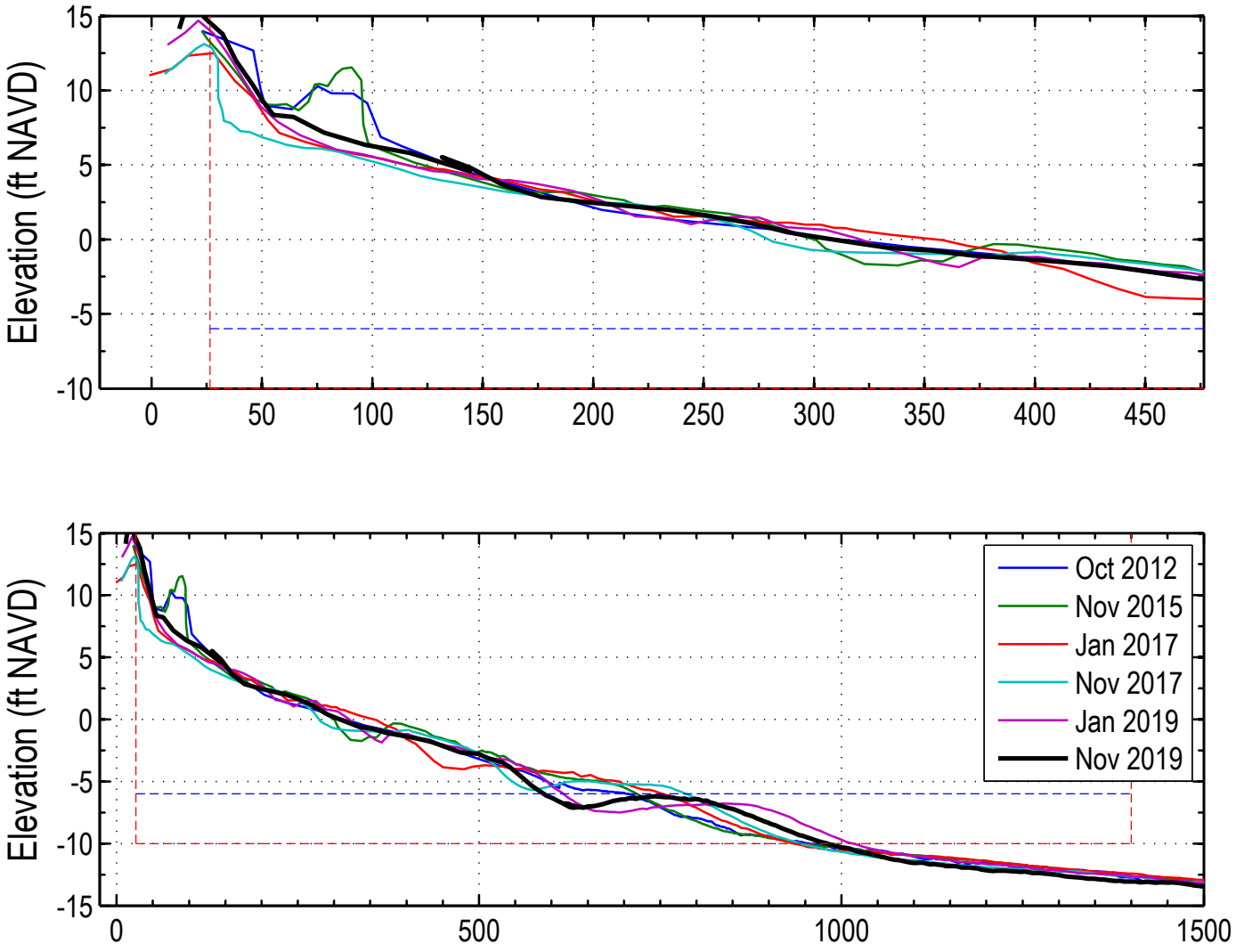


Kiawah Line 14 (OCRM 2645)

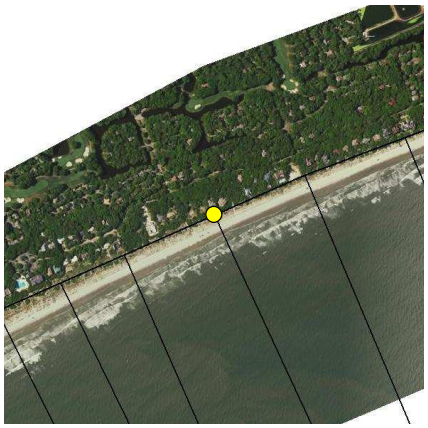


Date	Vol to -6	Vol -6 to -10	Vol to -10
Oct 2012	153.8	117.0	270.8
Nov 2015	160.4	115.7	276.1
Jan 2017	153.1	119.4	272.5
Nov 2017	145.4	124.1	269.5
Jan 2019	148.6	125.3	273.8
Nov 2019	146.7	126.4	273.0

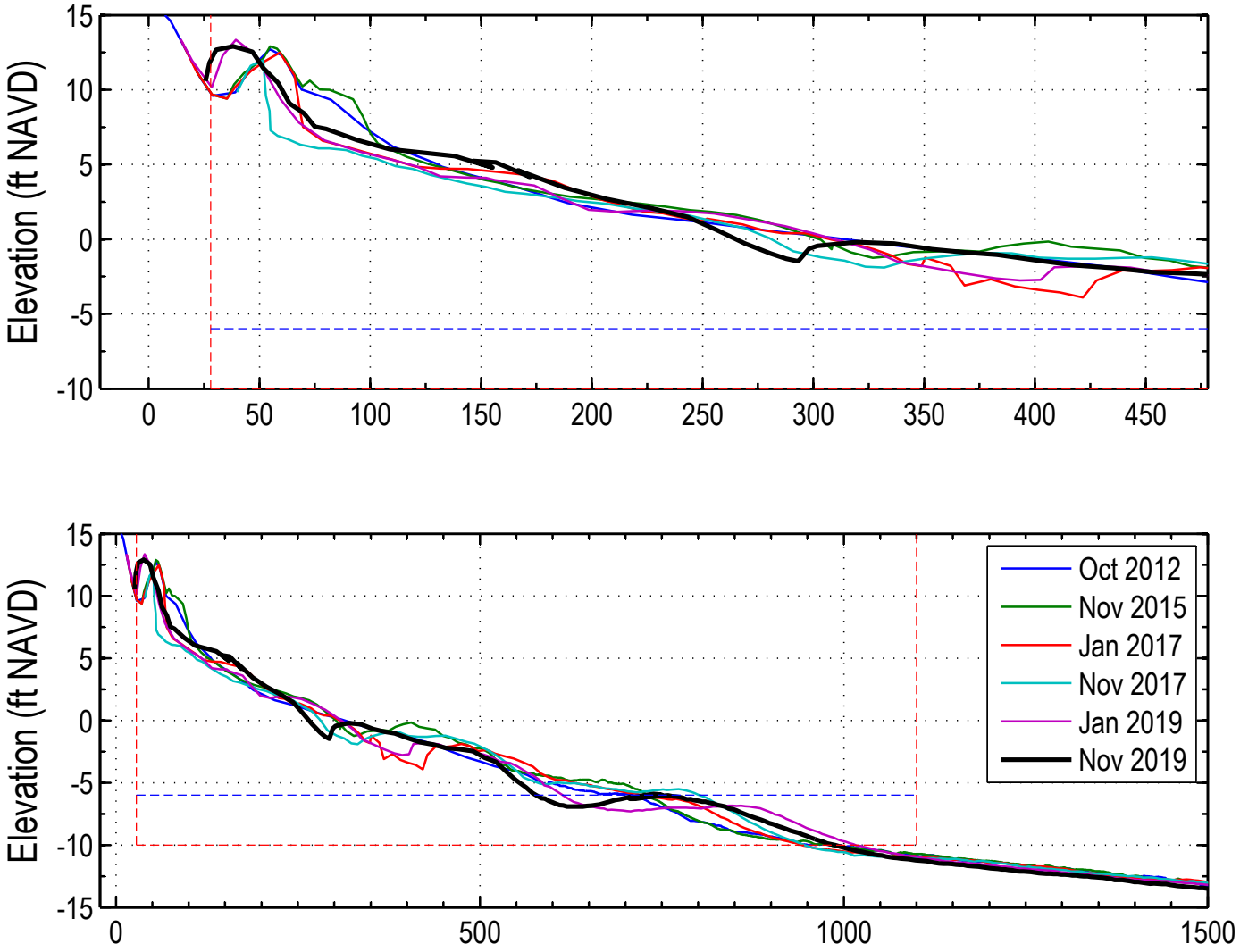
Kiawah Line 15



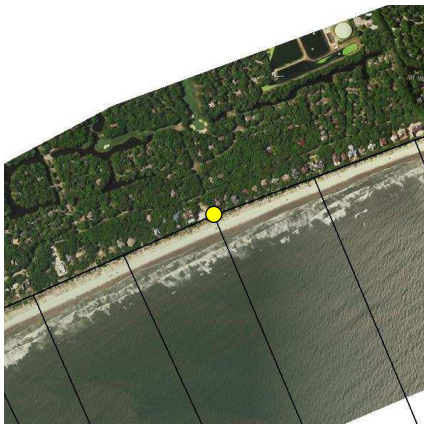
Date	Vol to -6	Vol -6 to -10	Vol to -10
Oct 2012	152.7	115.4	268.1
Nov 2015	158.4	115.0	273.5
Jan 2017	149.0	120.0	269.0
Nov 2017	141.8	123.1	264.9
Jan 2019	146.6	124.4	271.1
Nov 2019	146.7	122.7	269.4



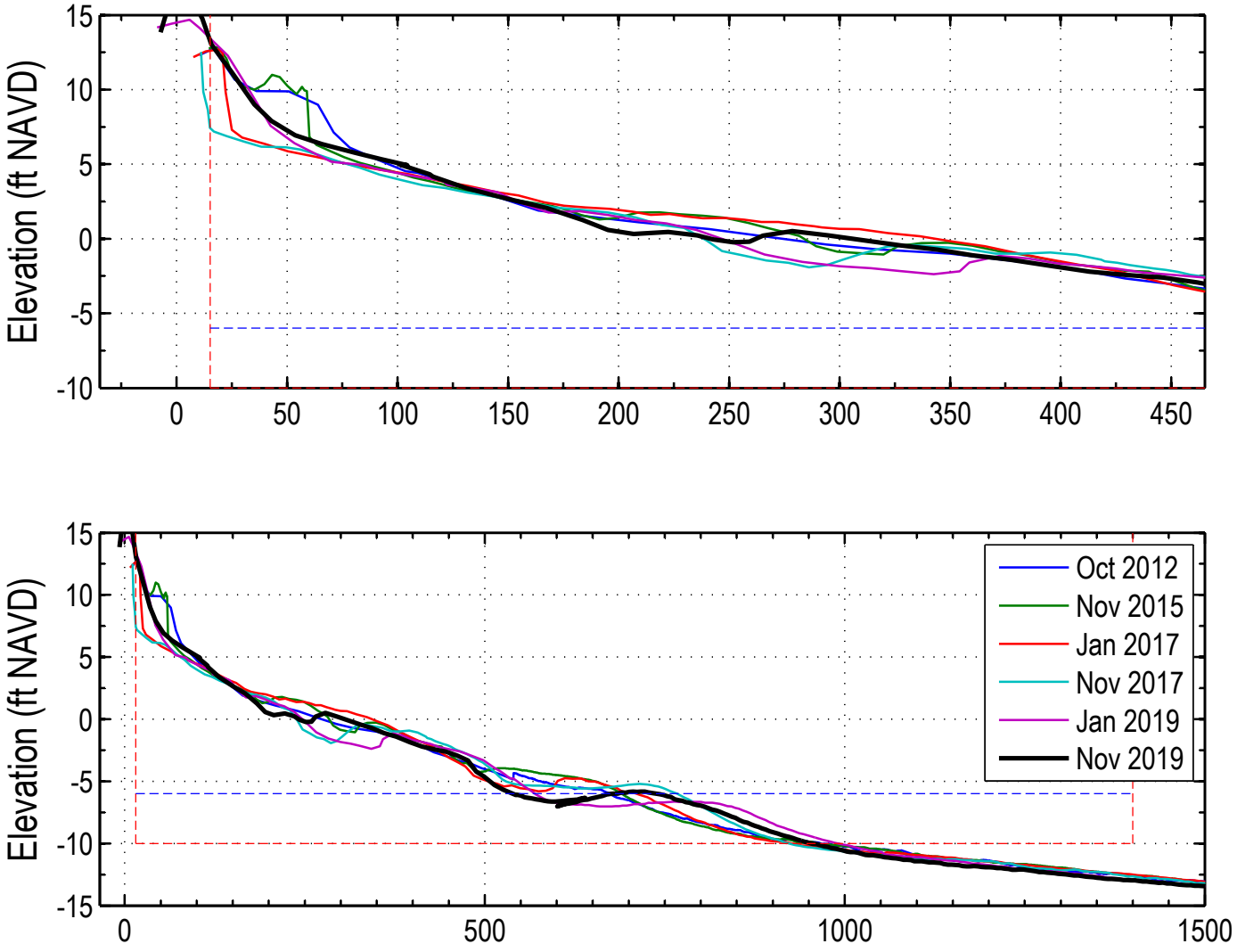
Kiawah Line 16 (OCRM 2660)



Date	Vol to -6	Vol -6 to -10	Vol to -10
Oct 2012	149.3	116.1	265.4
Nov 2015	161.1	116.4	277.4
Jan 2017	148.0	120.6	268.6
Nov 2017	145.5	124.7	270.2
Jan 2019	143.7	124.1	267.8
Nov 2019	146.7	123.8	270.5

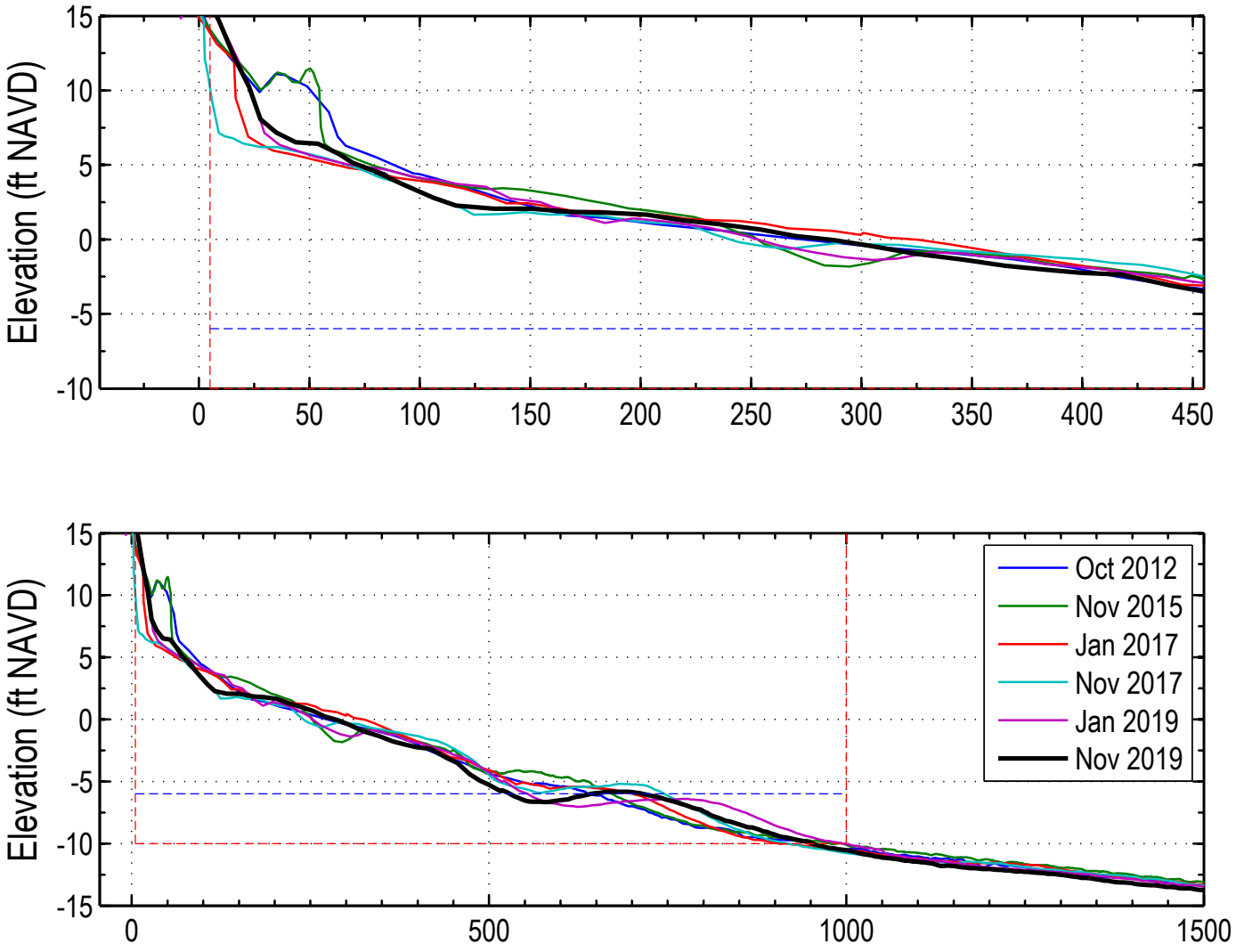


Kiawah Line 17



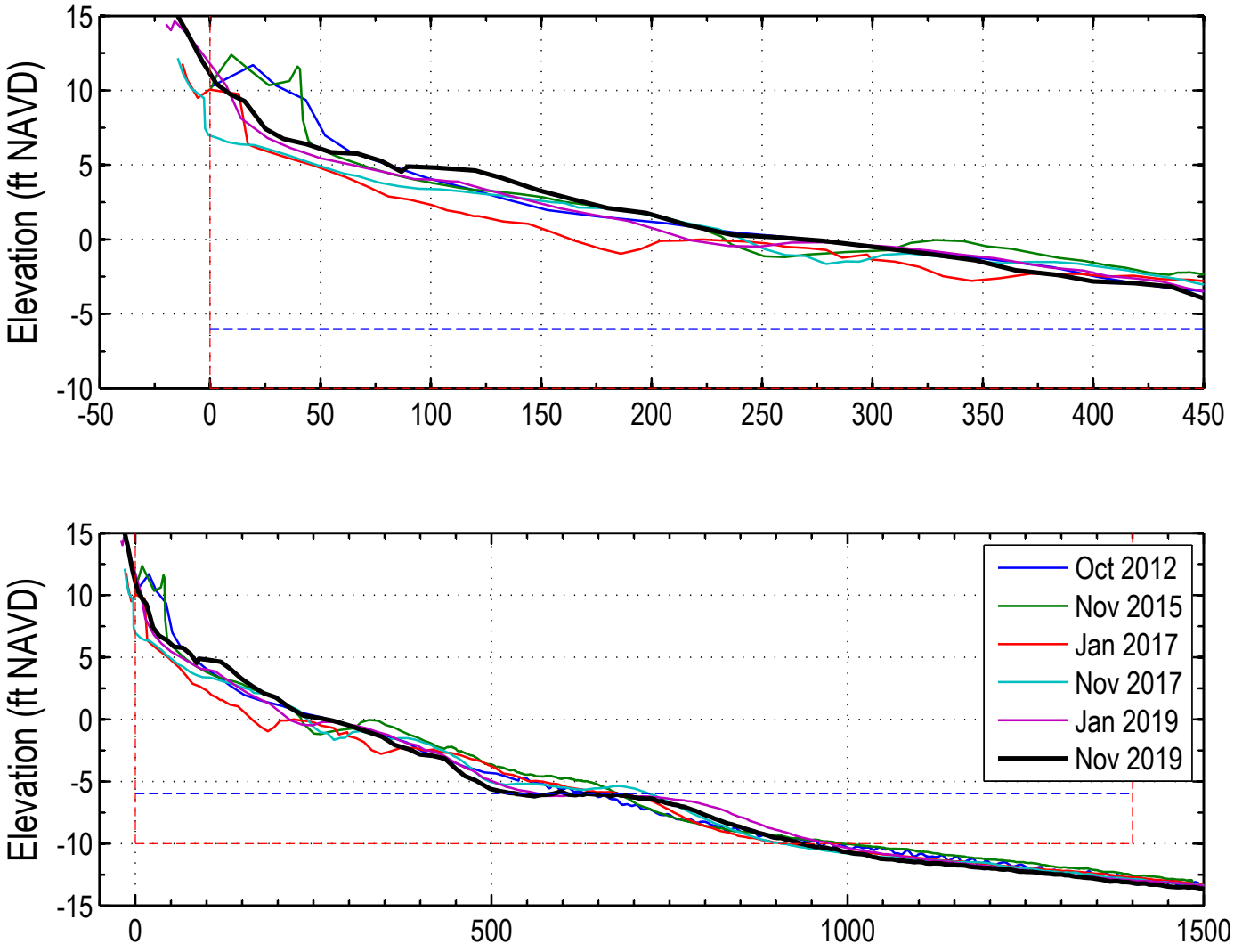
Date	Vol to -6	Vol -6 to -10	Vol to -10
Oct 2012	137.0	114.7	251.7
Nov 2015	143.8	113.6	257.4
Jan 2017	136.1	115.9	252.0
Nov 2017	129.7	121.6	251.3
Jan 2019	127.7	122.1	249.8
Nov 2019	129.3	121.3	250.6

Kiawah Line 18 (OCRM 2665)



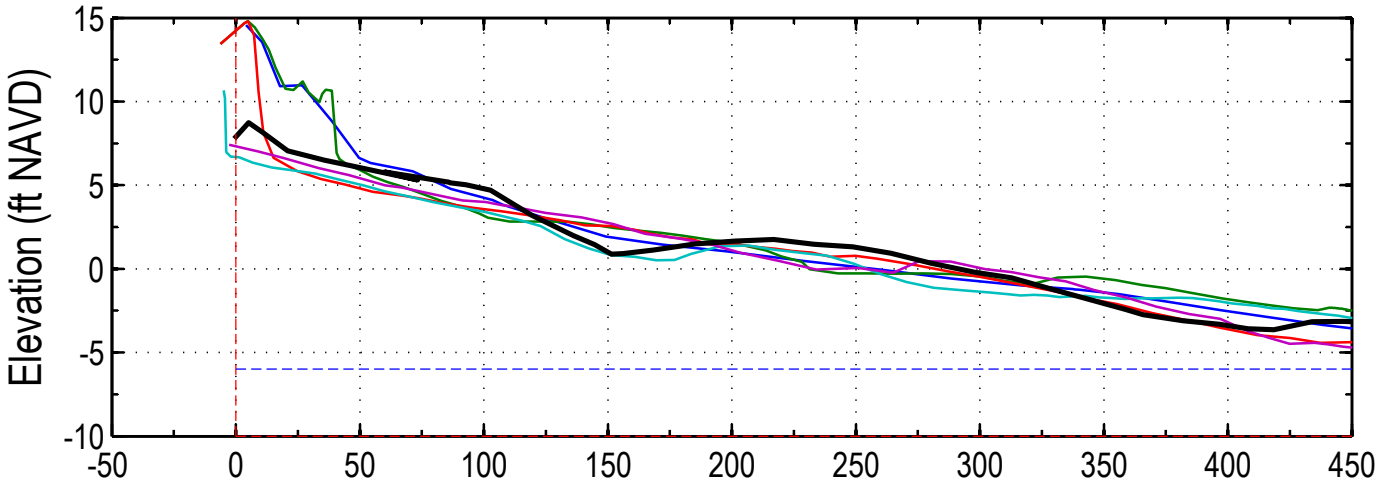
Date	Vol to -6	Vol -6 to -10	Vol to -10
Oct 2012	139.1	112.9	252.0
Nov 2015	144.8	115.1	259.9
Jan 2017	136.8	116.0	252.8
Nov 2017	129.2	120.5	249.7
Jan 2019	130.5	123.8	254.3
Nov 2019	127.7	120.5	248.2

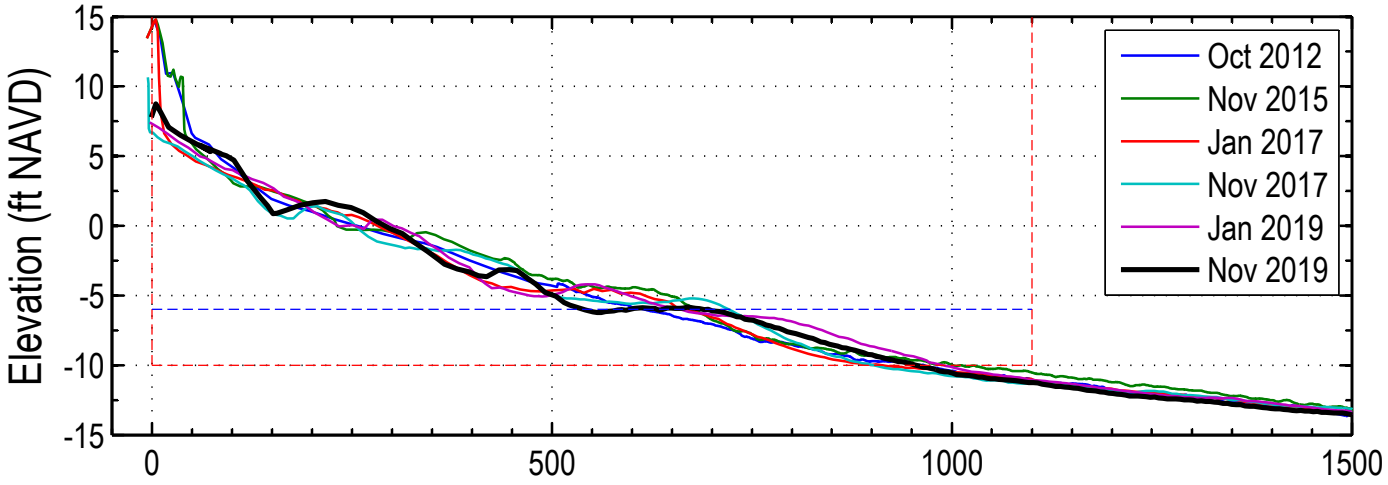
Kiawah Line 19



Date	Vol to -6	Vol -6 to -10	Vol to -10
Oct 2012	136.4	115.6	252.1
Nov 2015	145.1	116.6	261.7
Jan 2017	117.2	116.0	233.2
Nov 2017	125.9	119.1	245.0
Jan 2019	125.7	125.7	251.3
Nov 2019	128.9	120.2	249.1

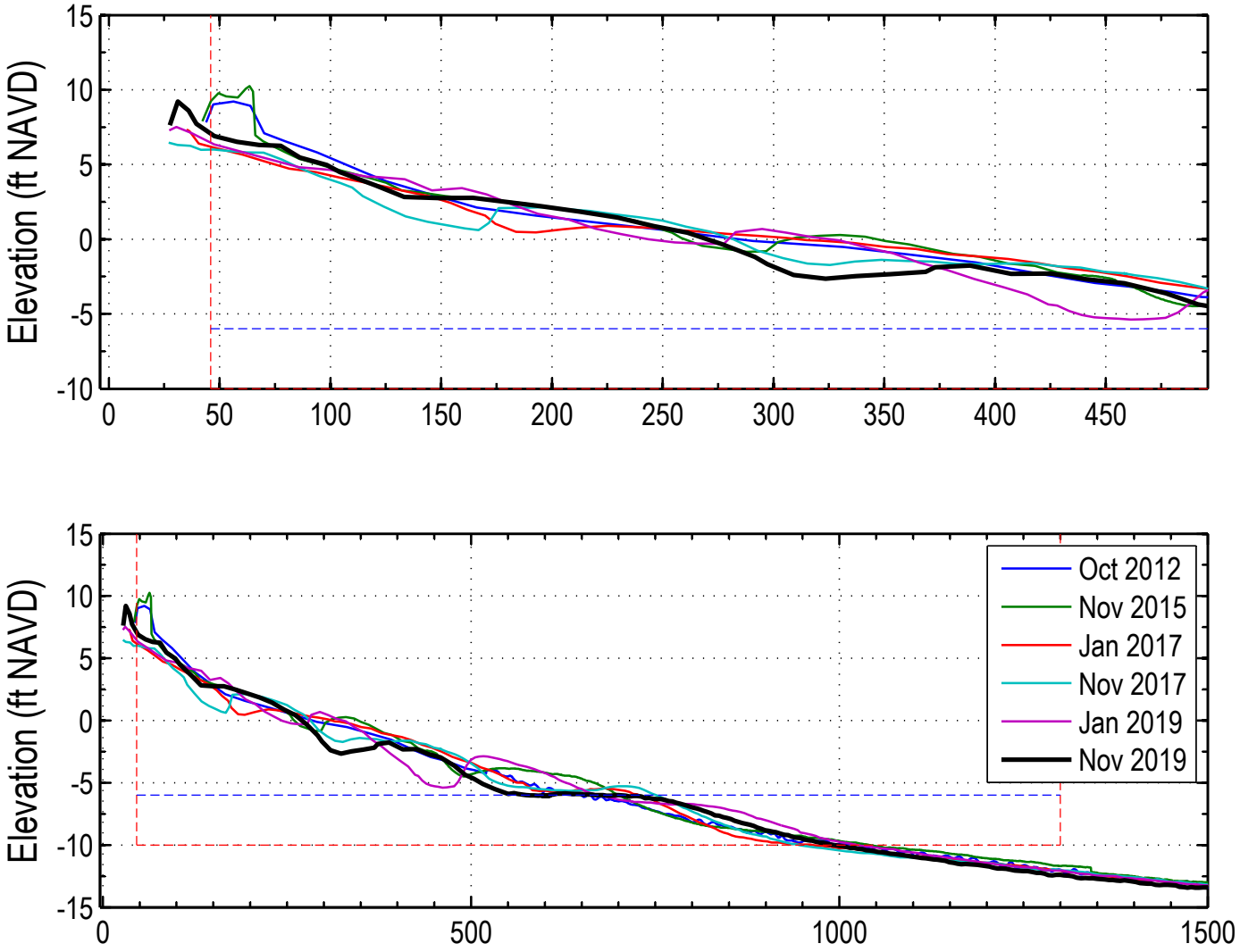
Kiawah Line 20 (OCRM 2675)





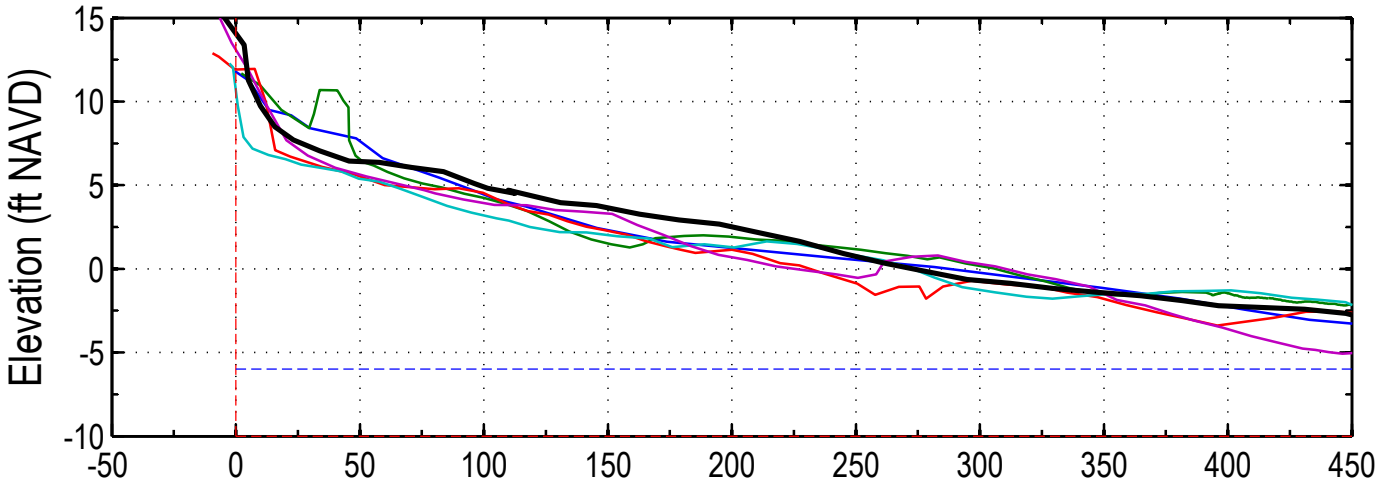
Date	Vol to -6	Vol -6 to -10	Vol to -10
Oct 2012	134.9	113.3	248.2
Nov 2015	144.6	117.2	261.7
Jan 2017	127.0	113.6	240.6
Nov 2017	122.4	118.0	240.5
Jan 2019	126.2	126.8	252.9
Nov 2019	125.8	121.6	247.4

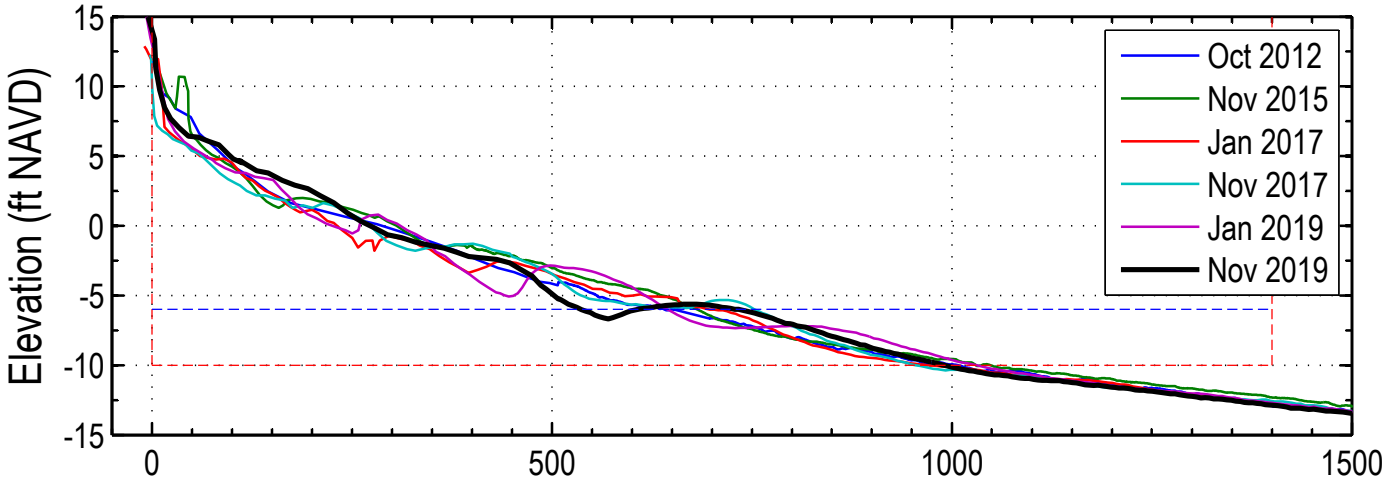
Kiawah Line 21 (OCRM 2680)



Date	Vol to -6	Vol -6 to -10	Vol to -10
Oct 2012	120.5	113.6	234.0
Nov 2015	128.7	115.1	243.8
Jan 2017	118.5	113.3	231.8
Nov 2017	114.6	116.8	231.4
Jan 2019	116.6	123.6	240.2
Nov 2019	108.4	120.1	228.5

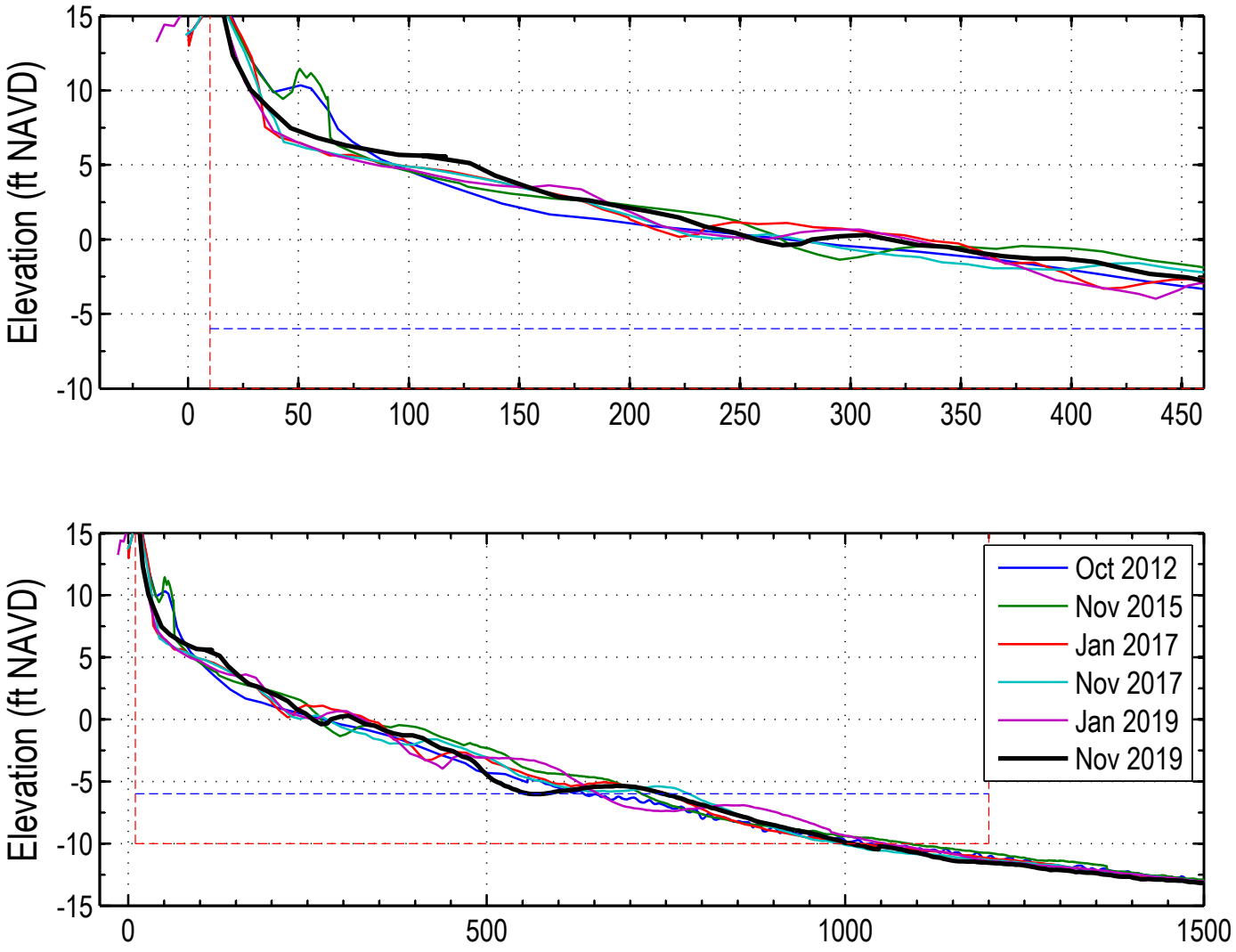
Kiawah Line 22 (Sanctuary)



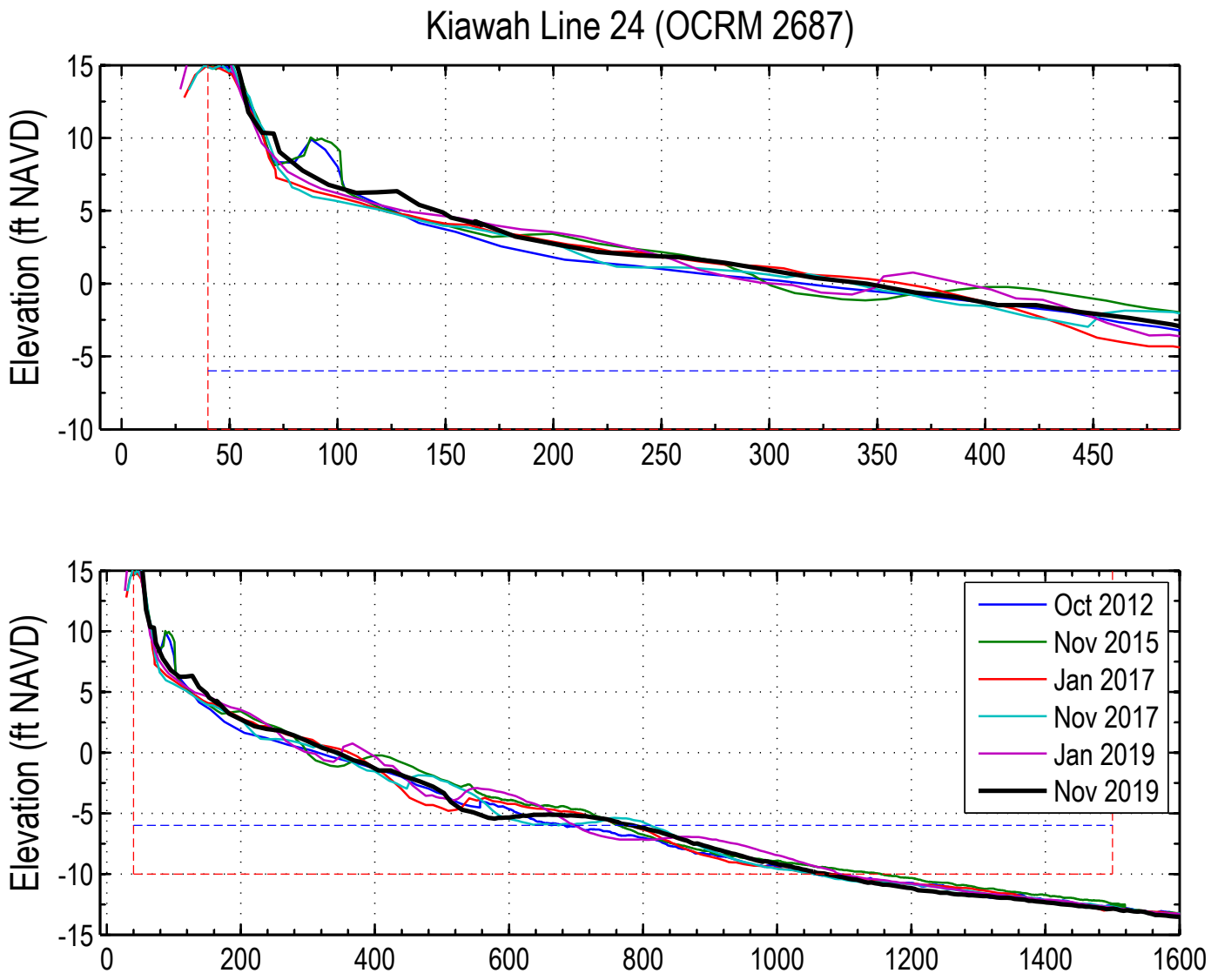


Date	Vol to -6	Vol -6 to -10	Vol to -10
Oct 2012	138.3	120.0	258.2
Nov 2015	150.2	121.6	271.9
Jan 2017	131.8	120.2	252.0
Nov 2017	132.7	124.6	257.4
Jan 2019	135.8	126.3	262.2
Nov 2019	138.9	126.2	265.1

Kiawah Line 23 (OCRM 2685)

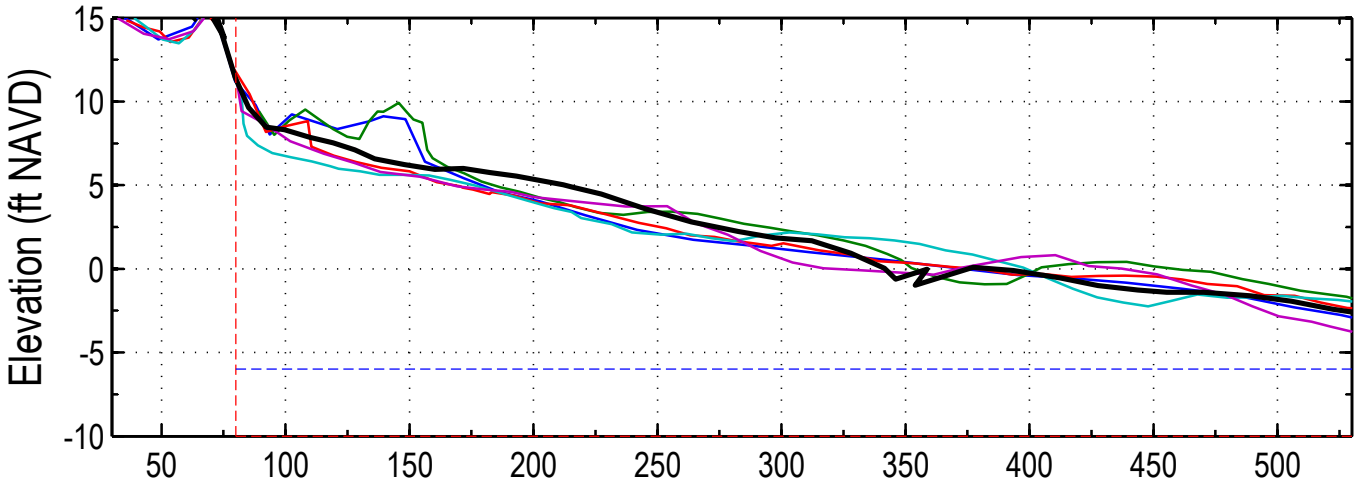


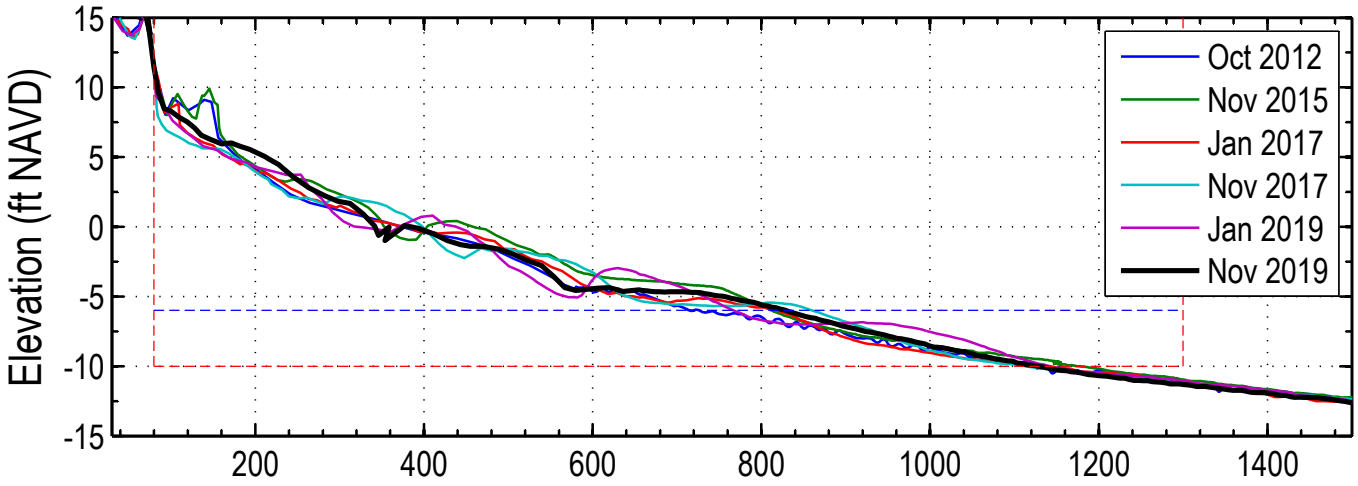
Date	Vol to -6	Vol -6 to -10	Vol to -10
Oct 2012	139.2	122.1	261.3
Nov 2015	160.0	125.5	285.4
Jan 2017	148.1	124.5	272.7
Nov 2017	144.0	127.5	271.5
Jan 2019	146.1	128.9	275.0
Nov 2019	144.8	127.6	272.4



Date	Vol to -6	Vol -6 to -10	Vol to -10
Oct 2012	142.2	123.4	265.6
Nov 2015	162.4	129.2	291.6
Jan 2017	148.2	125.4	273.7
Nov 2017	144.9	128.5	273.4
Jan 2019	155.2	131.6	286.8
Nov 2019	151.9	130.2	282.1

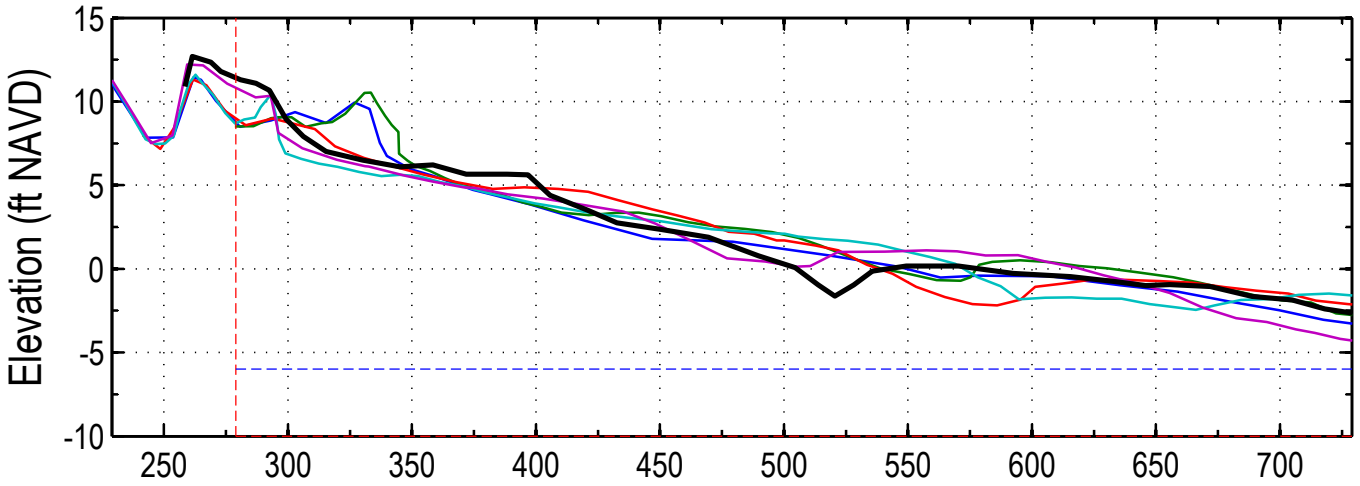
Kiawah Line 25 (OCRM 2690)

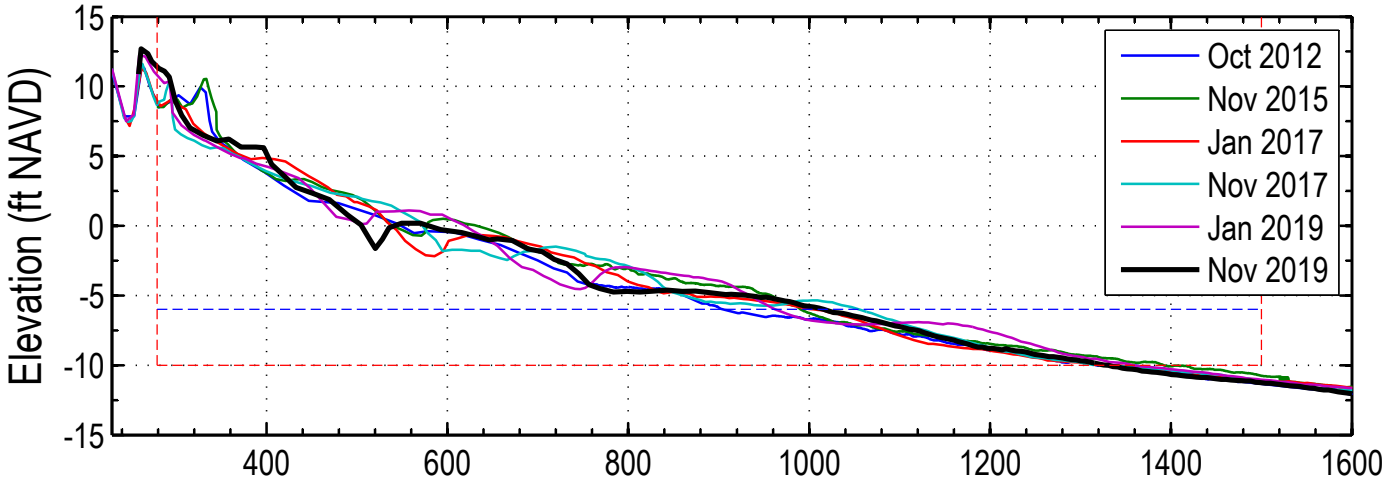




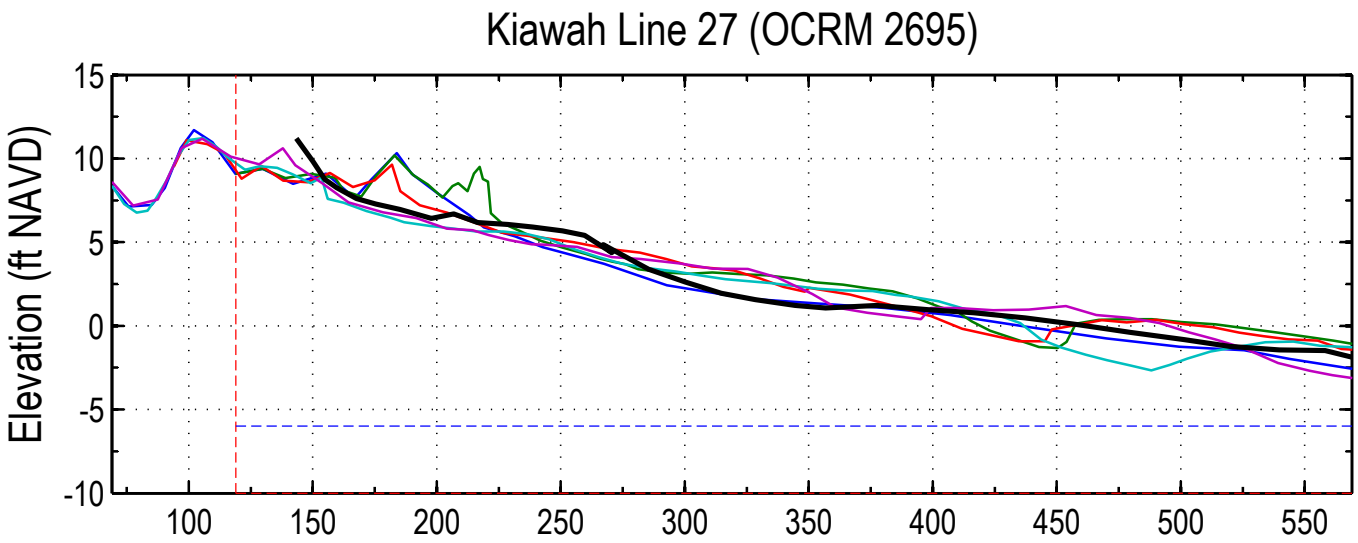
Date	Vol to -6	Vol -6 to -10	Vol to -10
Oct 2012	146.2	125.7	271.9
Nov 2015	168.1	130.9	299.0
Jan 2017	148.2	125.9	274.0
Nov 2017	147.8	130.8	278.7
Jan 2019	148.9	135.0	283.9
Nov 2019	153.2	131.3	284.5

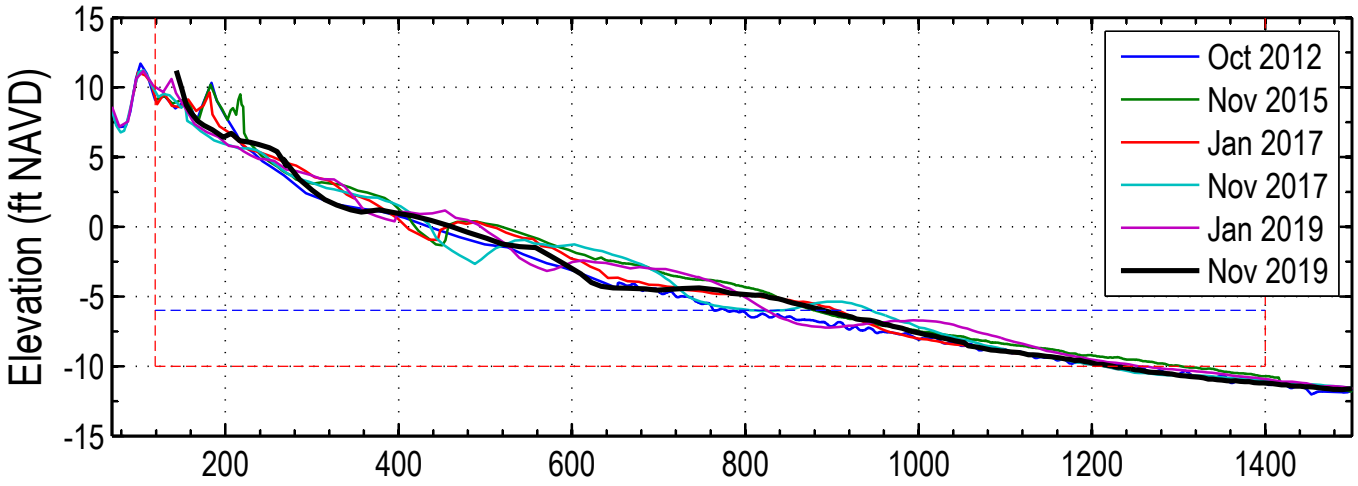
Kiawah Line 26 (OCRM 2692)



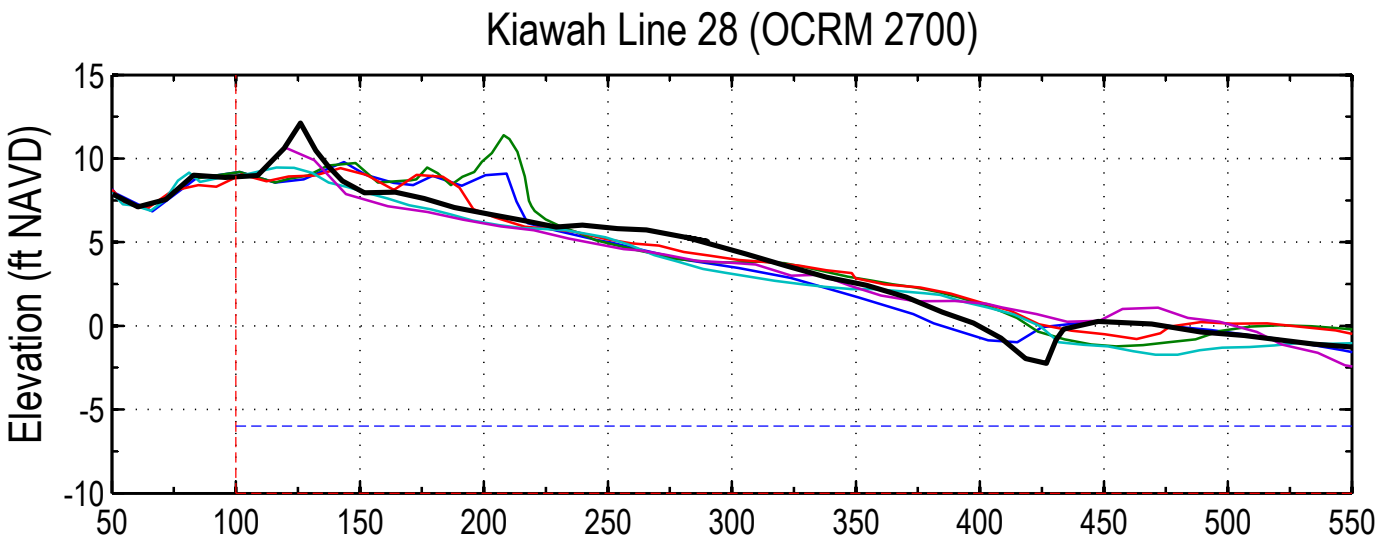


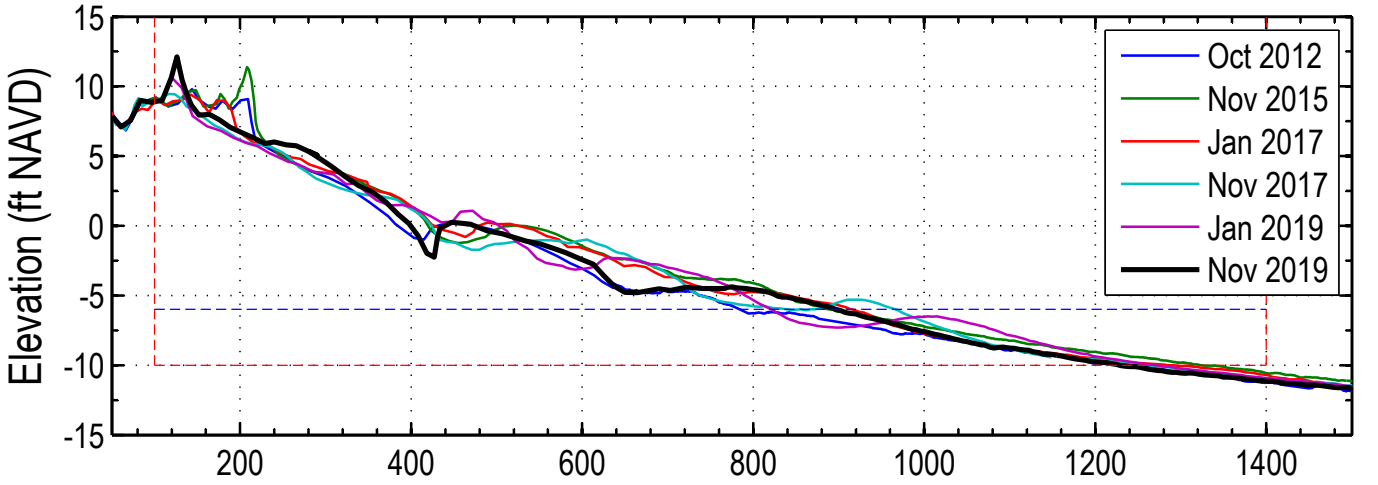
Date	Vol to -6	Vol -6 to -10	Vol to -10
Oct 2012	140.7	124.5	265.2
Nov 2015	160.4	130.6	291.0
Jan 2017	149.7	126.4	276.1
Nov 2017	148.8	131.2	279.9
Jan 2019	148.9	134.1	283.0
Nov 2019	146.6	130.1	276.7



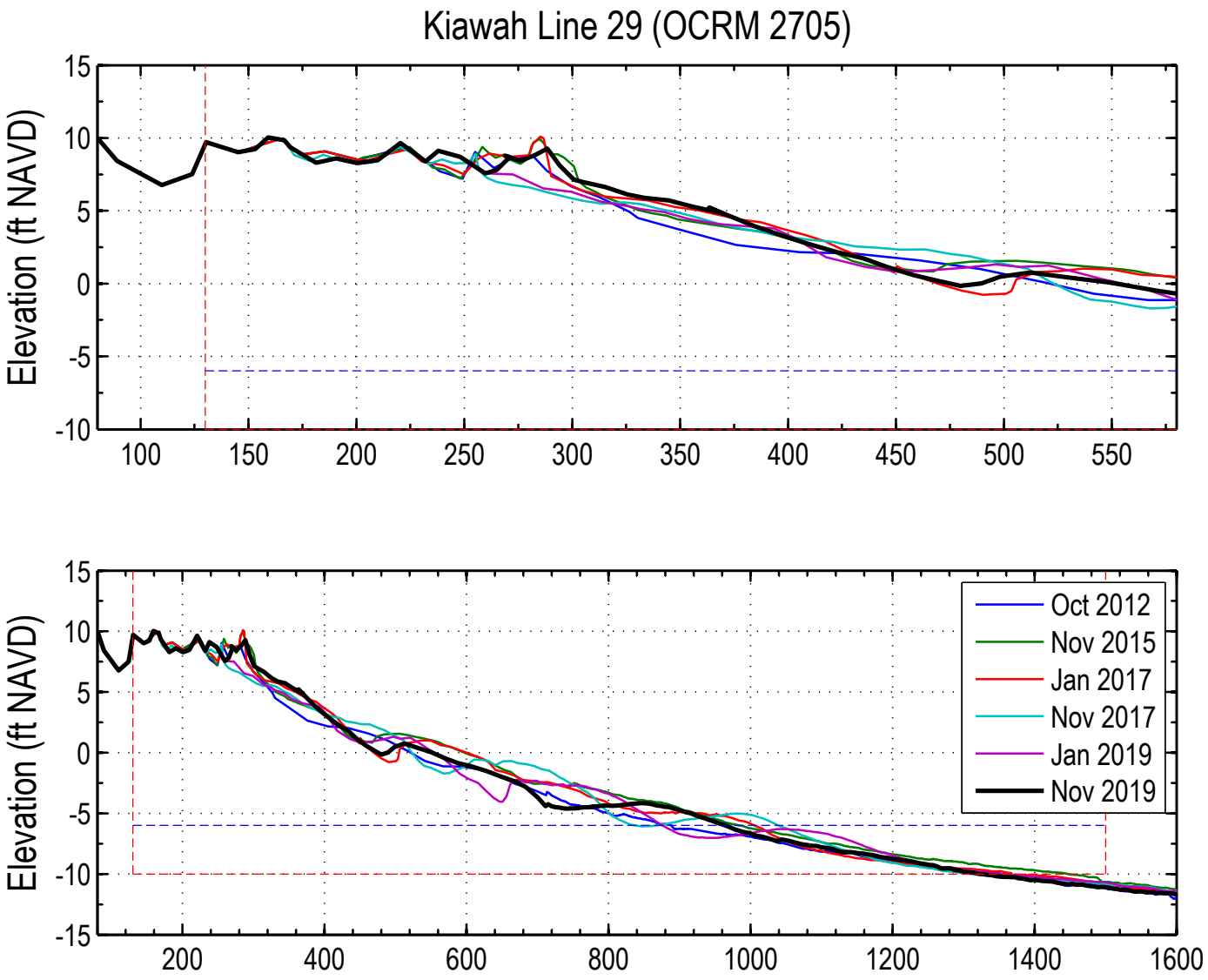


Date	Vol to -6	Vol -6 to -10	Vol to -10
Oct 2012	156.3	131.3	287.6
Nov 2015	183.9	140.5	324.5
Jan 2017	173.2	134.6	307.8
Nov 2017	167.6	138.9	306.5
Jan 2019	172.0	139.6	311.6
Nov 2019	166.1	136.2	302.3



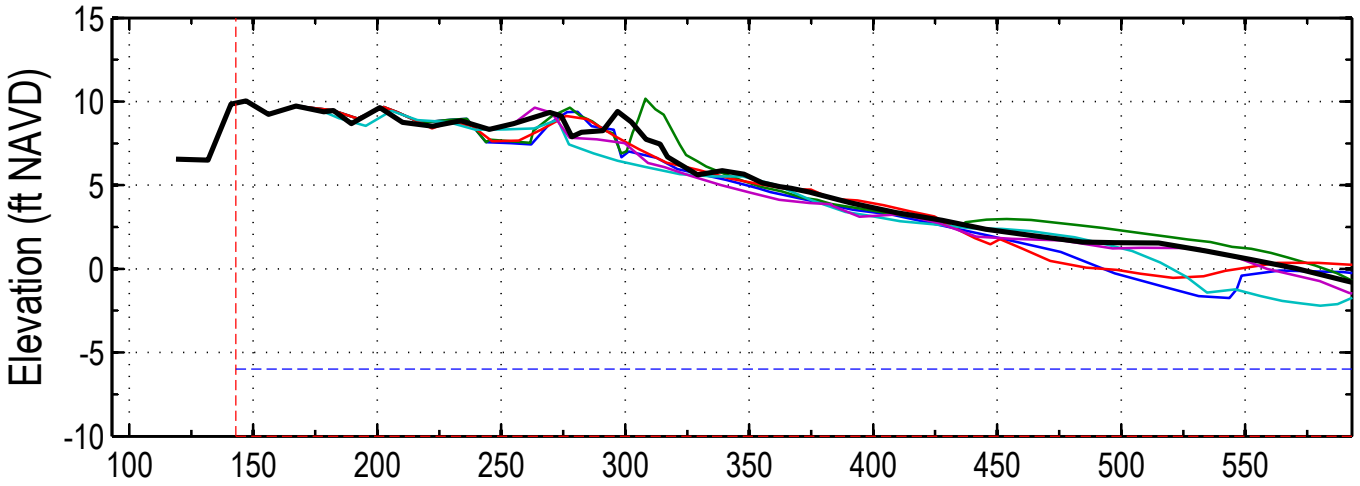


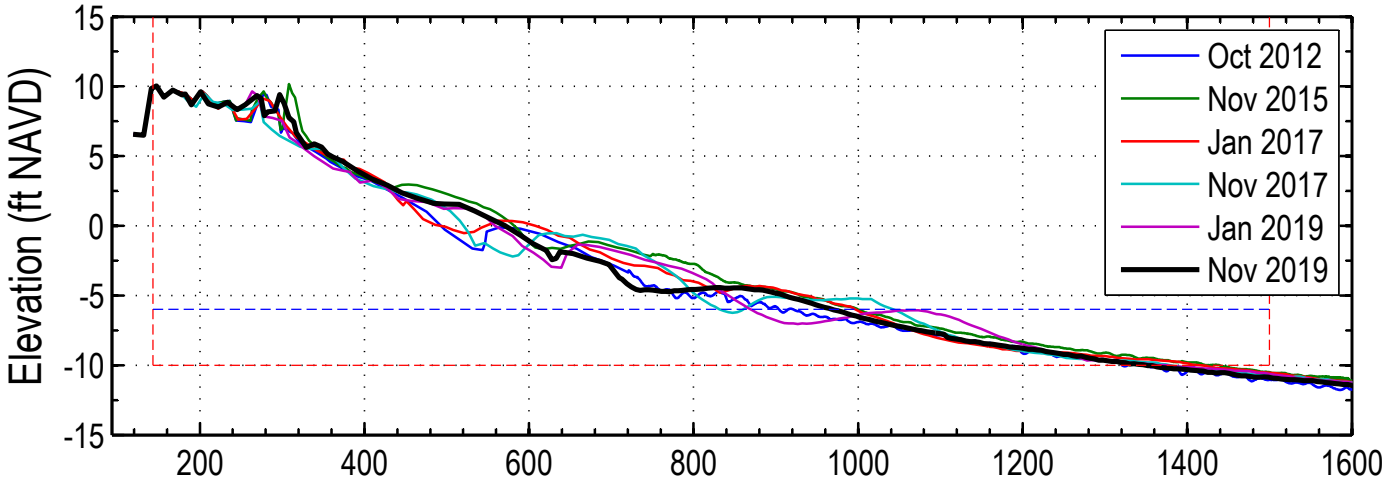
Date	Vol to -6	Vol -6 to -10	Vol to -10
Oct 2012	172.1	135.4	307.4
Nov 2015	197.5	146.4	343.9
Jan 2017	192.6	140.6	333.2
Nov 2017	180.0	143.5	323.5
Jan 2019	183.3	144.2	327.5
Nov 2019	182.2	139.5	321.7



Date	Vol to -6	Vol -6 to -10	Vol to -10
Oct 2012	200.7	143.8	344.5
Nov 2015	225.9	155.8	381.7
Jan 2017	220.5	147.7	368.2
Nov 2017	215.5	150.1	365.6
Jan 2019	207.6	151.2	358.8
Nov 2019	211.9	147.7	359.6

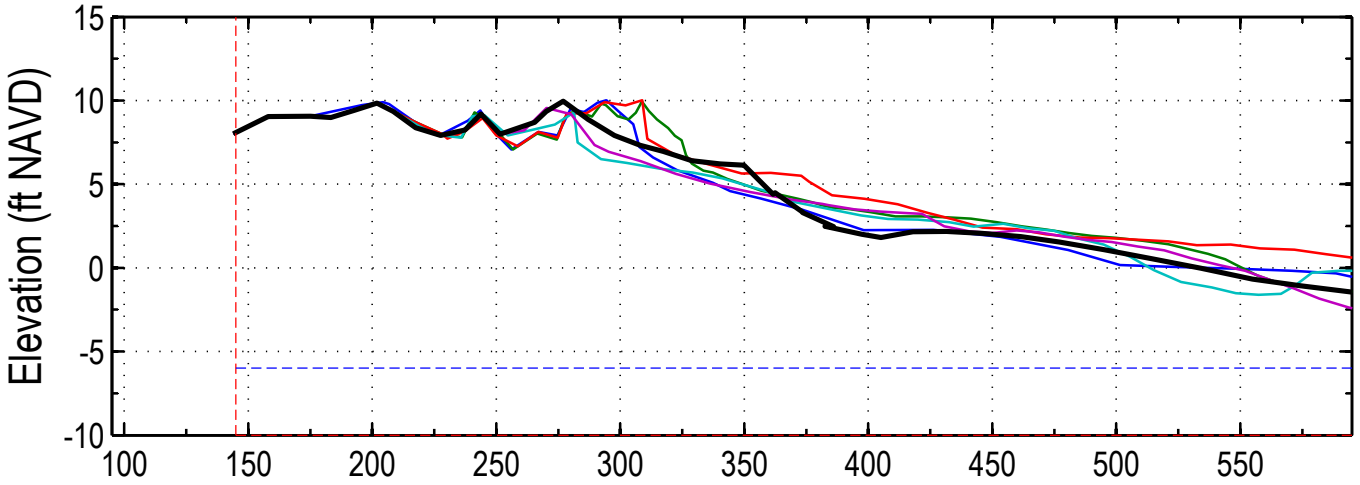
Kiawah Line 30

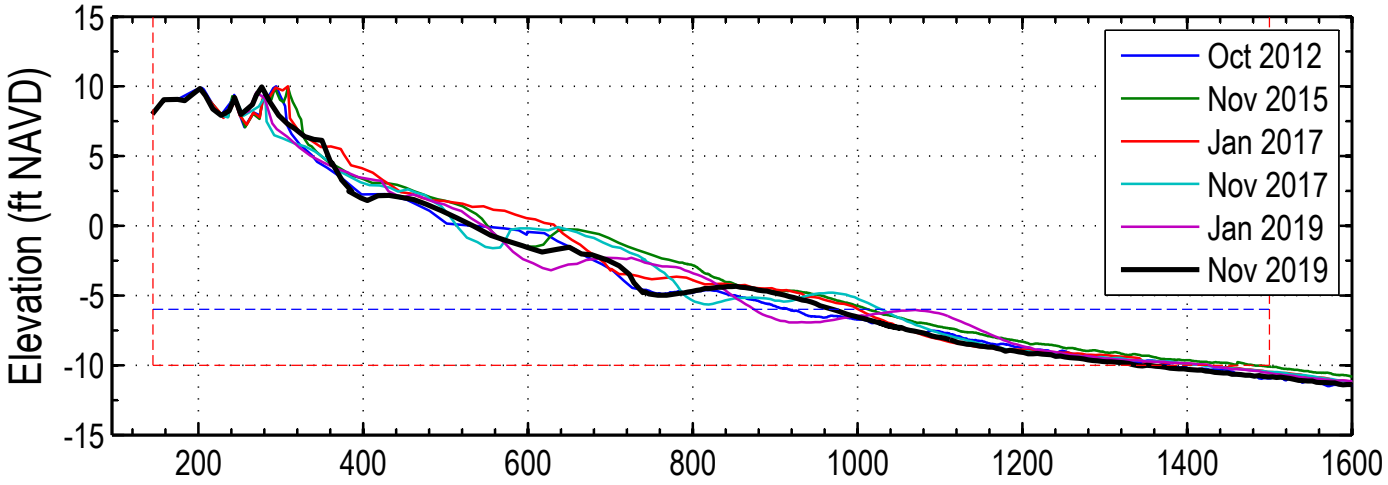




Date	Vol to -6	Vol -6 to -10	Vol to -10
Oct 2012	201.8	143.9	345.7
Nov 2015	230.7	153.3	384.0
Jan 2017	217.0	147.5	364.4
Nov 2017	211.9	148.8	360.7
Jan 2019	210.8	150.5	361.3
Nov 2019	212.4	146.3	358.7

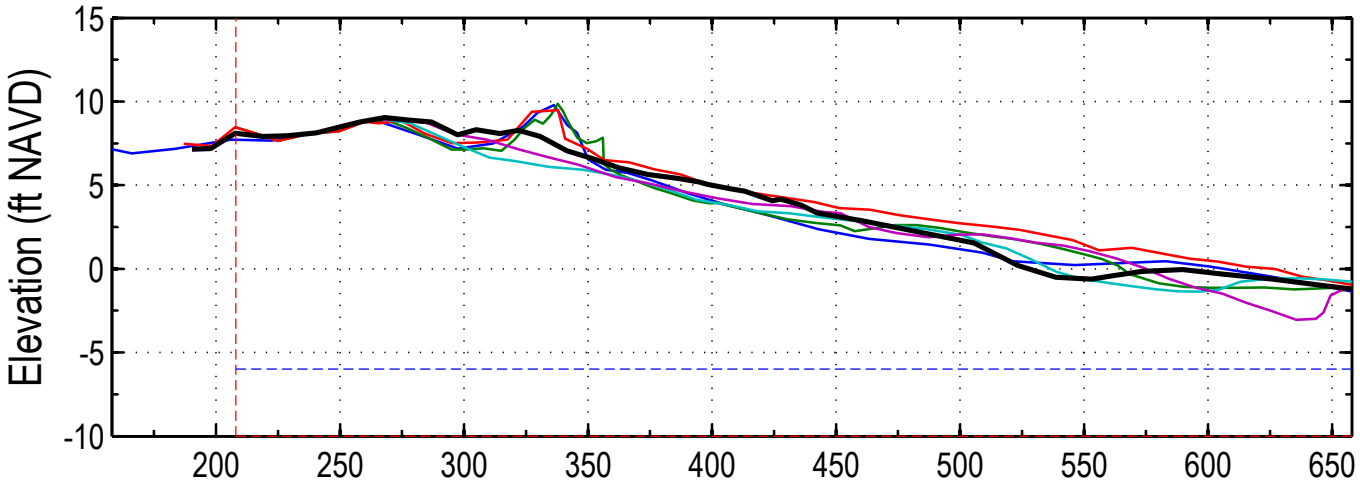
Kiawah Line 31 (OCRM 2715)

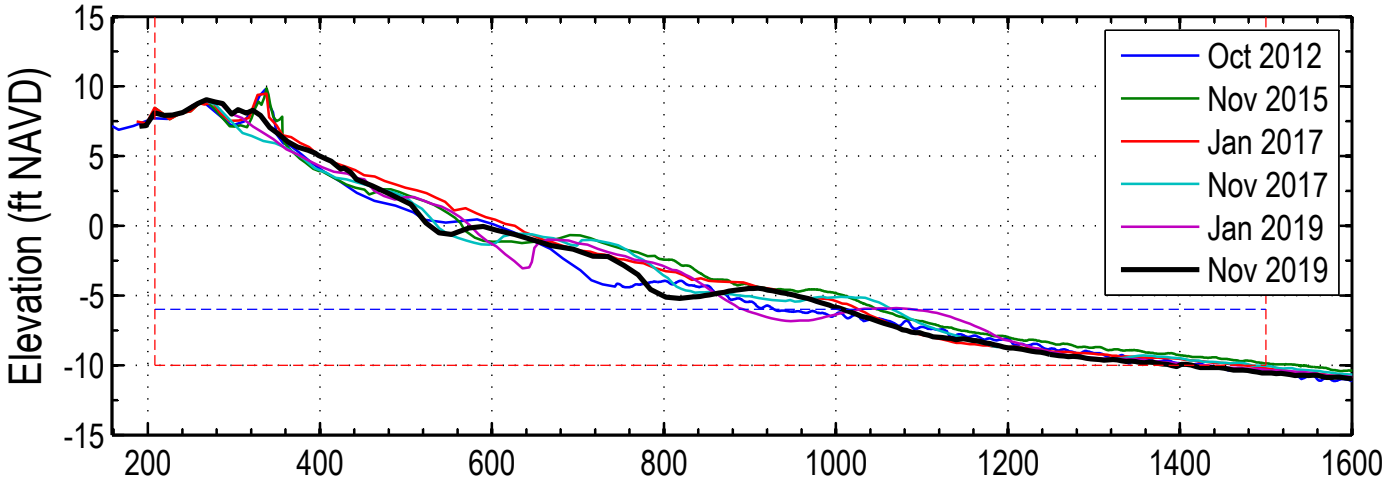




Date	Vol to -6	Vol -6 to -10	Vol to -10
Oct 2012	200.9	146.0	346.8
Nov 2015	227.6	155.2	382.8
Jan 2017	225.3	146.9	372.2
Nov 2017	212.0	148.8	360.9
Jan 2019	204.4	151.0	355.5
Nov 2019	204.3	144.0	348.3

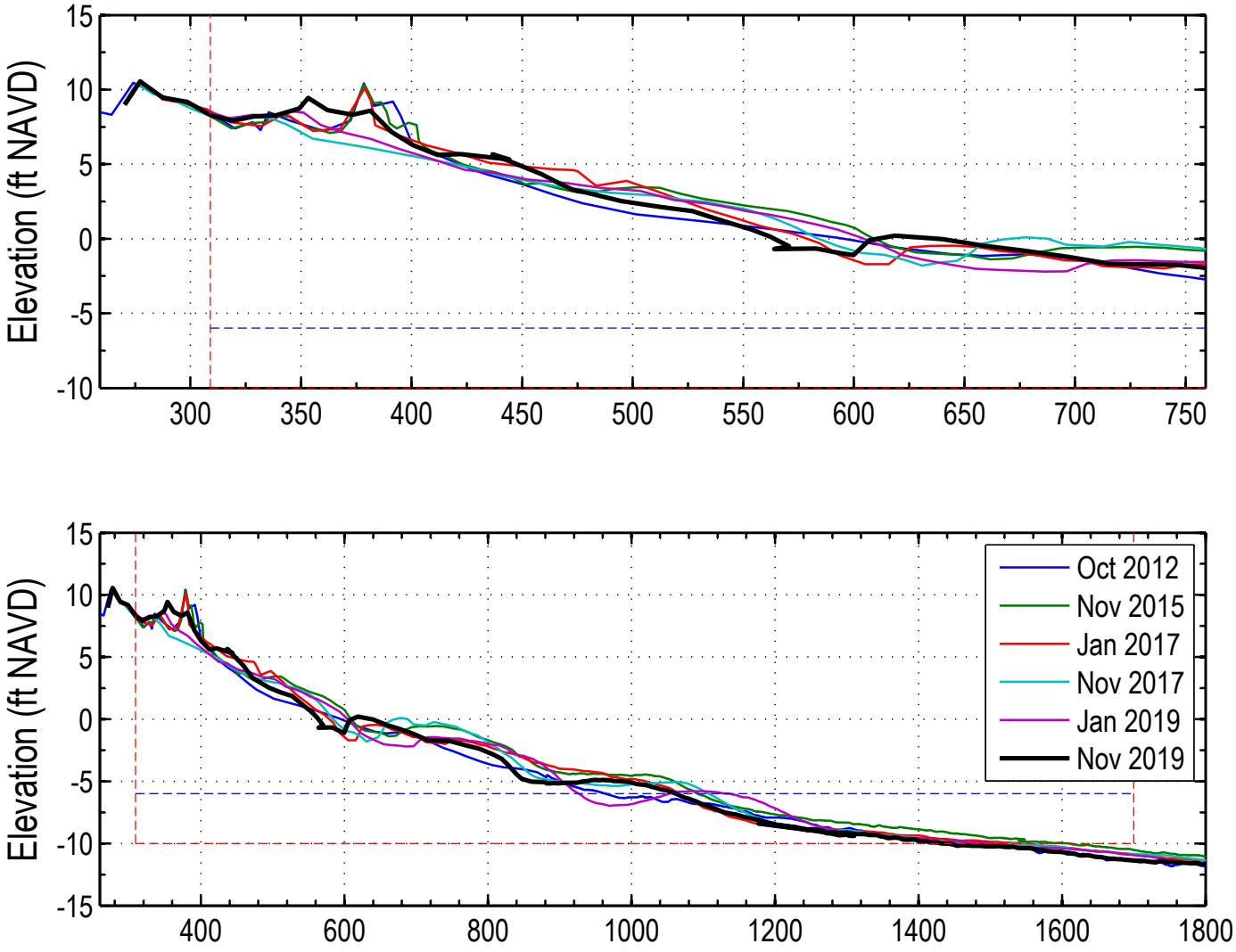
Kiawah Line 32 (OCRM 2720)



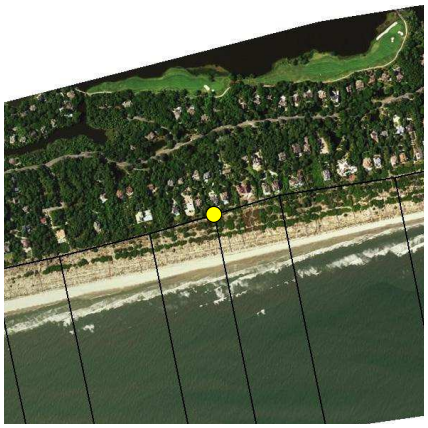


Date	Vol to -6	Vol -6 to -10	Vol to -10
Oct 2012	180.3	143.0	323.3
Nov 2015	202.7	151.8	354.5
Jan 2017	207.0	142.2	349.2
Nov 2017	190.4	144.7	335.1
Jan 2019	188.7	145.9	334.6
Nov 2019	190.0	139.5	329.6

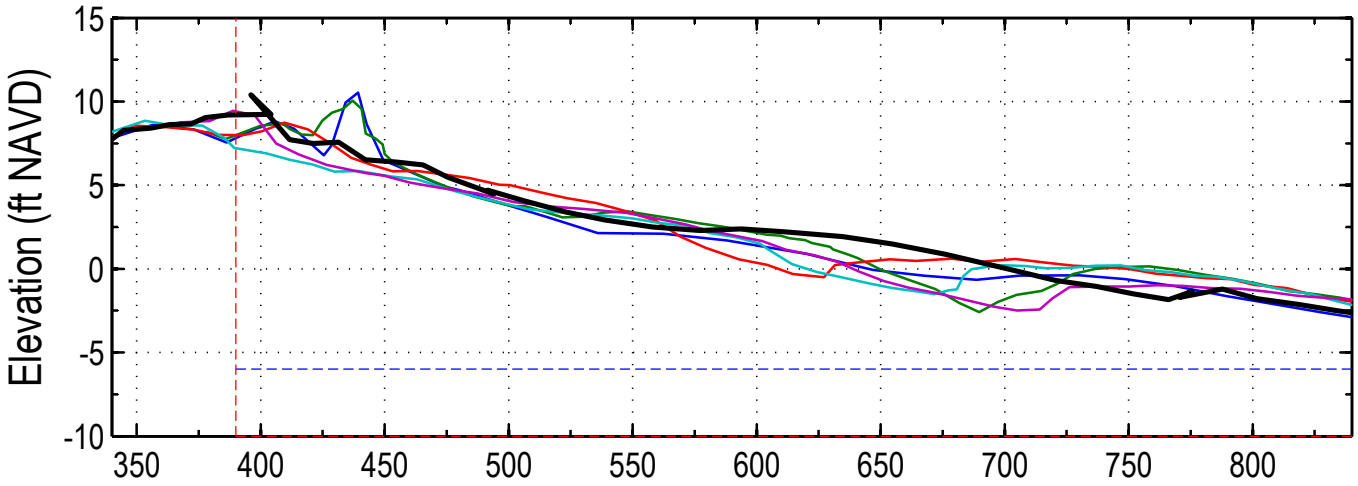
Kiawah Line 33

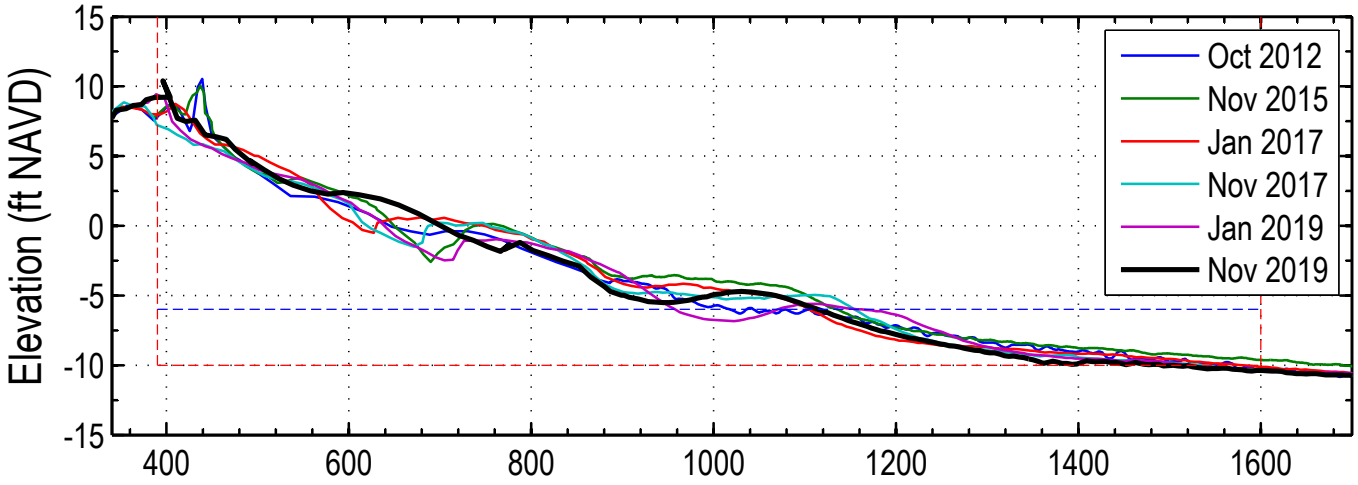


Date	Vol to -6	Vol -6 to -10	Vol to -10
Oct 2012	148.4	134.0	282.4
Nov 2015	174.2	144.4	318.6
Jan 2017	166.5	132.6	299.1
Nov 2017	162.1	135.2	297.4
Jan 2019	157.0	137.2	294.2
Nov 2019	158.3	131.1	289.4



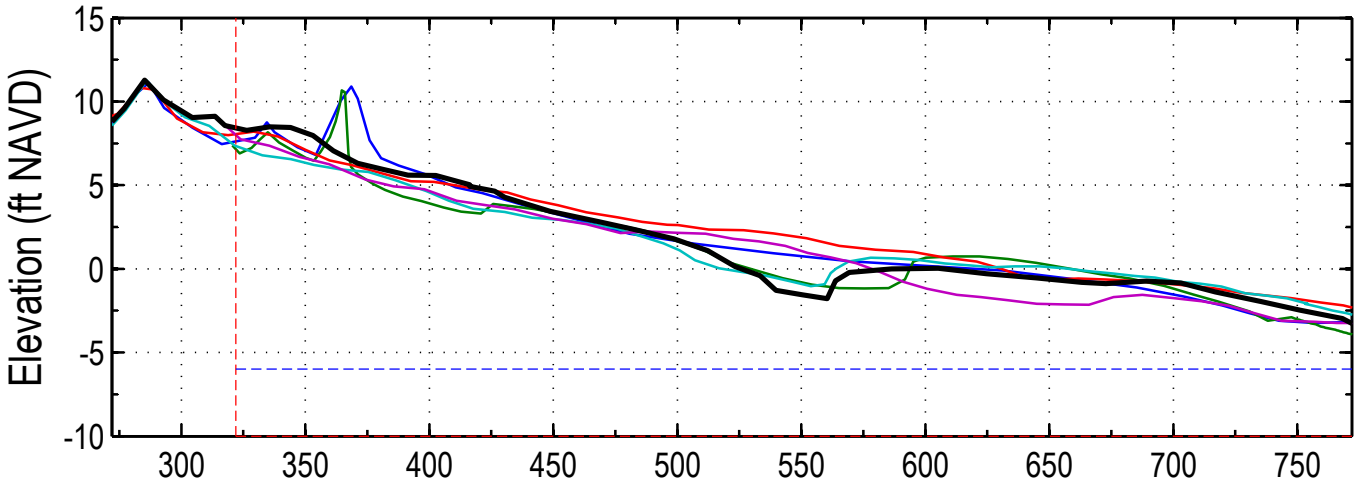
Kiawah Line 34 (OCRM 2722)

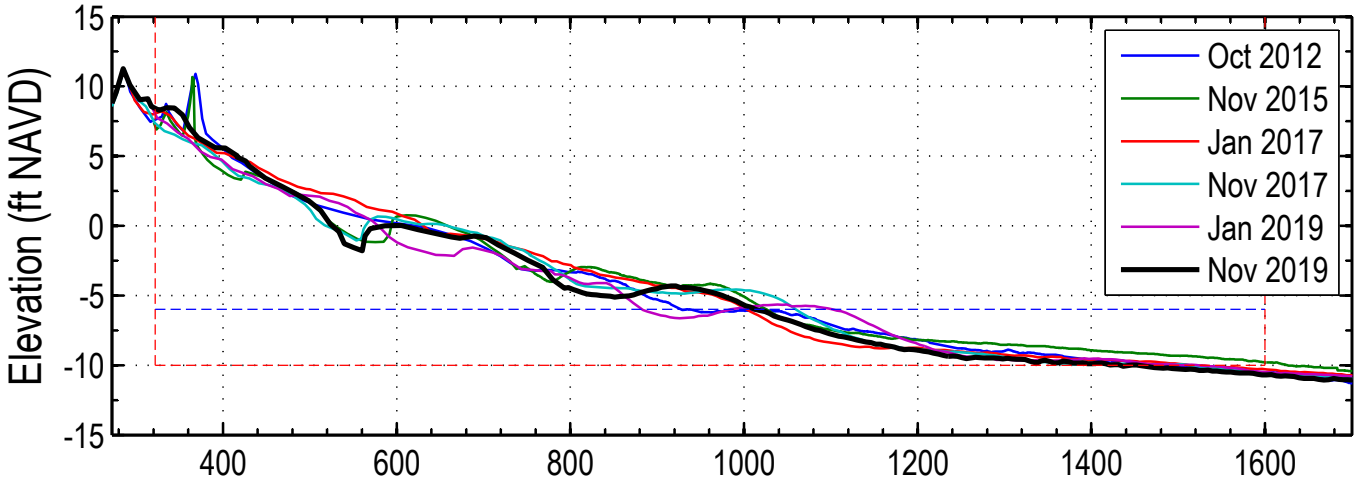




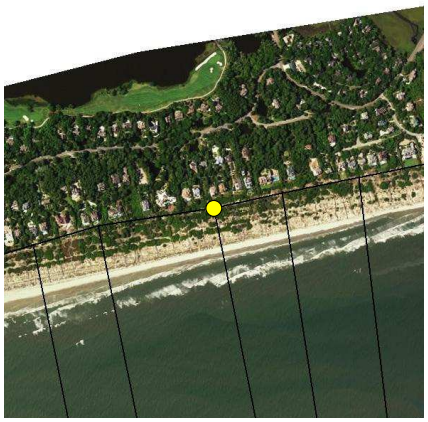
Date	Vol to -6	Vol -6 to -10	Vol to -10
Oct 2012	139.8	133.0	272.8
Nov 2015	158.6	138.0	296.6
Jan 2017	153.3	128.0	281.3
Nov 2017	143.6	129.3	272.9
Jan 2019	137.6	130.7	268.3
Nov 2019	147.9	124.8	272.7

Kiawah Line 35 (OCRM 2725)

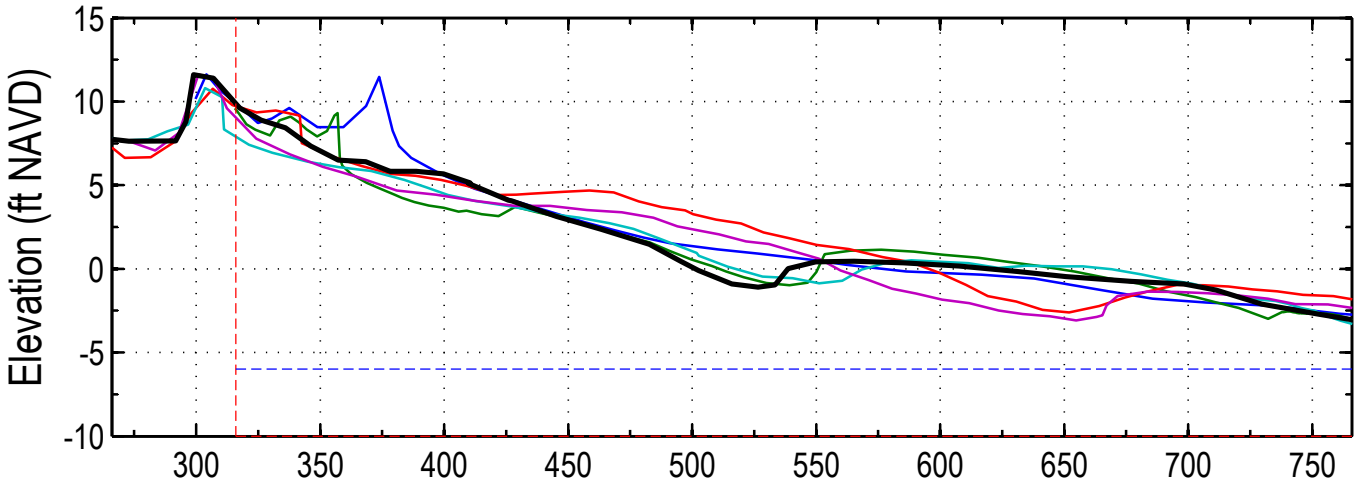


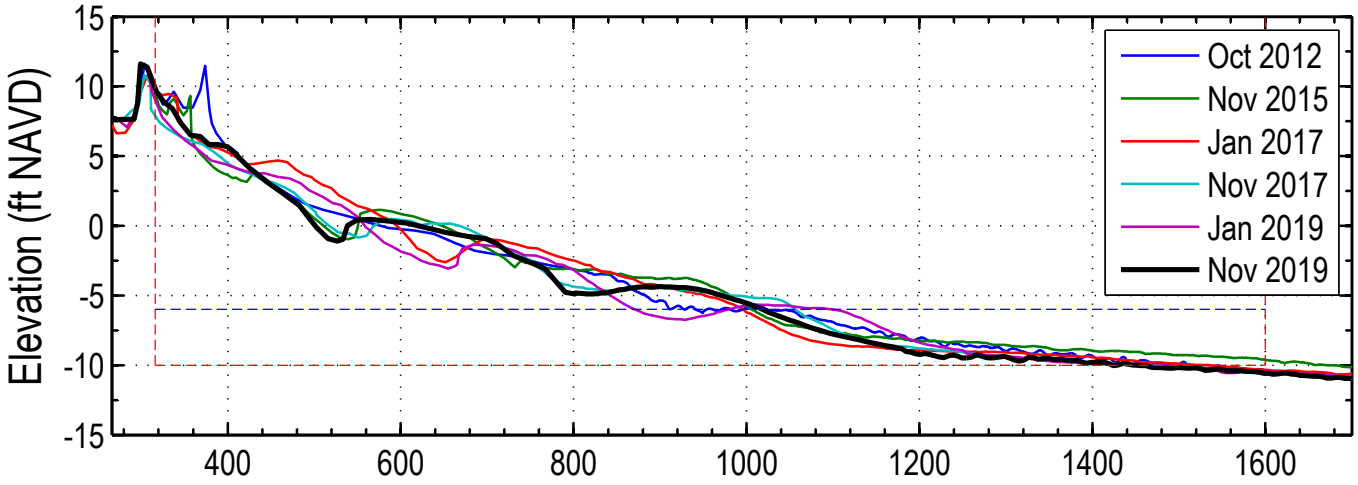


Date	Vol to -6	Vol -6 to -10	Vol to -10
Oct 2012	139.1	130.2	269.3
Nov 2015	140.6	136.6	277.2
Jan 2017	151.3	122.0	273.3
Nov 2017	139.2	125.0	264.2
Jan 2019	126.8	129.3	256.2
Nov 2019	136.7	121.8	258.5



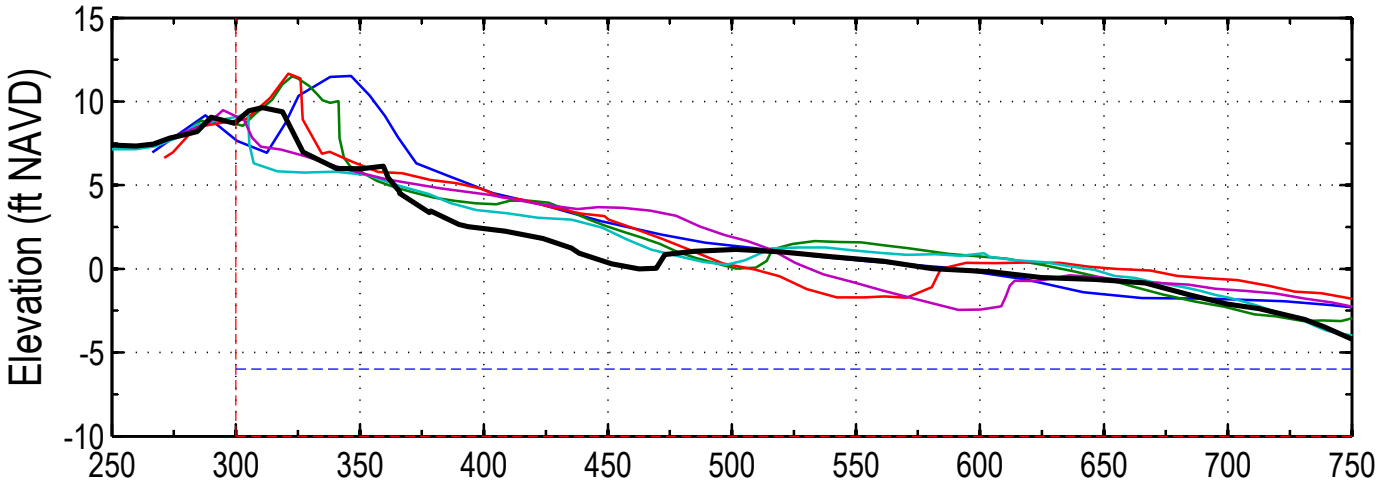
Kiawah Line 36 (OCRM 2730)

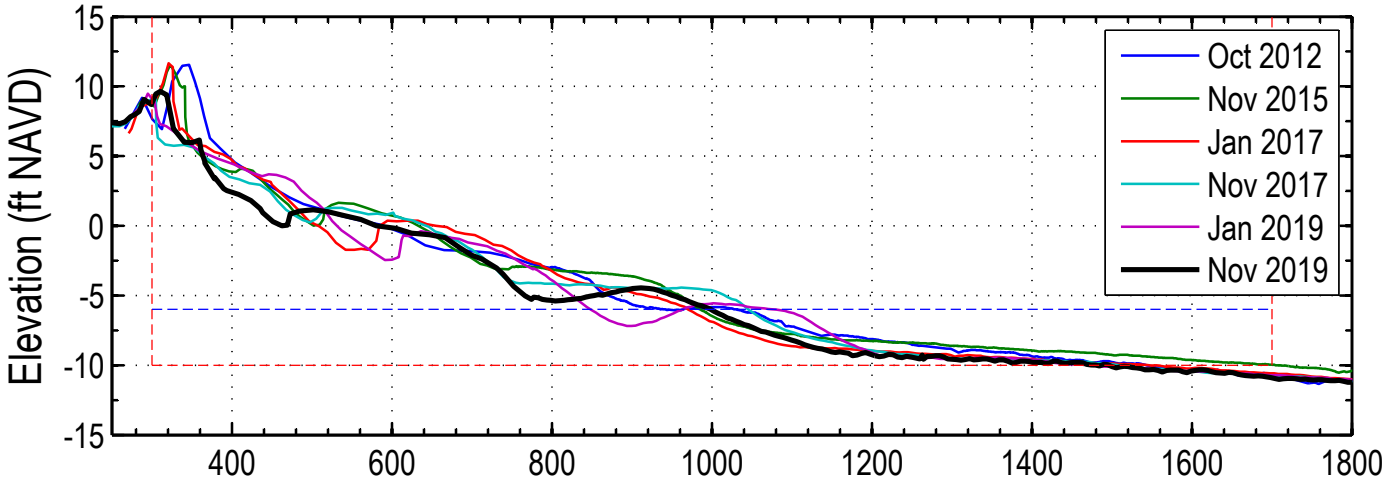




Date	Vol to -6	Vol -6 to -10	Vol to -10
Oct 2012	142.4	133.4	275.8
Nov 2015	143.7	136.1	279.8
Jan 2017	152.4	122.6	275.0
Nov 2017	139.1	126.1	265.2
Jan 2019	129.0	130.1	259.1
Nov 2019	138.4	123.0	261.3

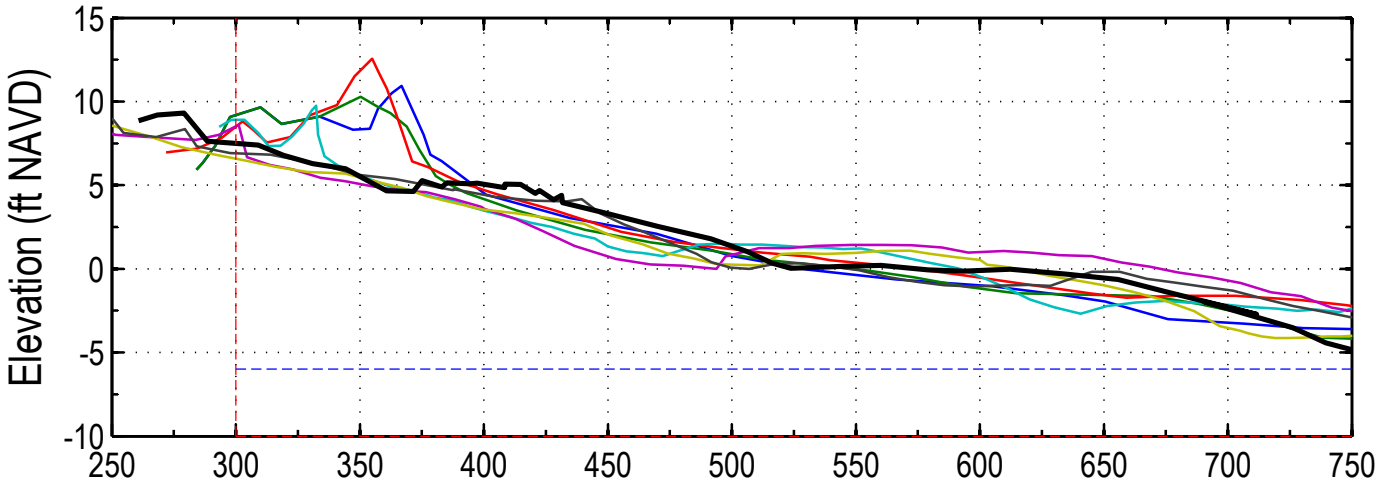
Kiawah Line 37

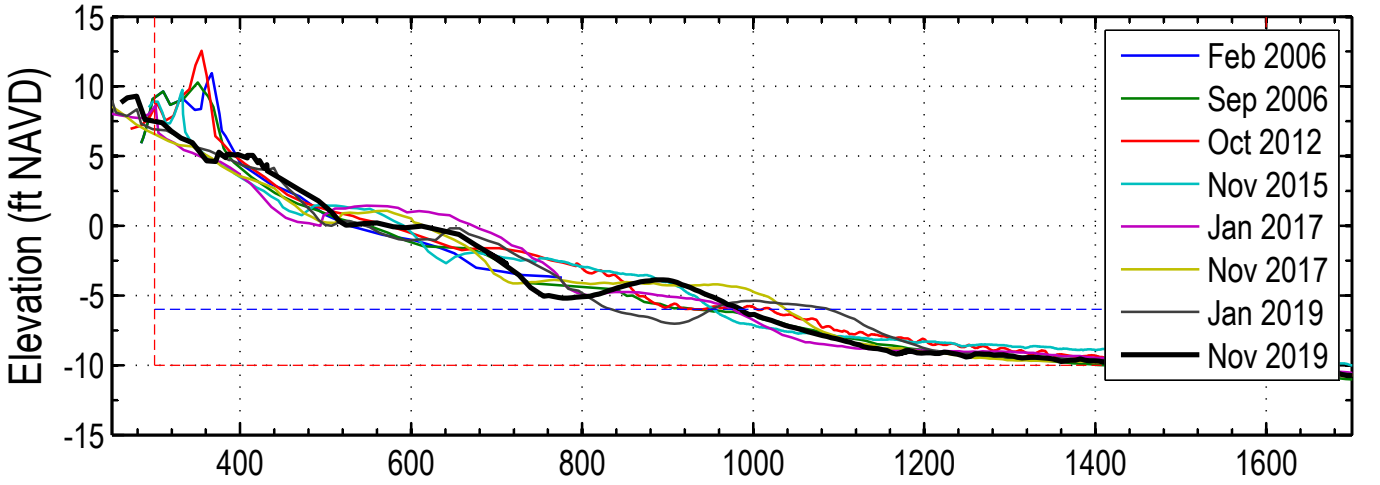




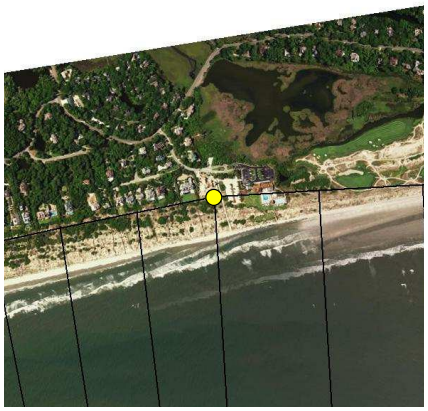
Date	Vol to -6	Vol -6 to -10	Vol to -10
Oct 2012	148.0	136.0	283.9
Nov 2015	151.3	137.5	288.7
Jan 2017	145.7	121.9	267.7
Nov 2017	141.3	128.1	269.4
Jan 2019	134.5	128.1	262.6
Nov 2019	128.3	122.1	250.4

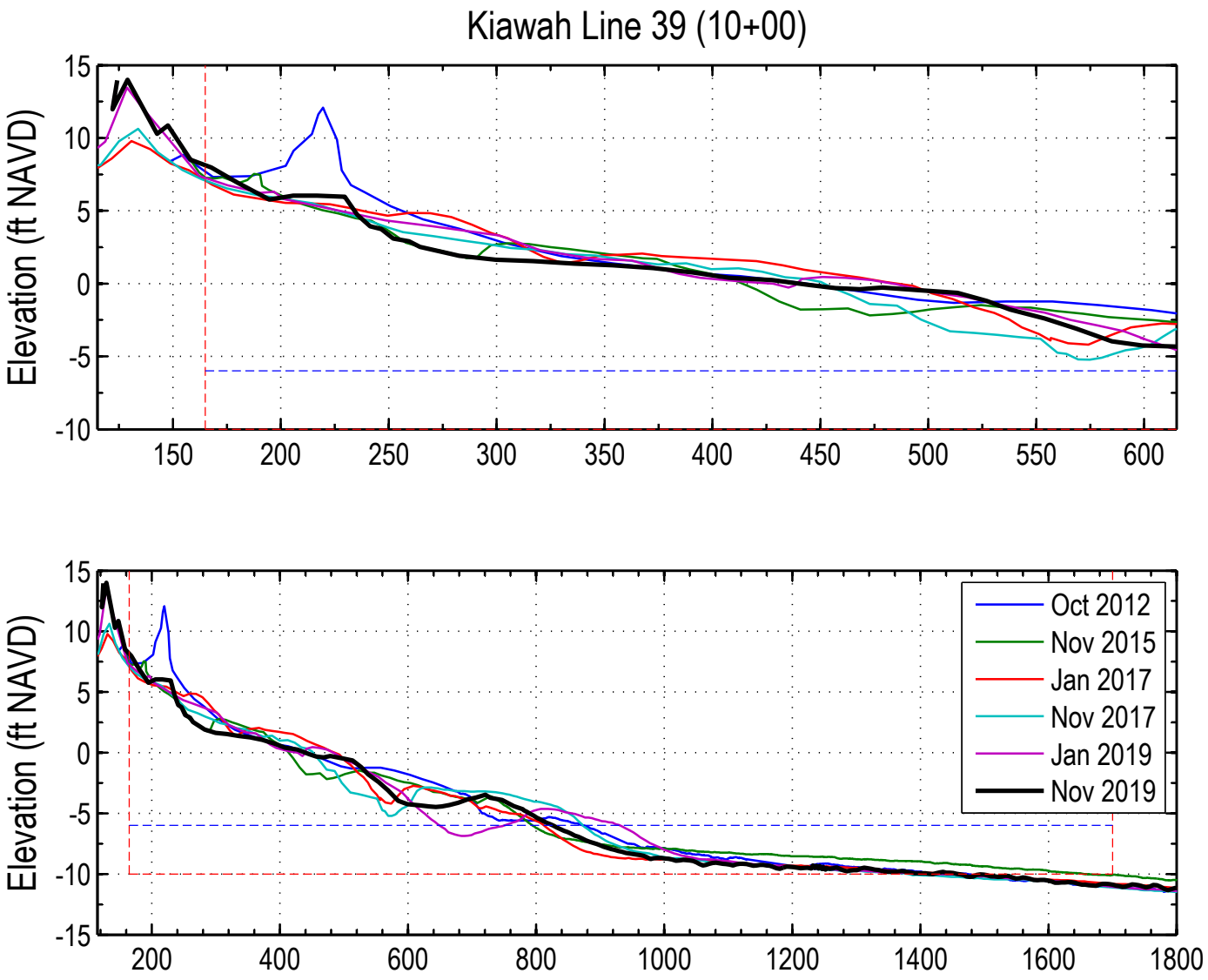
Kiawah Line 38 (0+00)



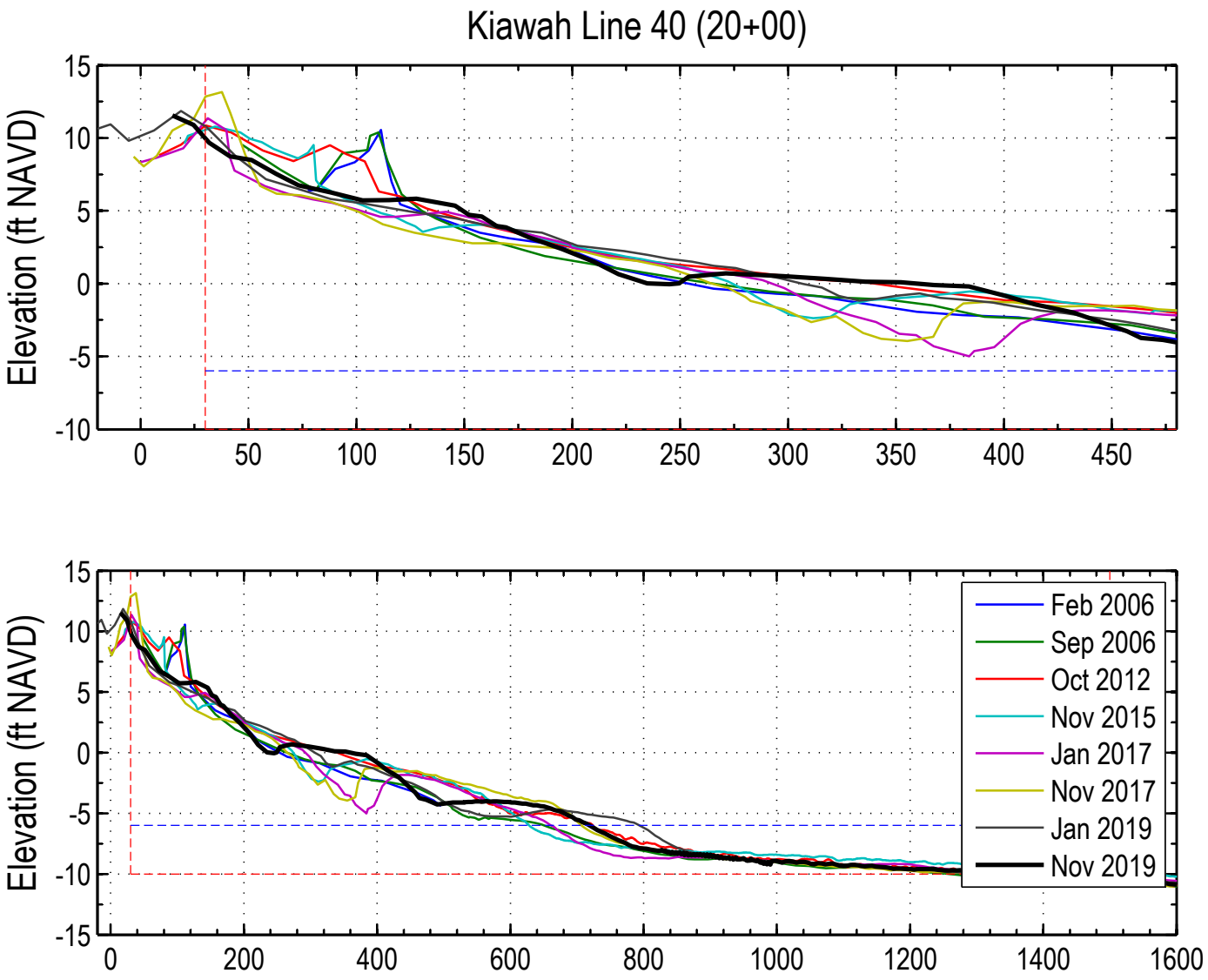


Date	Vol to -6	Vol -6 to -10	Vol to -10
Feb 2006	149.2	184.1	333.3
Sep 2006	132.8	123.1	255.8
Oct 2012	146.4	133.7	280.1
Nov 2015	138.9	134.4	273.3
Jan 2017	137.2	123.2	260.4
Nov 2017	135.9	124.8	260.7
Jan 2019	130.4	130.5	260.8
Nov 2019	136.3	123.3	259.7



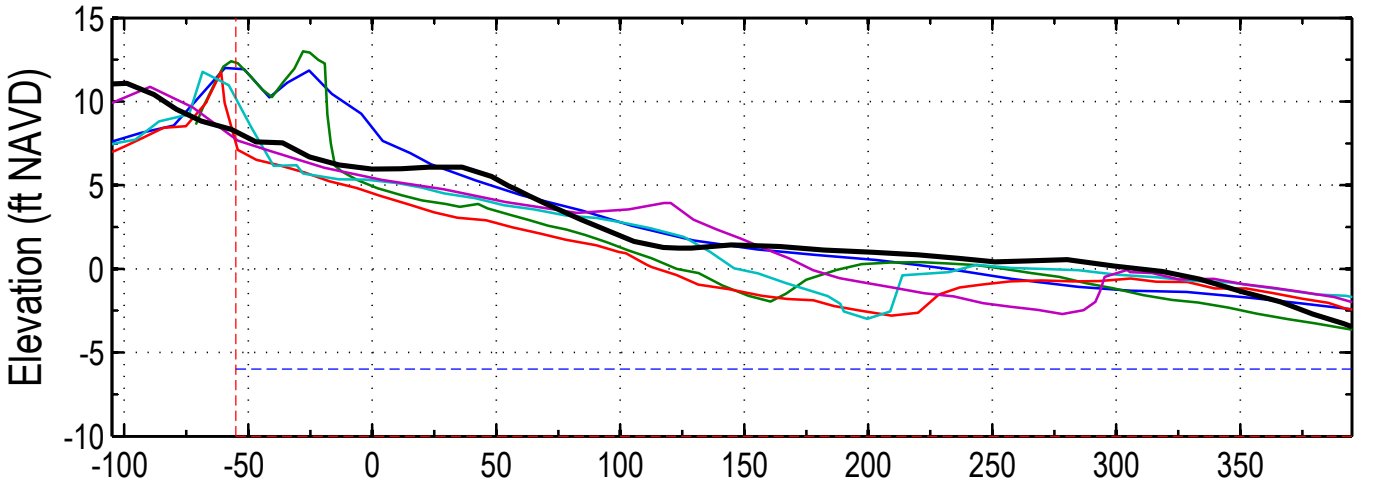


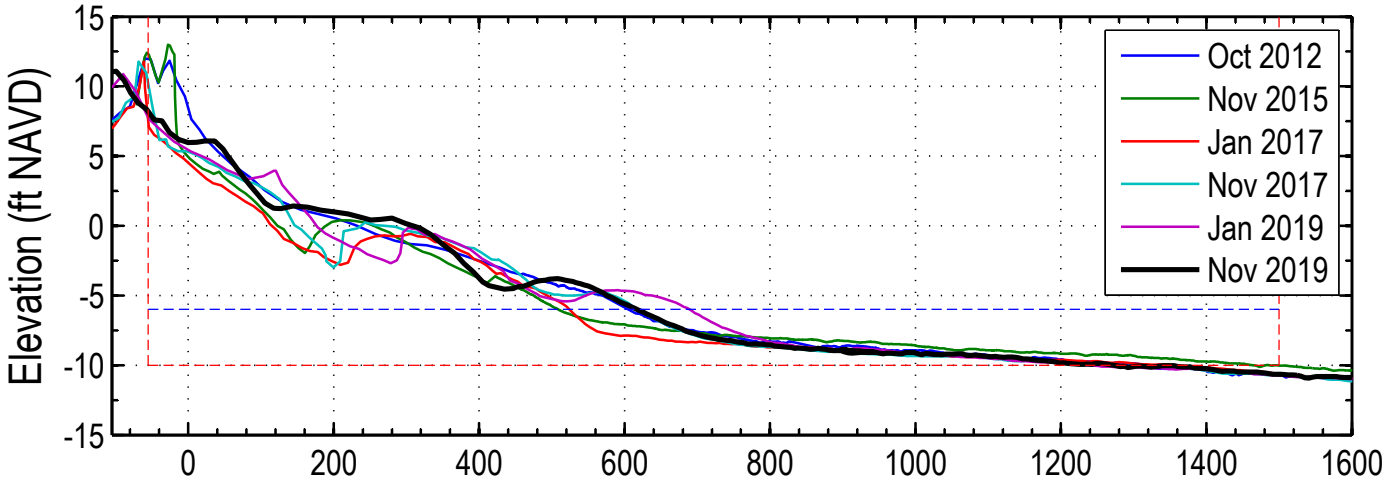
Date	Vol to -6	Vol -6 to -10	Vol to -10
Oct 2012	145.5	132.1	277.5
Nov 2015	130.1	140.4	270.5
Jan 2017	136.9	119.6	256.5
Nov 2017	133.9	124.6	258.4
Jan 2019	127.9	129.3	257.2
Nov 2019	128.9	121.8	250.7



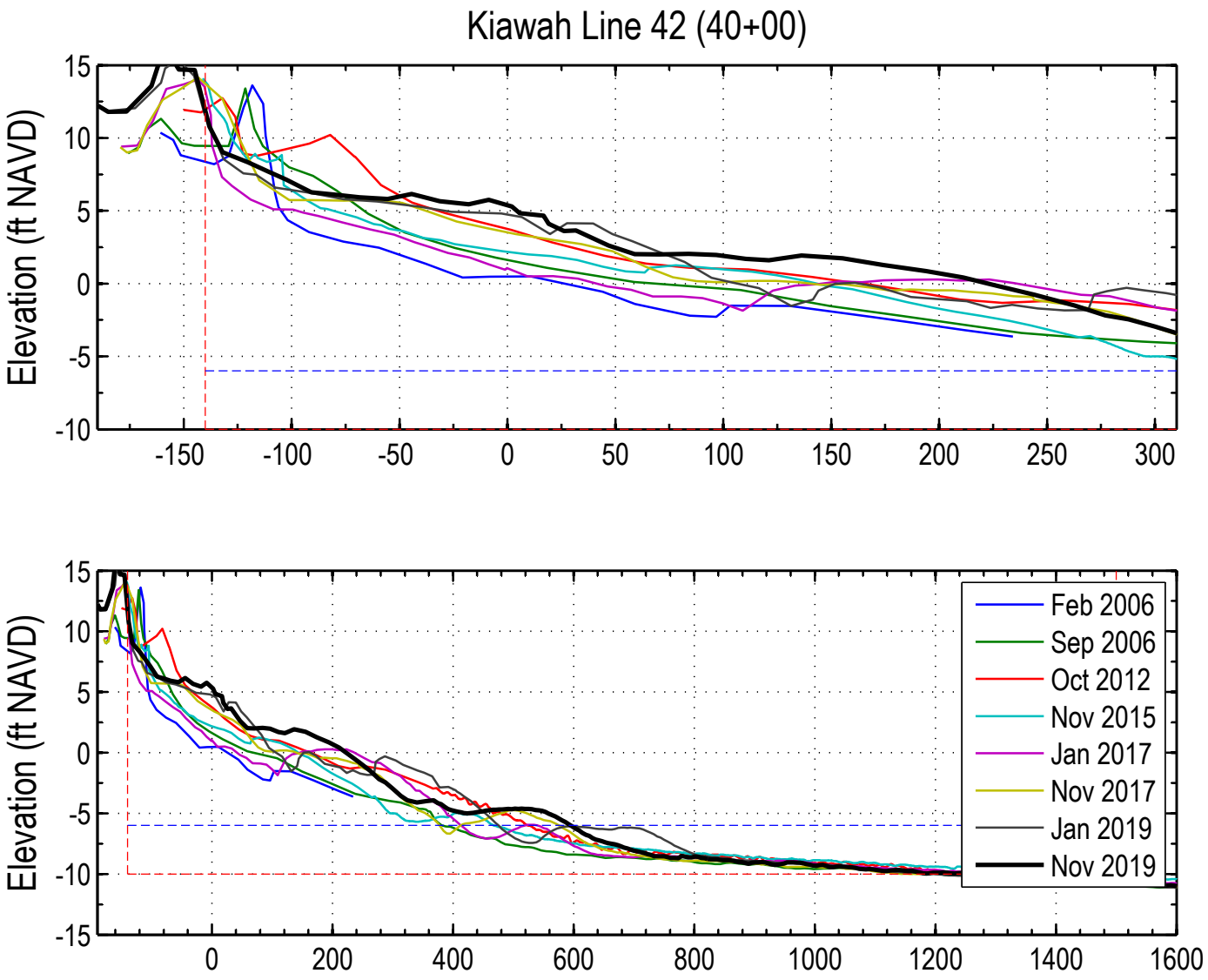
Date	Vol to -6	Vol -6 to -10	Vol to -10
Feb 2006	123.3	82.6	205.9
Sep 2006	131.3	121.9	253.1
Oct 2012	156.3	132.7	288.9
Nov 2015	144.3	135.2	279.5
Jan 2017	133.1	122.6	255.7
Nov 2017	140.3	125.8	266.1
Jan 2019	142.8	133.6	276.5
Nov 2019	145.4	128.4	273.9

Kiawah Line 41 (30+00)

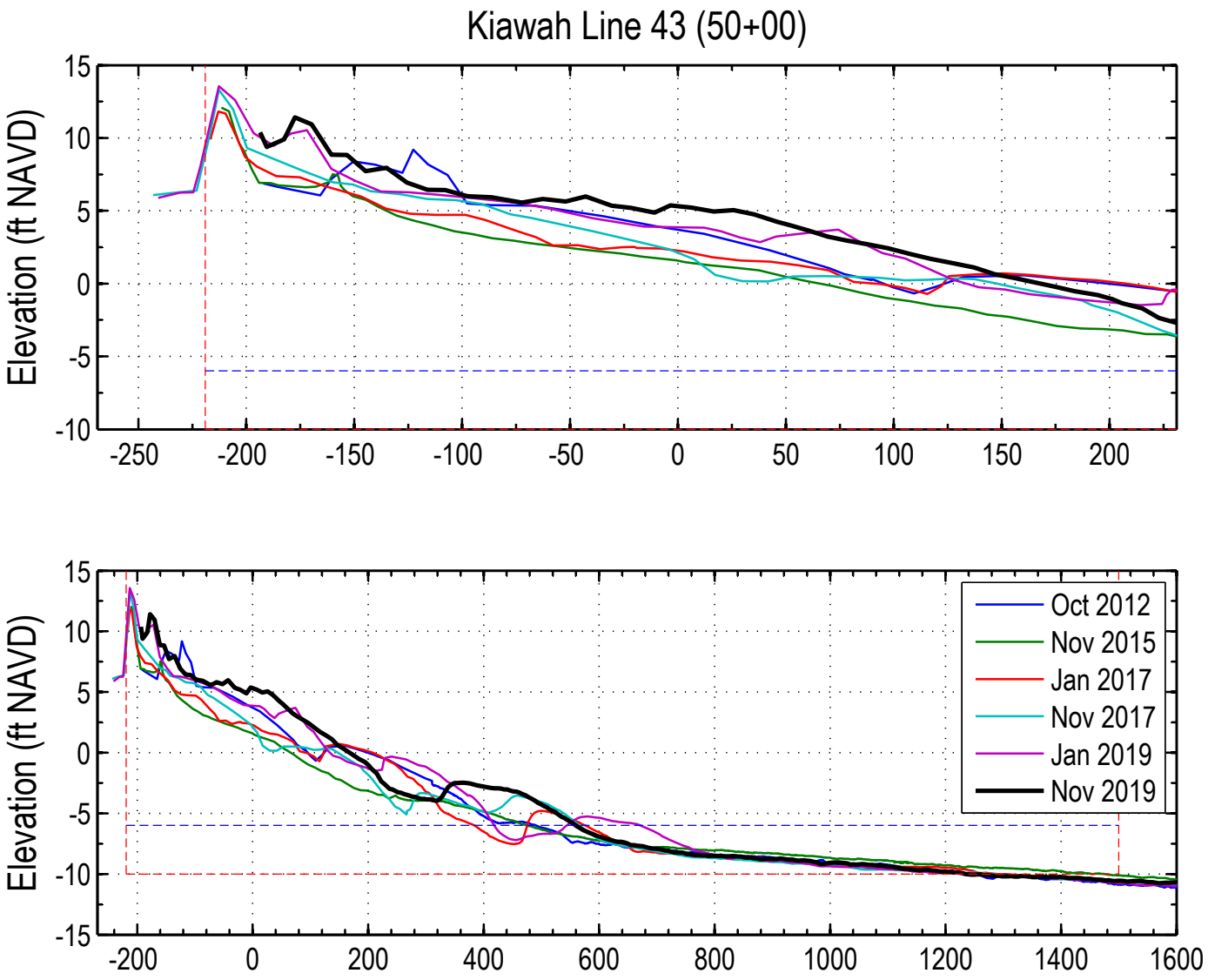




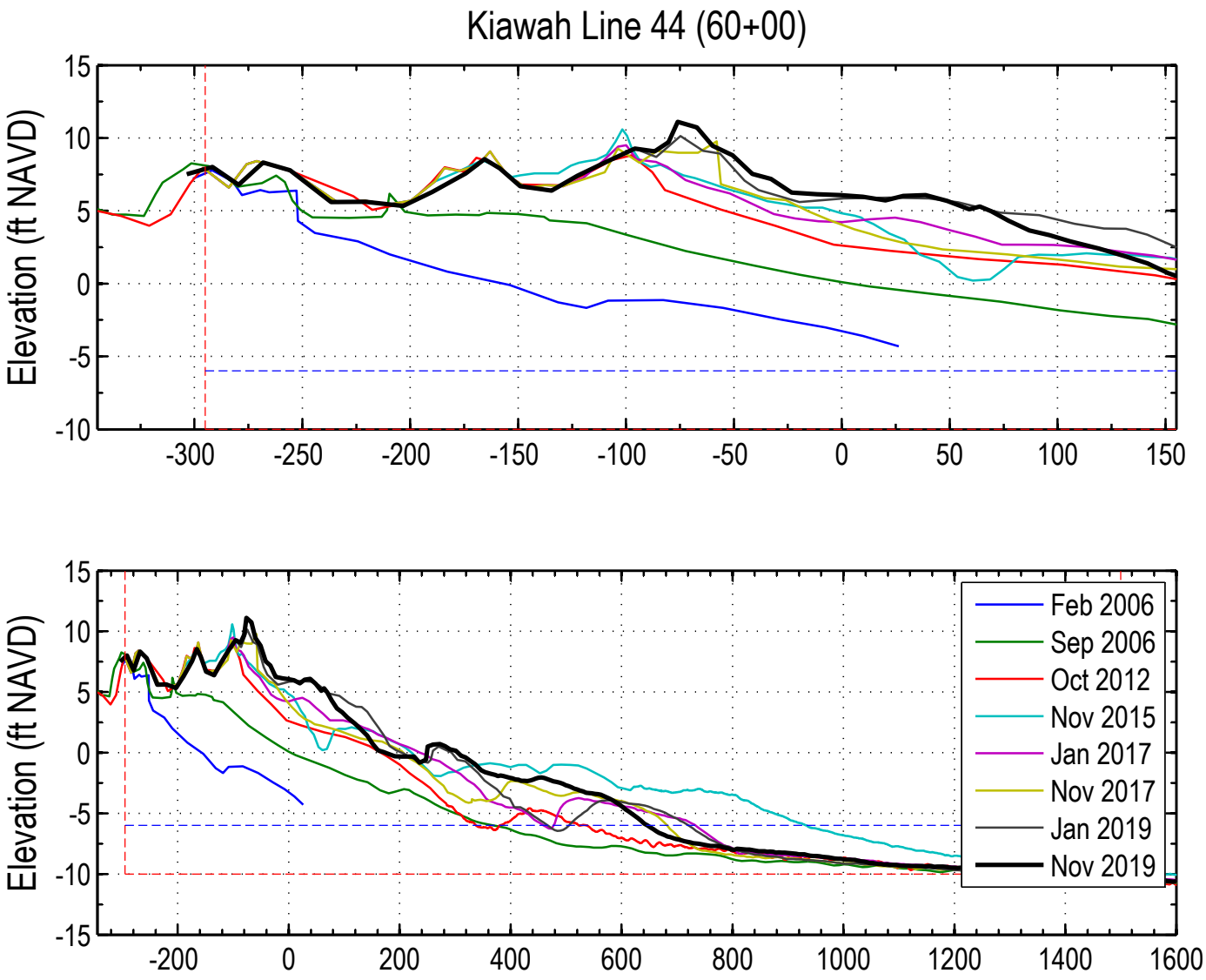
Date	Vol to -6	Vol -6 to -10	Vol to -10
Oct 2012	153.2	131.9	285.1
Nov 2015	127.5	137.5	264.9
Jan 2017	116.6	118.9	235.5
Nov 2017	138.0	125.1	263.2
Jan 2019	140.1	133.5	273.5
Nov 2019	146.9	127.9	274.8



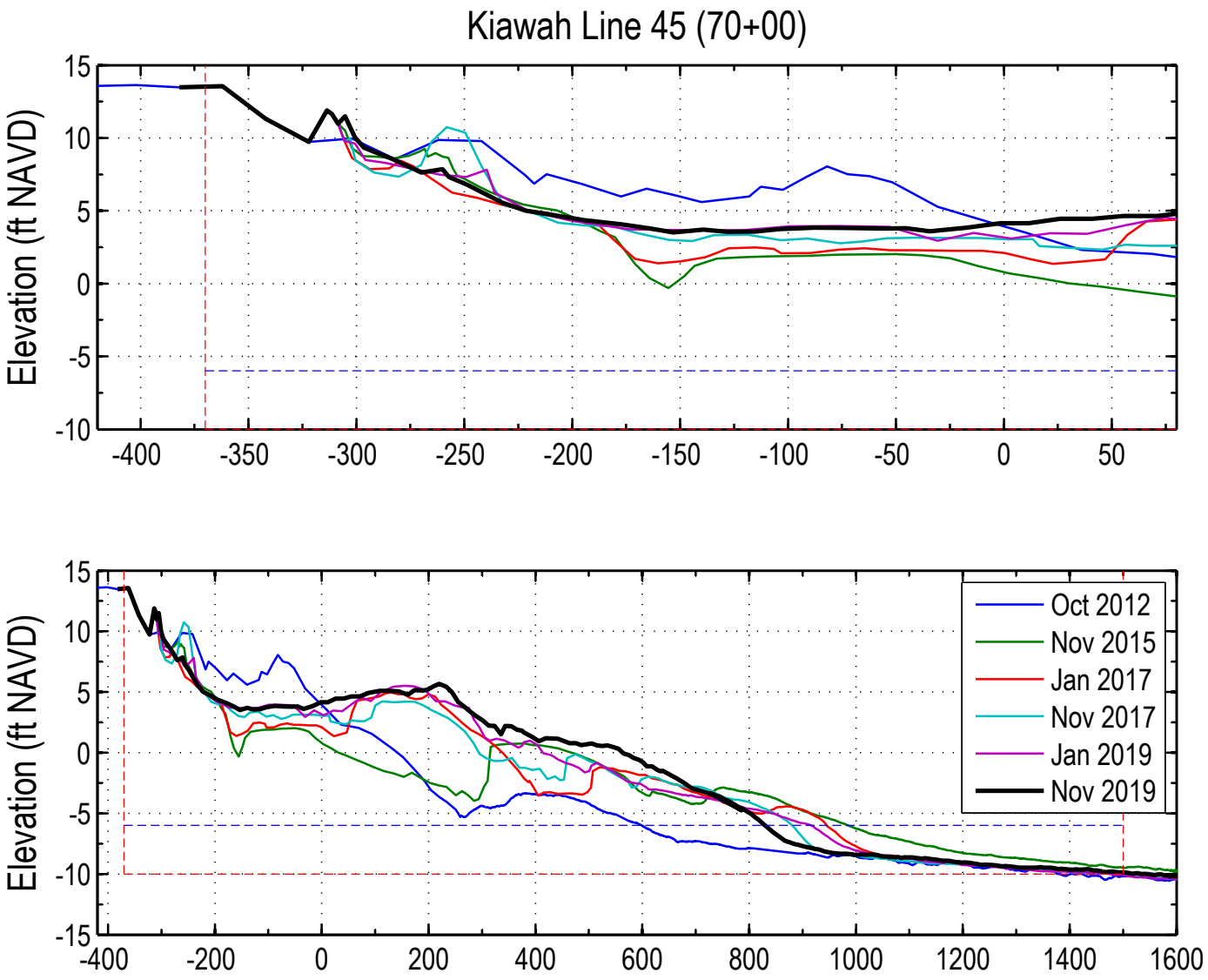
Date	Vol to -6	Vol -6 to -10	Vol to -10
Feb 2006	94.2	88.7	182.9
Sep 2006	115.4	115.8	231.3
Oct 2012	159.9	137.1	297.0
Nov 2015	122.2	140.2	262.4
Jan 2017	125.5	129.6	255.0
Nov 2017	139.8	129.8	269.6
Jan 2019	154.0	141.4	295.4
Nov 2019	160.3	135.8	296.1



Date	Vol to -6	Vol -6 to -10	Vol to -10
Oct 2012	179.0	147.2	326.2
Nov 2015	141.0	158.5	299.5
Jan 2017	163.4	146.6	310.0
Nov 2017	167.9	144.9	312.8
Jan 2019	193.7	151.9	345.6
Nov 2019	203.7	149.9	353.5

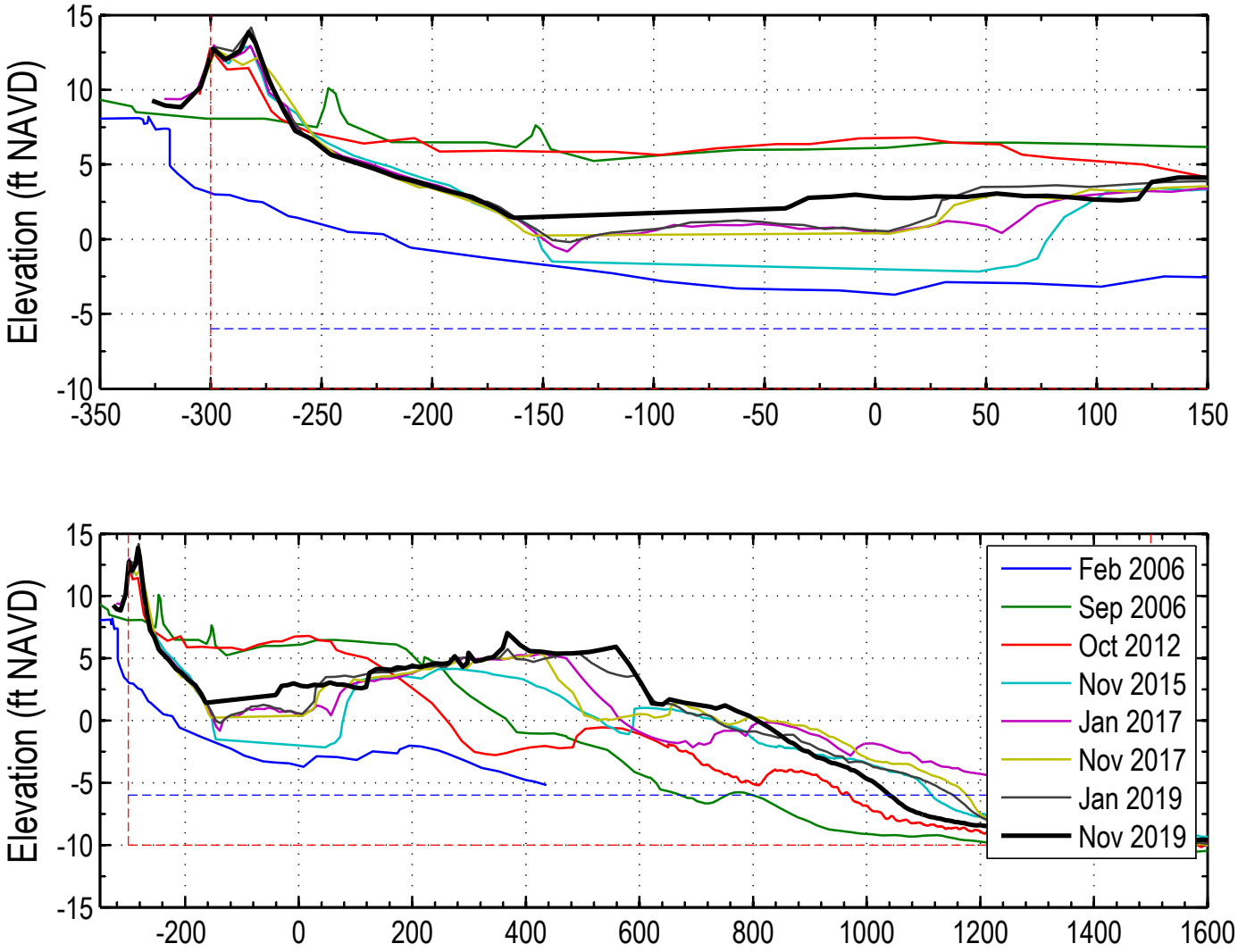


Date	Vol to -6	Vol -6 to -10	Vol to -10
Feb 2006	76.8	60.6	137.5
Sep 2006	148.6	146.3	294.9
Oct 2012	205.0	166.2	371.2
Nov 2015	298.5	215.7	514.2
Jan 2017	249.9	179.6	429.6
Nov 2017	249.1	170.0	419.1
Jan 2019	267.1	173.9	441.0
Nov 2019	278.8	175.1	454.0



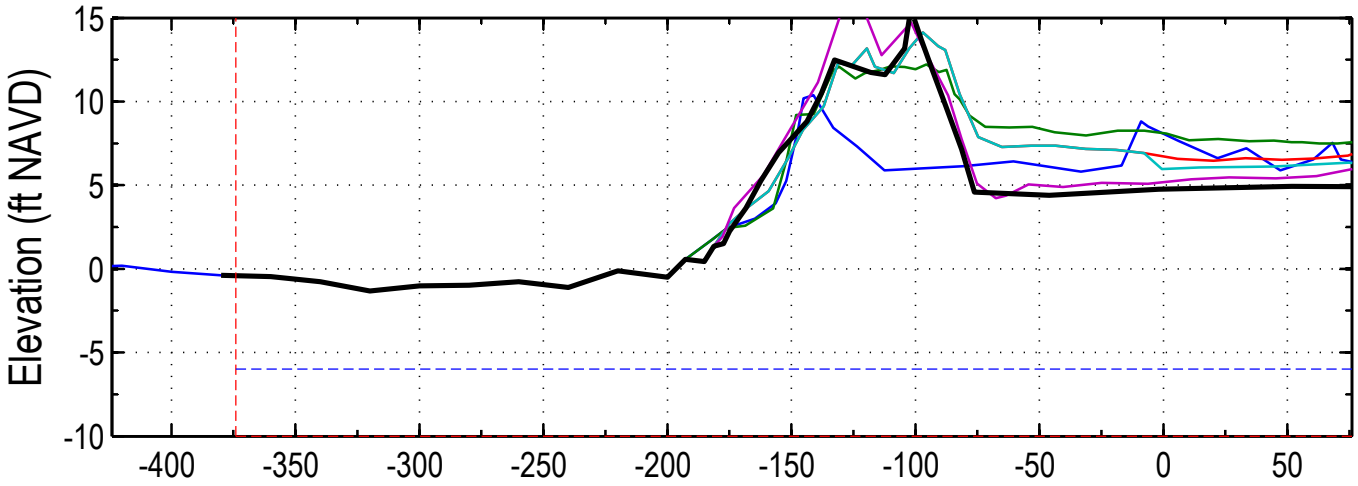
Date	Vol to -6	Vol -6 to -10	Vol to -10
Oct 2012	267.0	187.2	454.2
Nov 2015	289.1	234.9	524.0
Jan 2017	330.4	216.8	547.2
Nov 2017	340.5	207.3	547.7
Jan 2019	360.7	212.2	573.0
Nov 2019	386.1	207.8	593.8

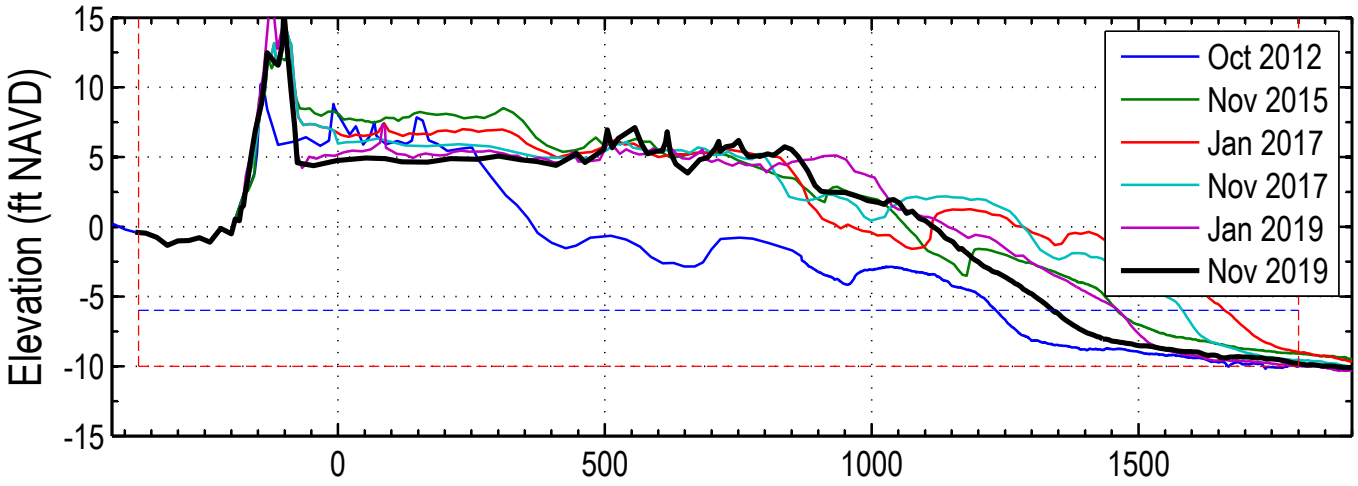
Kiawah Line 46 (Center of Driving Range)



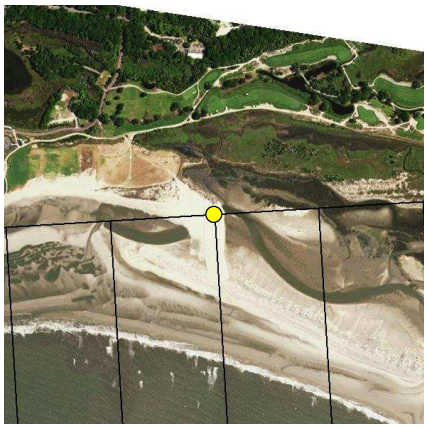
Date	Vol to -6	Vol -6 to -10	Vol to -10
Feb 2006	98.1	140.4	238.6
Sep 2006	322.4	183.2	505.6
Oct 2012	324.7	213.0	537.7
Nov 2015	345.2	235.8	581.0
Jan 2017	404.2	247.7	651.8
Nov 2017	401.4	232.0	633.4
Jan 2019	415.6	231.4	646.9
Nov 2019	427.0	224.5	651.6

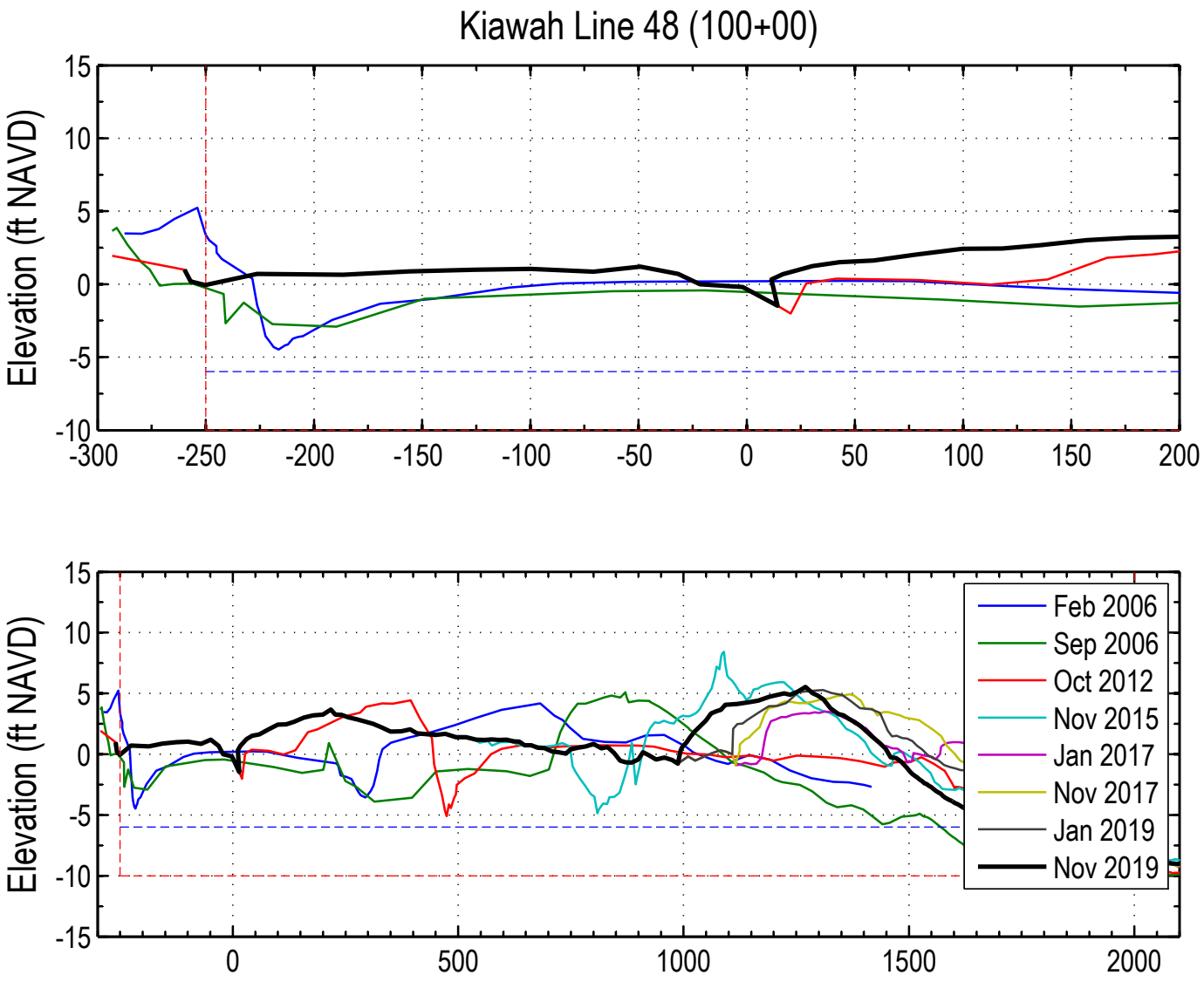
Kiawah Line 47 (Closure Dike)



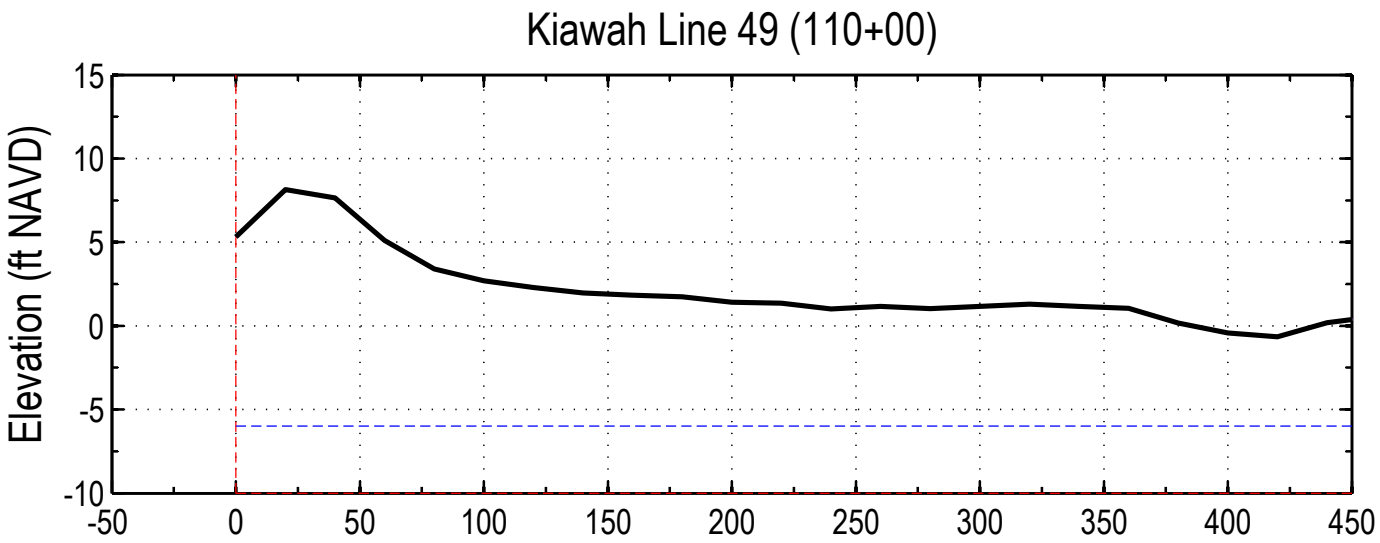


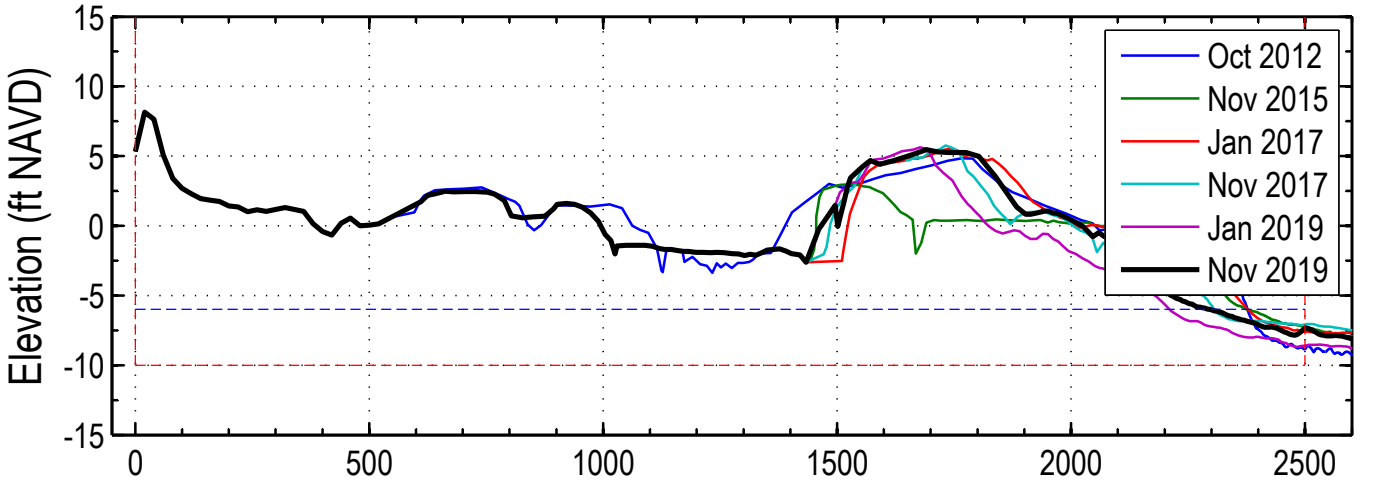
Date	Vol to -6	Vol -6 to -10	Vol to -10
Oct 2012	388.4	259.5	647.9
Nov 2015	638.9	295.3	934.2
Jan 2017	669.8	312.5	982.2
Nov 2017	652.3	300.8	953.1
Jan 2019	617.9	283.8	901.7
Nov 2019	580.8	277.2	858.0



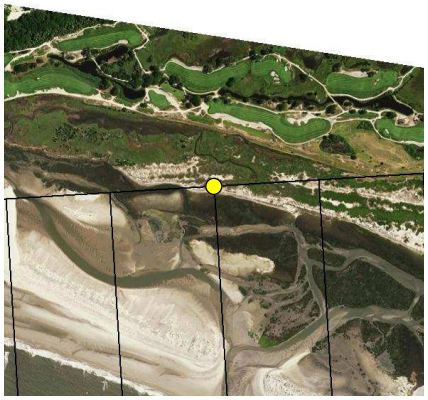


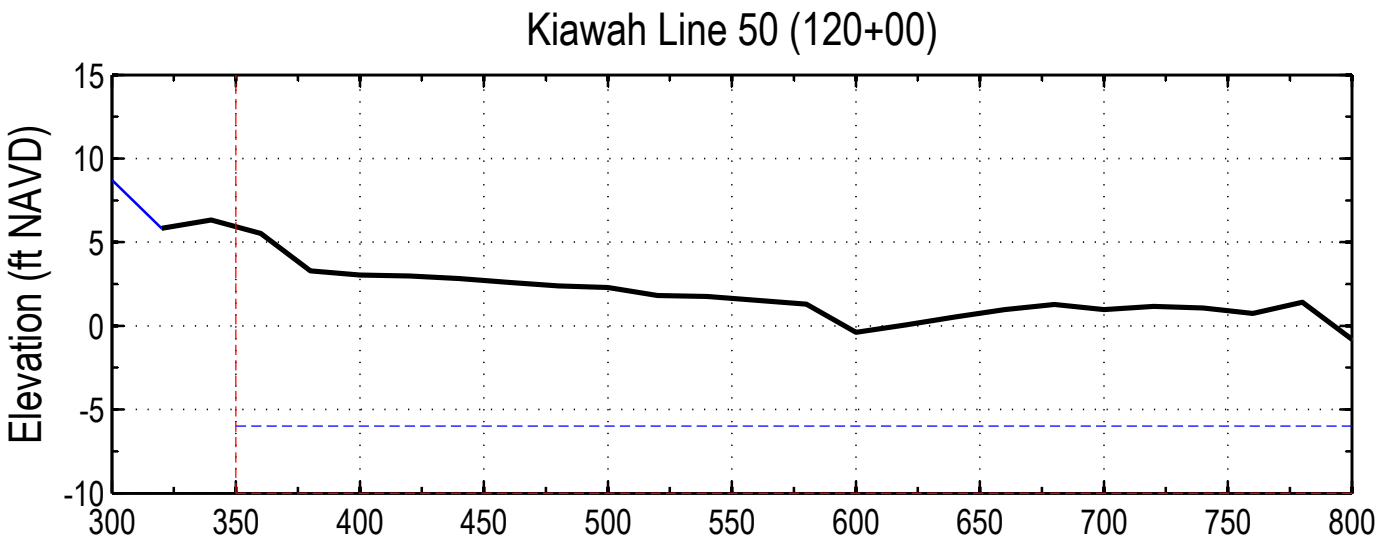
Date	Vol to -6	Vol -6 to -10	Vol to -10
Feb 2006	409.2	319.1	728.2
Sep 2006	329.2	288.2	617.4
Oct 2012	452.0	306.4	758.3
Nov 2015	570.8	332.8	903.6
Jan 2017	565.1	333.3	898.4
Nov 2017	573.3	331.0	904.3
Jan 2019	542.4	320.6	862.9
Nov 2019	518.8	312.0	830.8

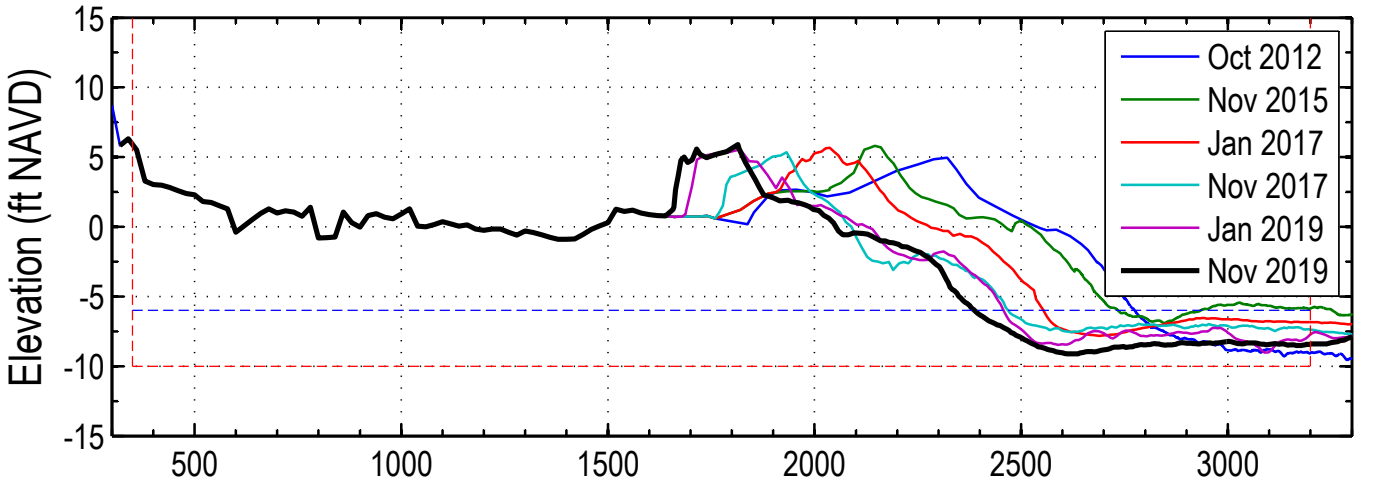




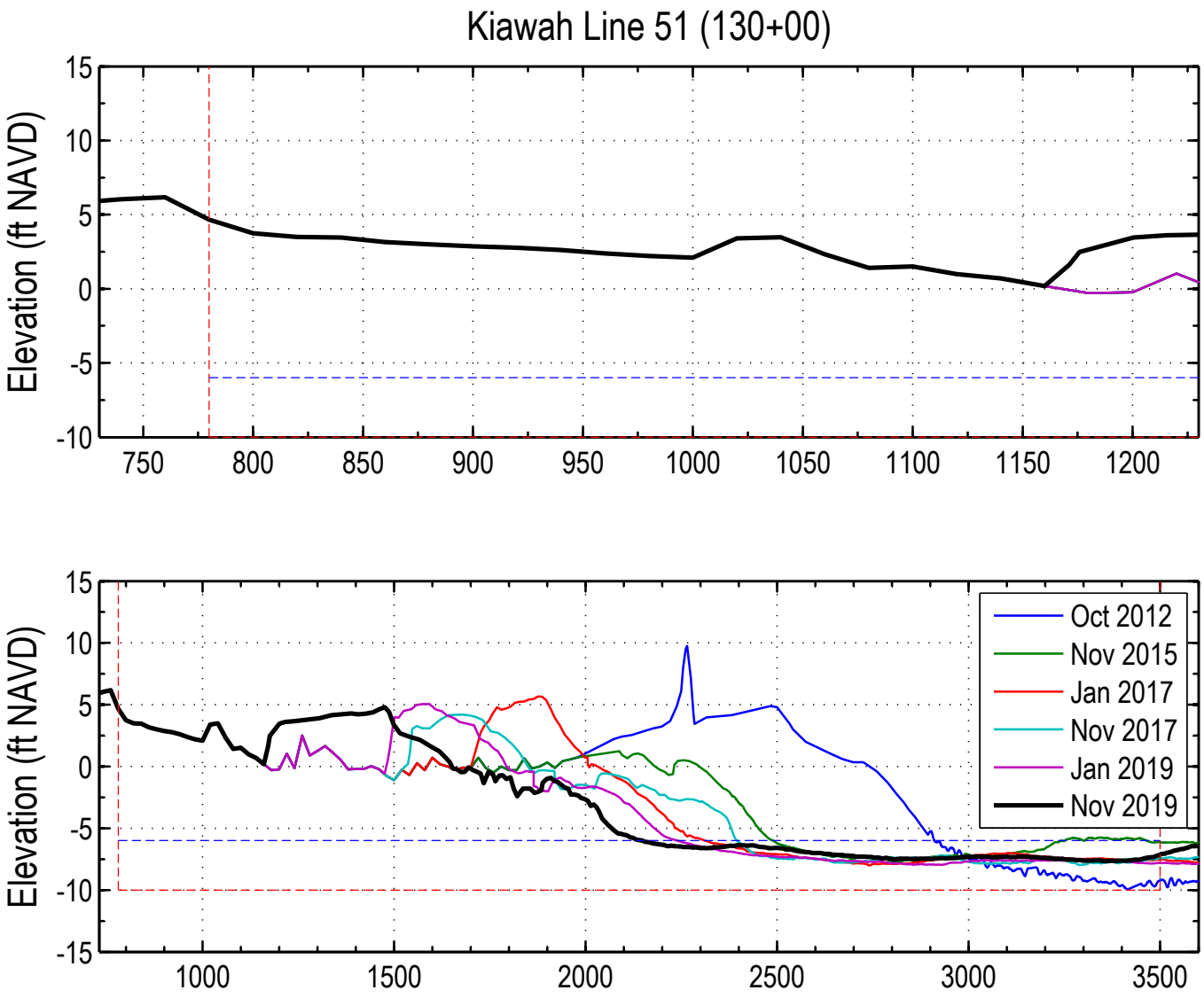
Date	Vol to -6	Vol -6 to -10	Vol to -10
Oct 2012	619.1	361.0	980.1
Nov 2015	554.0	367.1	921.1
Jan 2017	594.2	365.5	959.7
Nov 2017	568.2	364.4	932.6
Jan 2019	534.6	353.0	887.6
Nov 2019	575.3	362.8	938.1





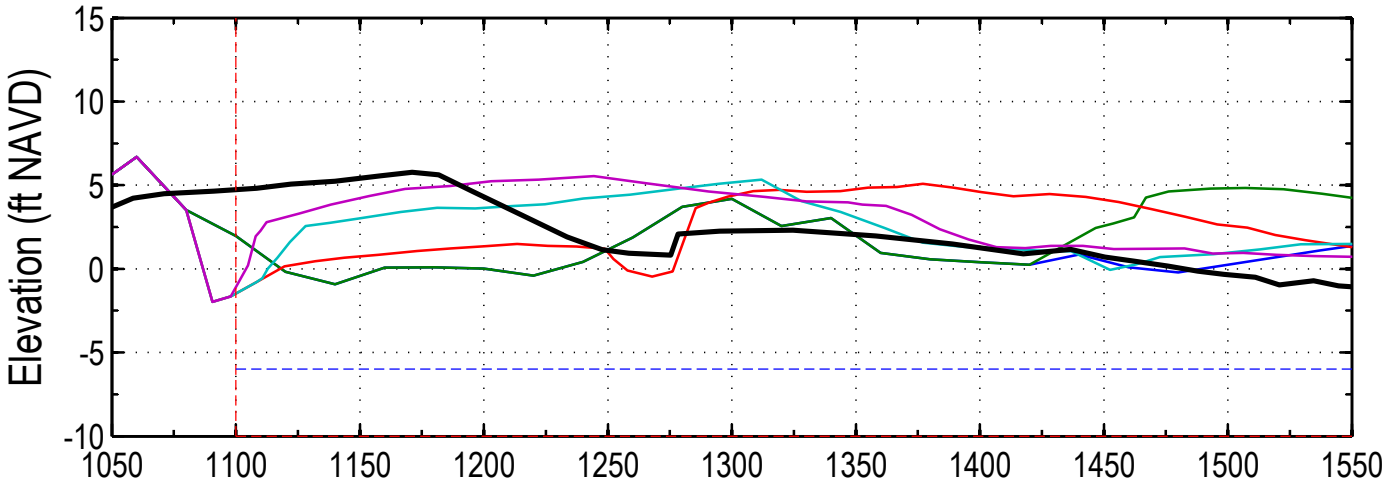


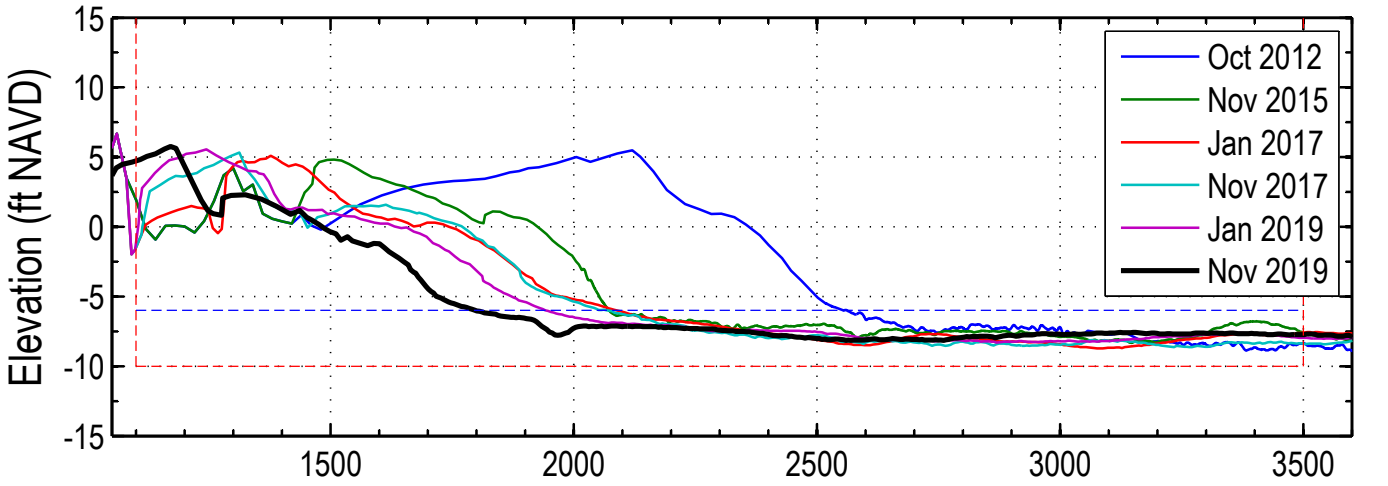
Date	Vol to -6	Vol -6 to -10	Vol to -10
Oct 2012	626.8	385.6	1012.4
Nov 2015	607.0	418.8	1025.9
Jan 2017	559.7	397.4	957.2
Nov 2017	505.6	390.9	896.5
Jan 2019	520.5	370.7	891.2
Nov 2019	507.9	352.0	859.9



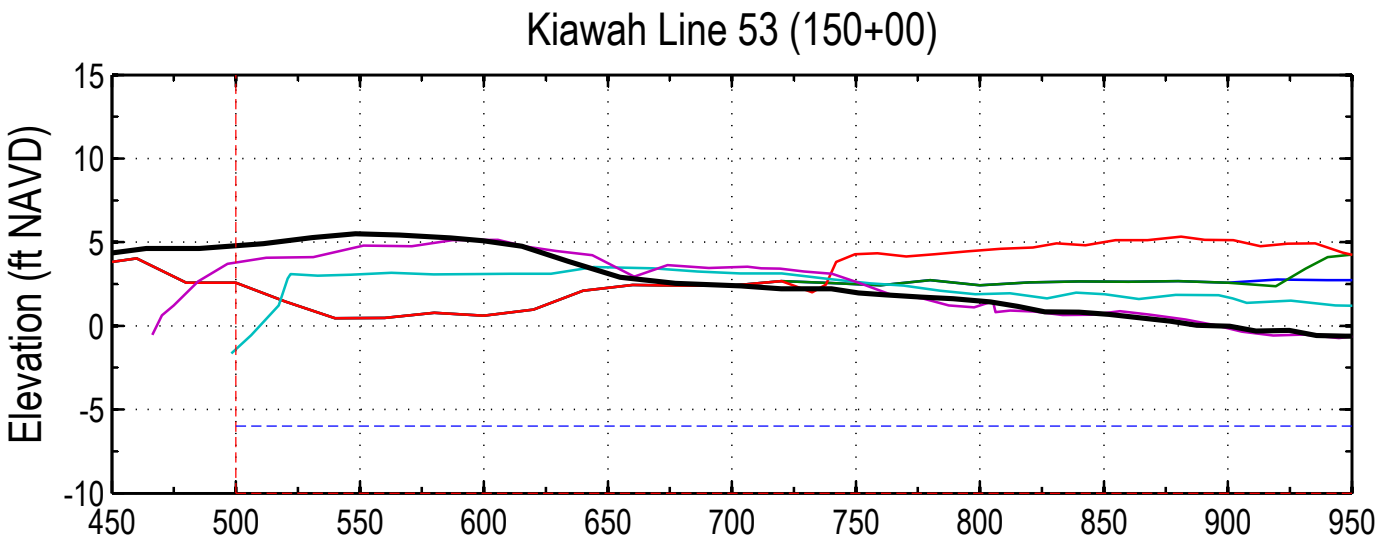
Date	Vol to -6	Vol -6 to -10	Vol to -10
Oct 2012	580.6	348.5	929.1
Nov 2015	407.7	371.7	779.4
Jan 2017	390.1	343.8	733.9
Nov 2017	395.0	339.8	734.8
Jan 2019	365.2	333.5	698.8
Nov 2019	356.2	347.4	703.6

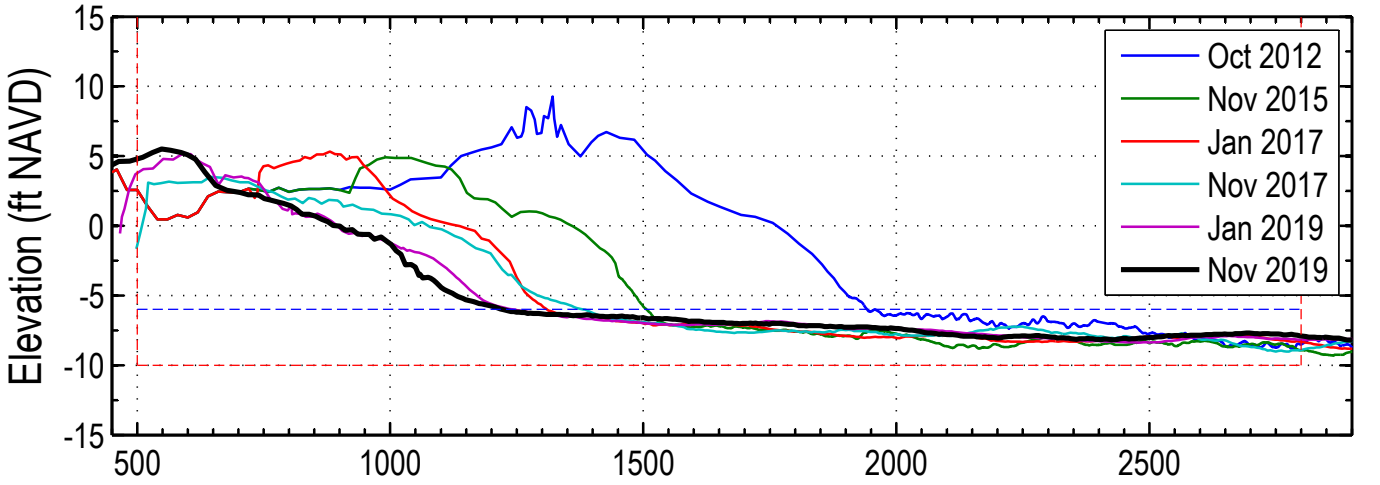
Kiawah Line 52 (140+00)



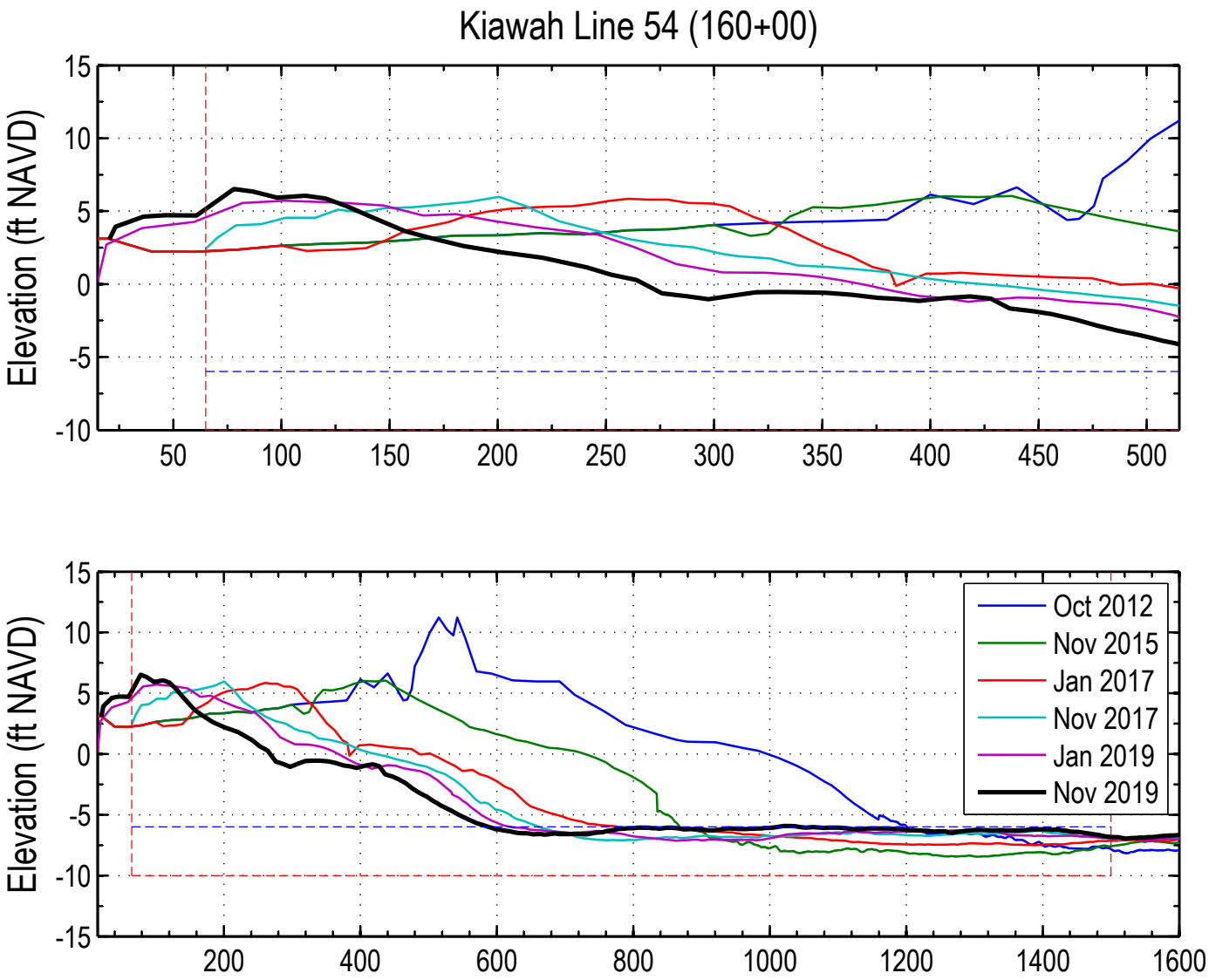


Date	Vol to -6	Vol -6 to -10	Vol to -10
Oct 2012	411.2	296.9	708.2
Nov 2015	258.7	282.6	541.3
Jan 2017	222.0	258.5	480.5
Nov 2017	225.2	247.5	472.6
Jan 2019	206.9	258.6	465.6
Nov 2019	158.4	256.2	414.7

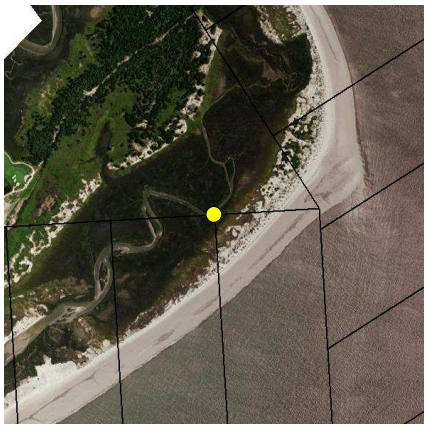


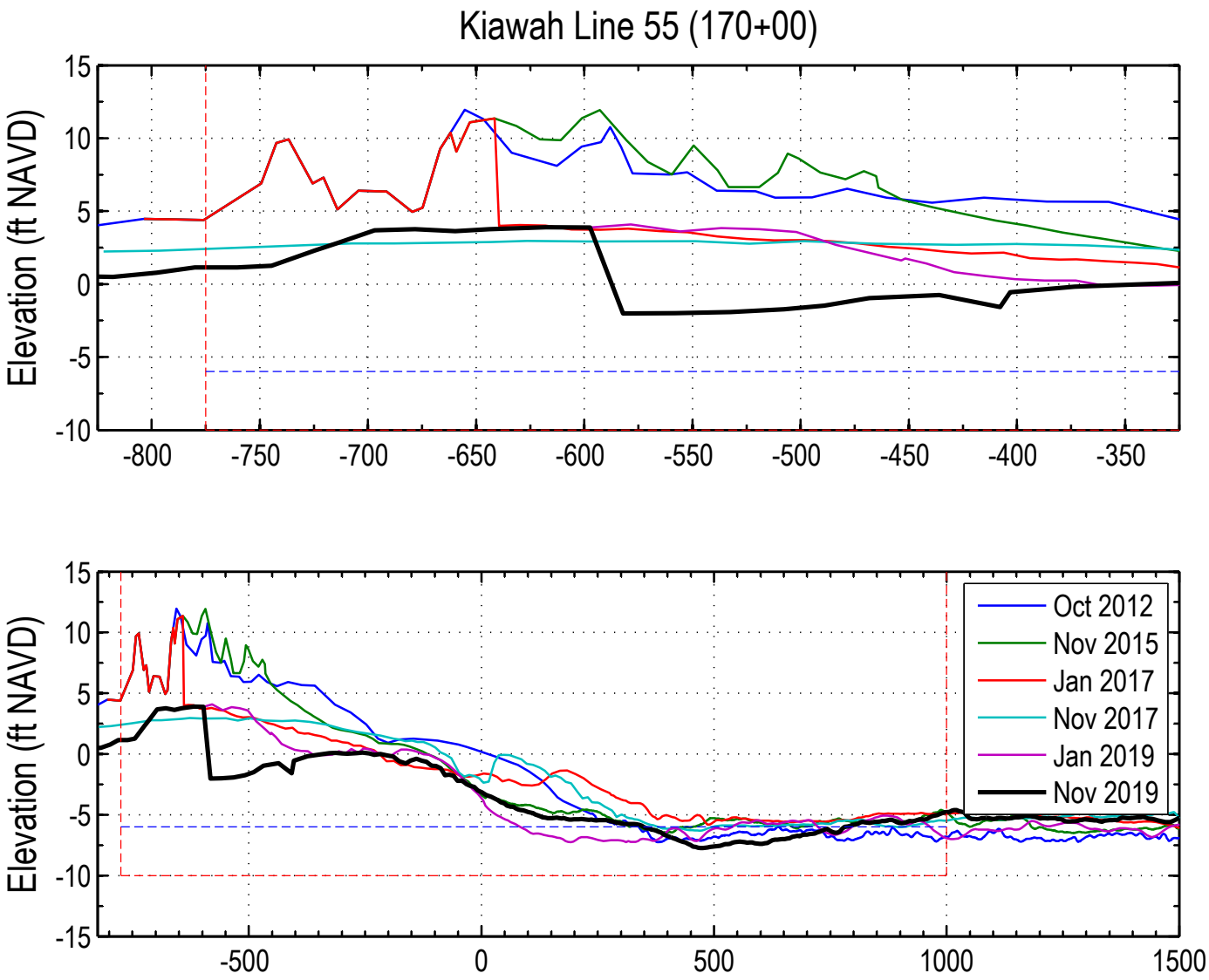


Date	Vol to -6	Vol -6 to -10	Vol to -10
Oct 2012	463.5	298.4	761.9
Nov 2015	286.4	242.8	529.2
Jan 2017	224.1	248.8	472.9
Nov 2017	203.8	252.0	455.8
Jan 2019	173.5	255.6	429.1
Nov 2019	164.7	261.9	426.6

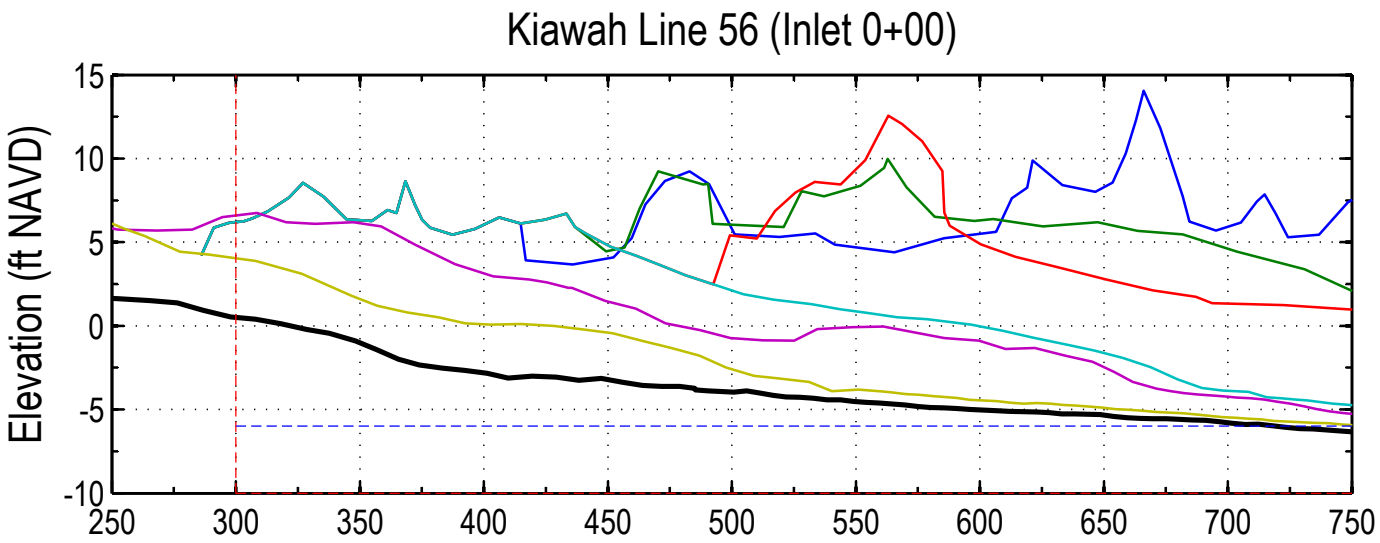


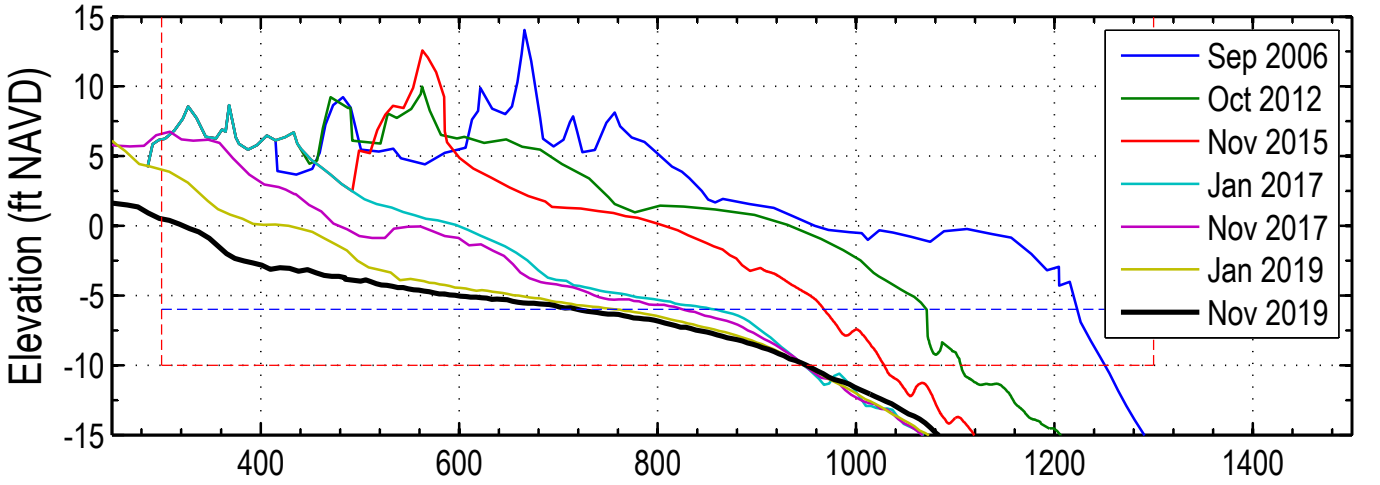
Date	Vol to -6	Vol -6 to -10	Vol to -10
Oct 2012	373.4	201.2	574.6
Nov 2015	245.4	169.3	414.7
Jan 2017	170.8	186.3	357.1
Nov 2017	151.3	191.2	342.5
Jan 2019	138.1	192.5	330.6
Nov 2019	115.8	203.6	319.4



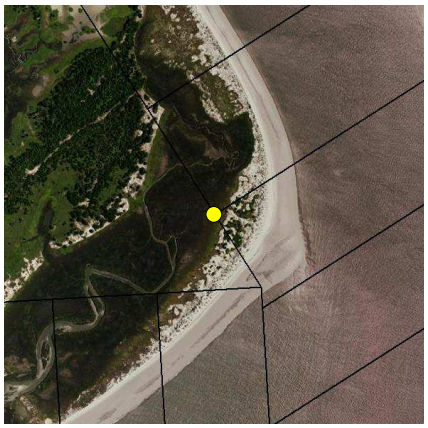


Date	Vol to -6	Vol -6 to -10	Vol to -10
Oct 2012	341.9	246.6	588.4
Nov 2015	317.0	262.0	579.0
Jan 2017	297.6	263.0	560.6
Nov 2017	275.0	262.2	537.3
Jan 2019	215.3	248.2	463.4
Nov 2019	189.1	247.5	436.5

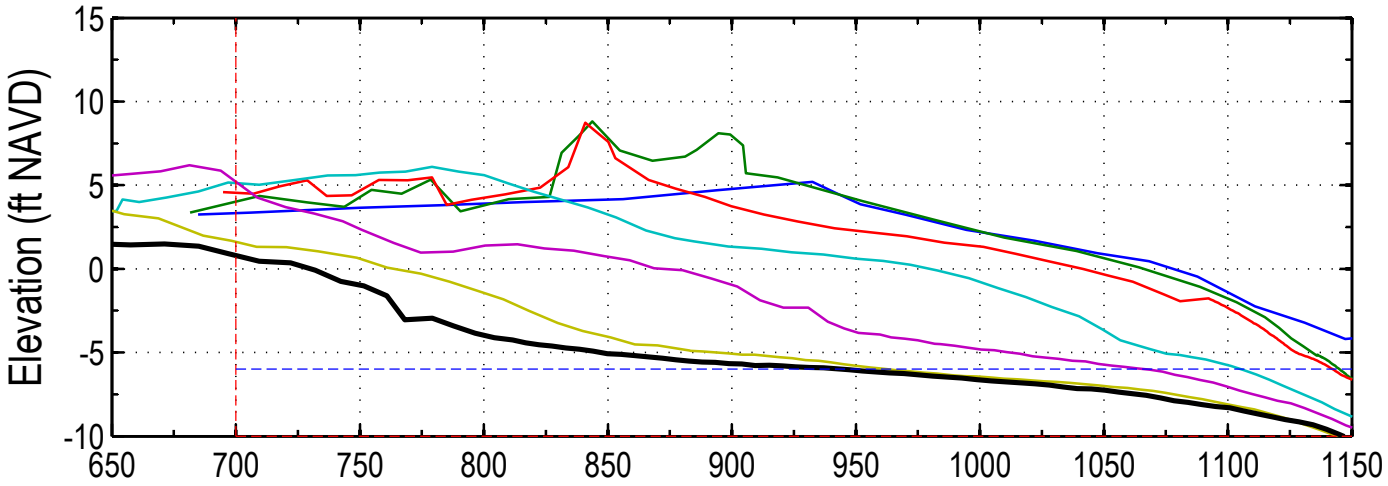


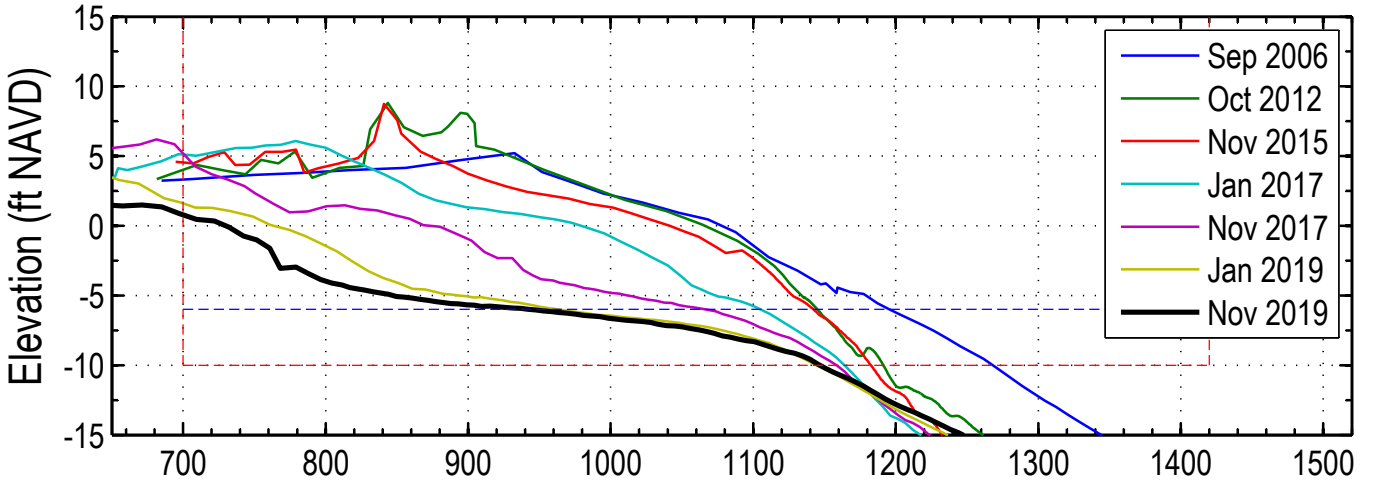


Date	Vol to -6	Vol -6 to -10	Vol to -10
Sep 2006	327.2	138.6	465.8
Oct 2012	269.9	115.7	385.7
Nov 2015	220.9	103.8	324.7
Jan 2017	133.7	90.6	224.3
Nov 2017	106.4	88.9	195.3
Jan 2019	61.7	85.1	146.7
Nov 2019	35.7	82.8	118.5

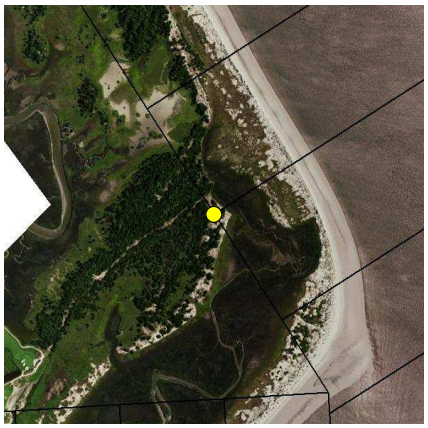


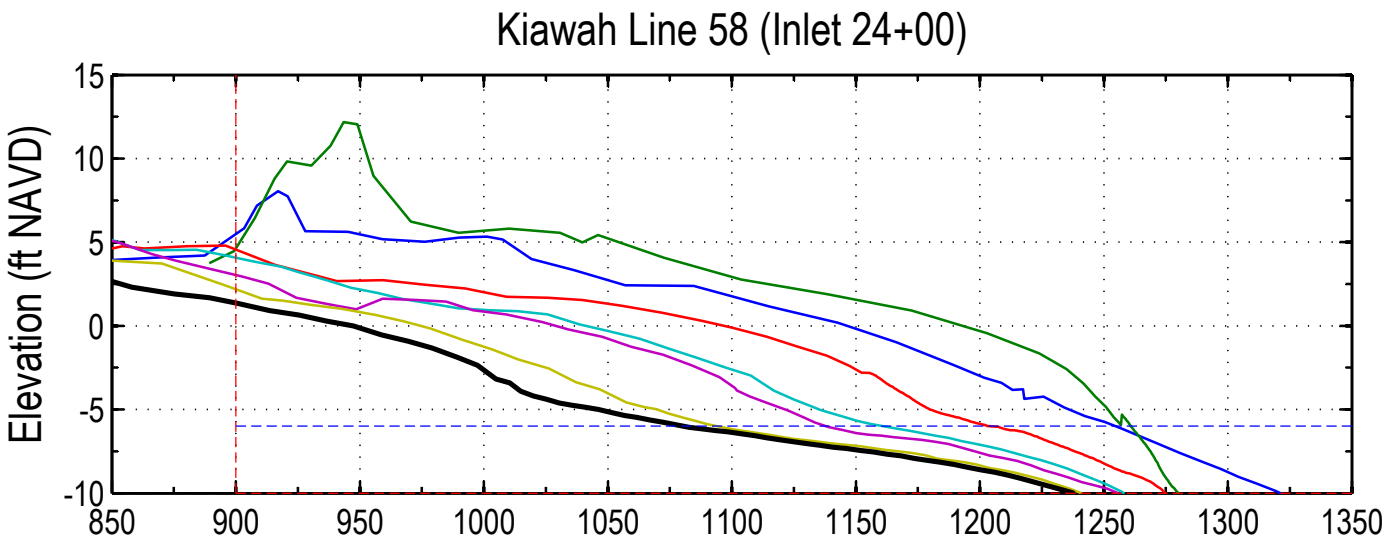
Kiawah Line 57 (Inlet 12+00)

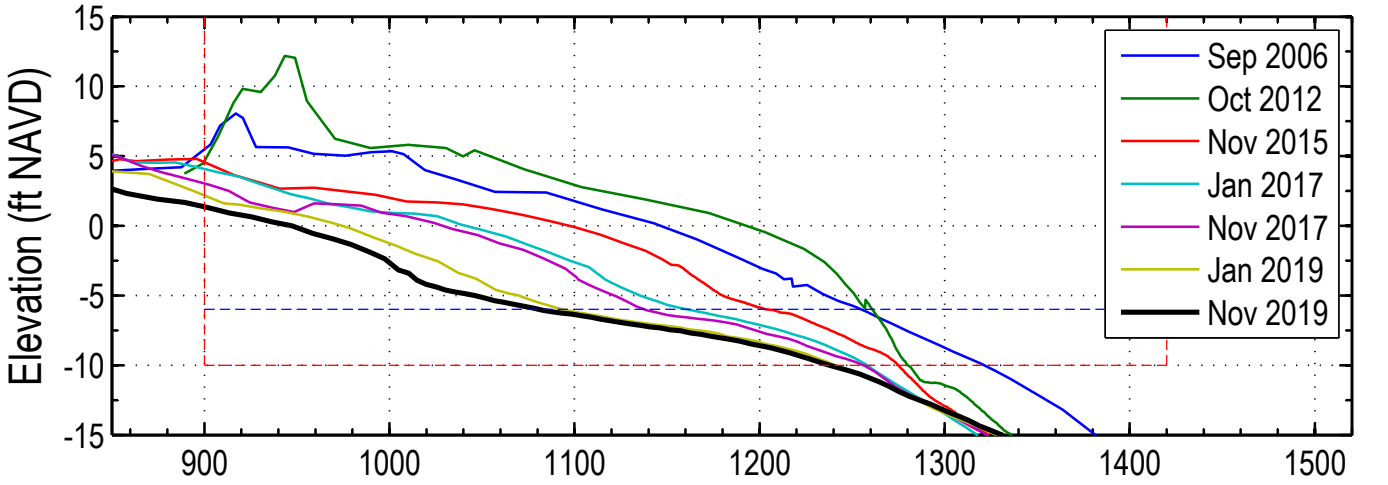




Date	Vol to -6	Vol -6 to -10	Vol to -10
Sep 2006	143.0	79.1	222.1
Oct 2012	149.6	69.0	218.6
Nov 2015	136.6	68.8	205.4
Jan 2017	110.6	64.8	175.3
Nov 2017	67.1	62.2	129.3
Jan 2019	33.1	56.6	89.7
Nov 2019	21.3	55.2	76.6

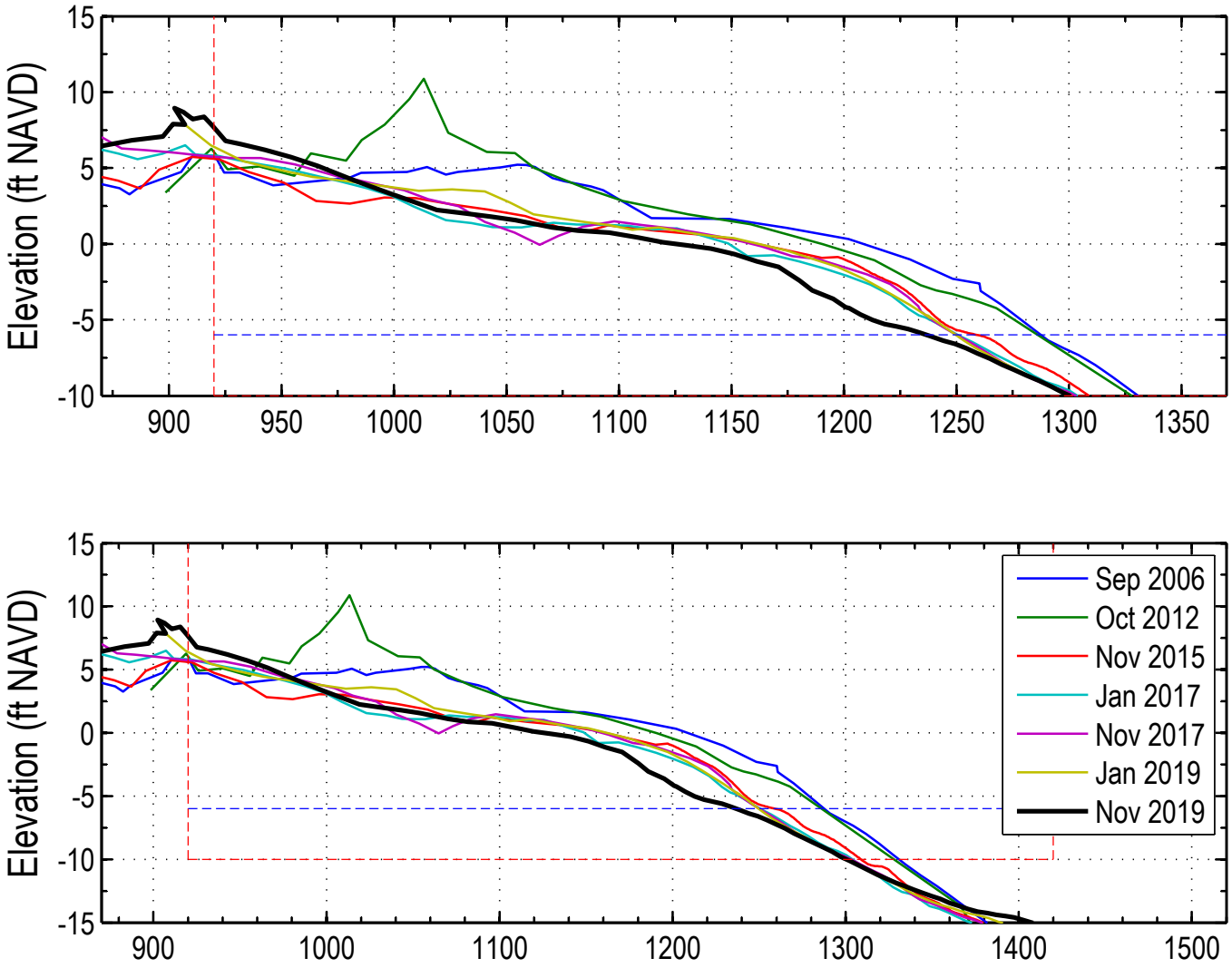






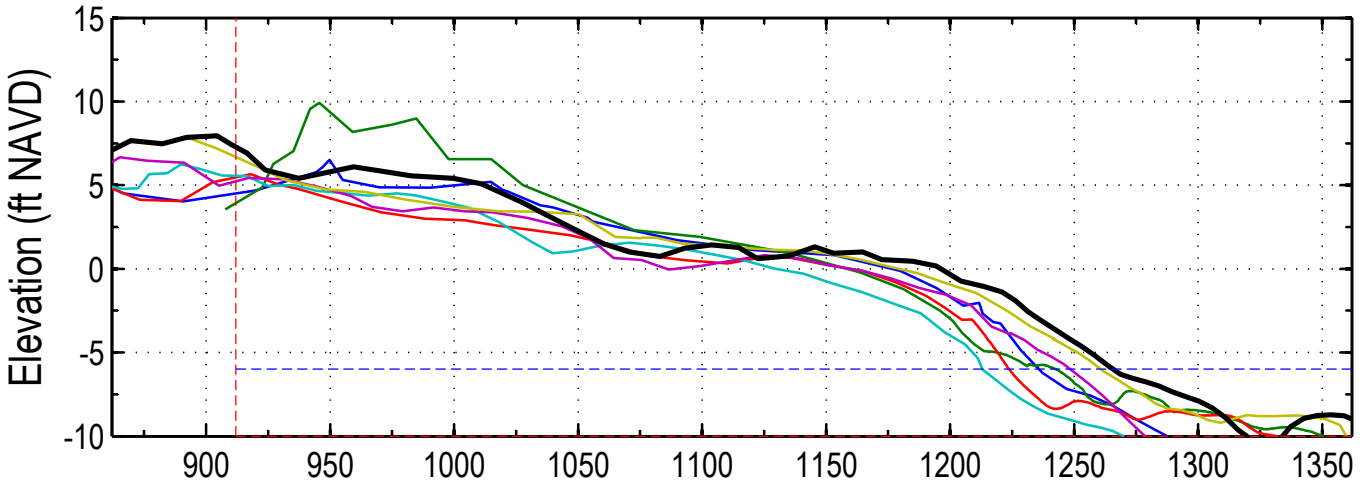
Date	Vol to -6	Vol -6 to -10	Vol to -10
Sep 2006	101.4	57.4	158.9
Oct 2012	127.2	54.9	182.1
Nov 2015	71.4	51.2	122.6
Jan 2017	54.7	47.2	101.9
Nov 2017	48.6	45.4	94.0
Jan 2019	32.3	41.3	73.7
Nov 2019	24.9	40.0	64.9

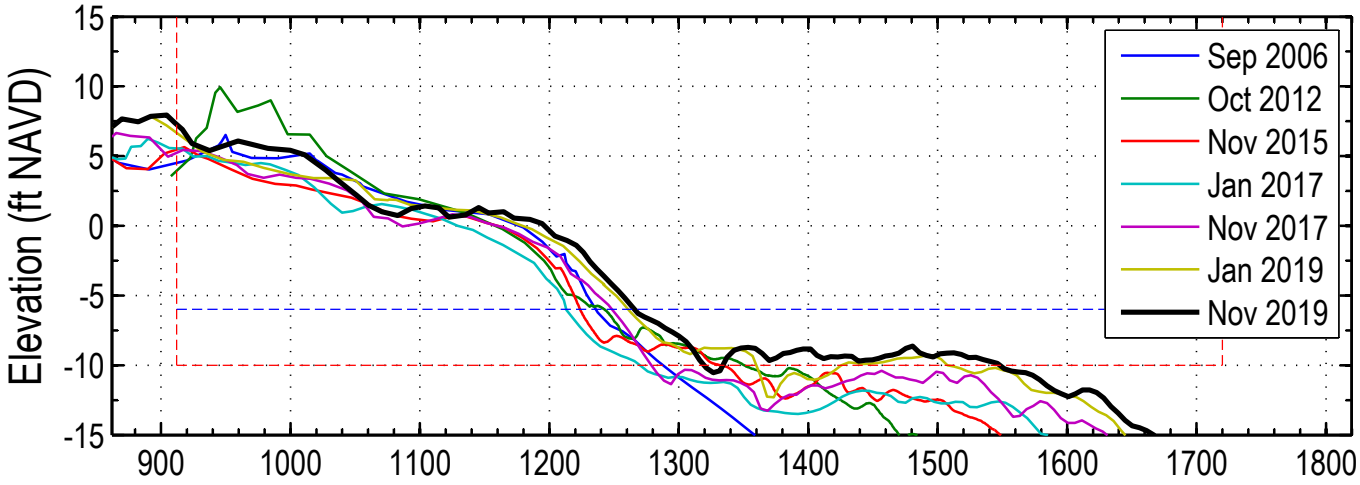
Kiawah Line 59 (Inlet 36+00)



Date	Vol to -6	Vol -6 to -10	Vol to -10
Sep 2006	109.8	57.8	167.6
Oct 2012	116.4	57.3	173.7
Nov 2015	86.5	54.1	140.6
Jan 2017	84.8	52.8	137.7
Nov 2017	88.1	52.5	140.6
Jan 2019	90.5	52.4	142.9
Nov 2019	81.4	52.0	133.3

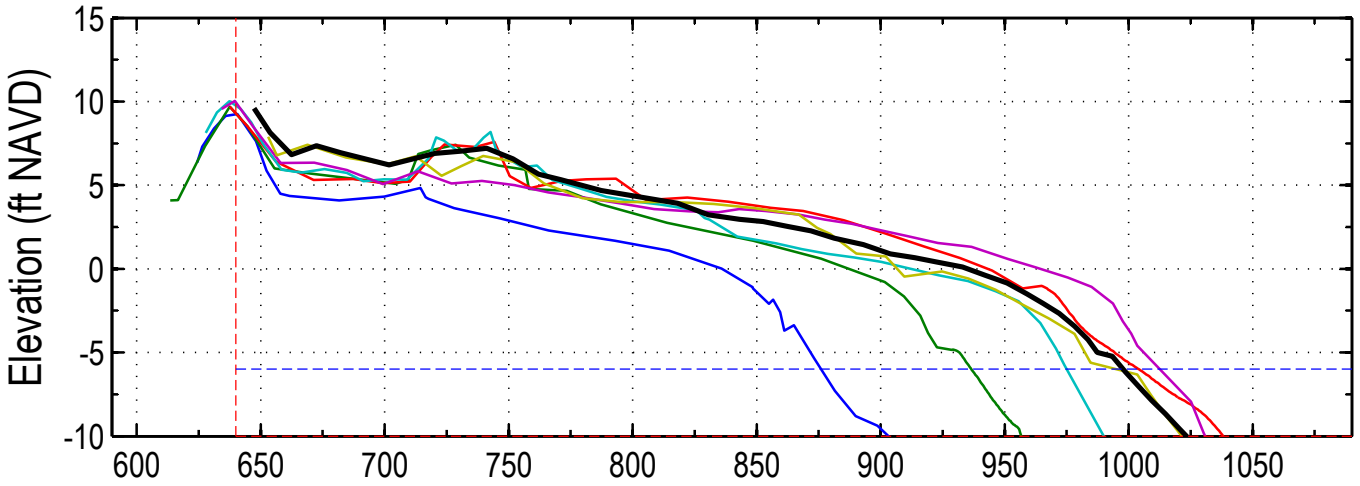
Kiawah Line 60 (Inlet 48+00)

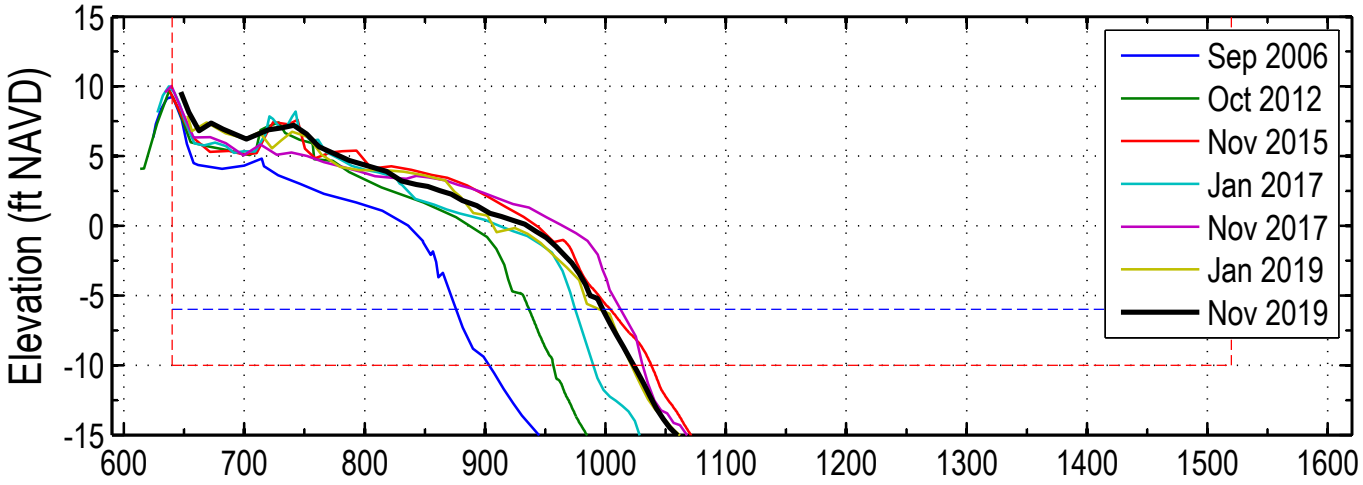




Date	Vol to -6	Vol -6 to -10	Vol to -10
Sep 2006	98.2	51.7	150.0
Oct 2012	105.5	55.3	160.8
Nov 2015	85.1	52.2	137.2
Jan 2017	82.9	47.9	130.8
Nov 2017	89.0	52.2	141.2
Jan 2019	98.4	58.5	156.9
Nov 2019	103.6	62.9	166.5

Kiawah Line 61 (Inlet 60+00)

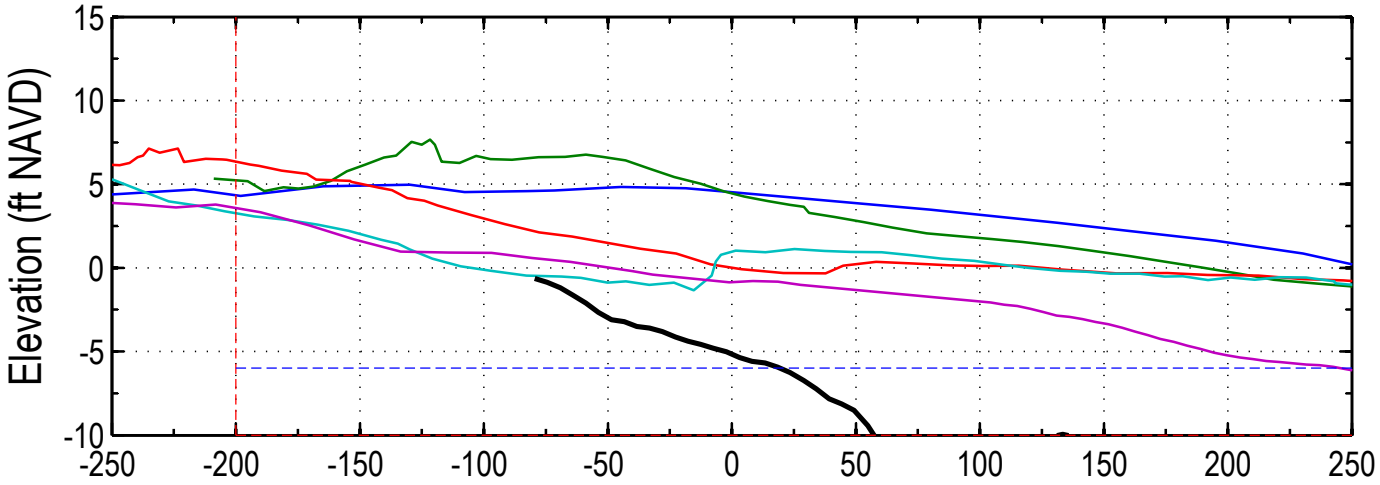


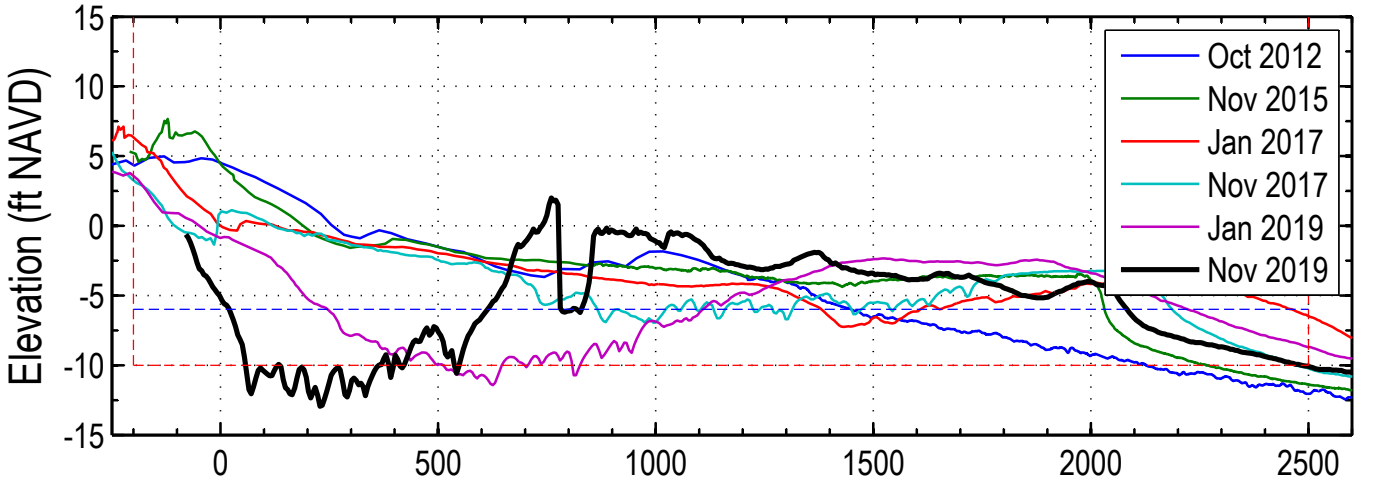


Date	Vol to -6	Vol -6 to -10	Vol to -10
Sep 2006	72.3	36.6	108.9
Oct 2012	100.8	45.4	146.2
Nov 2015	125.6	56.7	182.3
Jan 2017	114.4	50.7	165.1
Nov 2017	126.7	56.8	183.5
Jan 2019	119.5	55.0	174.5
Nov 2019	123.7	54.9	178.6

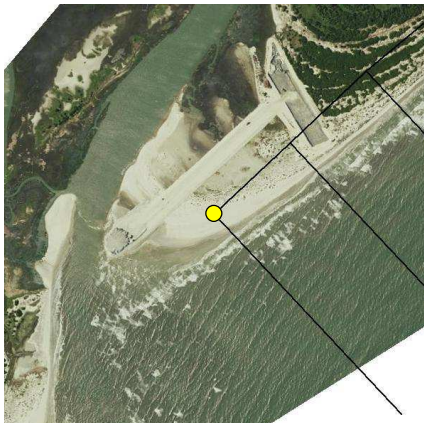
Appendix 7.6 Short-term and Long-term shoreline volume change rates for 61 beach profiles on Kiawah Island

Kiawah Line 01

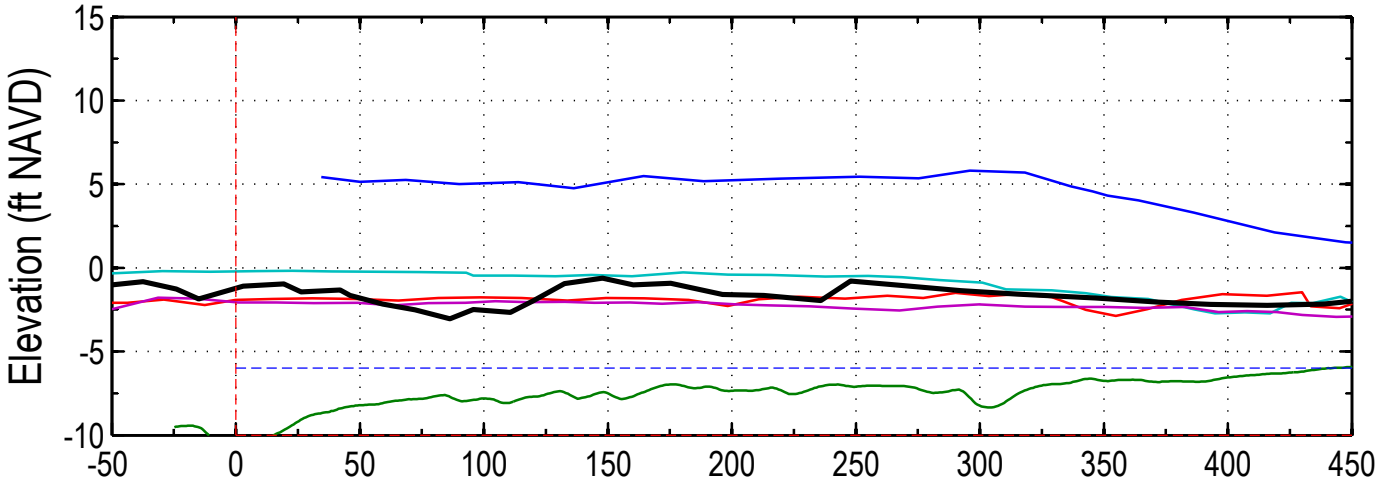


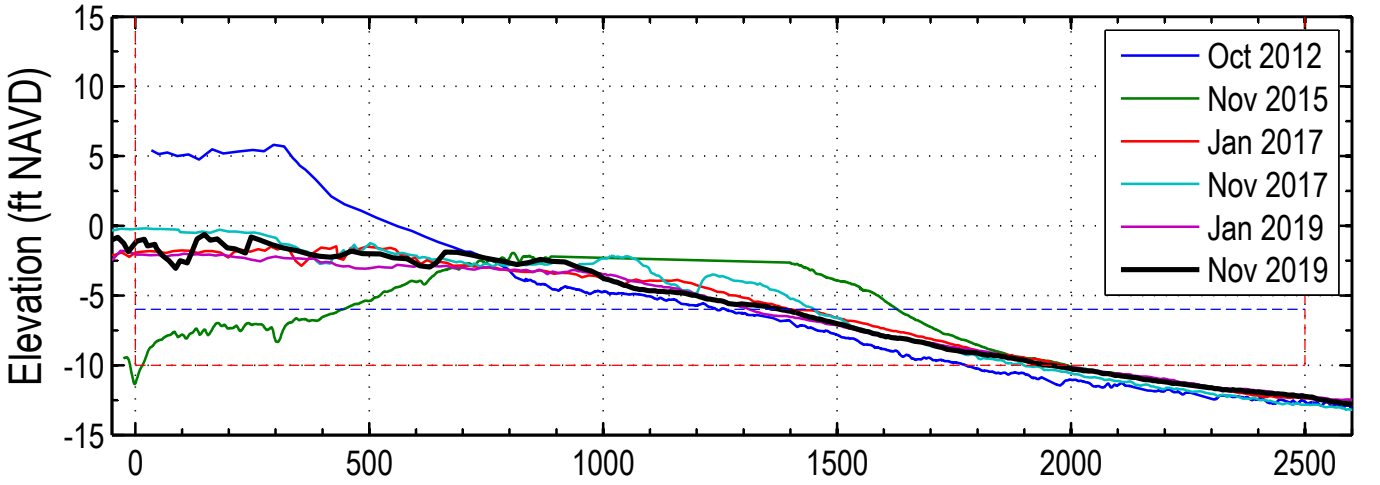


Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	-15.7	-16.5
Jan 2019 to Nov 2019	17.3	6.8

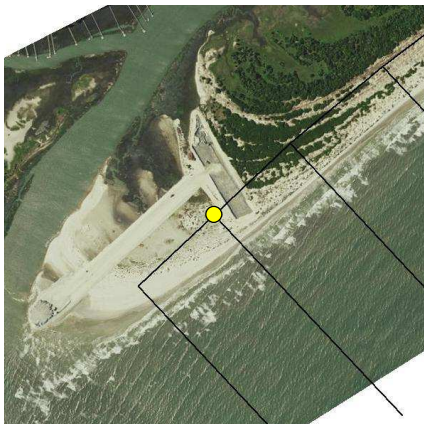


Kiawah Line 02

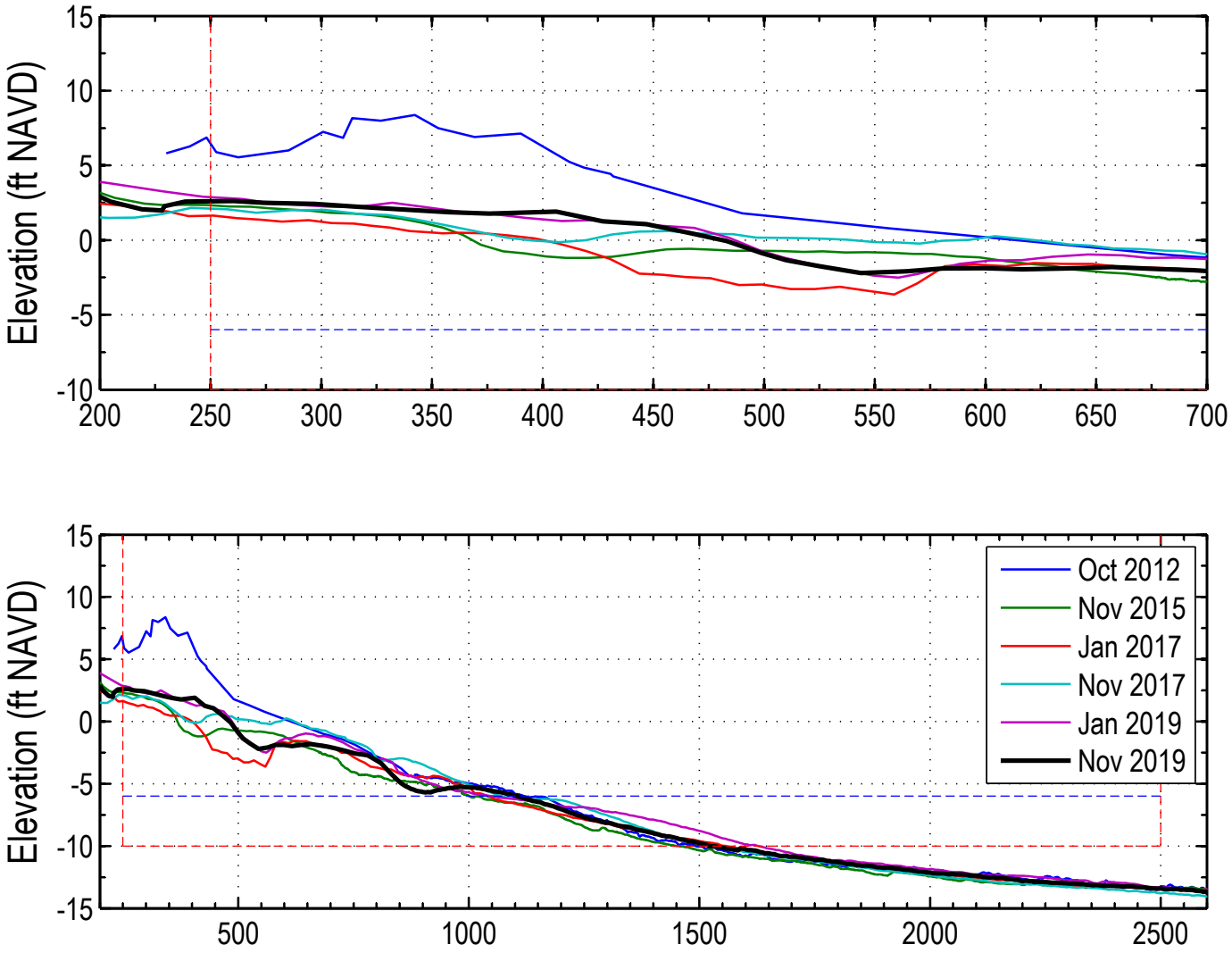




Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	-15.2	-12.5
Jan 2019 to Nov 2019	24.1	25.1

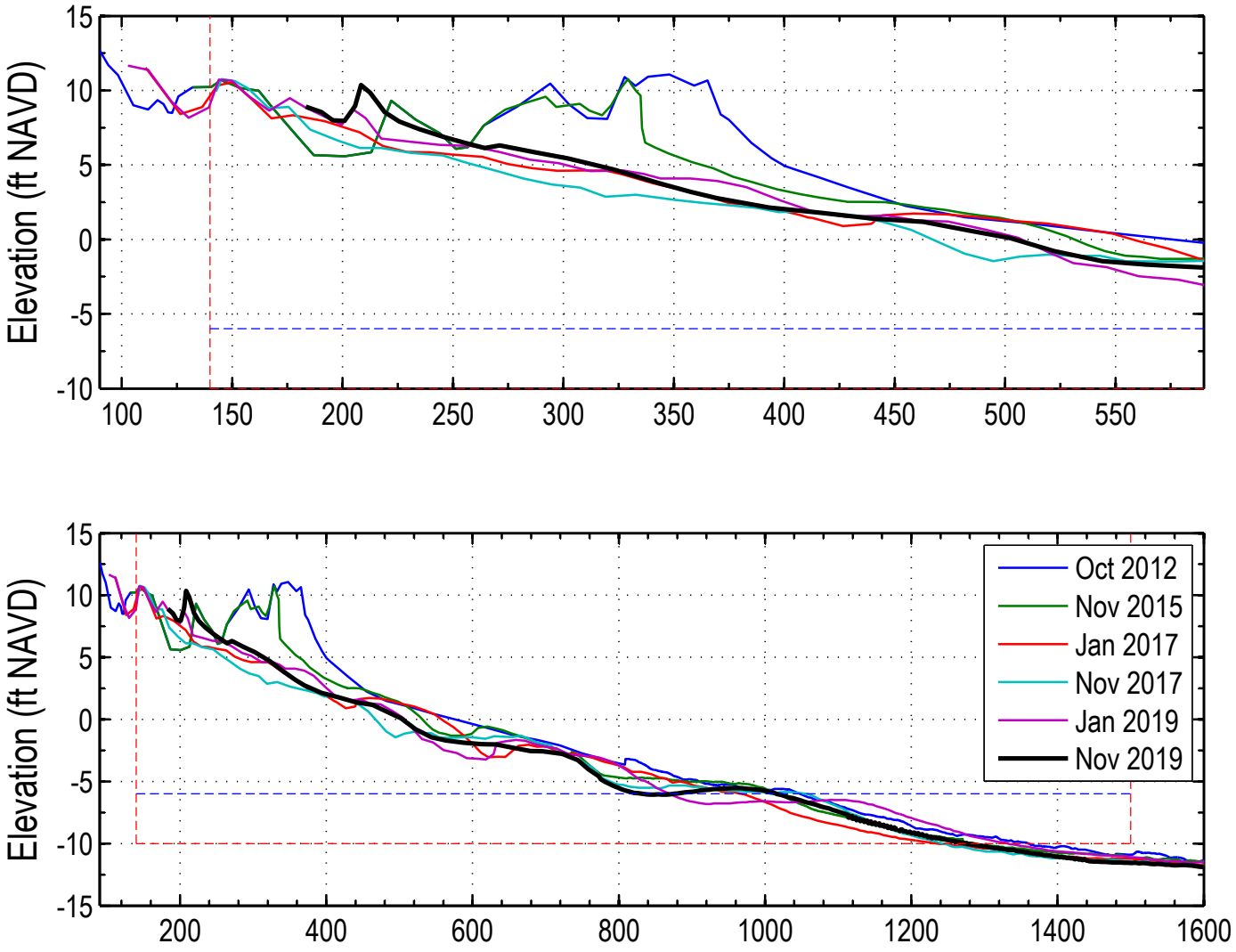


Kiawah Line 03



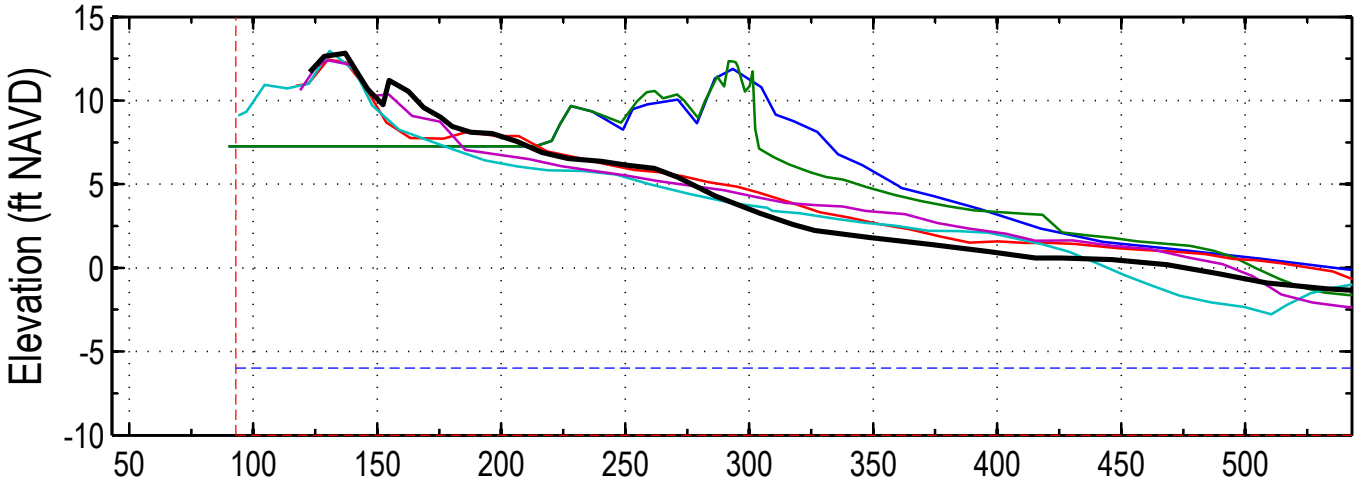
Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	-8.8	-8.7
Jan 2019 to Nov 2019	-7.7	-21.9

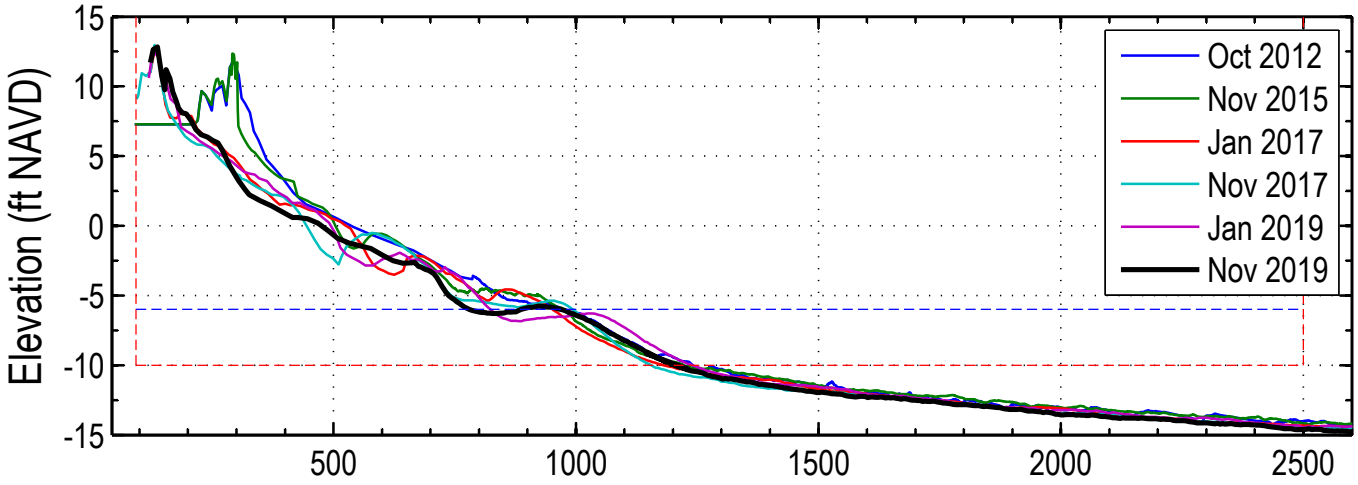
Kiawah Line 04 (OCRM 2615)



Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	-7.1	-8.0
Jan 2019 to Nov 2019	-3.7	-9.8

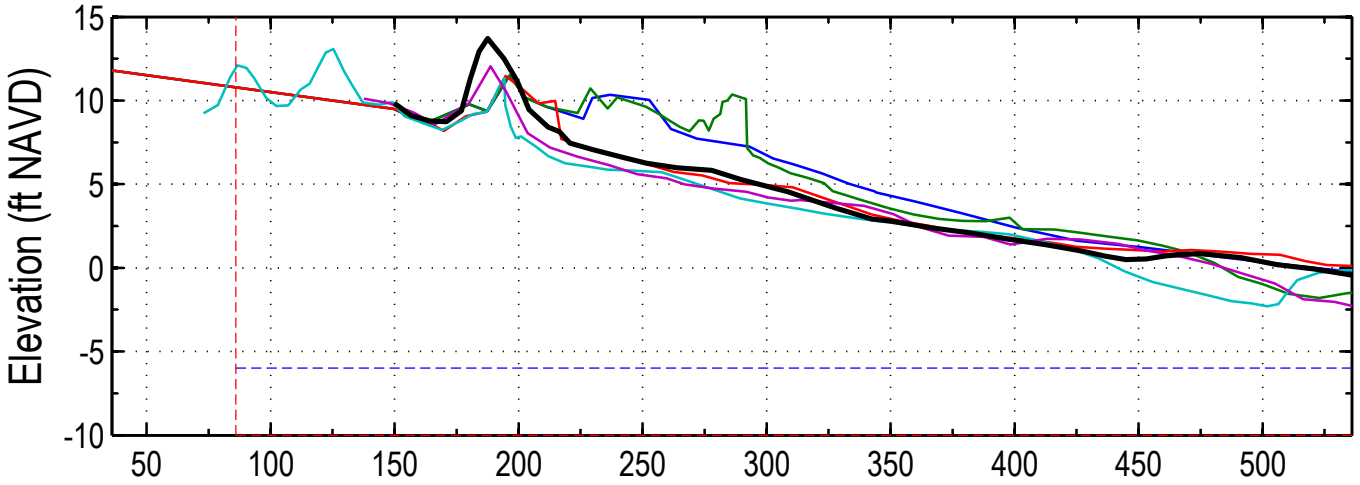
Kiawah Line 05

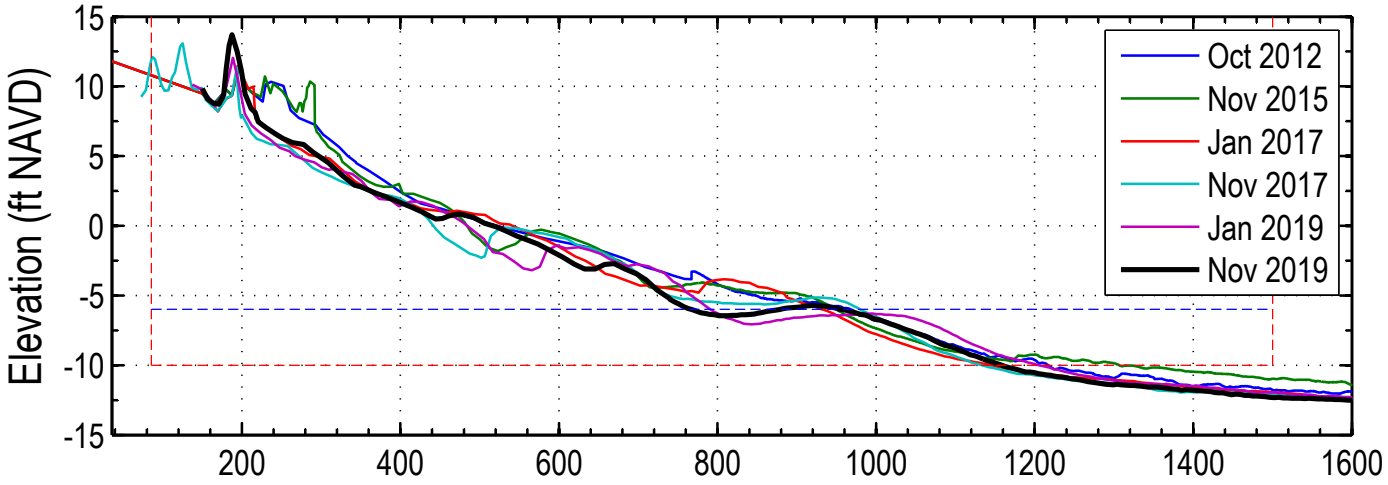




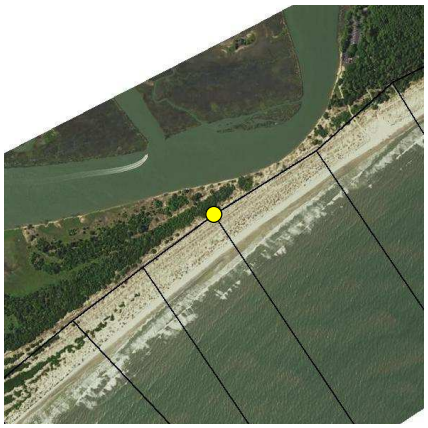
Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	-5.5	-5.9
Jan 2019 to Nov 2019	-8.3	-11.6

Kiawah Line 06 (OCRM 2620)

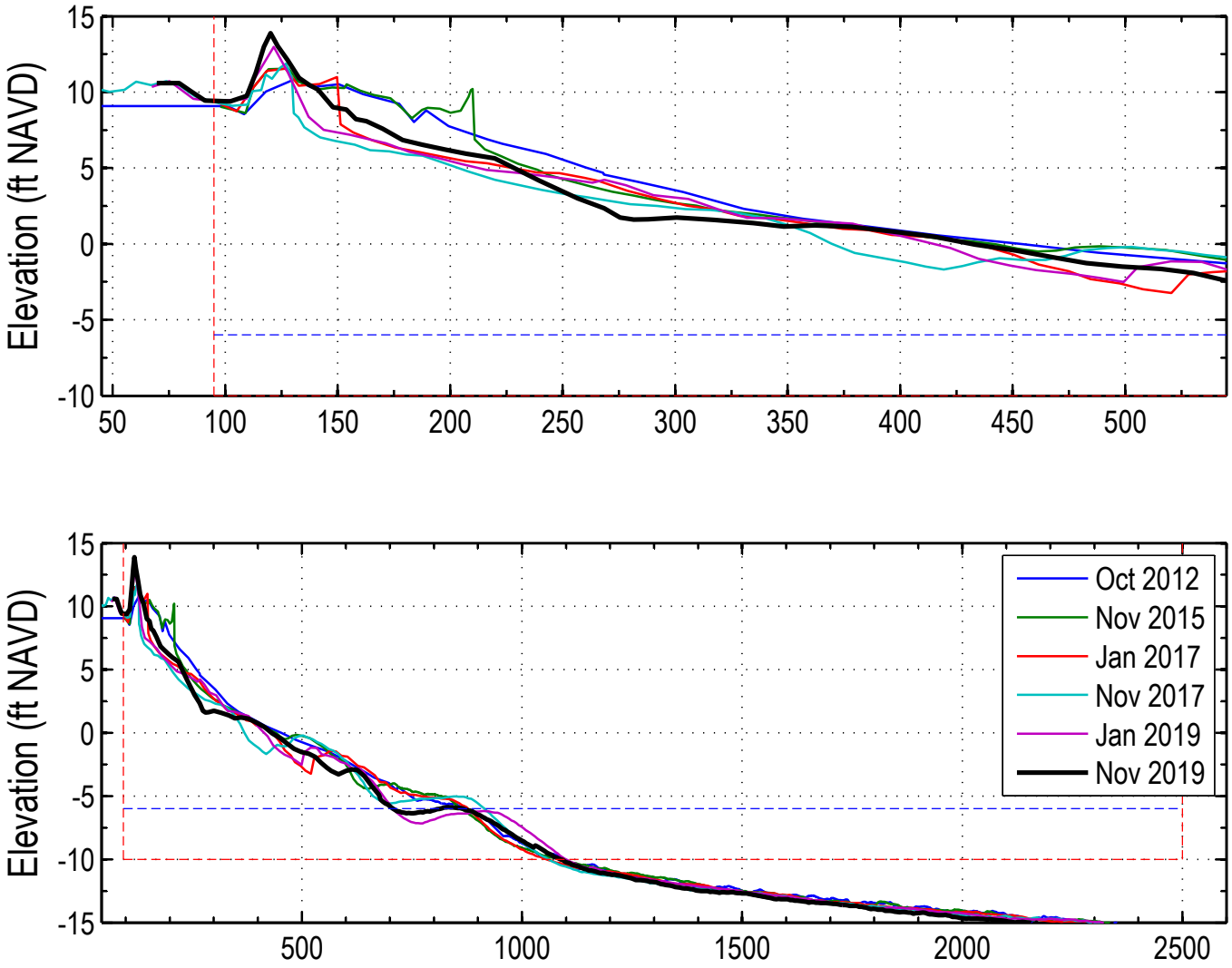




Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	-4.4	-4.8
Jan 2019 to Nov 2019	2.6	-0.5

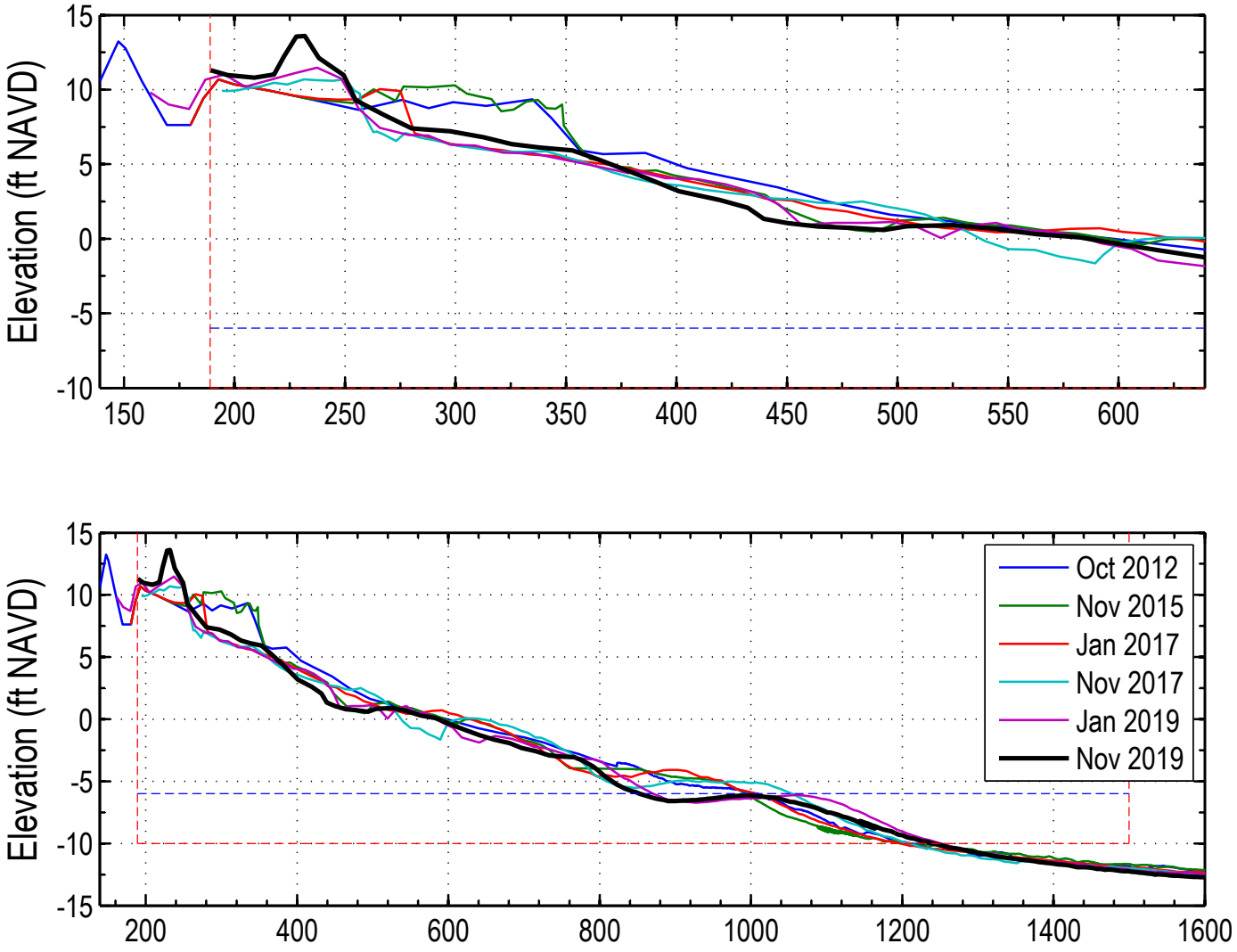


Kiawah Line 07



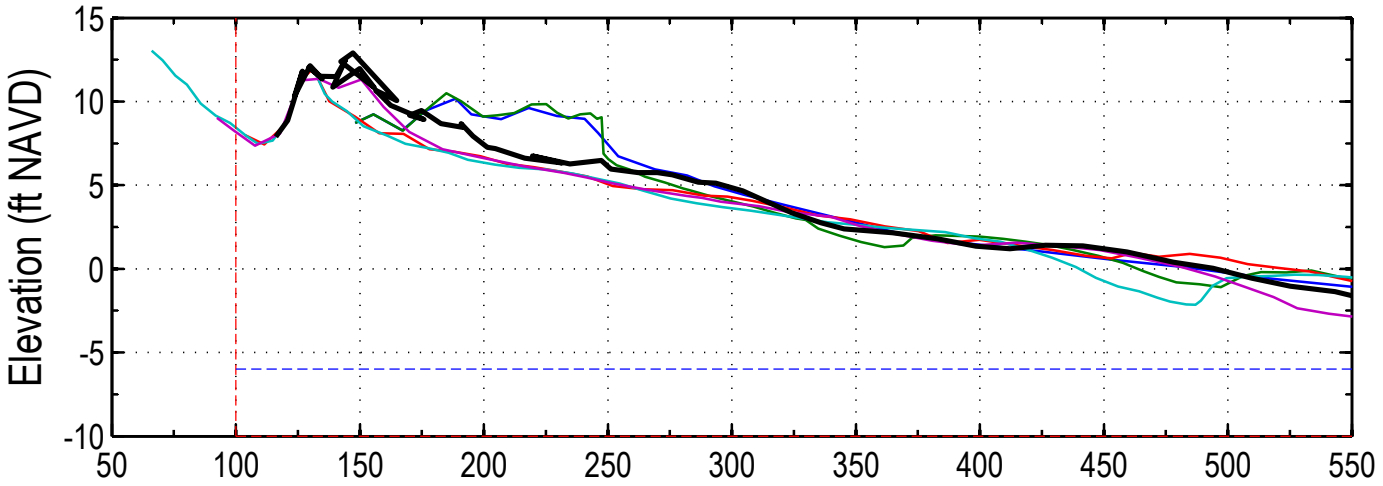
Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	-3.5	-3.4
Jan 2019 to Nov 2019	-1.5	-3.9

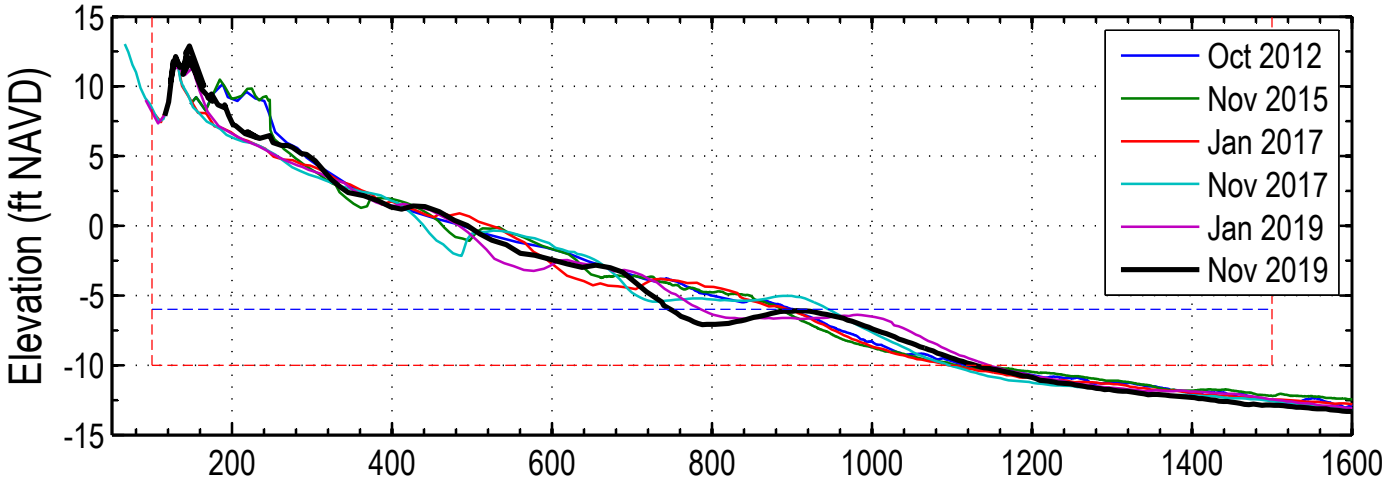
Kiawah Line 08 (OCRM 2625)



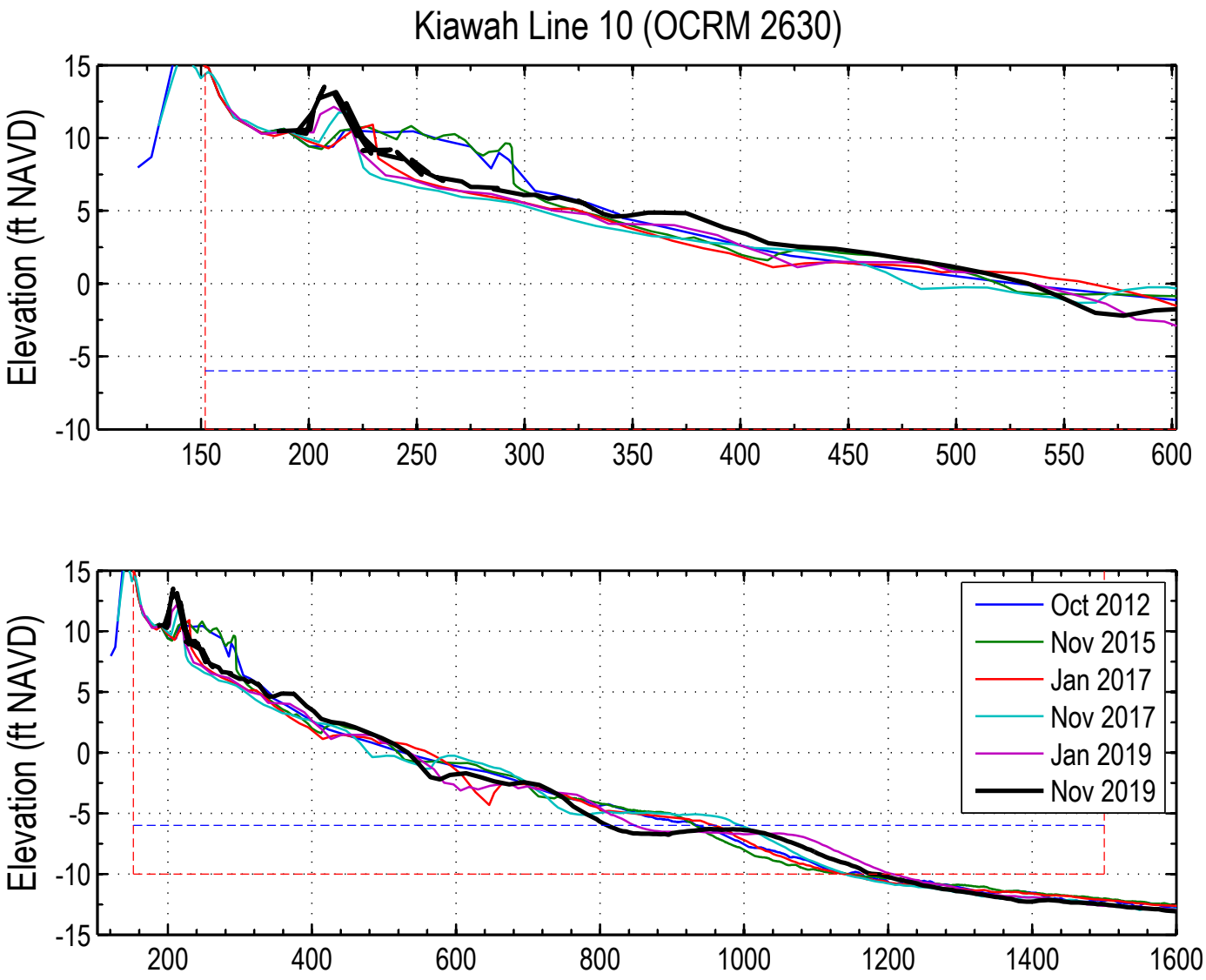
Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	-3.3	-2.9
Jan 2019 to Nov 2019	-1.3	-6.0

Kiawah Line 09



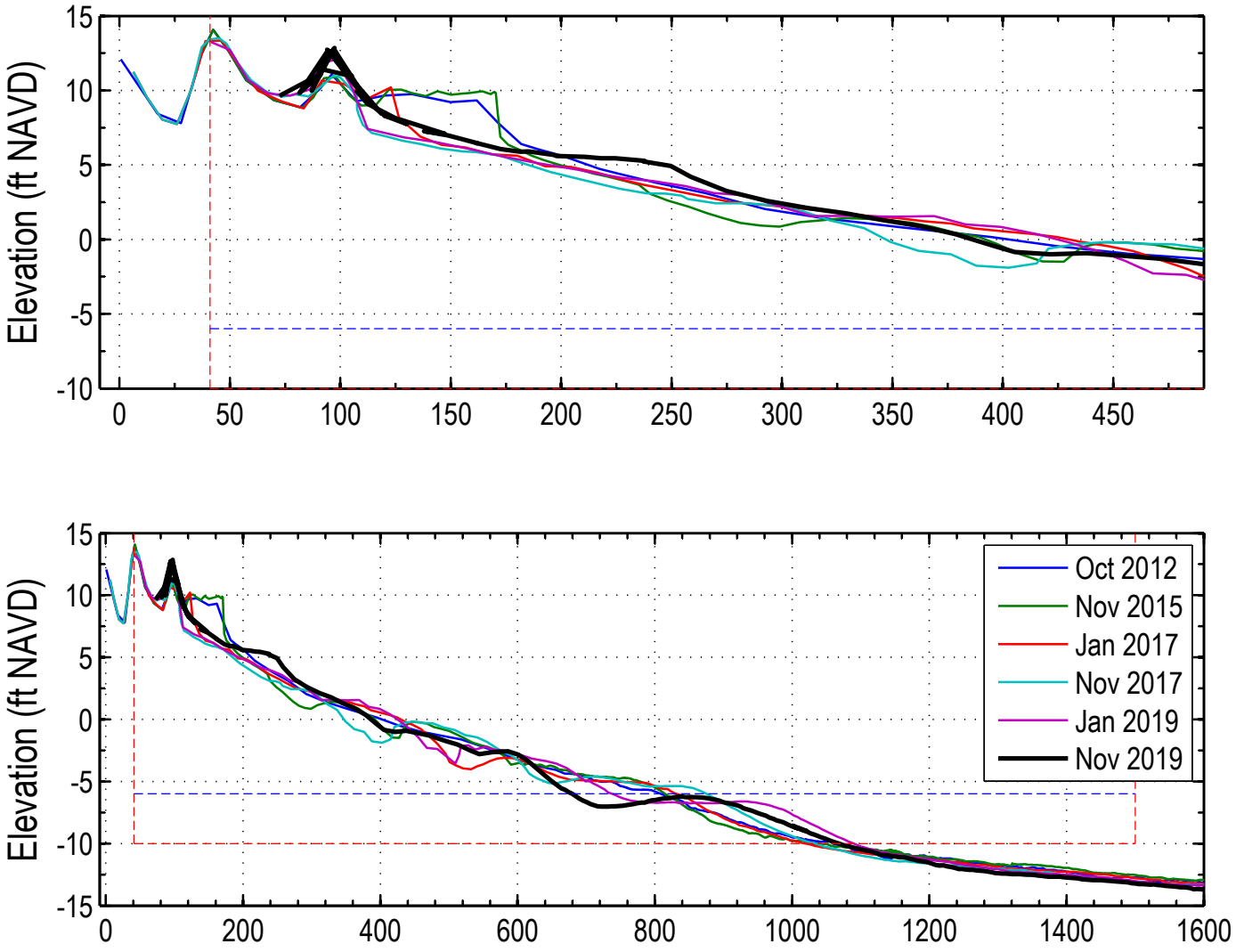


Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	-1.7	-1.5
Jan 2019 to Nov 2019	8.6	3.2

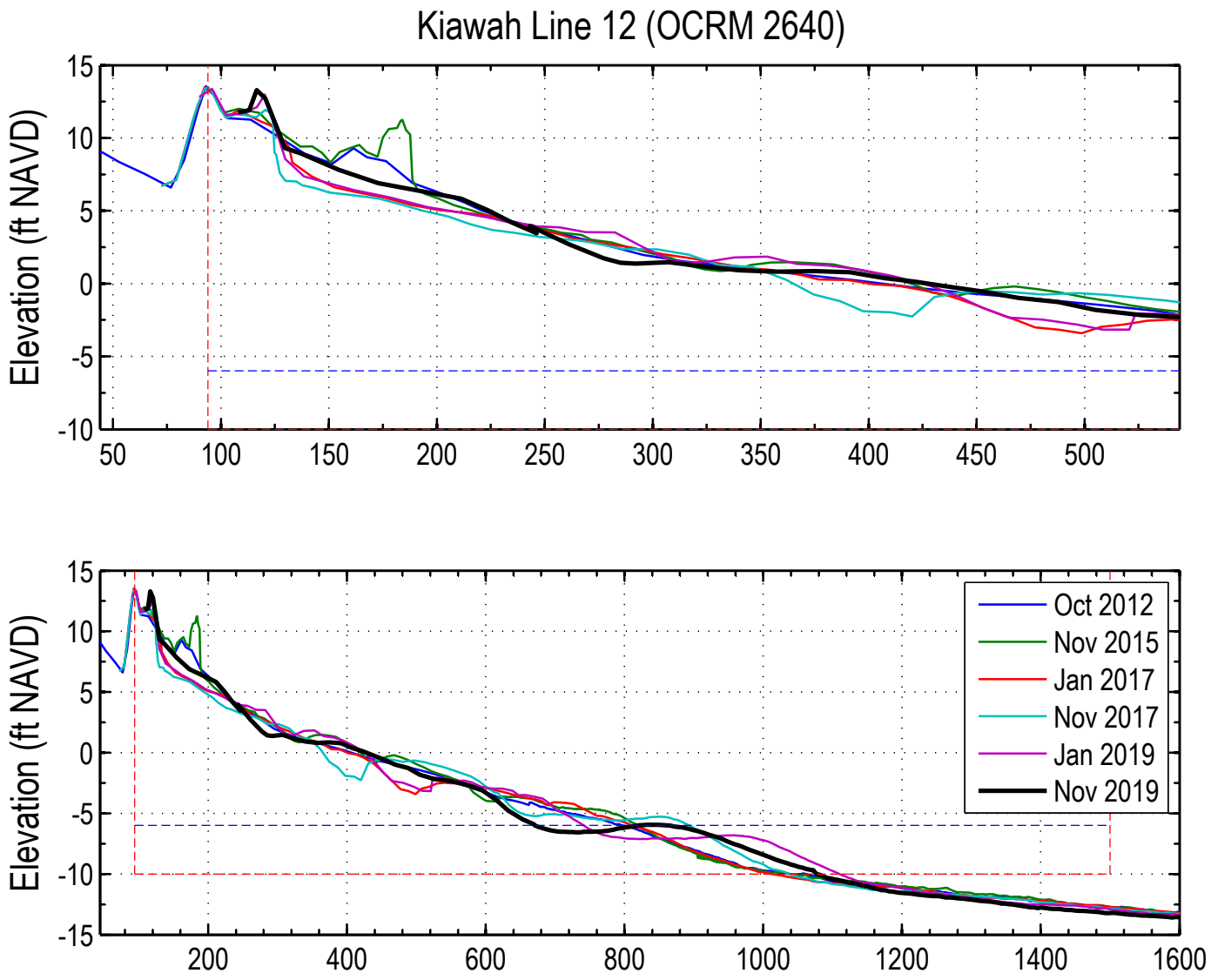


Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	-1.4	-0.7
Jan 2019 to Nov 2019	7.7	2.9

Kiawah Line 11 (OCRM 2635)

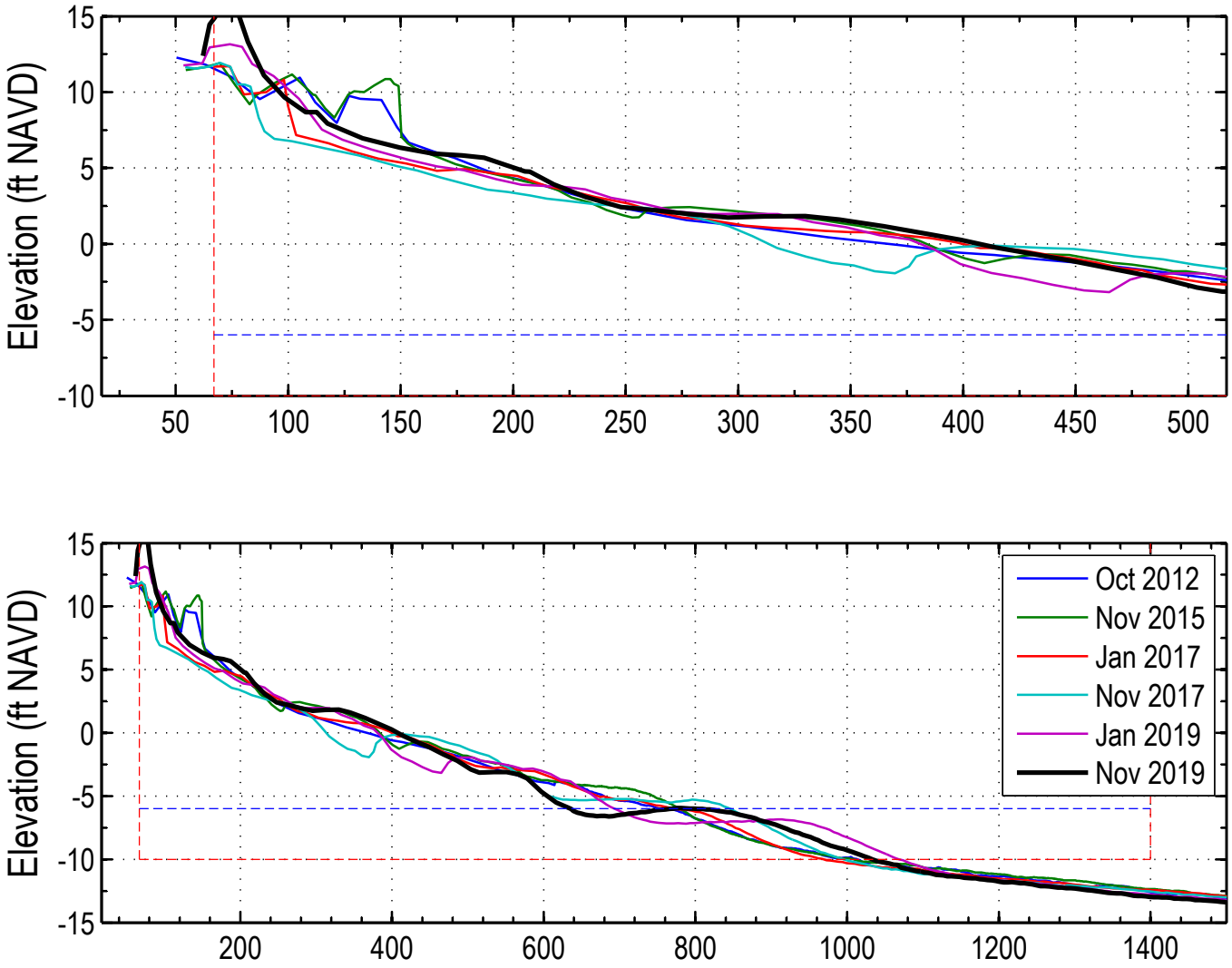


Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	-1.4	-0.8
Jan 2019 to Nov 2019	-2.9	-9.2

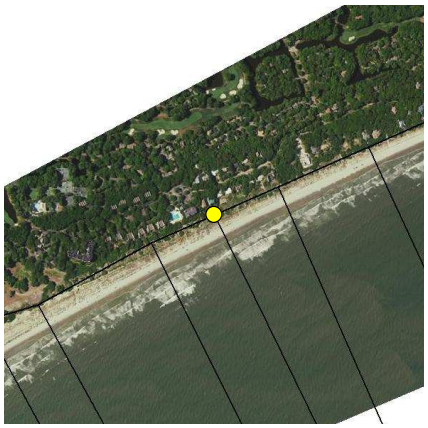


Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	-1.2	0.1
Jan 2019 to Nov 2019	-5.8	-7.7

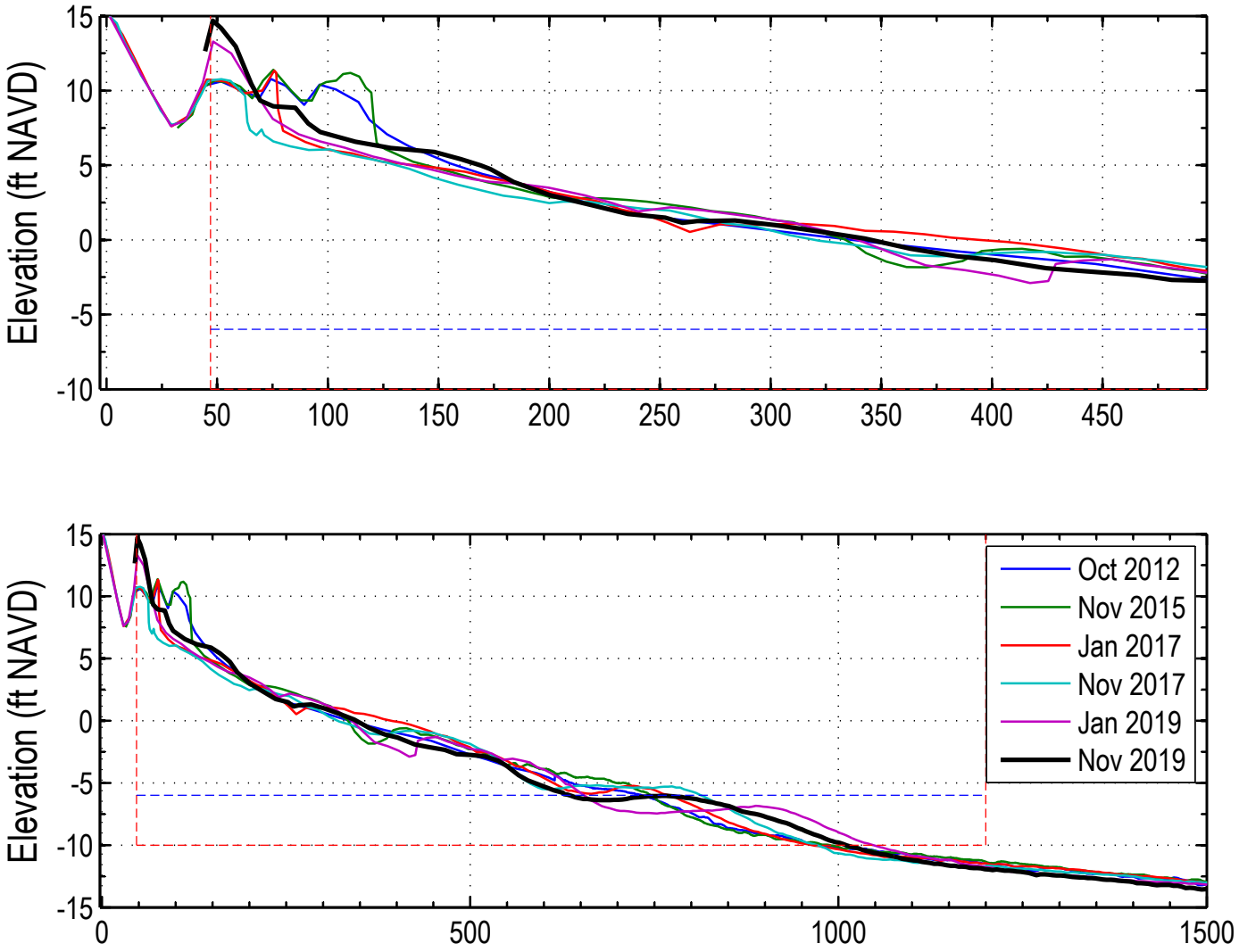
Kiawah Line 13



Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	-0.2	1.0
Jan 2019 to Nov 2019	1.5	-0.1

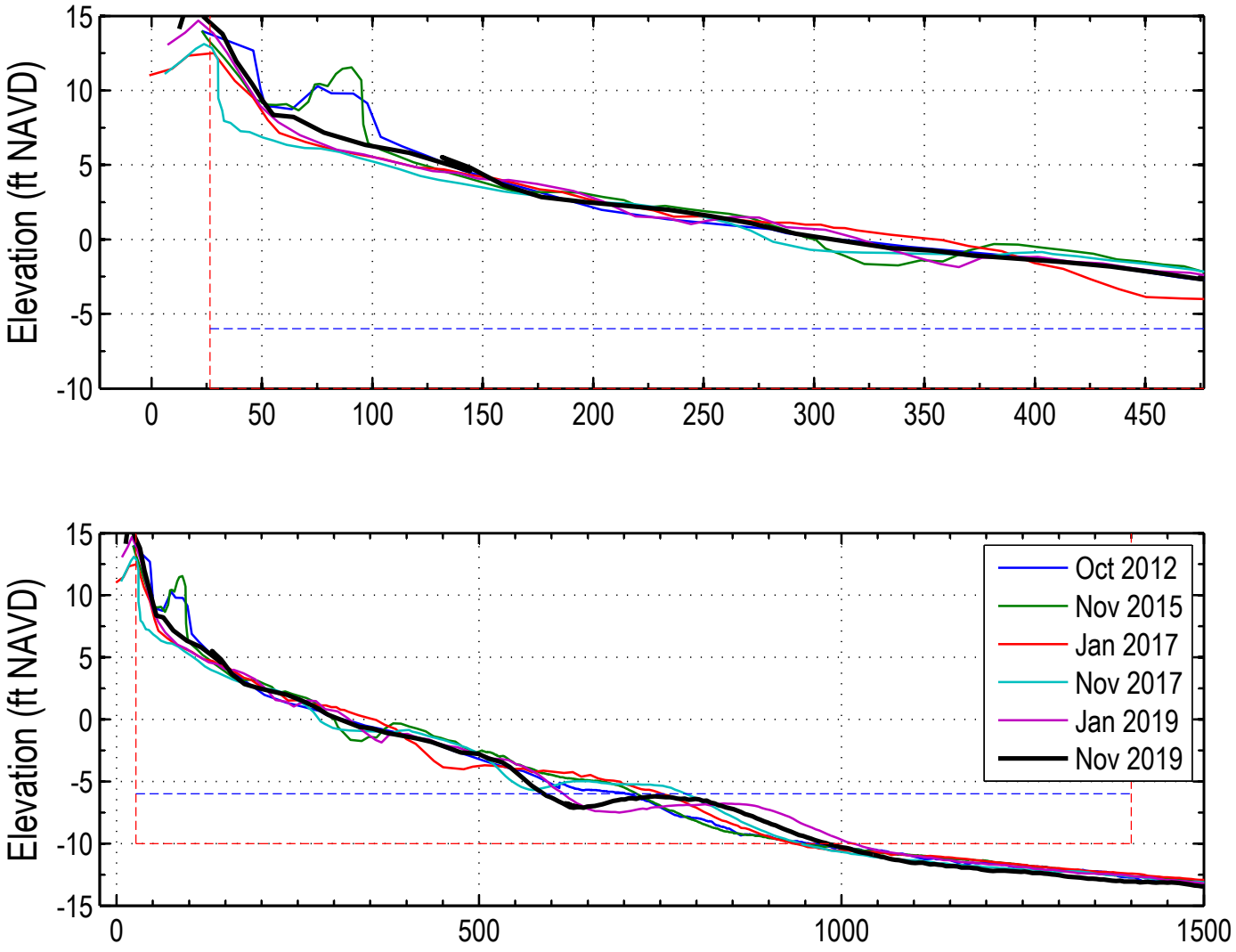


Kiawah Line 14 (OCRM 2645)

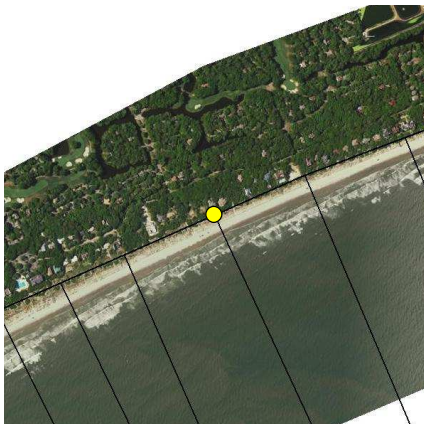


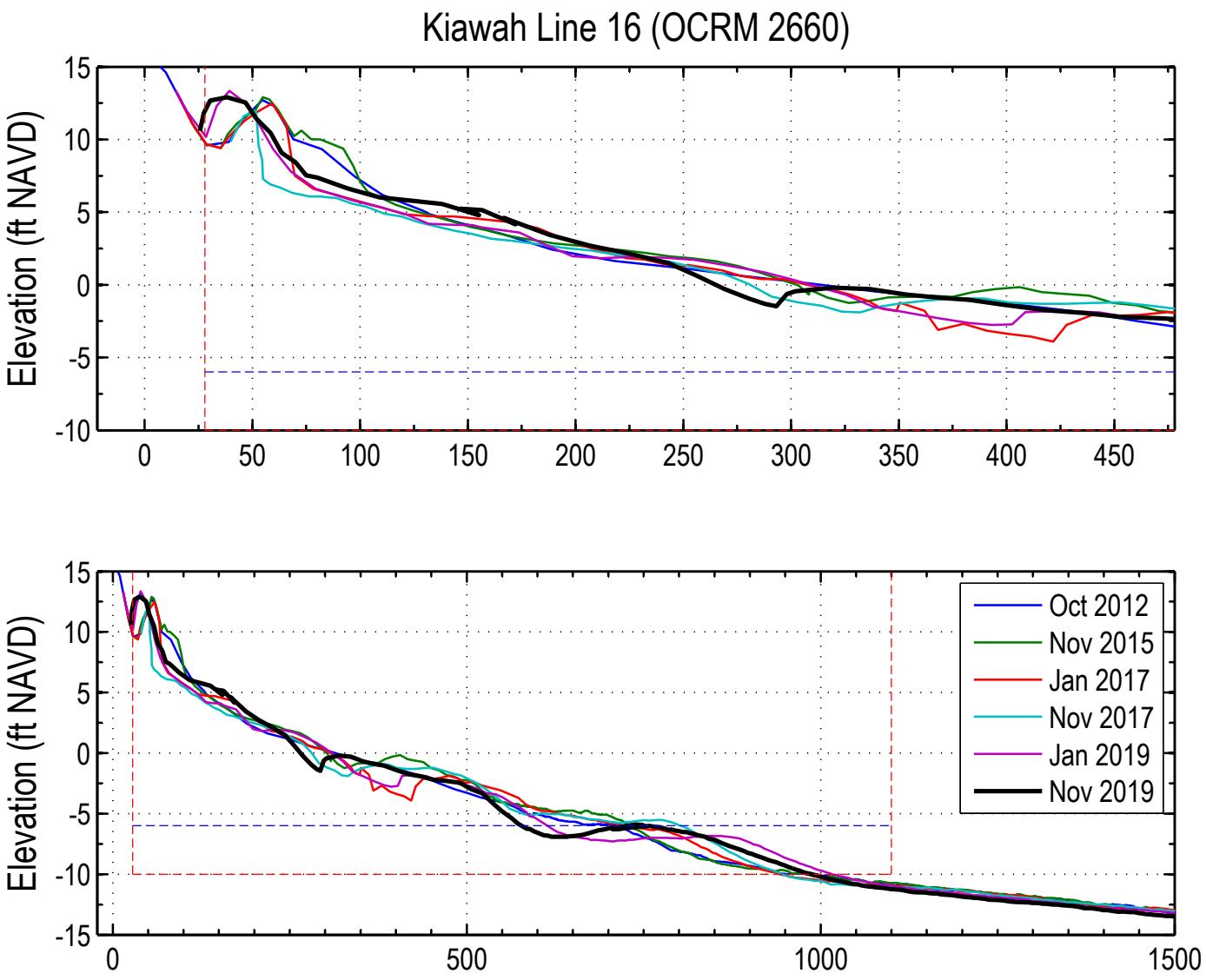
Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	-1.0	0.3
Jan 2019 to Nov 2019	-2.2	-0.9

Kiawah Line 15

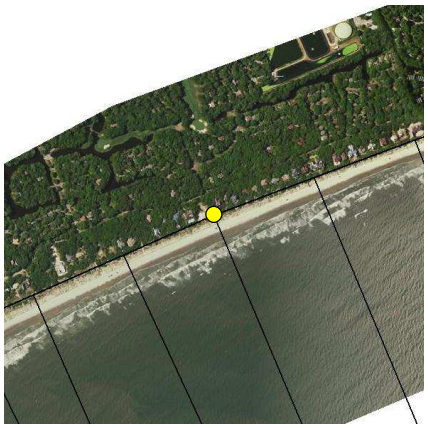


Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	-0.8	0.2
Jan 2019 to Nov 2019	0.1	-1.9

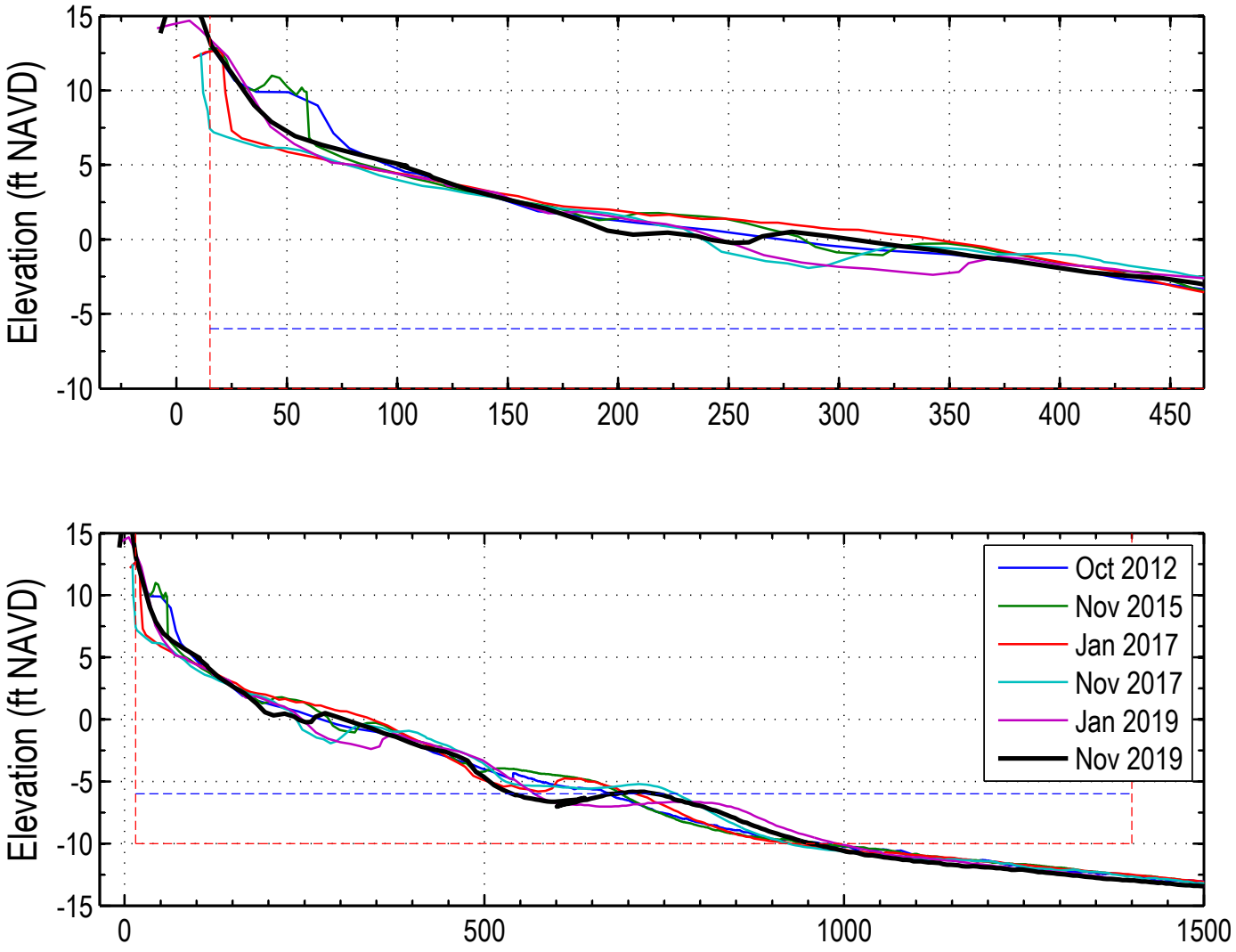




Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	-0.4	0.7
Jan 2019 to Nov 2019	3.5	3.1

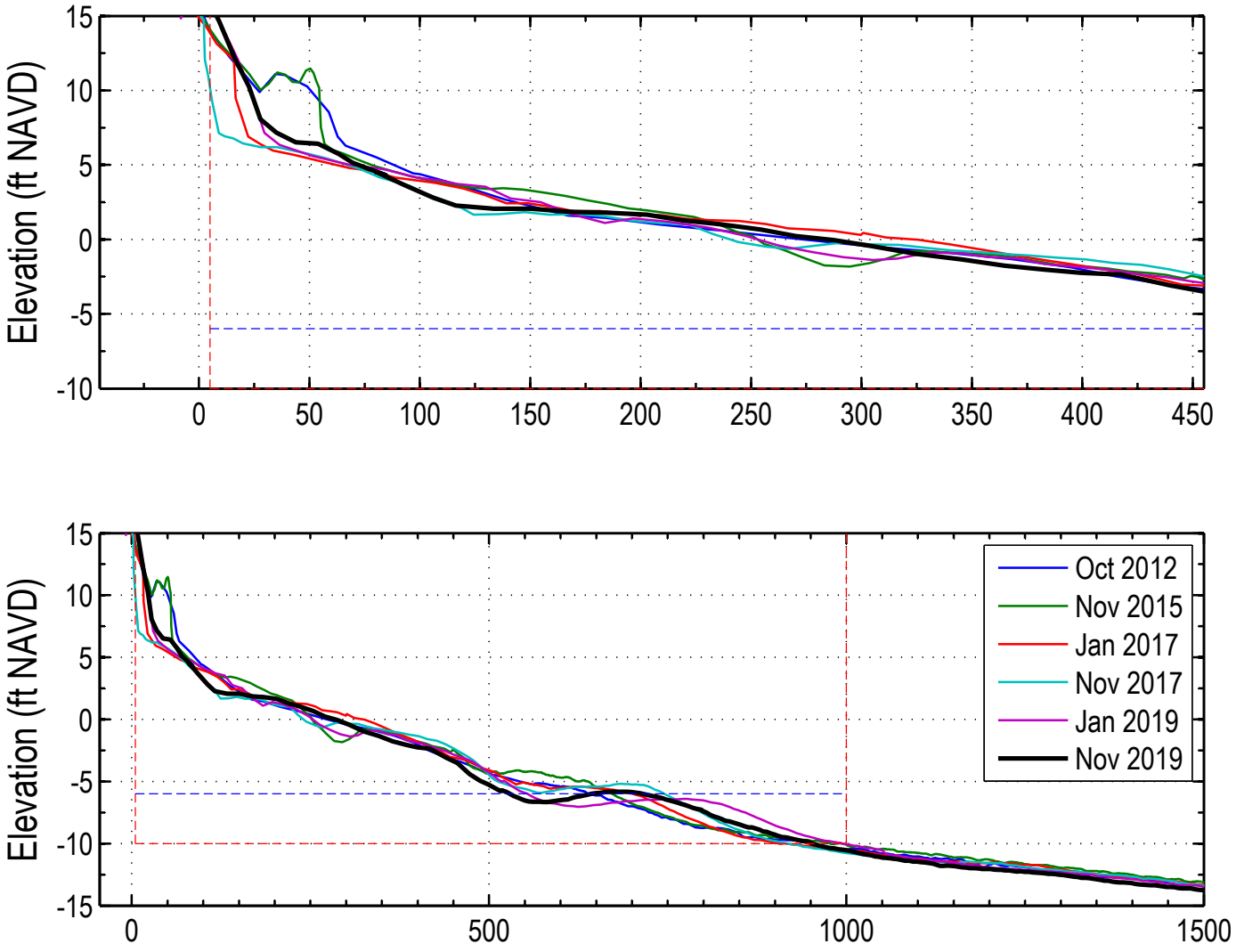


Kiawah Line 17



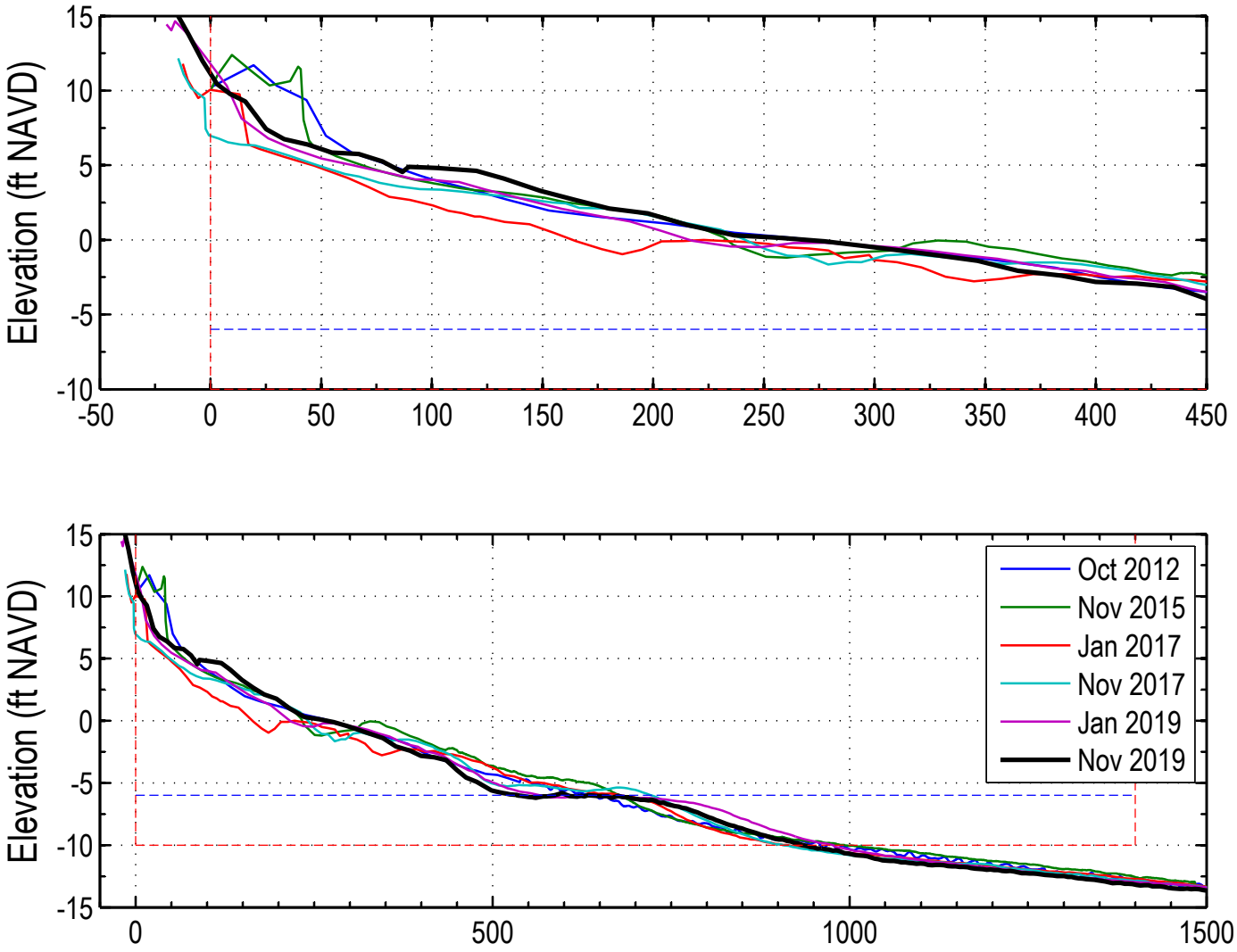
Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	-1.1	-0.2
Jan 2019 to Nov 2019	1.9	0.9

Kiawah Line 18 (OCRM 2665)



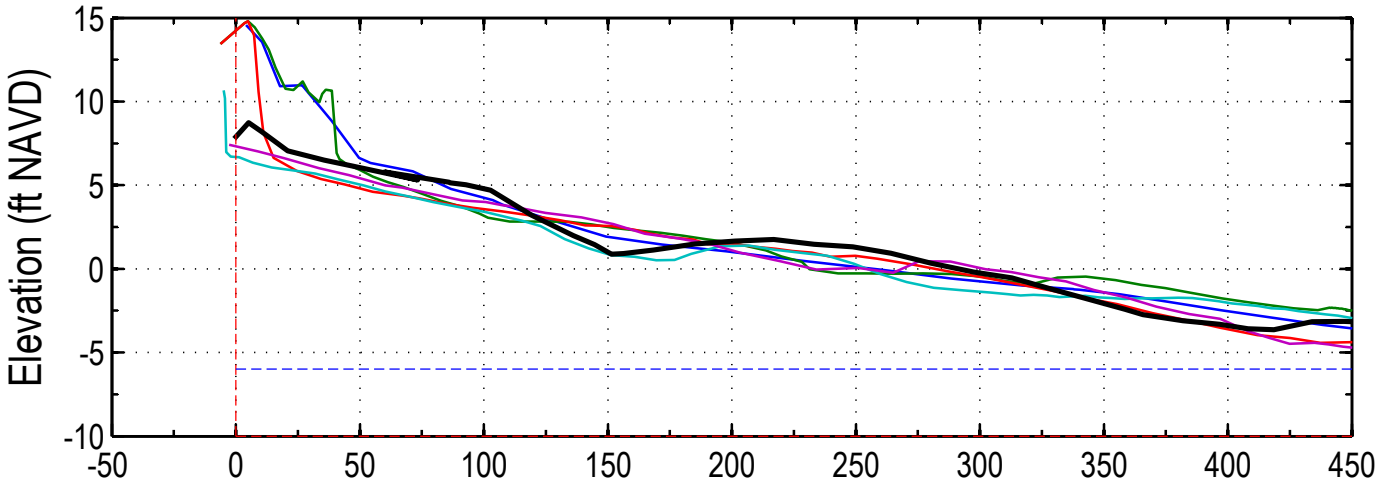
Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	-1.6	-0.5
Jan 2019 to Nov 2019	-3.3	-7.1

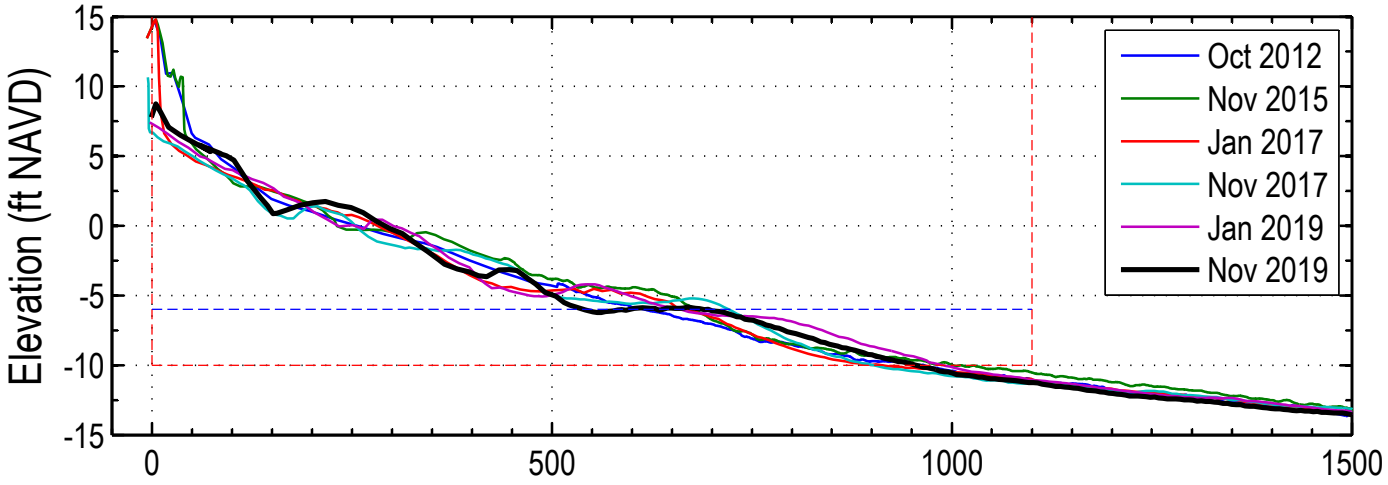
Kiawah Line 19



Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	-1.1	-0.4
Jan 2019 to Nov 2019	3.7	-2.6

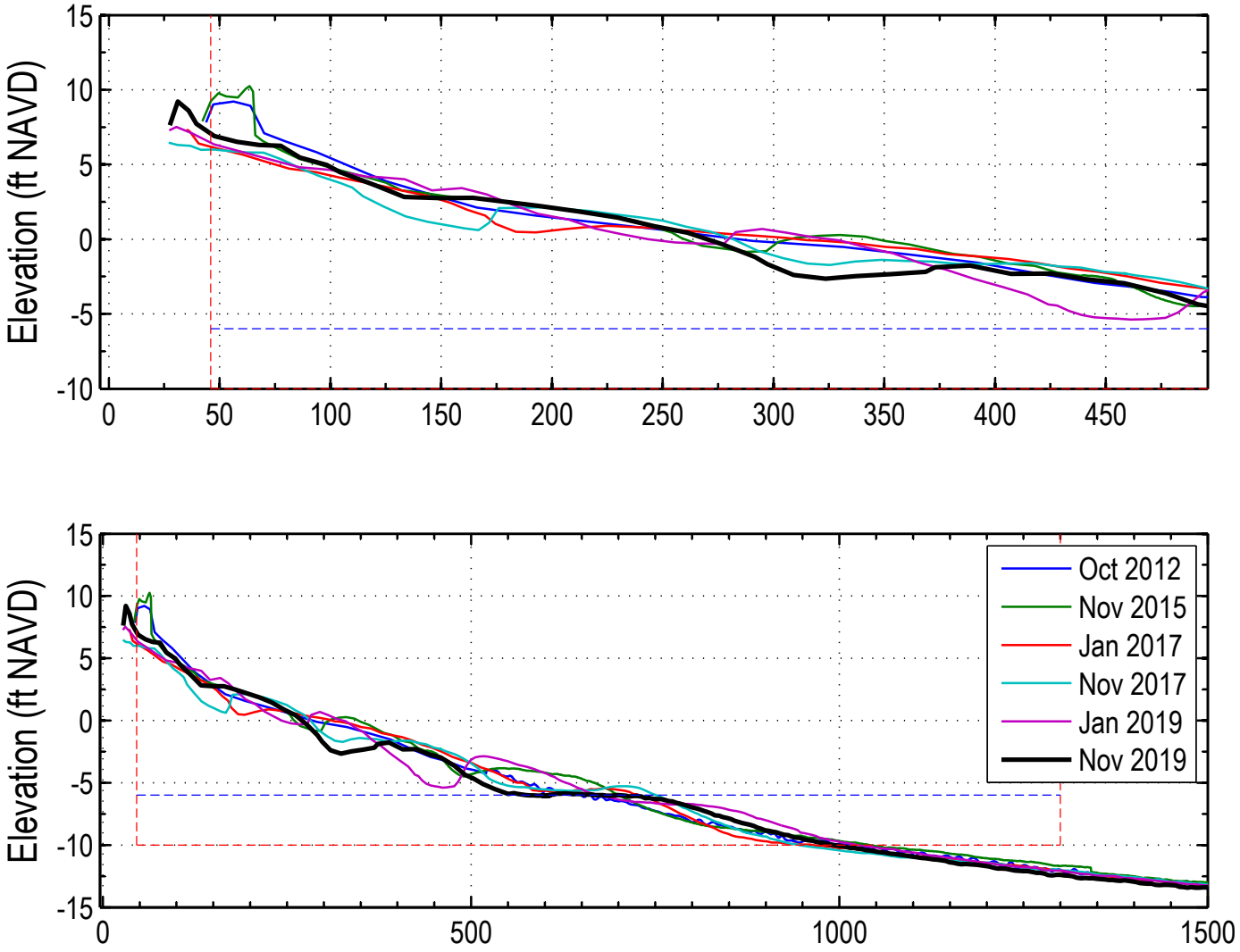
Kiawah Line 20 (OCRM 2675)





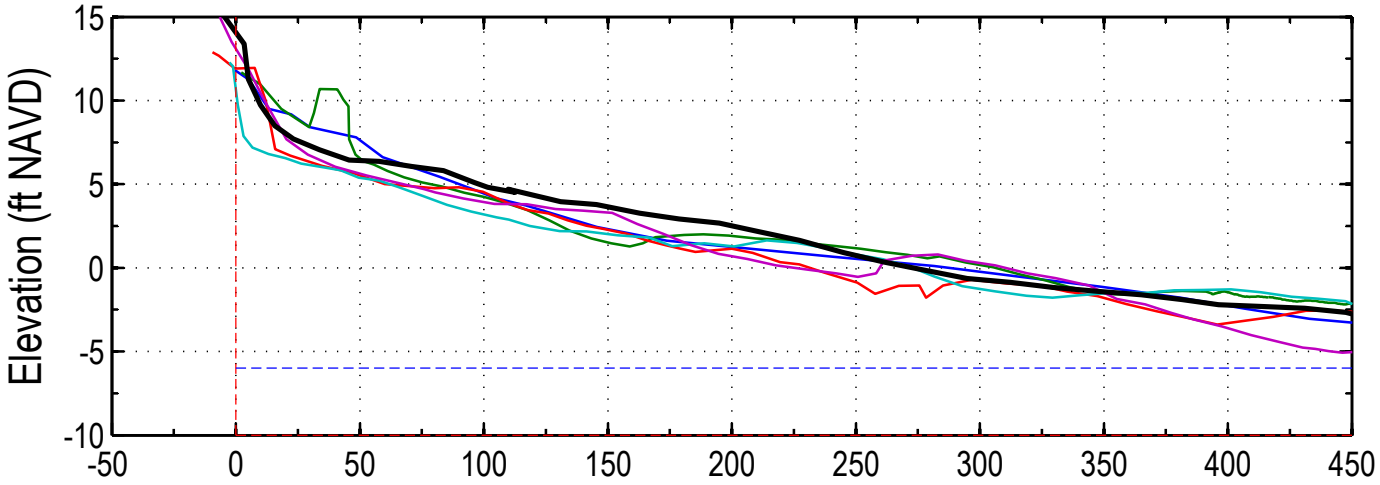
Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	-1.3	-0.1
Jan 2019 to Nov 2019	-0.4	-6.4

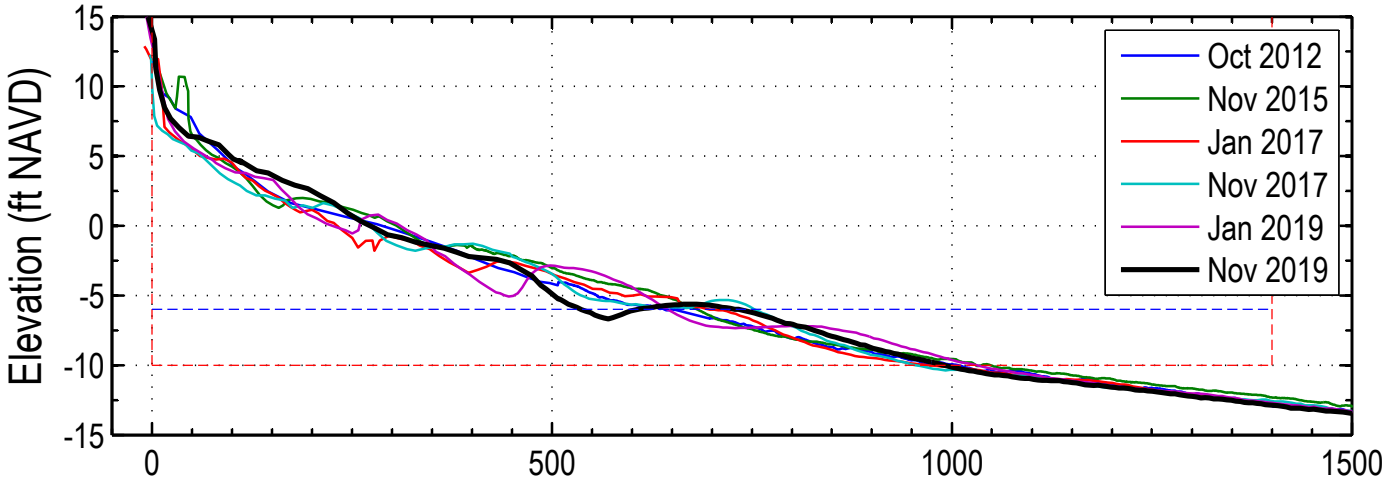
Kiawah Line 21 (OCRM 2680)



Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	-1.7	-0.8
Jan 2019 to Nov 2019	-9.5	-13.5

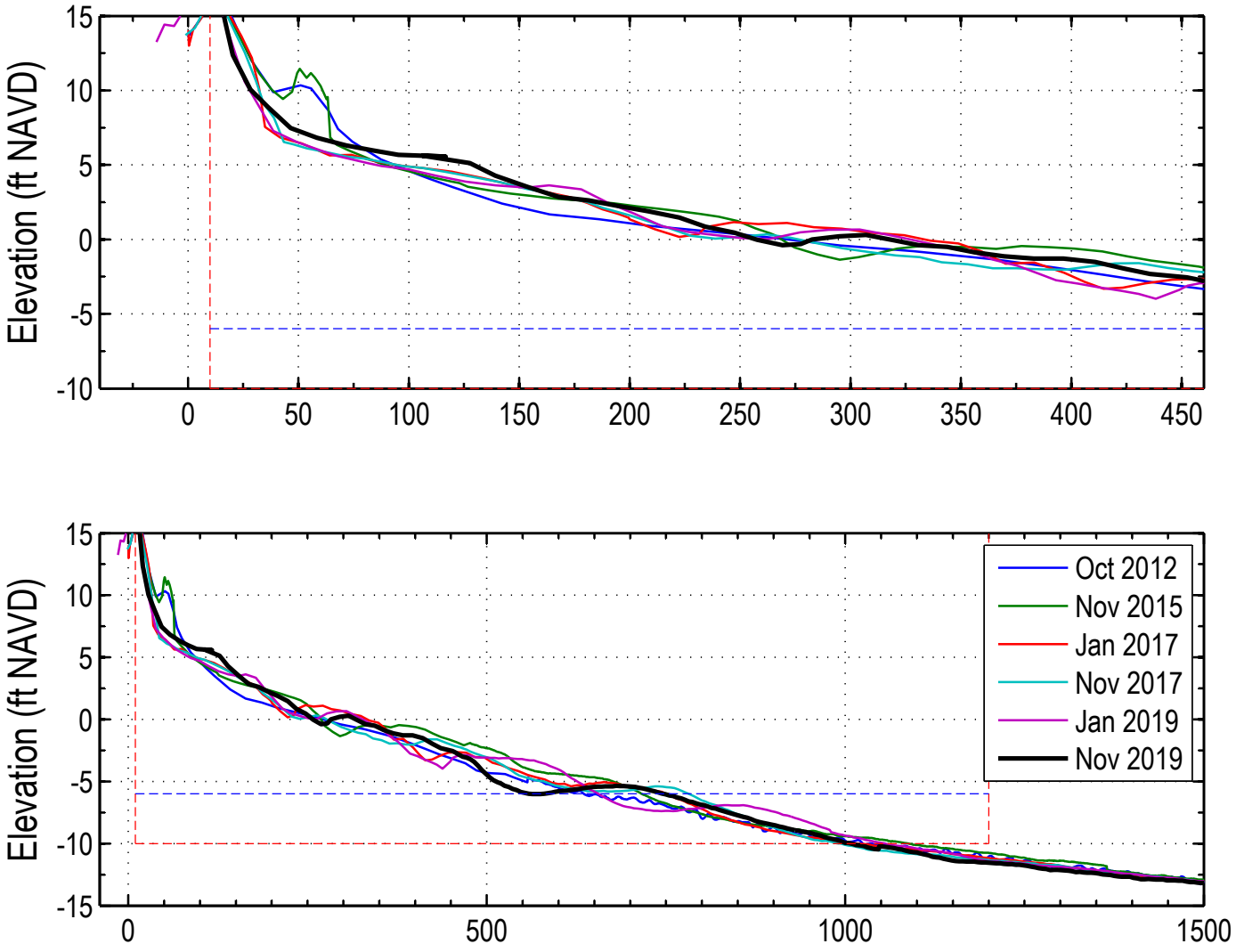
Kiawah Line 22 (Sanctuary)



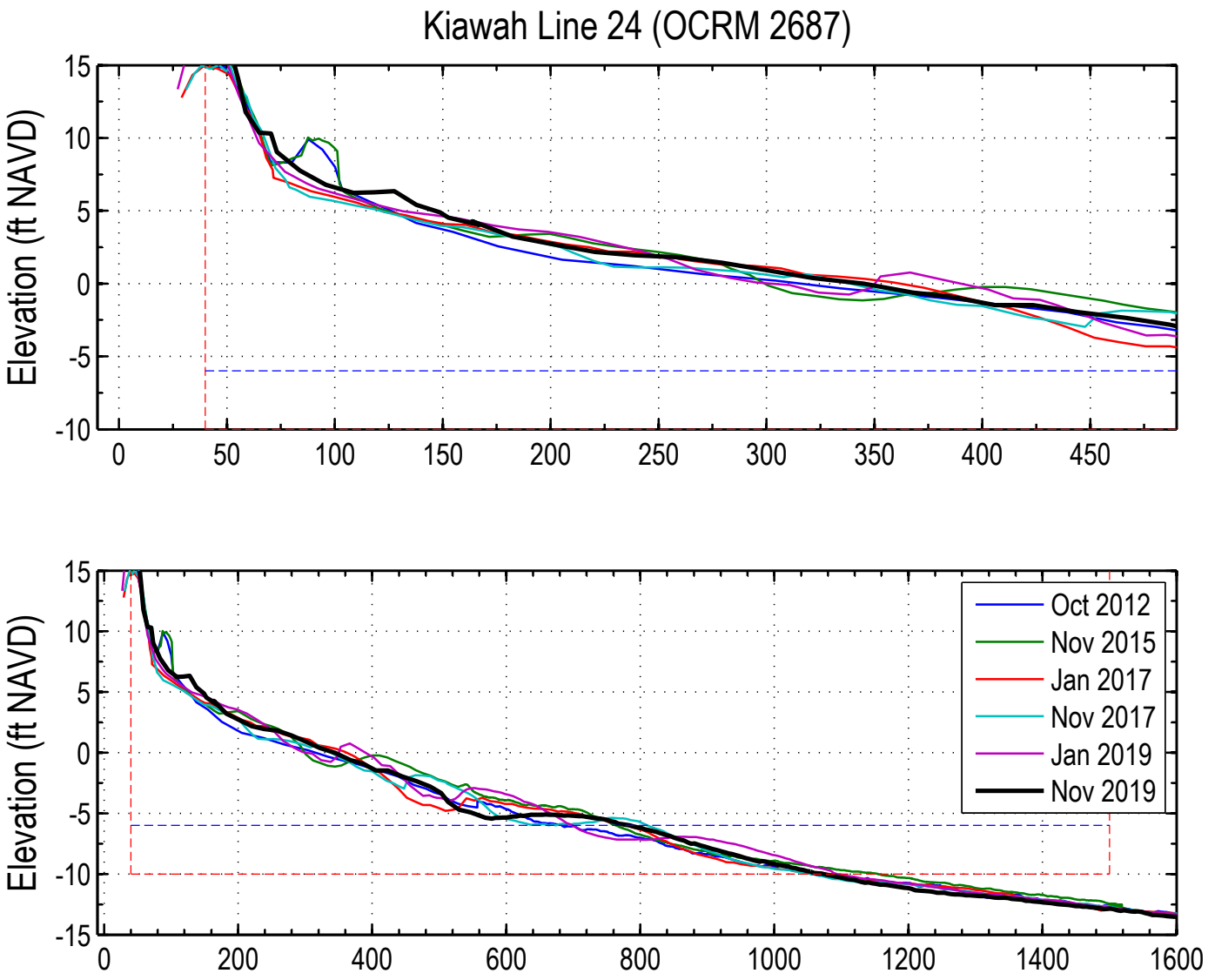


Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	0.1	1.0
Jan 2019 to Nov 2019	3.6	3.4

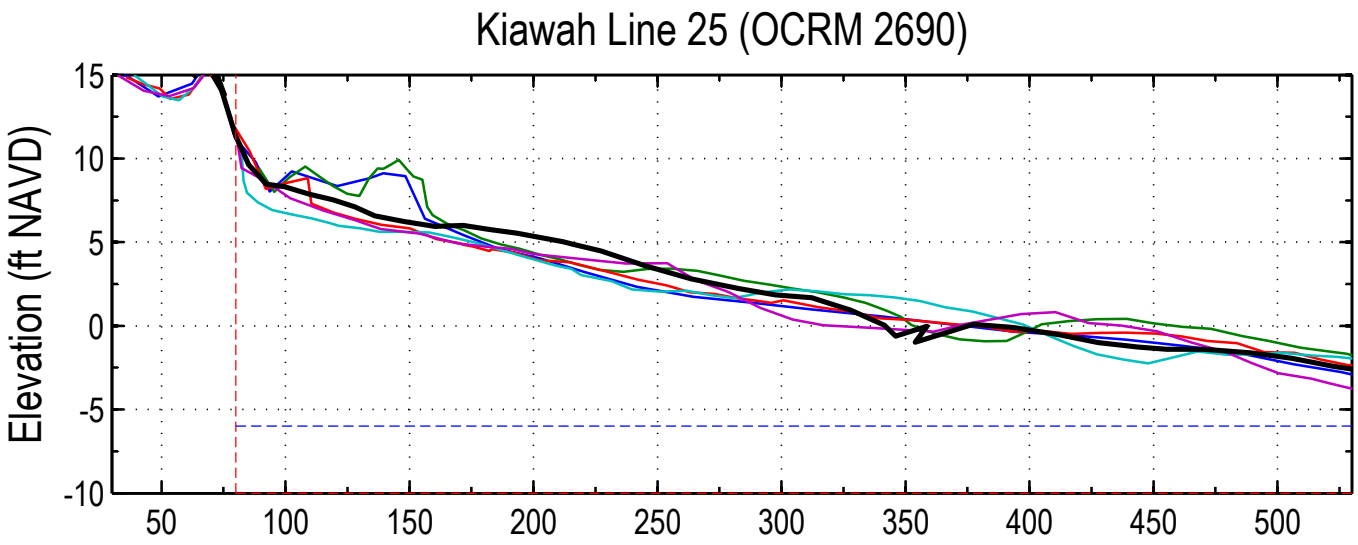
Kiawah Line 23 (OCRM 2685)

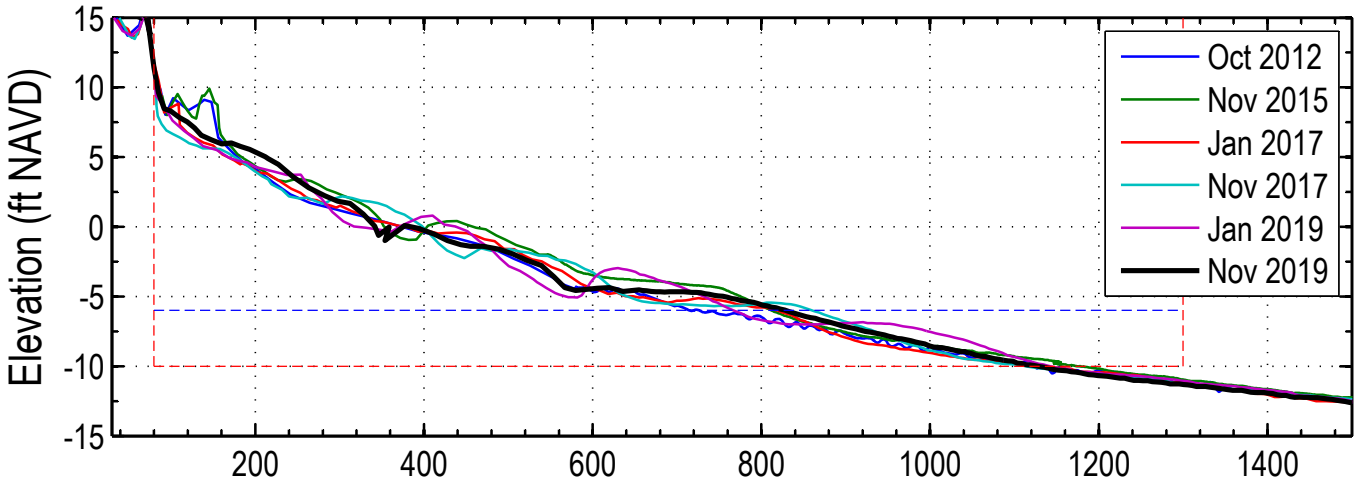


Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	0.8	1.6
Jan 2019 to Nov 2019	-1.5	-3.0



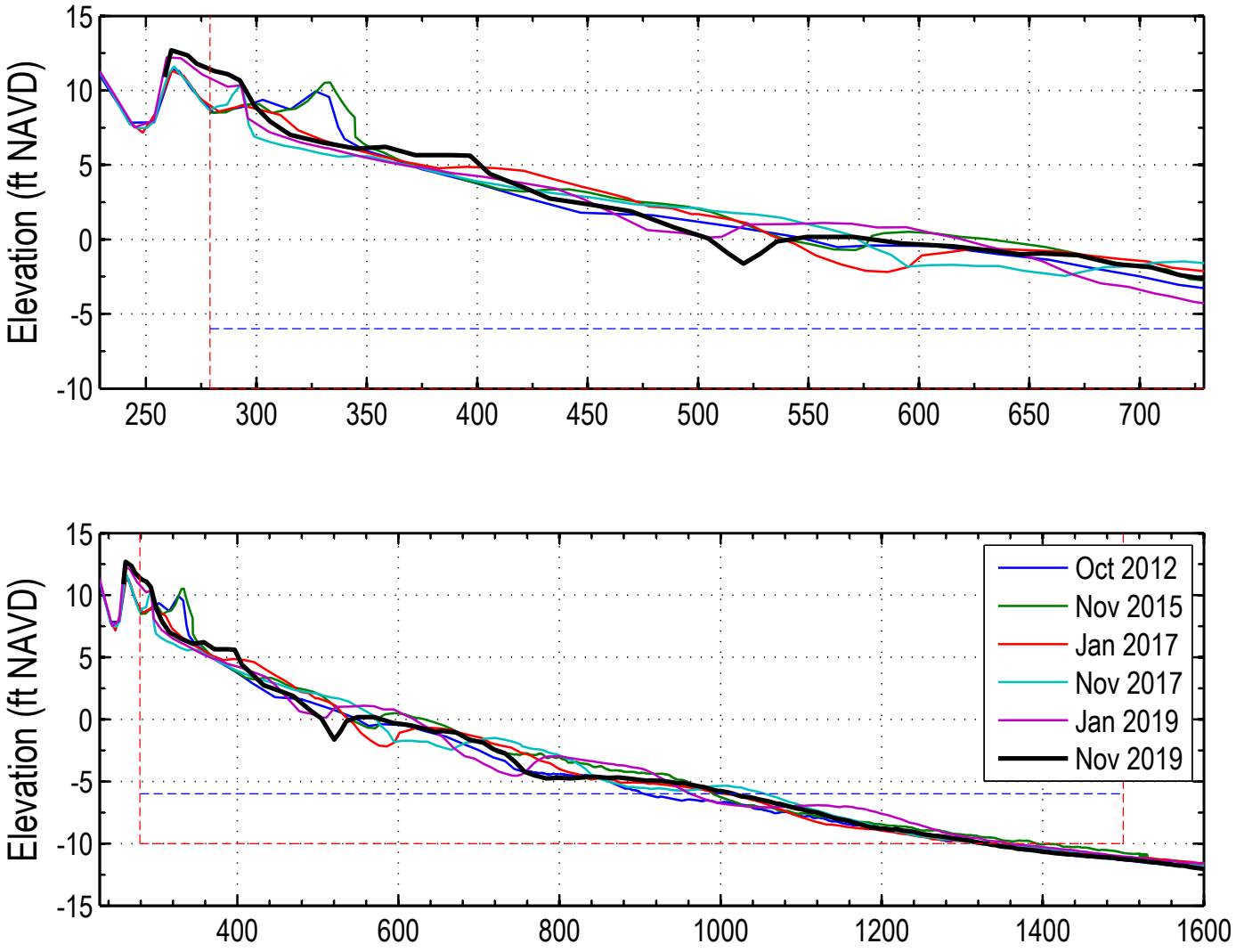
Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	1.4	2.3
Jan 2019 to Nov 2019	-3.8	-5.4



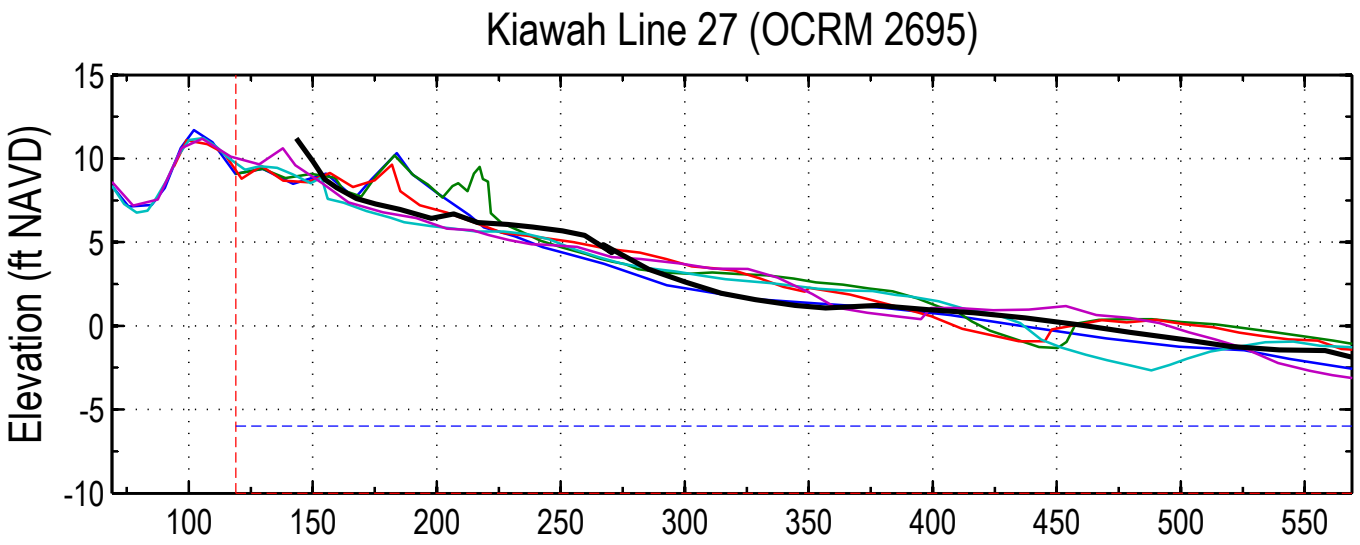


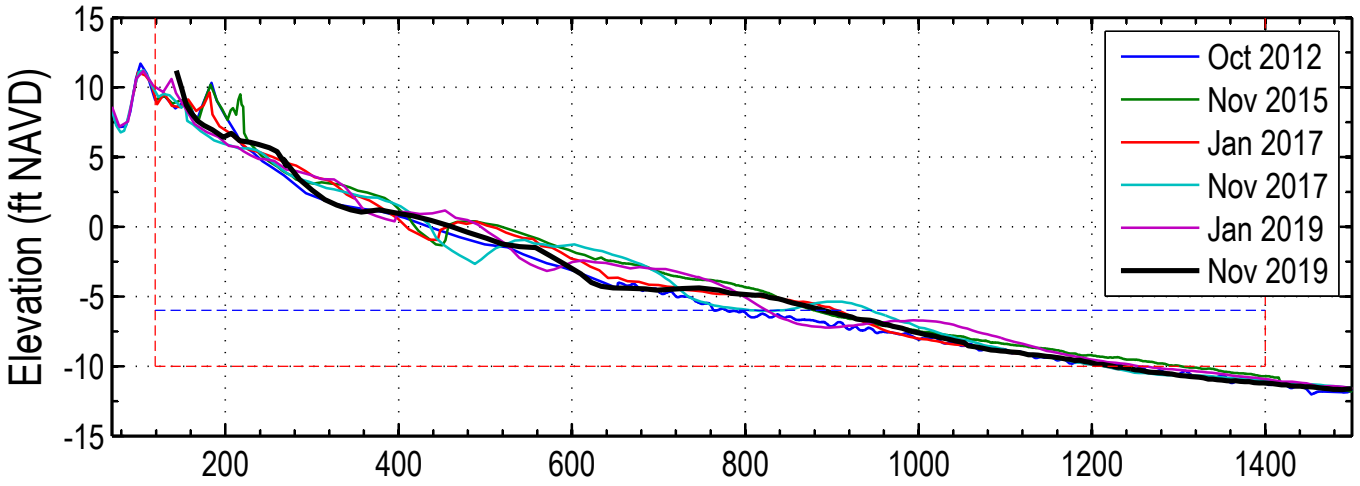
Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	1.0	1.8
Jan 2019 to Nov 2019	4.9	0.7

Kiawah Line 26 (OCRM 2692)

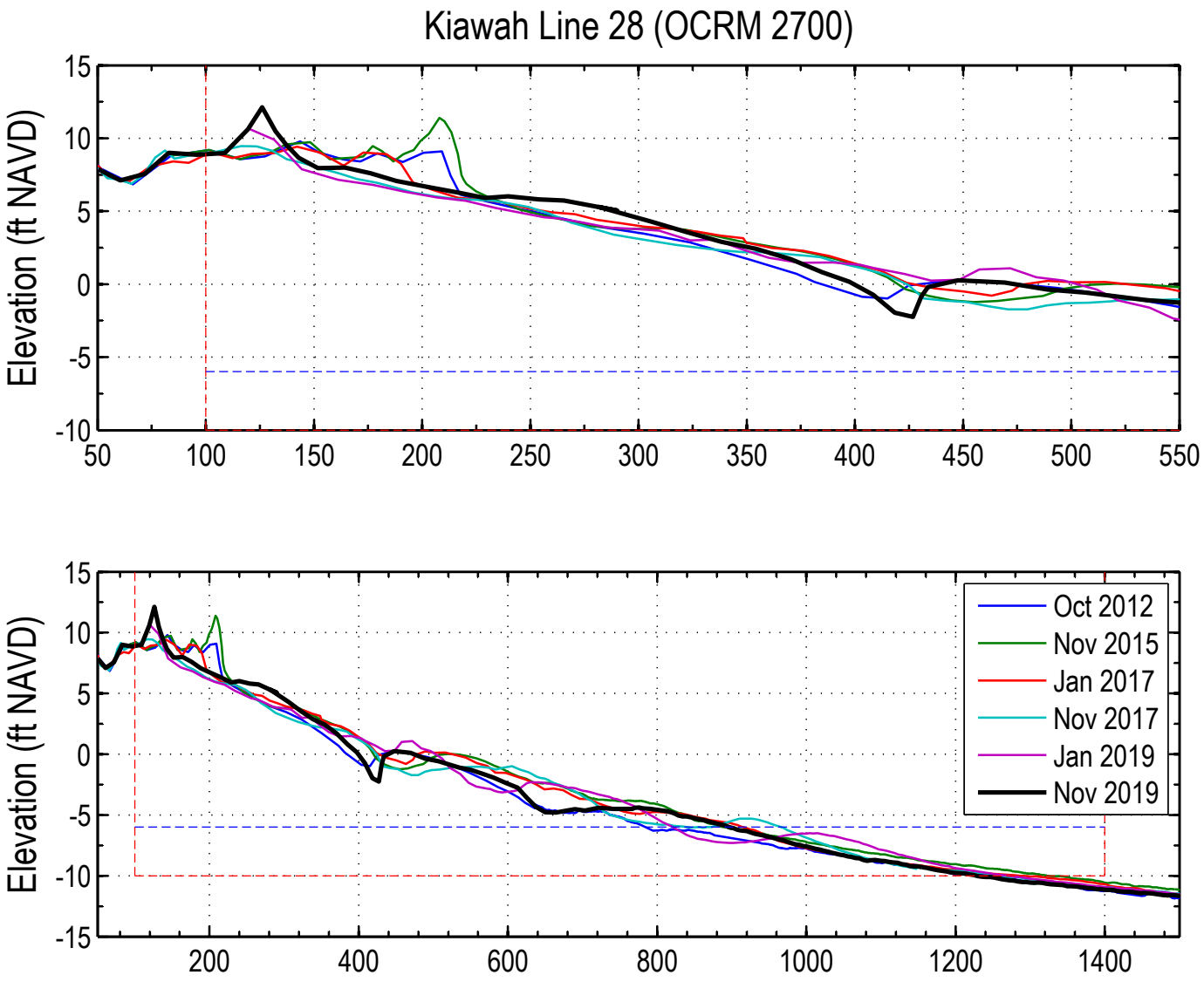


Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	0.8	1.6
Jan 2019 to Nov 2019	-2.6	-7.3

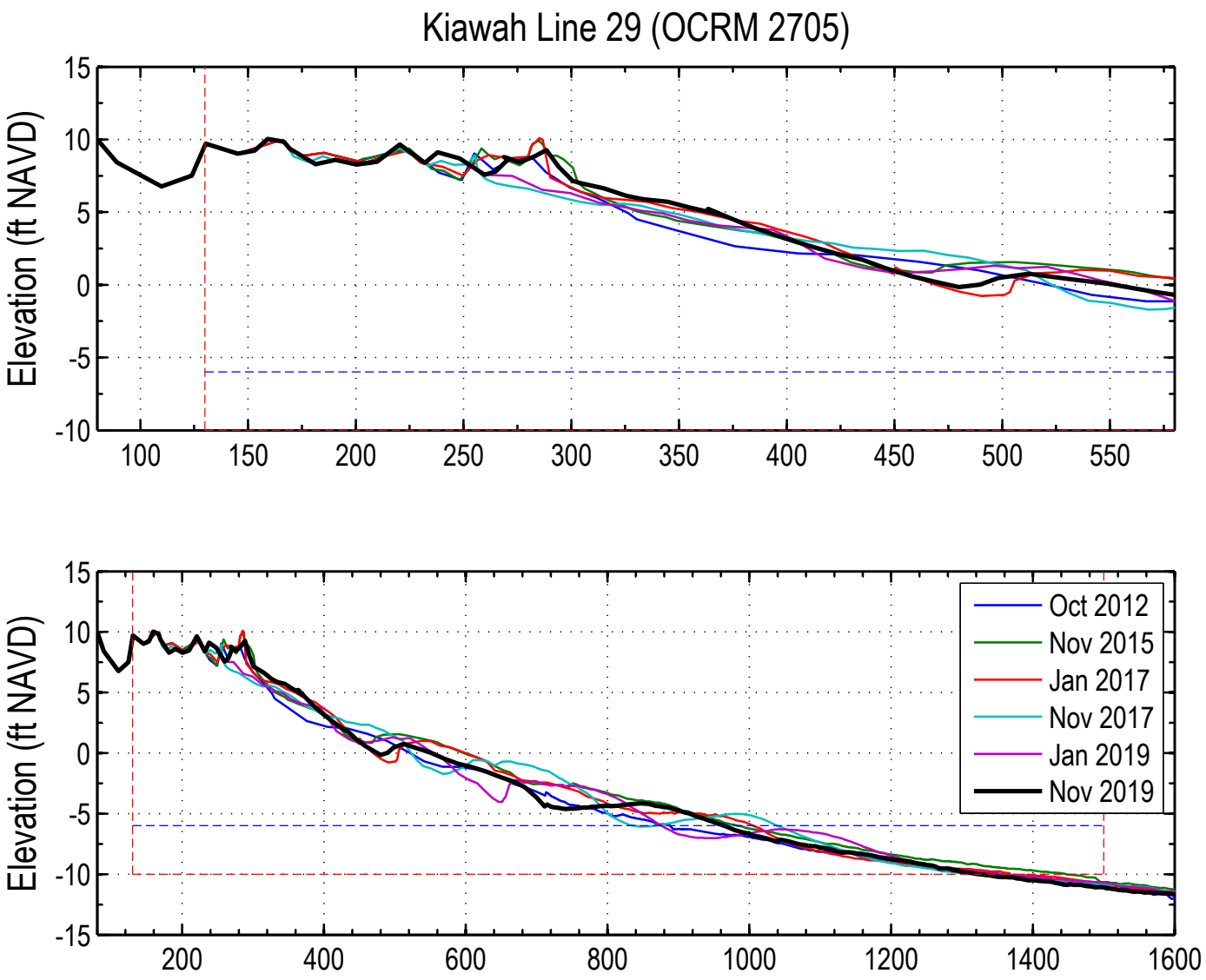




Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	1.4	2.1
Jan 2019 to Nov 2019	-6.8	-10.7

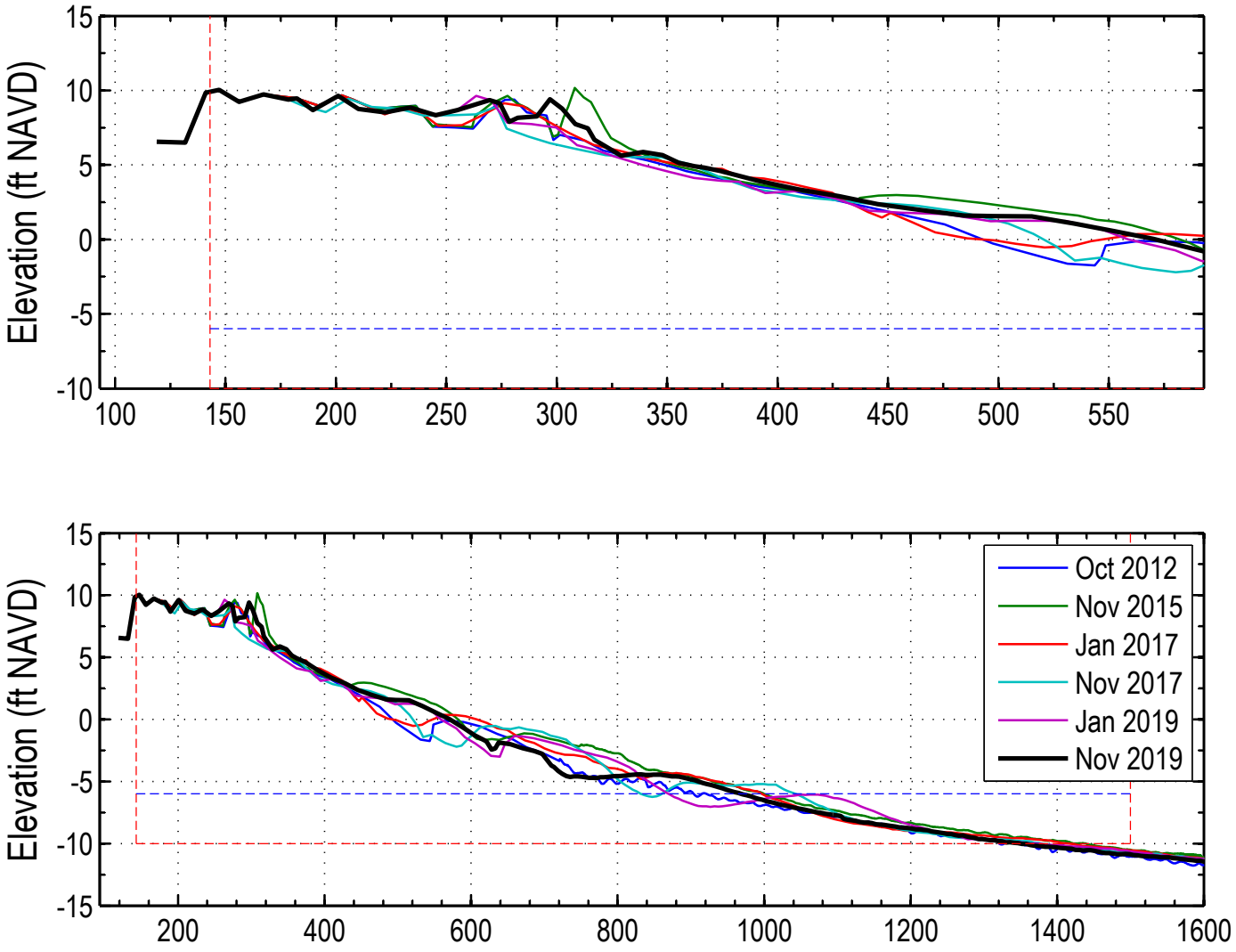


Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	1.4	2.0
Jan 2019 to Nov 2019	-1.3	-6.7

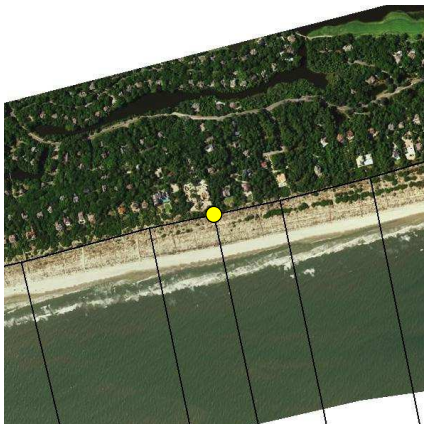


Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	1.6	2.1
Jan 2019 to Nov 2019	4.9	0.9

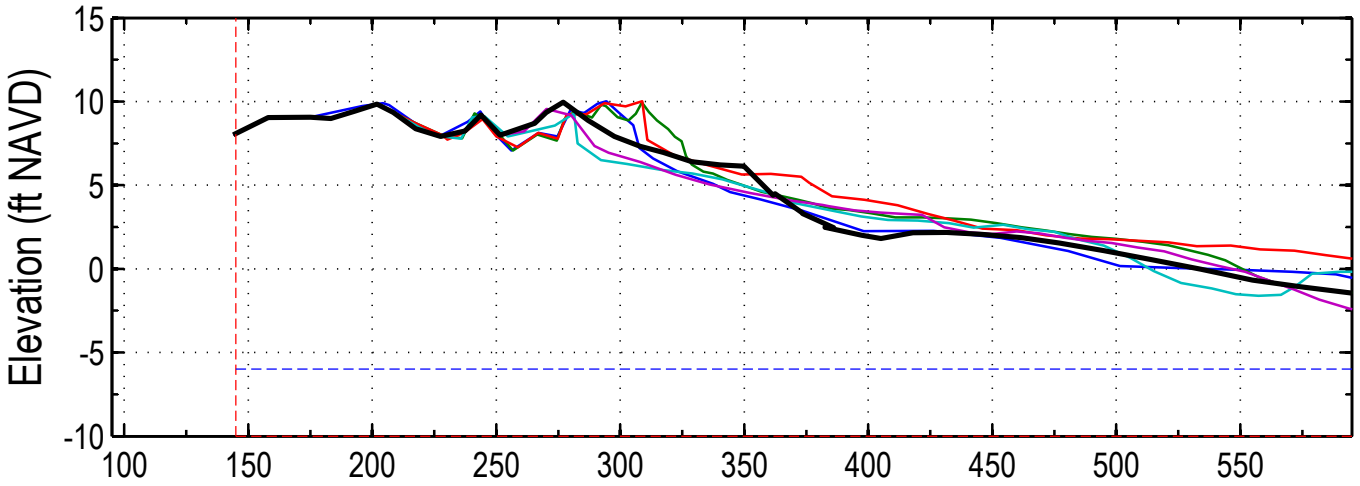
Kiawah Line 30

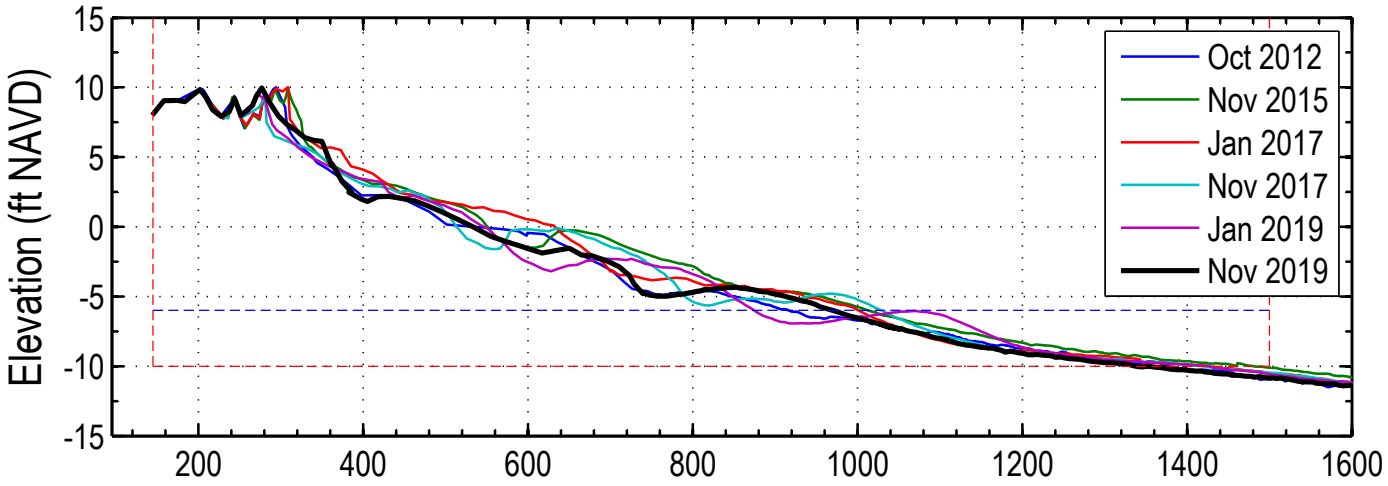


Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	1.5	1.8
Jan 2019 to Nov 2019	1.9	-2.9

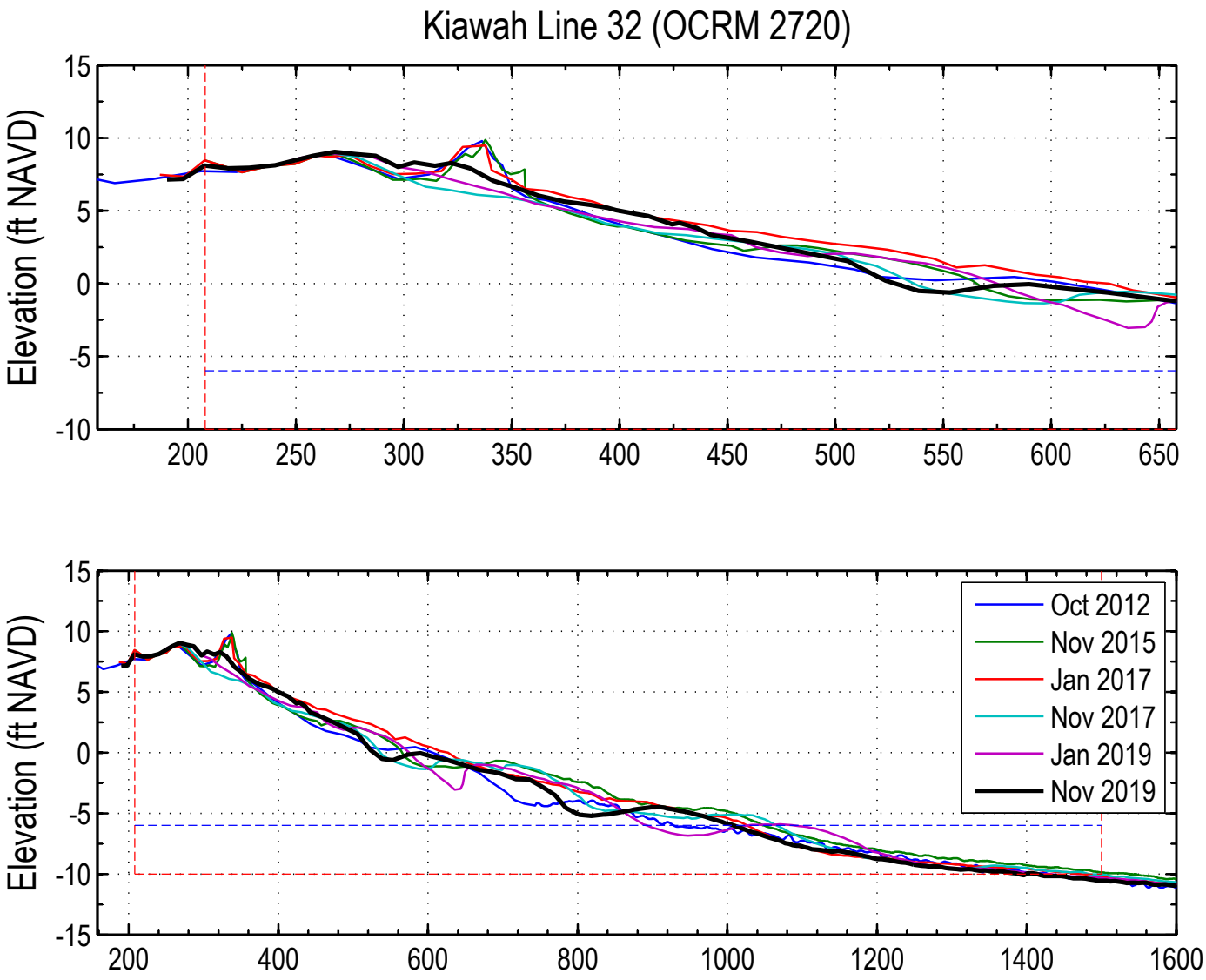


Kiawah Line 31 (OCRM 2715)



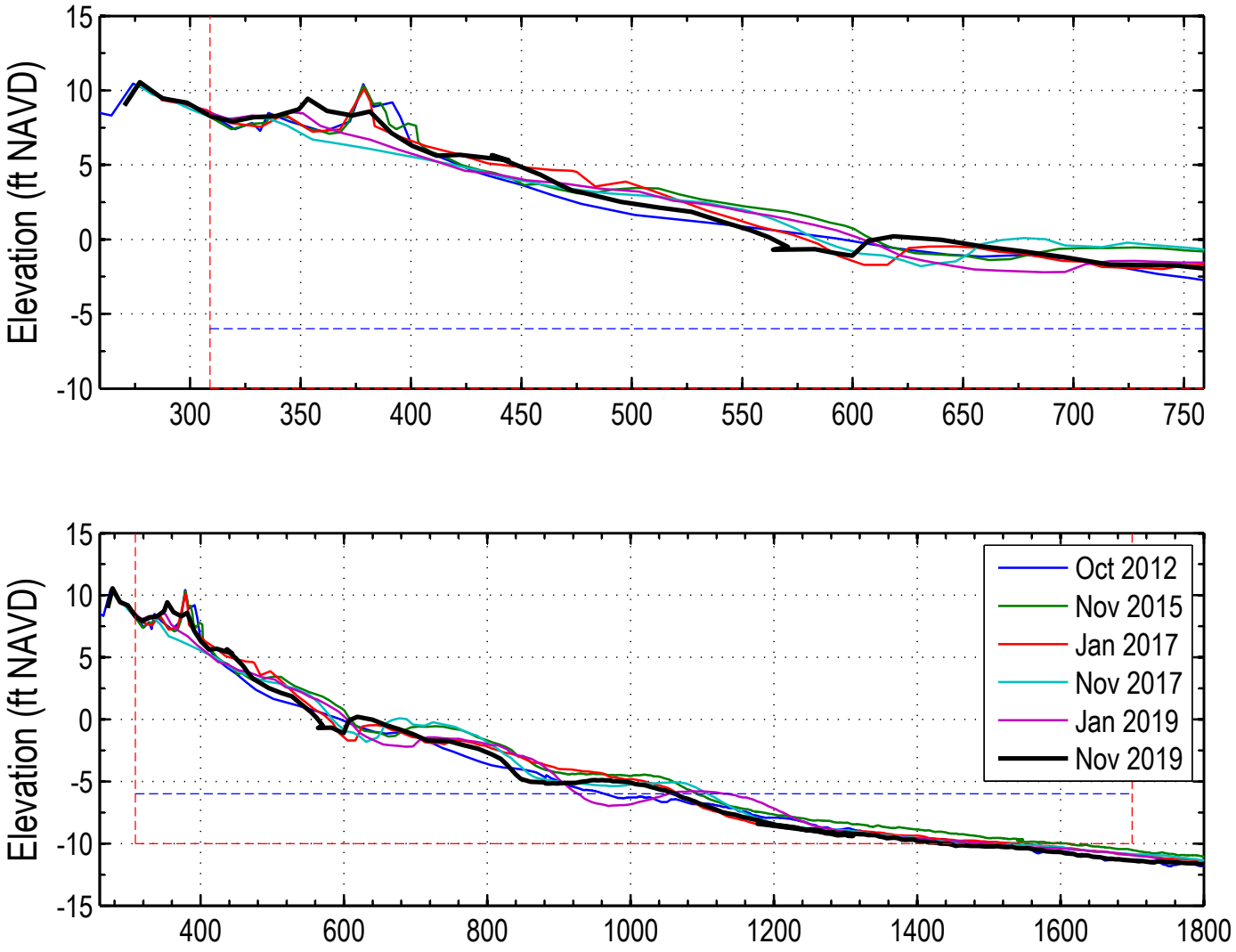


Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	0.5	0.2
Jan 2019 to Nov 2019	-0.1	-8.3

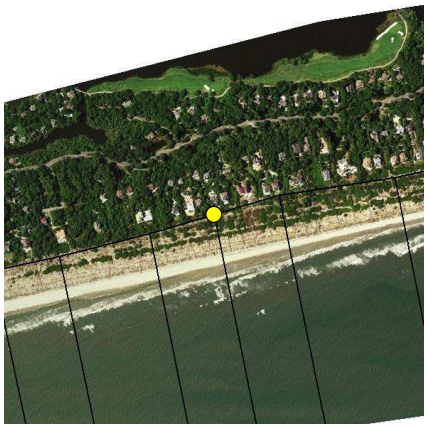


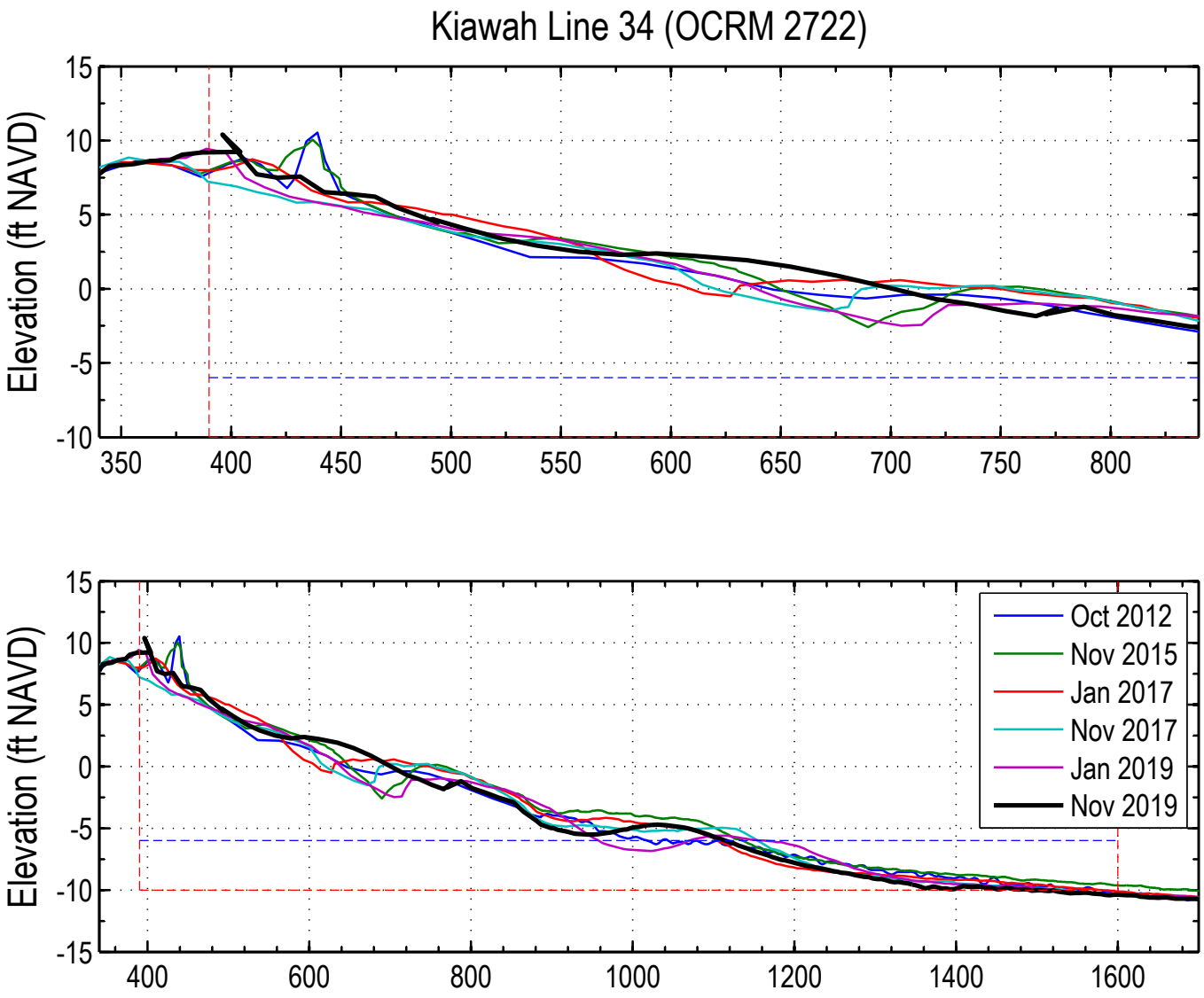
Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	1.4	0.9
Jan 2019 to Nov 2019	1.6	-5.8

Kiawah Line 33

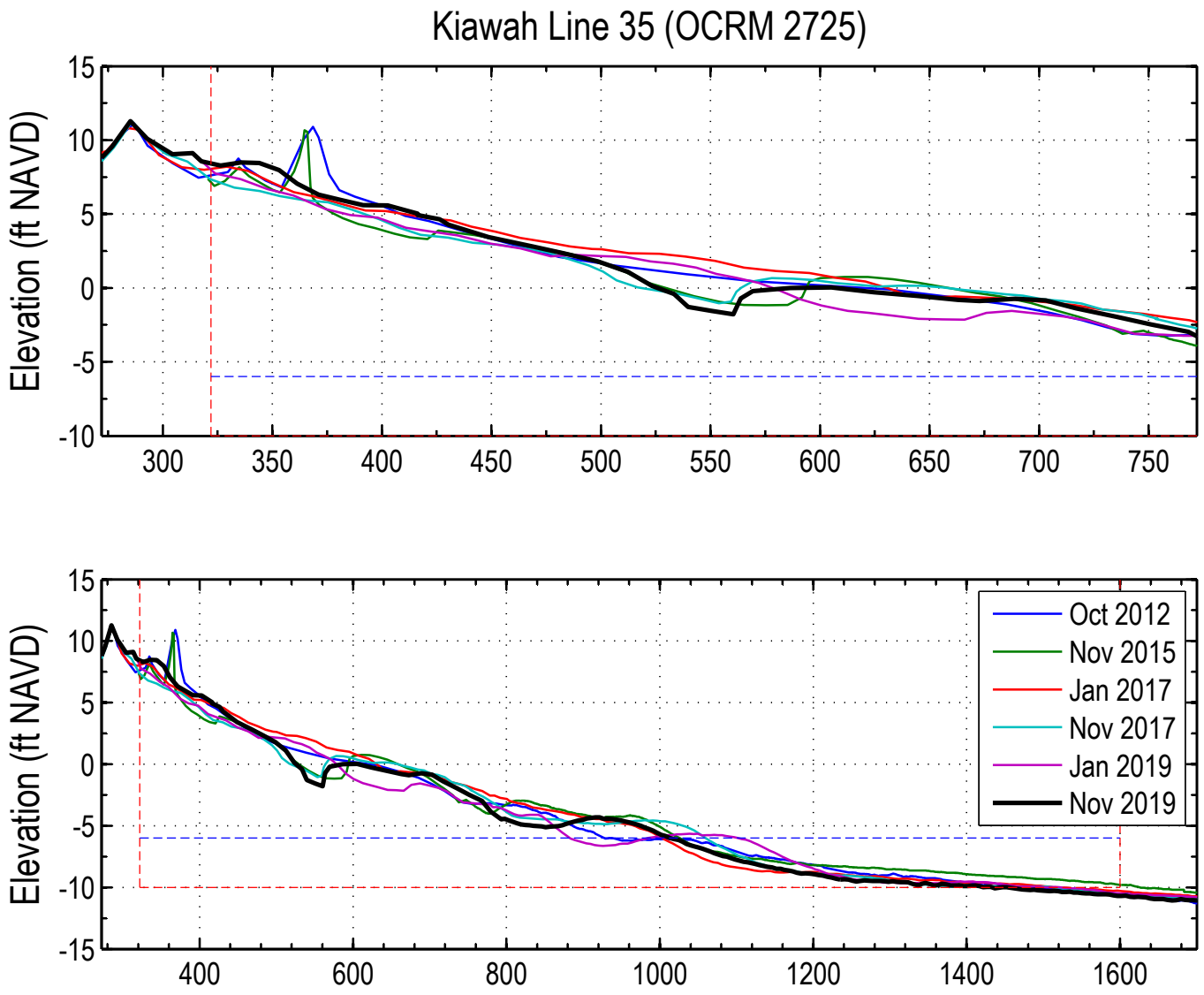


Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	1.4	1.0
Jan 2019 to Nov 2019	1.4	-5.6

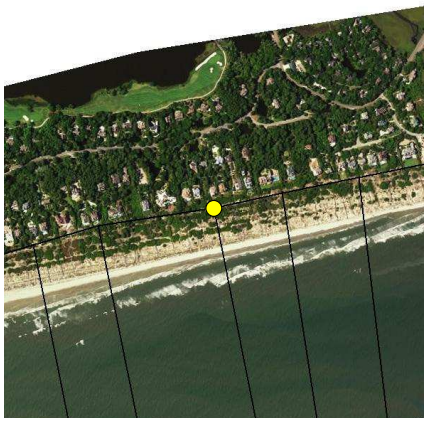


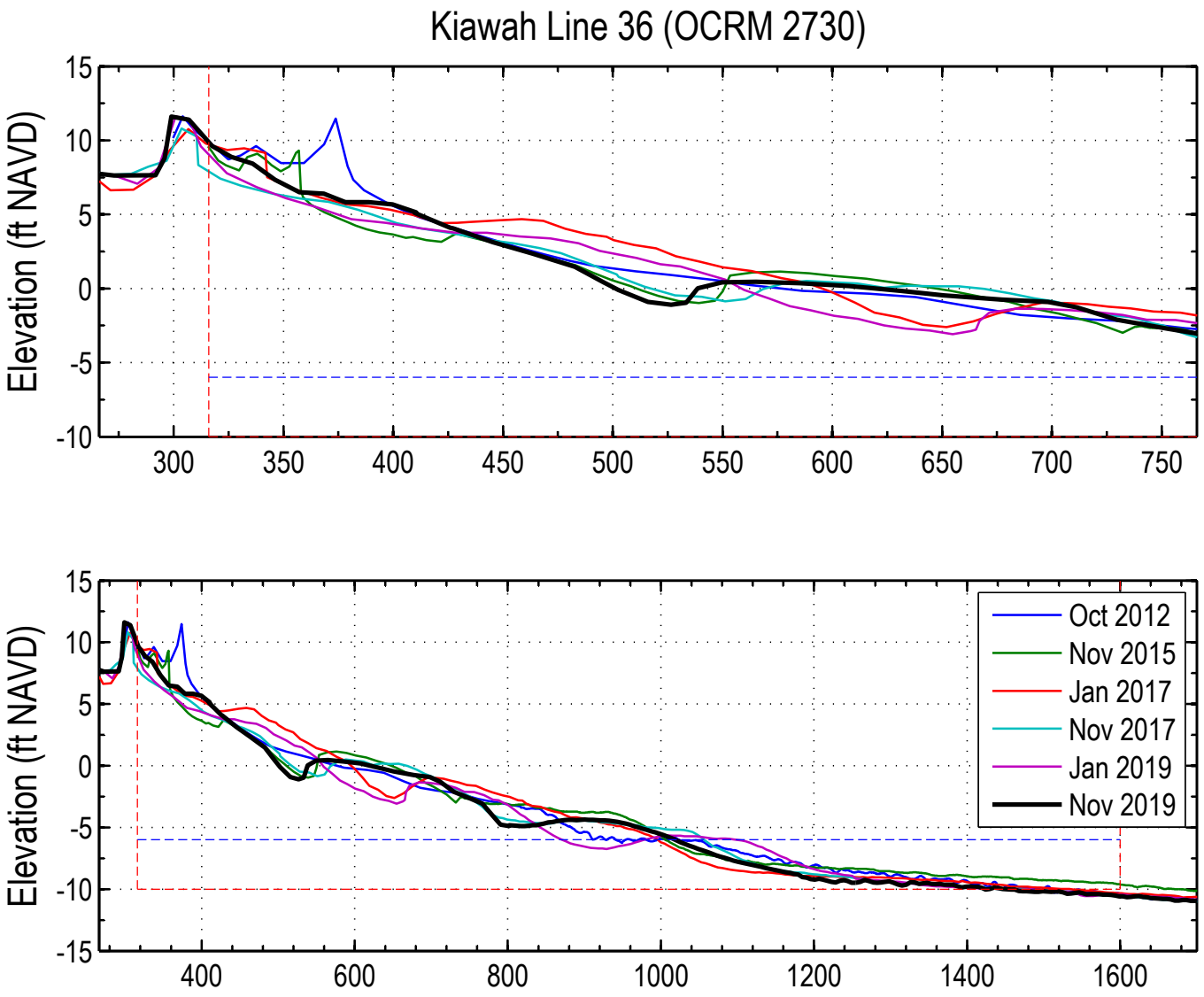


Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	1.1	-0.0
Jan 2019 to Nov 2019	12.0	5.0



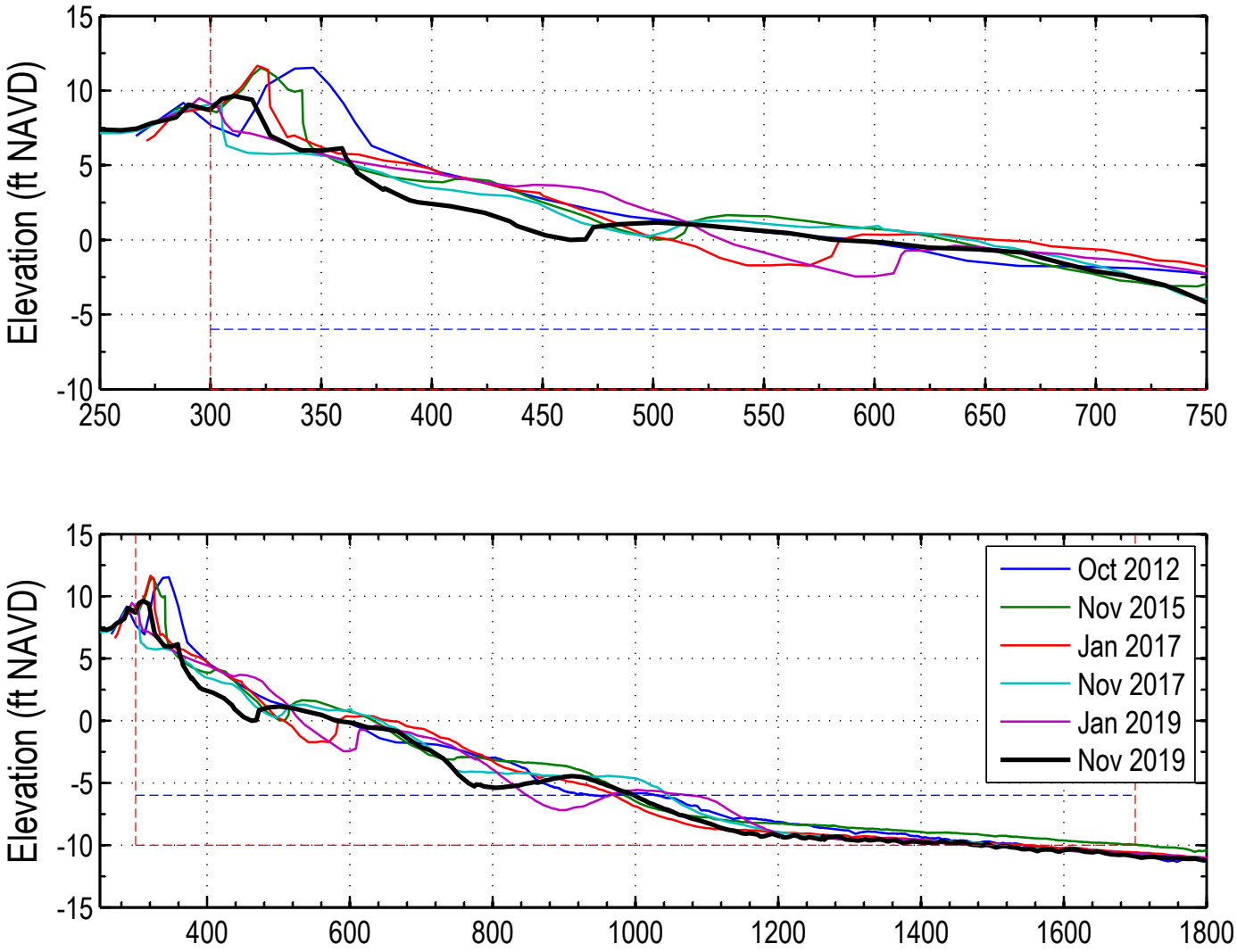
Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	-0.3	-1.5
Jan 2019 to Nov 2019	11.4	2.7



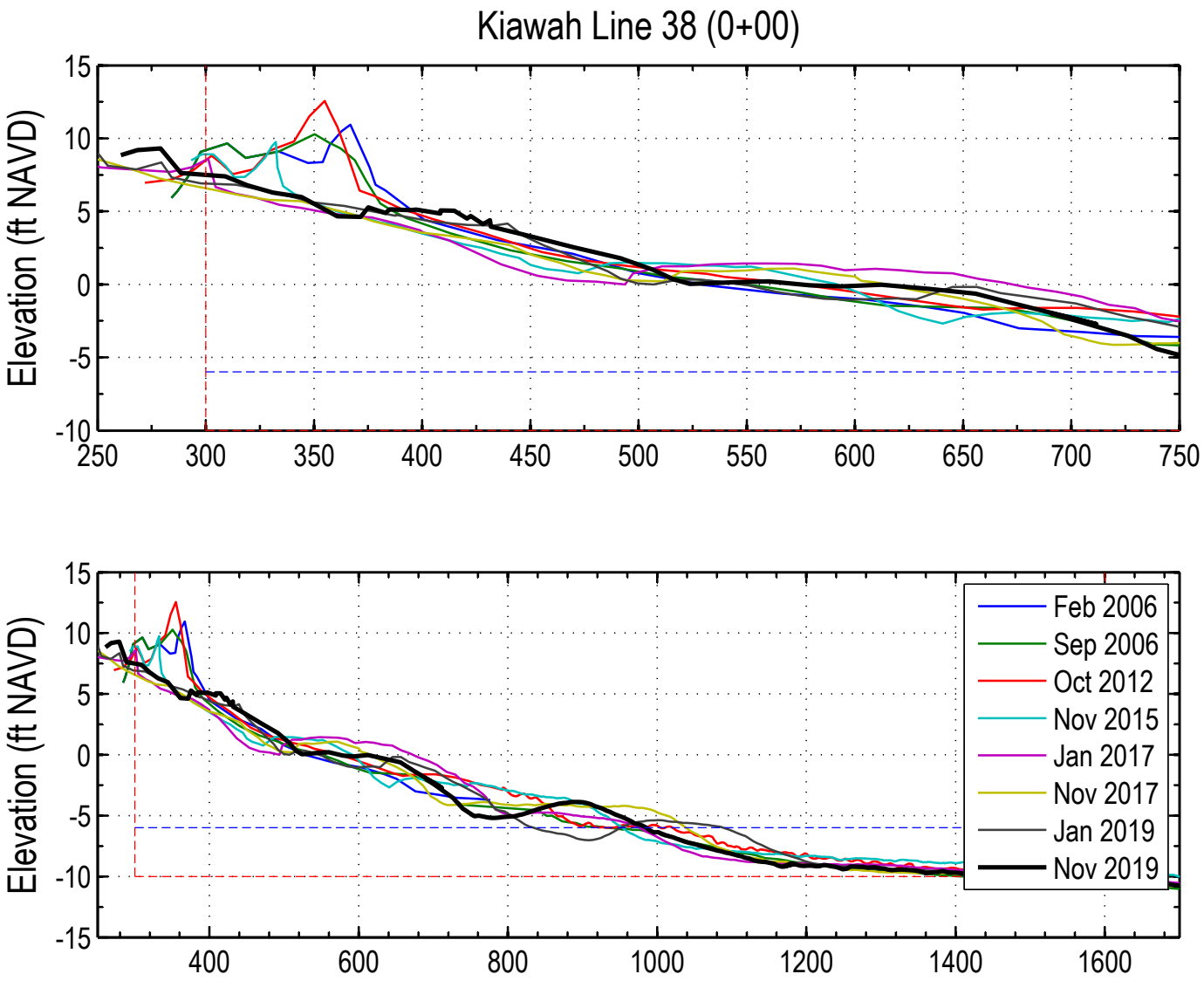


Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	-0.6	-2.0
Jan 2019 to Nov 2019	10.9	2.6

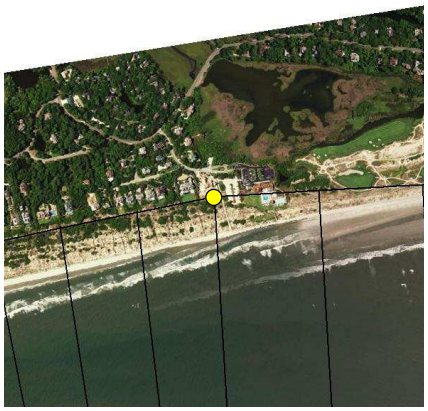
Kiawah Line 37

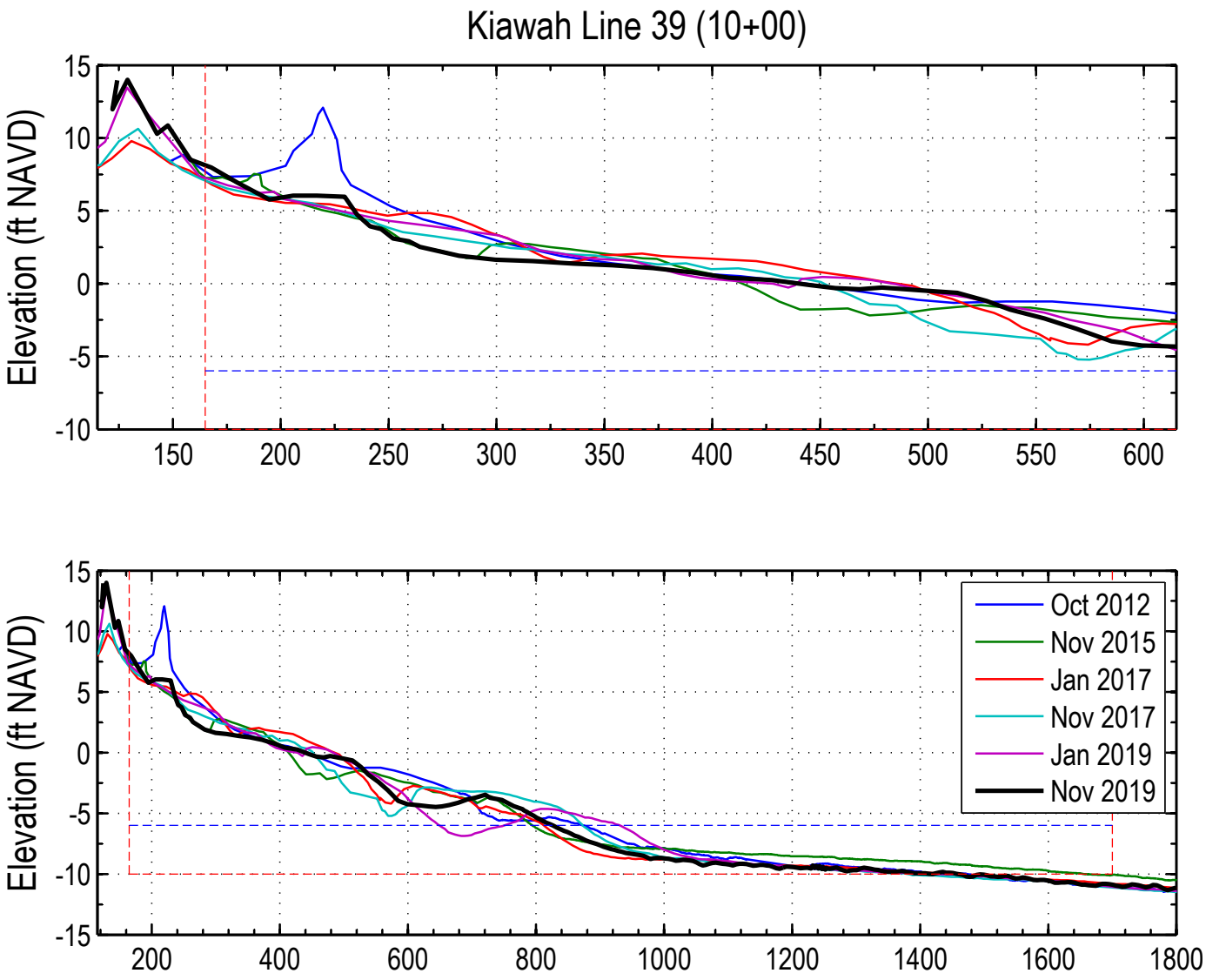


Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	-2.8	-4.7
Jan 2019 to Nov 2019	-7.1	-14.1

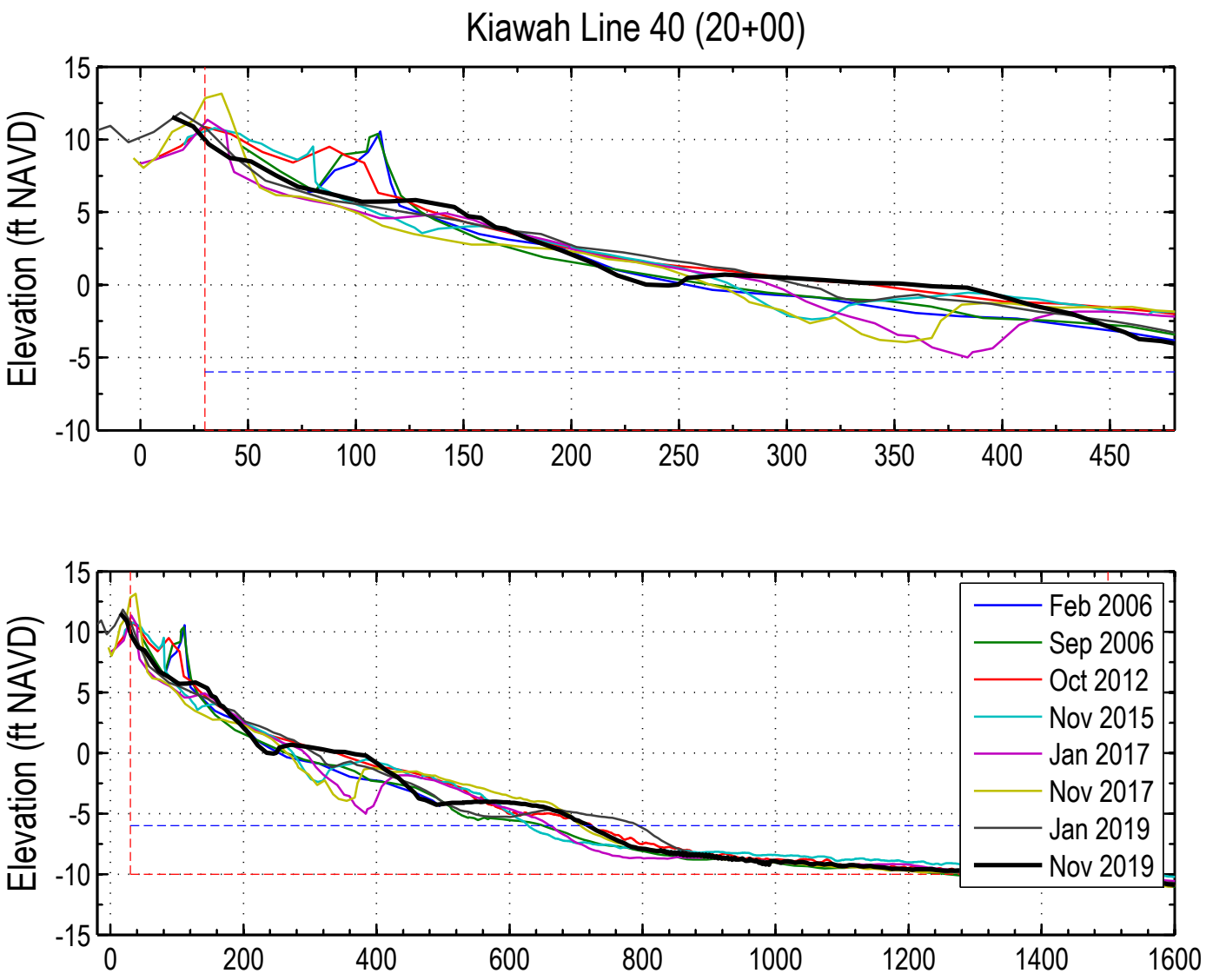


Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	-1.4	-2.9
Jan 2019 to Nov 2019	6.9	-1.3

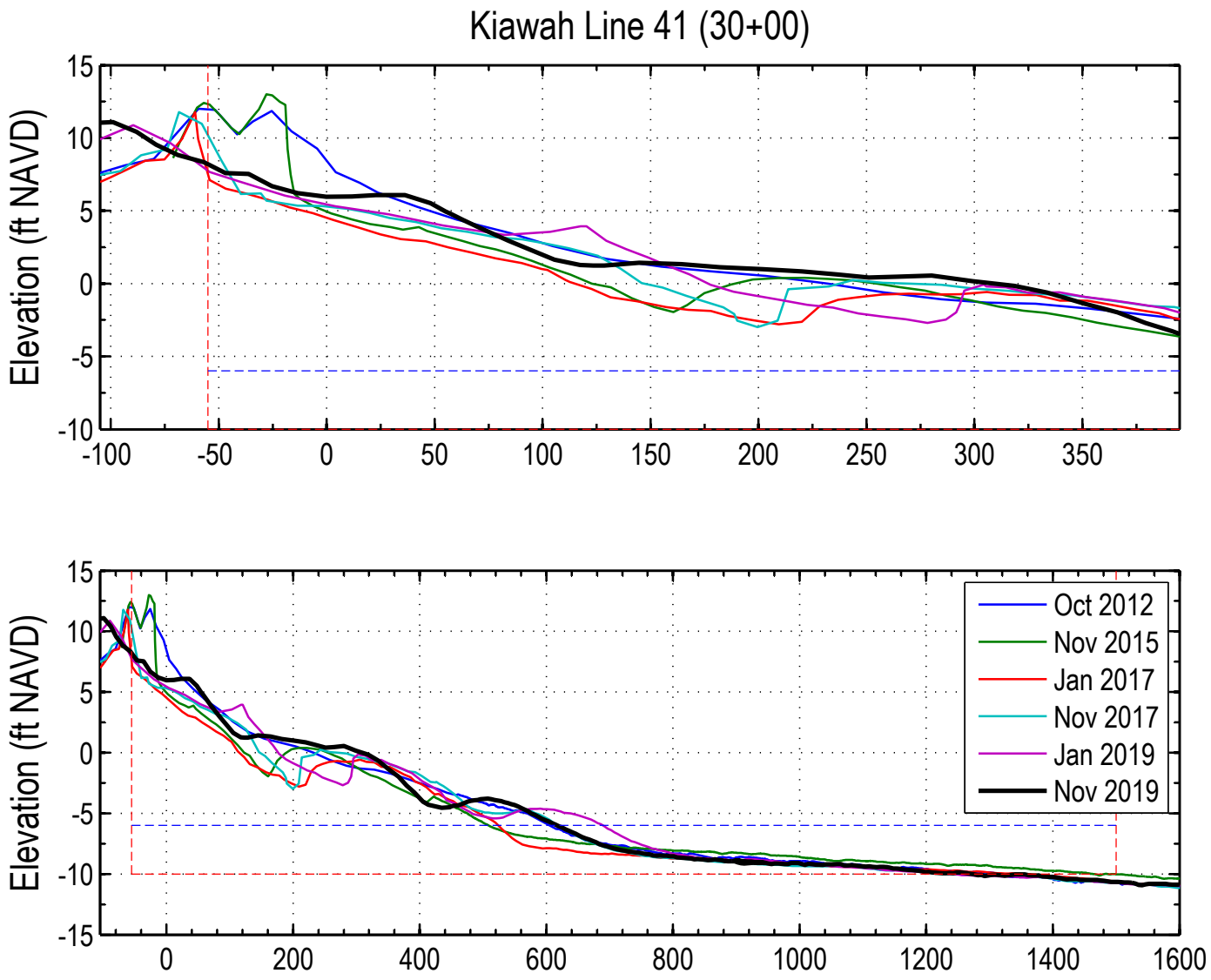




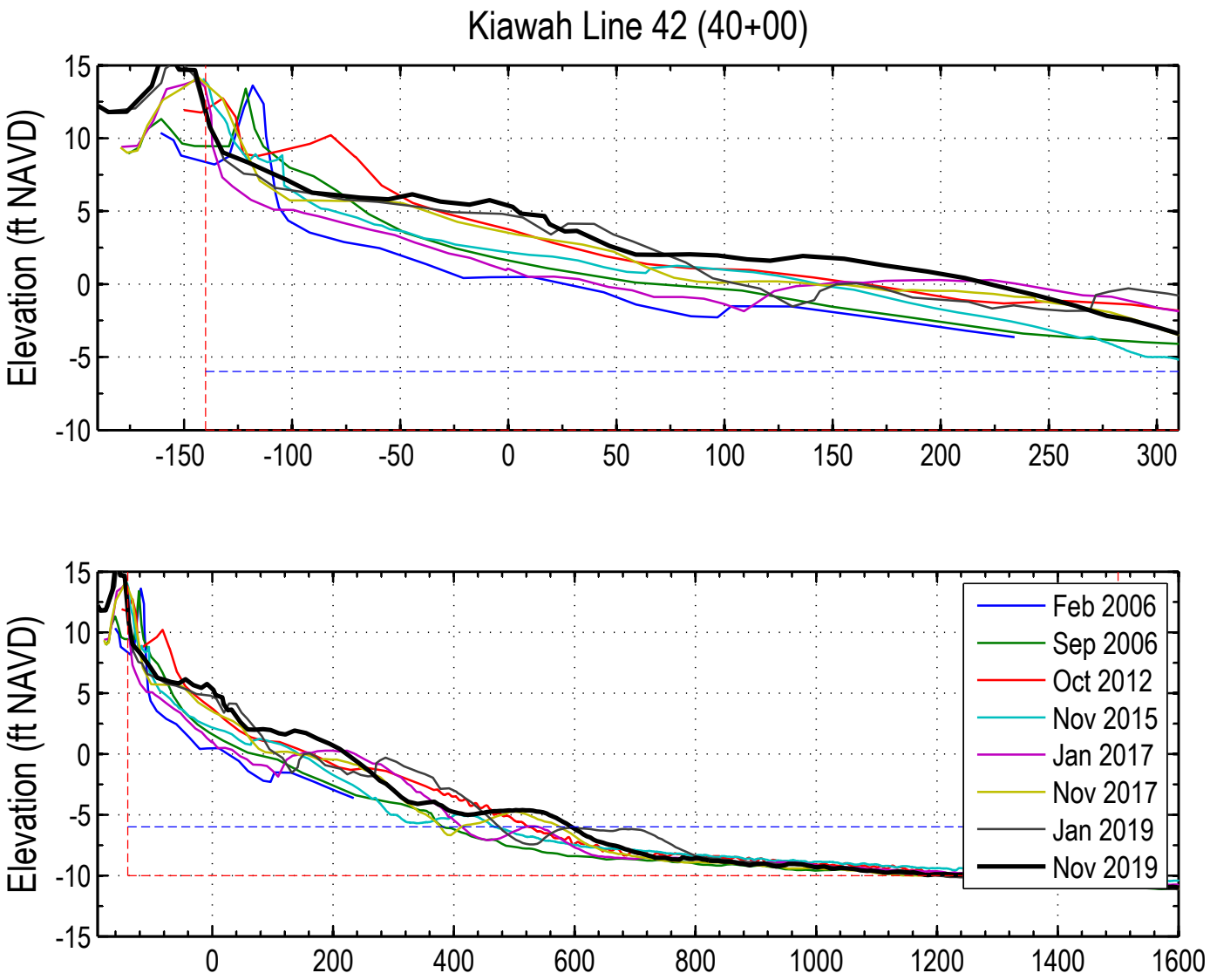
Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	-2.3	-3.8
Jan 2019 to Nov 2019	1.1	-7.6



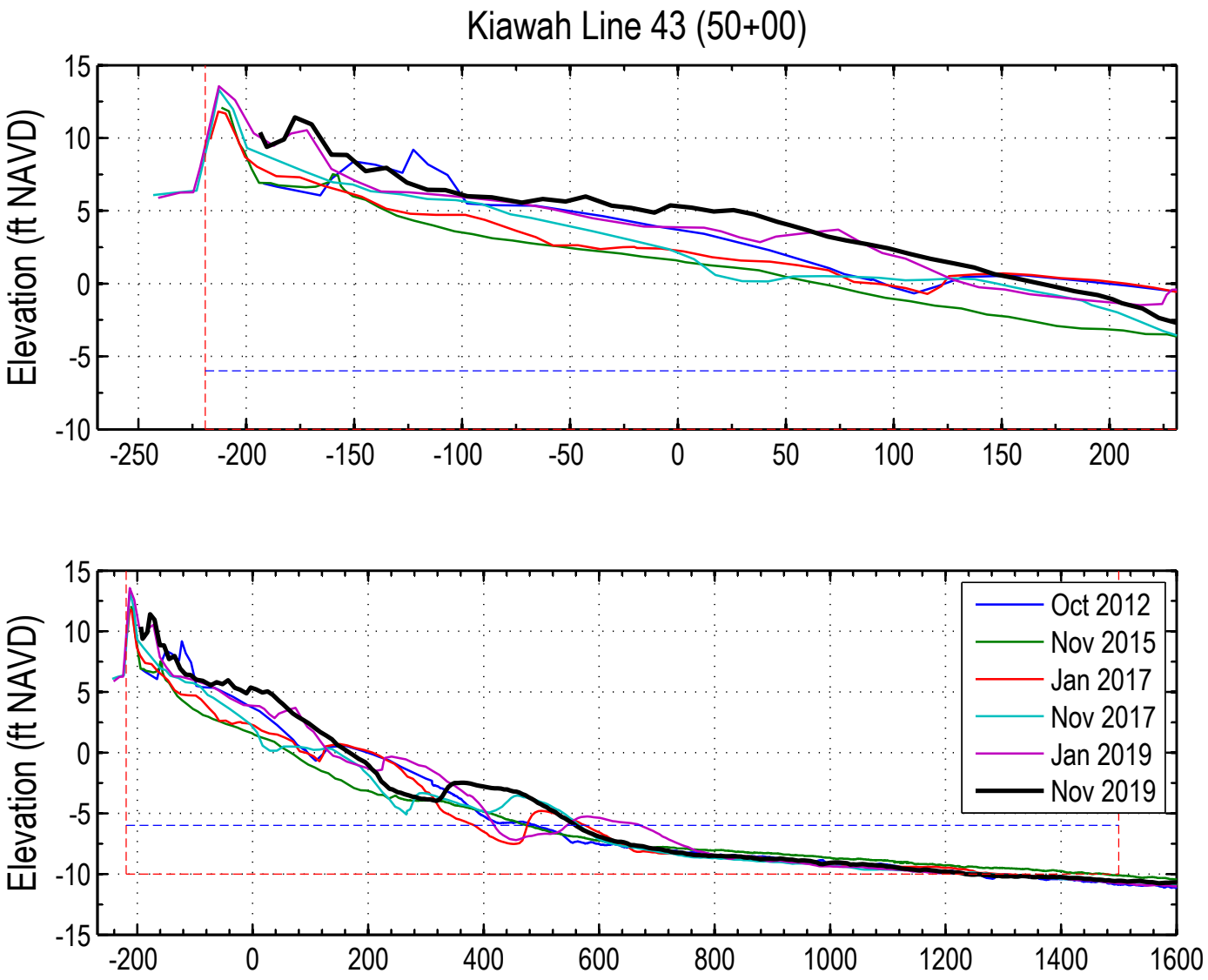
Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	-1.5	-2.1
Jan 2019 to Nov 2019	3.0	-3.0



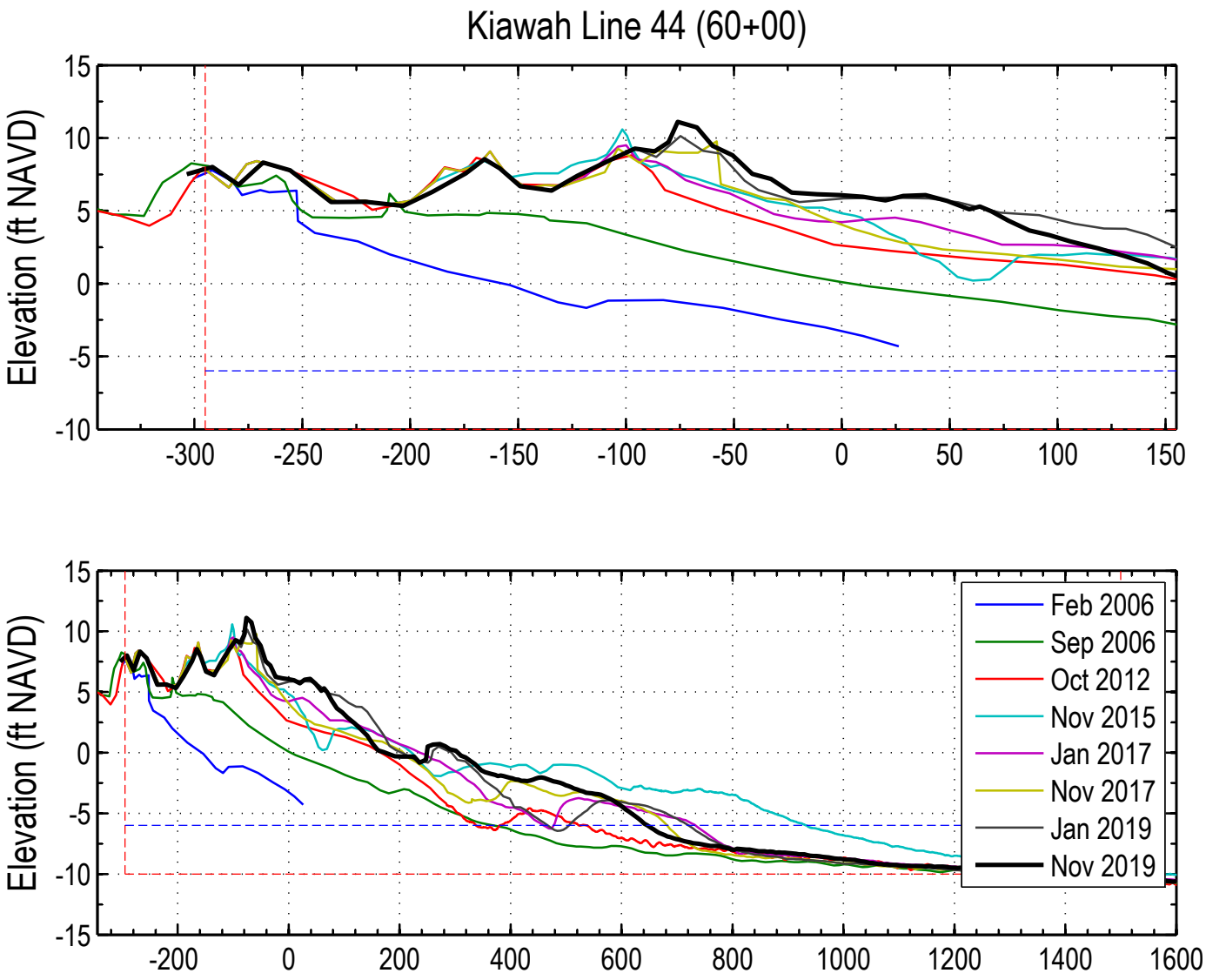
Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	-0.9	-1.5
Jan 2019 to Nov 2019	7.9	1.5



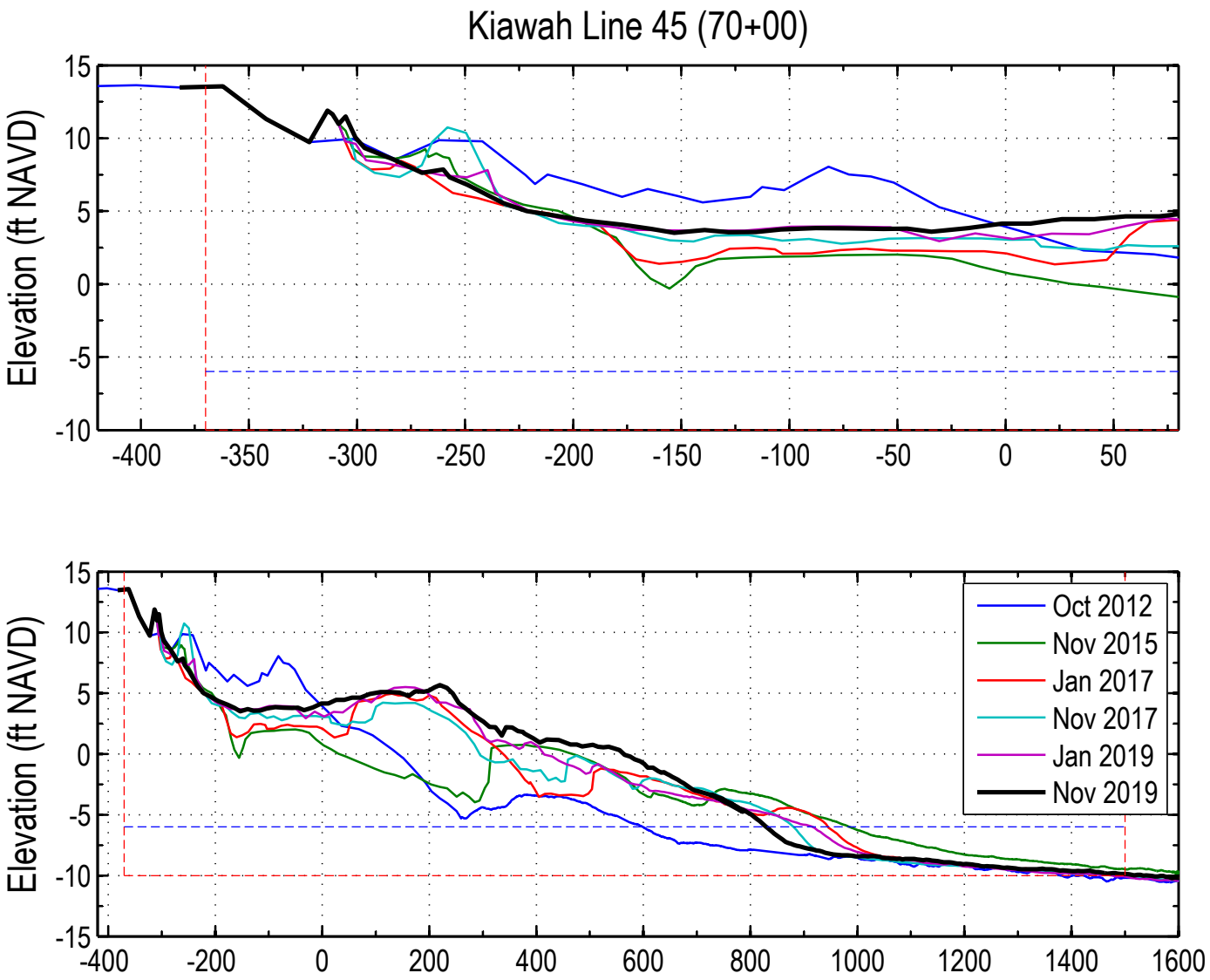
Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	0.1	-0.1
Jan 2019 to Nov 2019	7.3	0.8



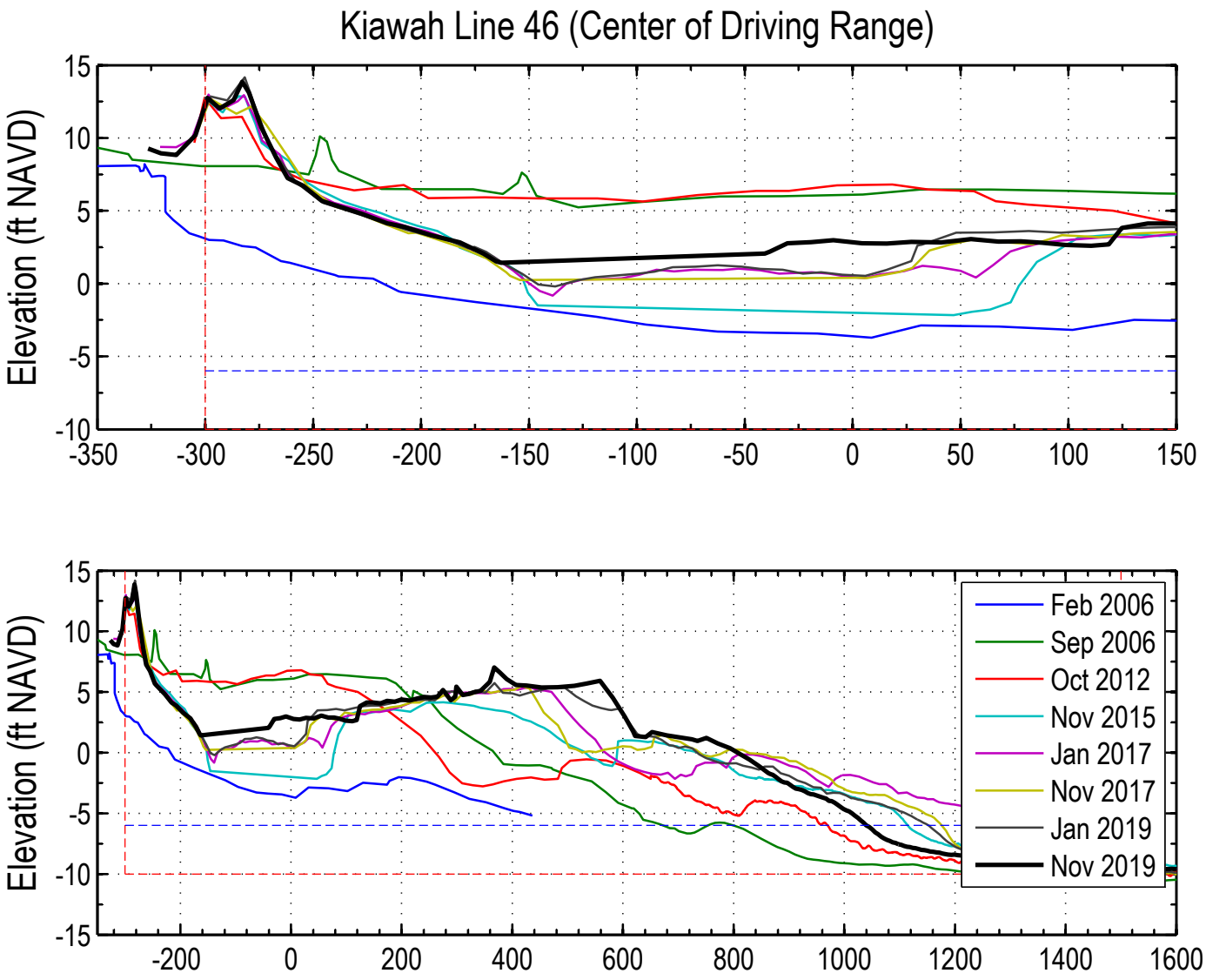
Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	3.5	3.9
Jan 2019 to Nov 2019	11.6	9.2



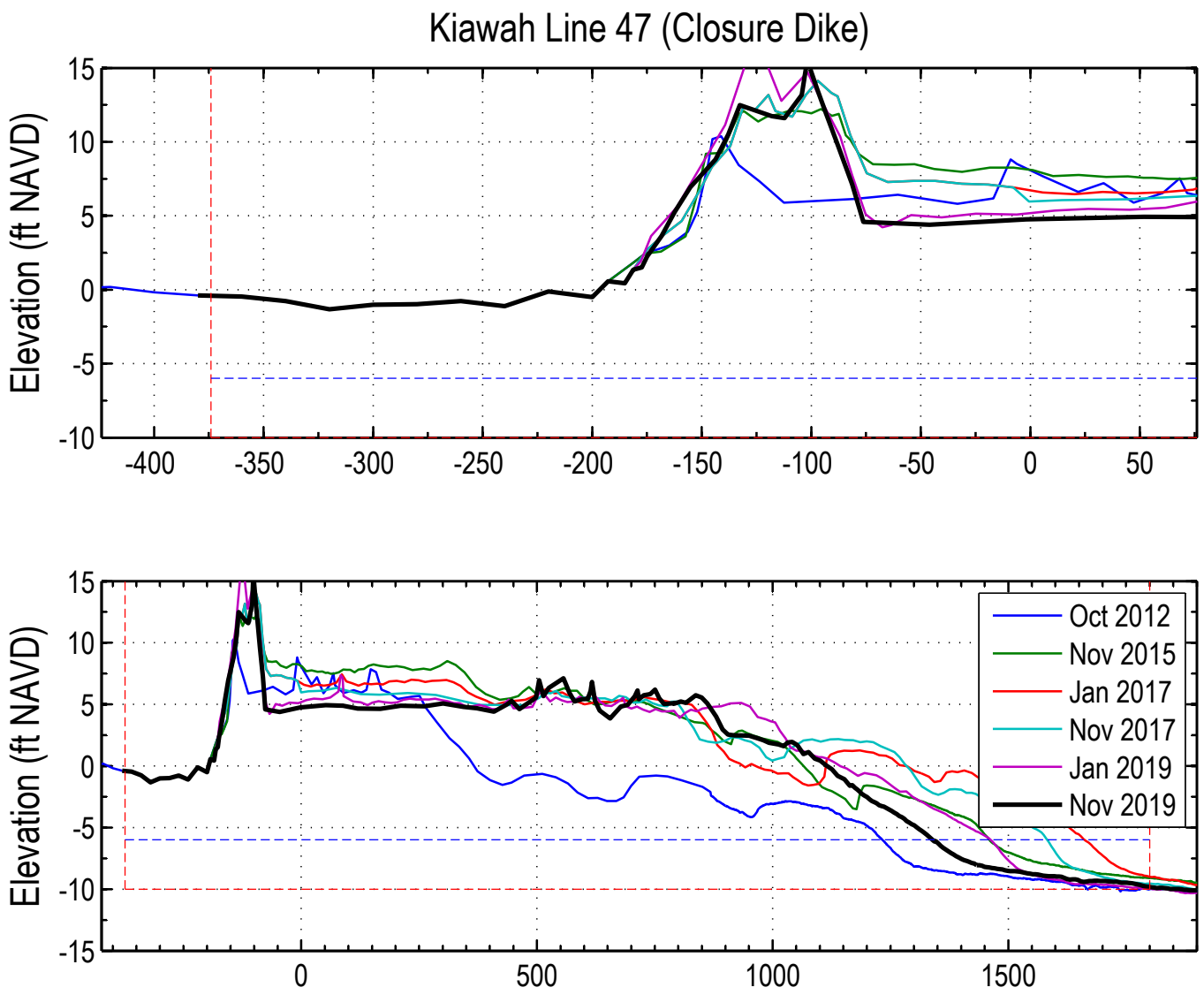
Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	10.4	11.7
Jan 2019 to Nov 2019	13.6	15.1



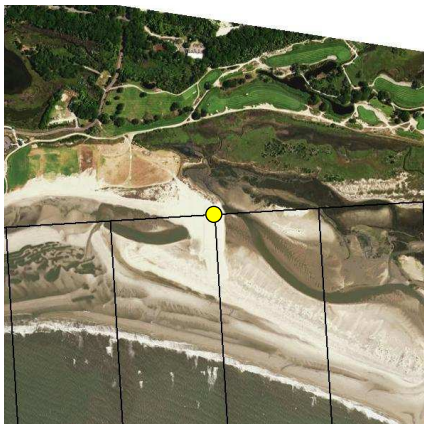
Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	16.8	19.7
Jan 2019 to Nov 2019	29.4	24.2

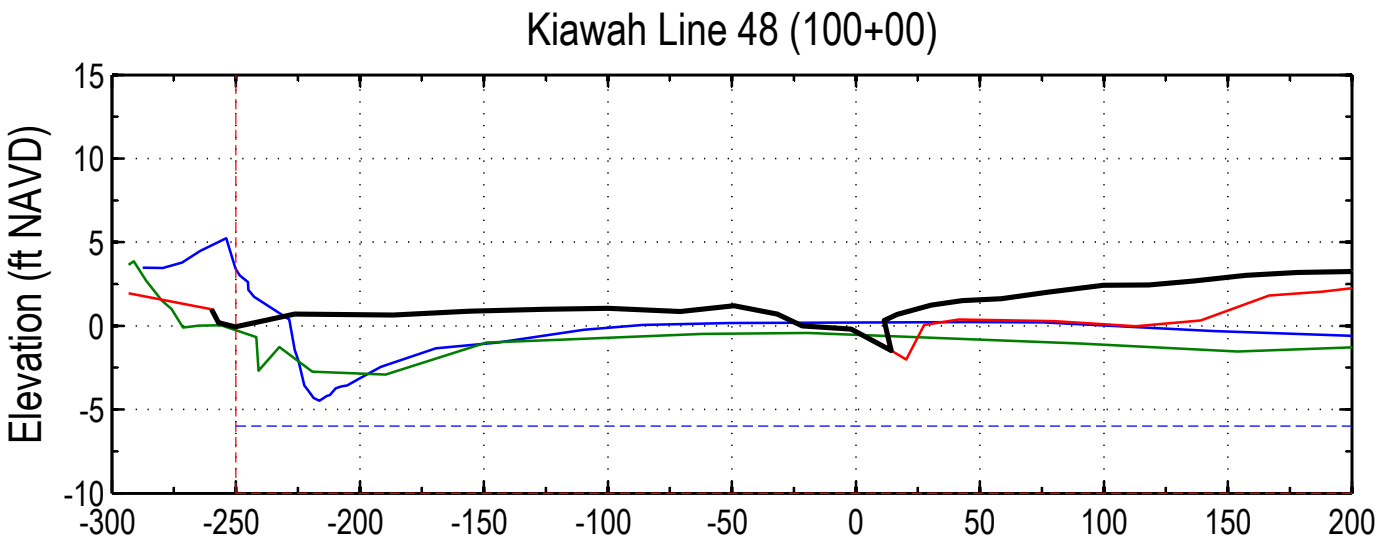


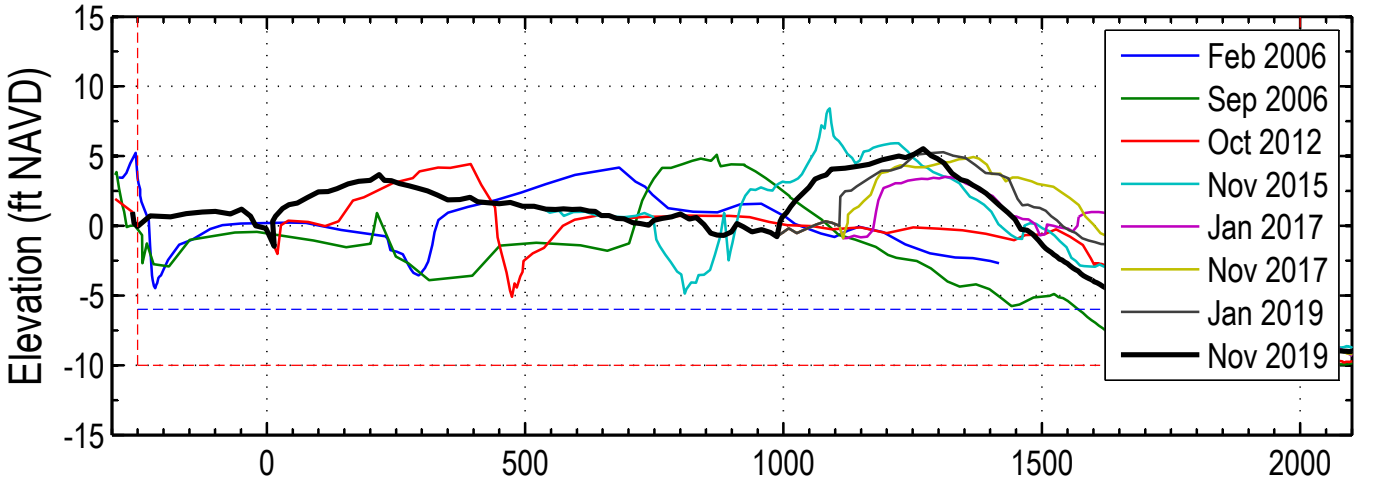
Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	14.5	16.1
Jan 2019 to Nov 2019	13.3	5.4



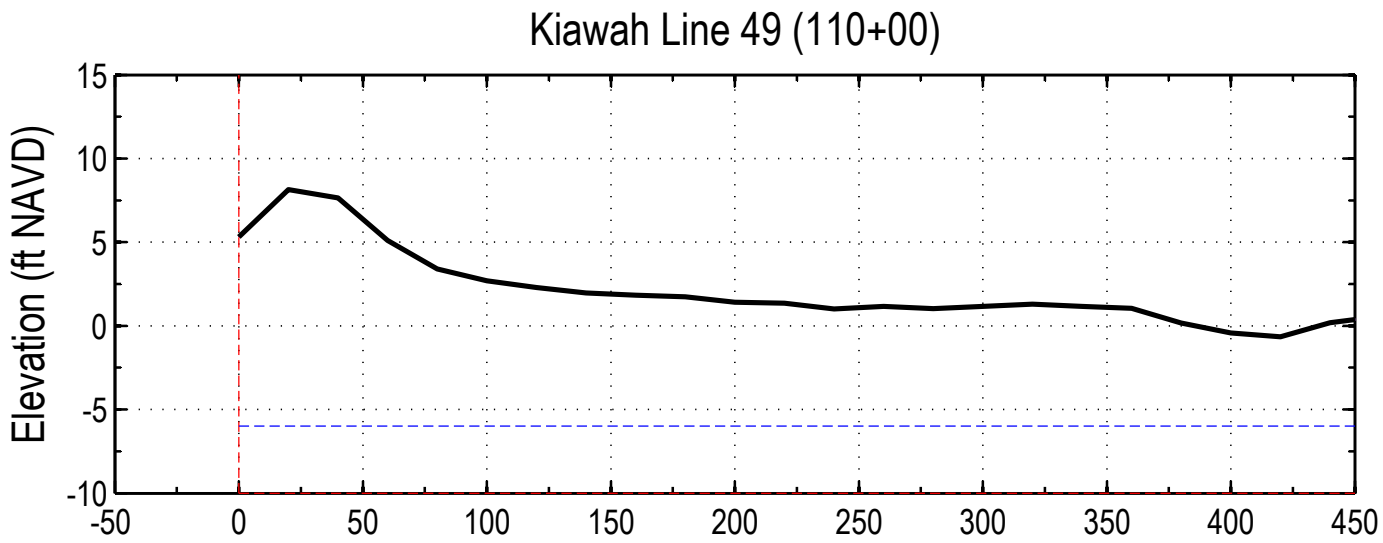
Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	27.2	29.7
Jan 2019 to Nov 2019	-43.0	-50.7

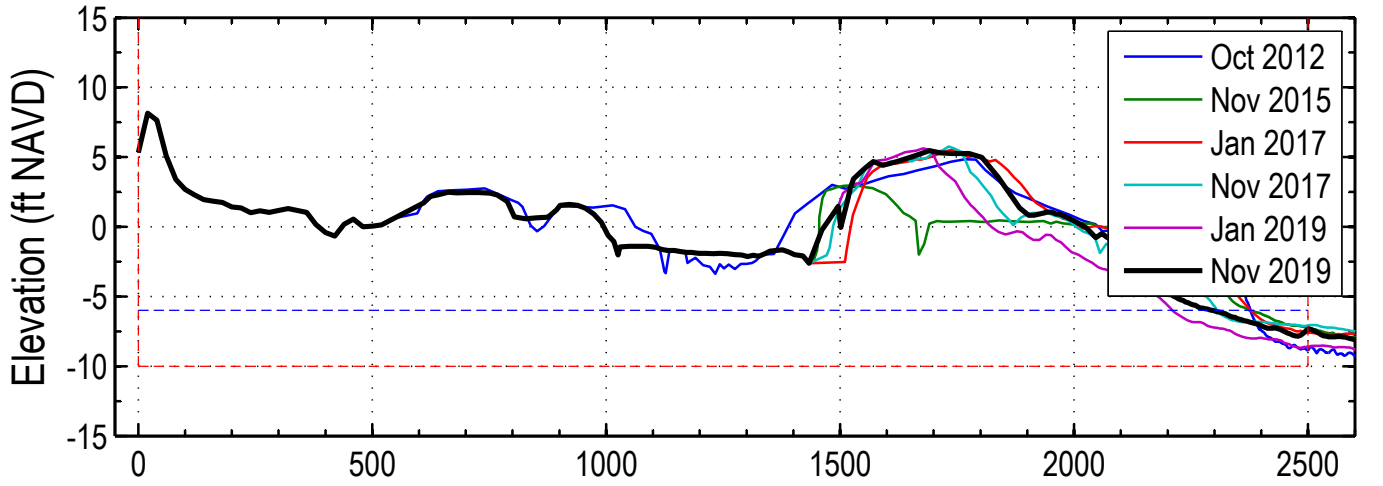




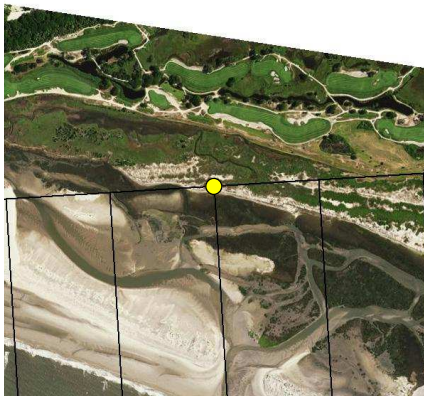


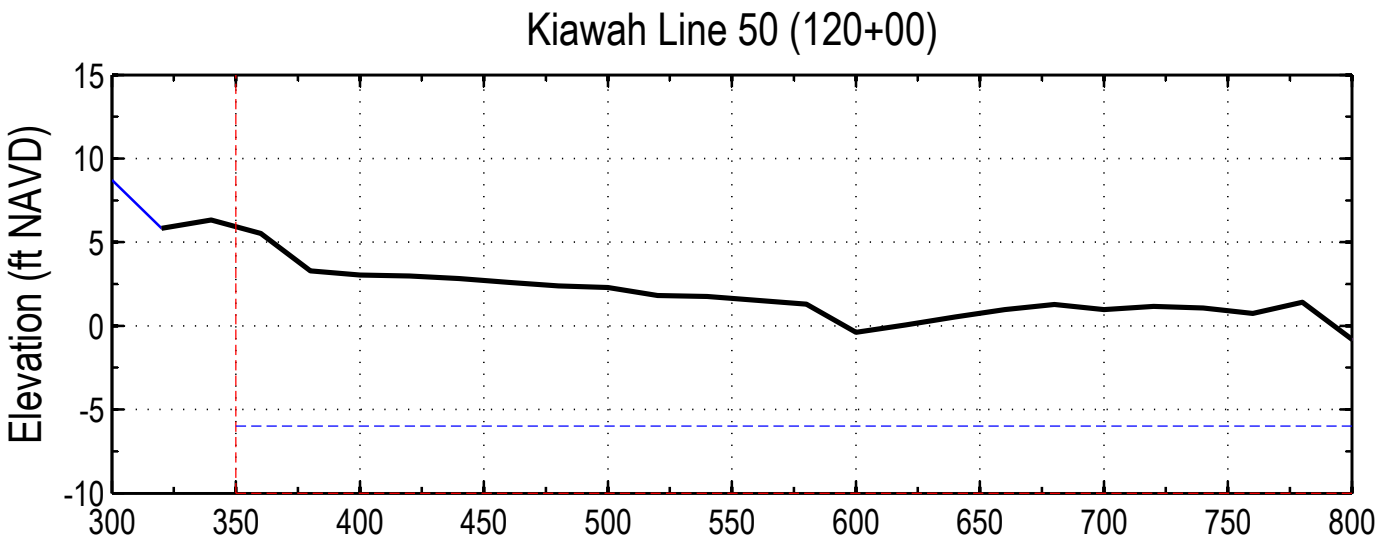
Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	9.4	10.2
Jan 2019 to Nov 2019	-27.3	-37.2

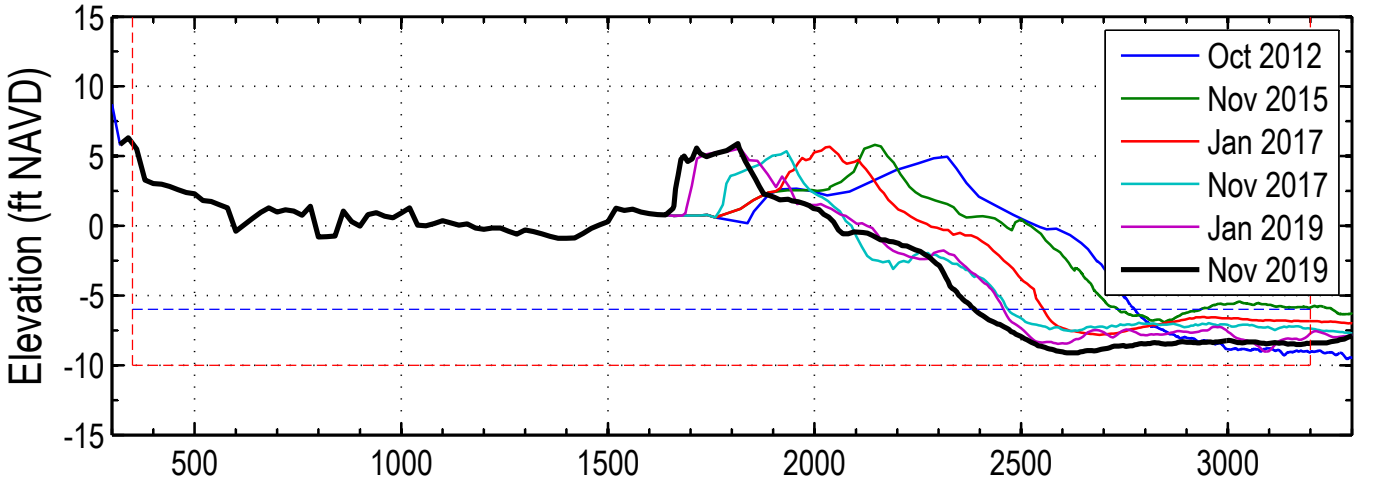




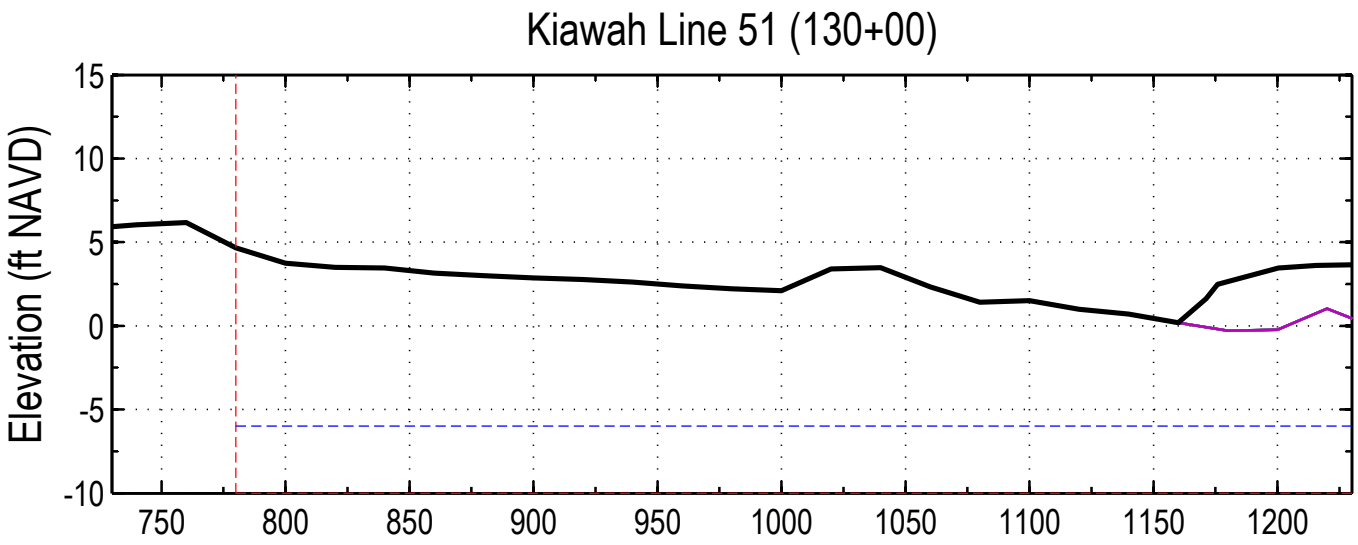
Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	-6.2	-5.9
Jan 2019 to Nov 2019	47.2	58.5

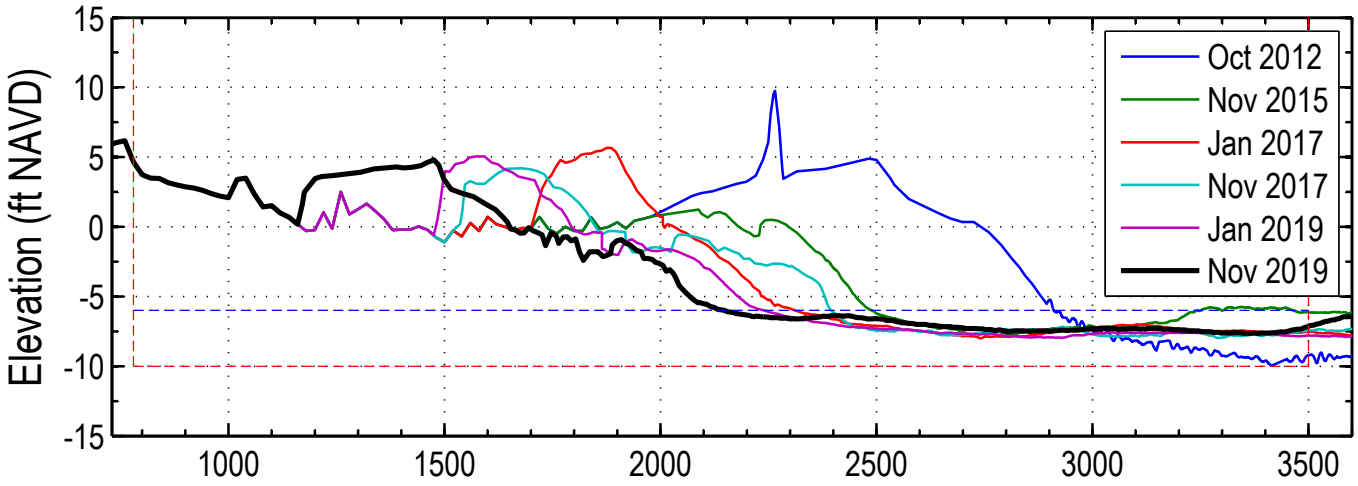




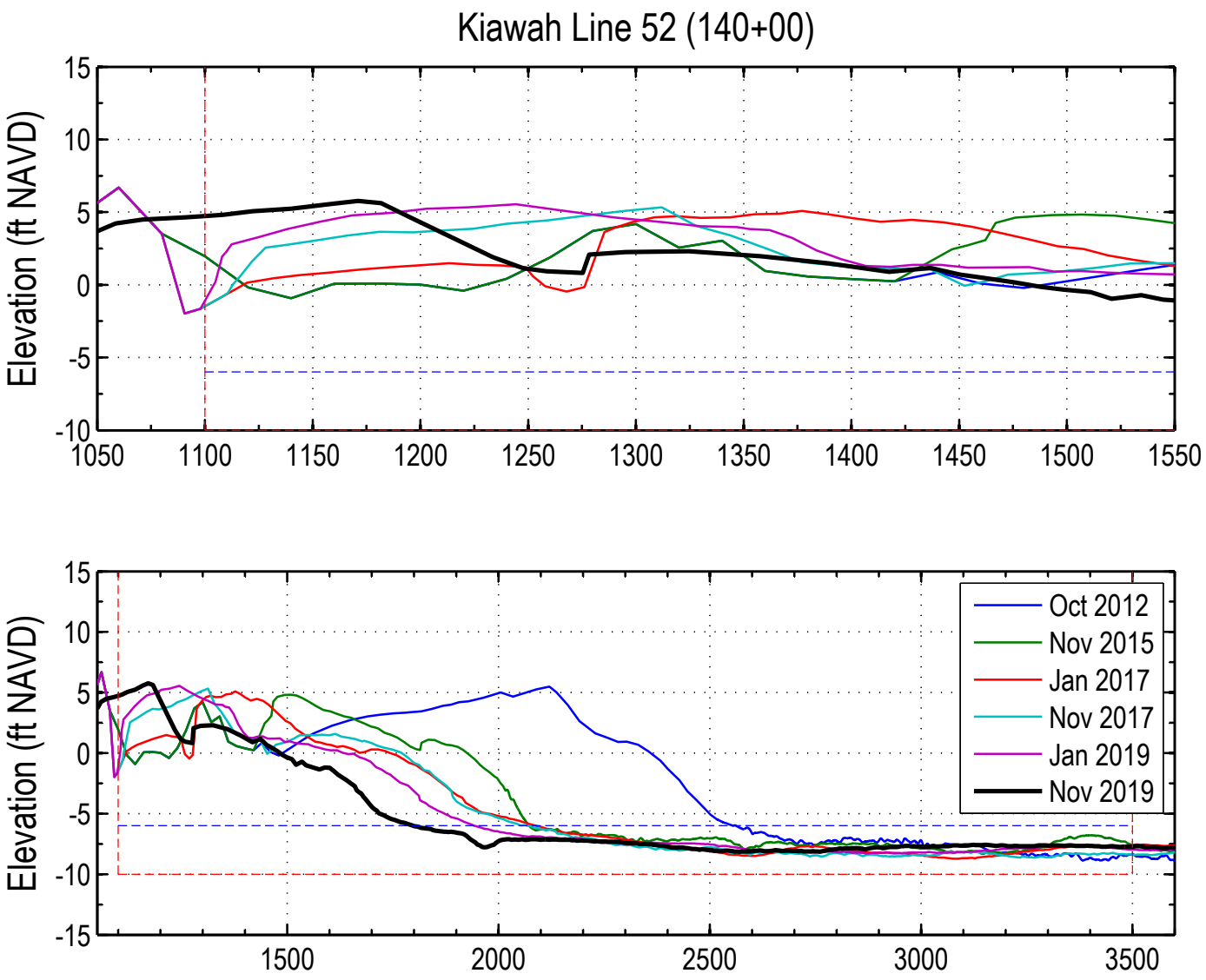


Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	-16.8	-21.6
Jan 2019 to Nov 2019	-14.7	-36.4

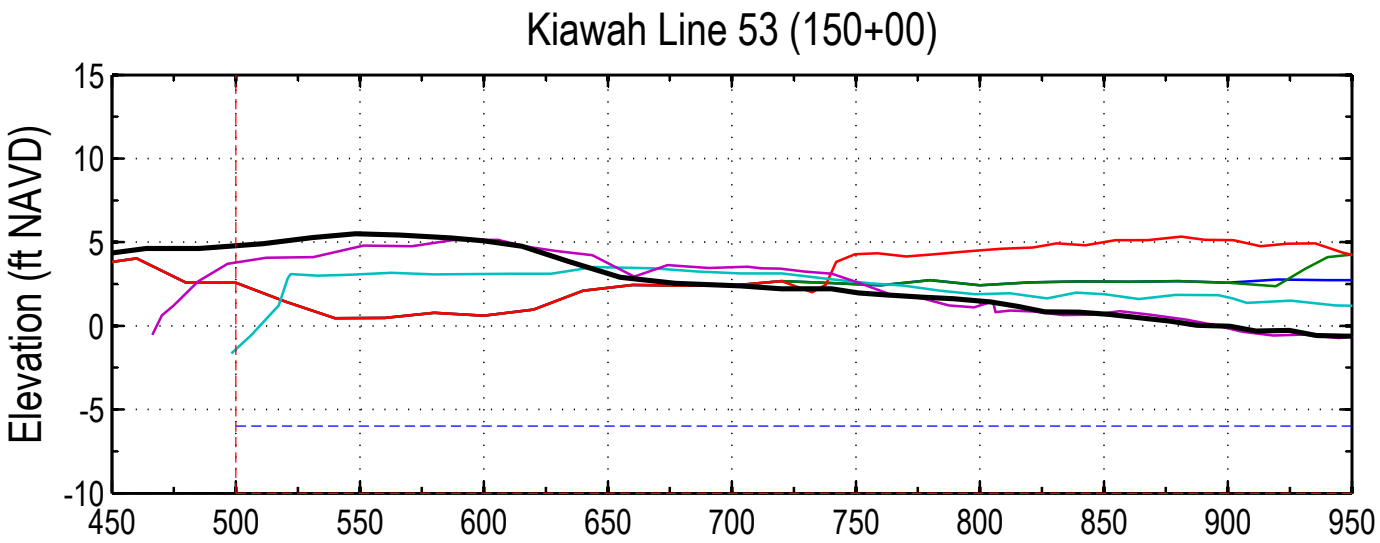


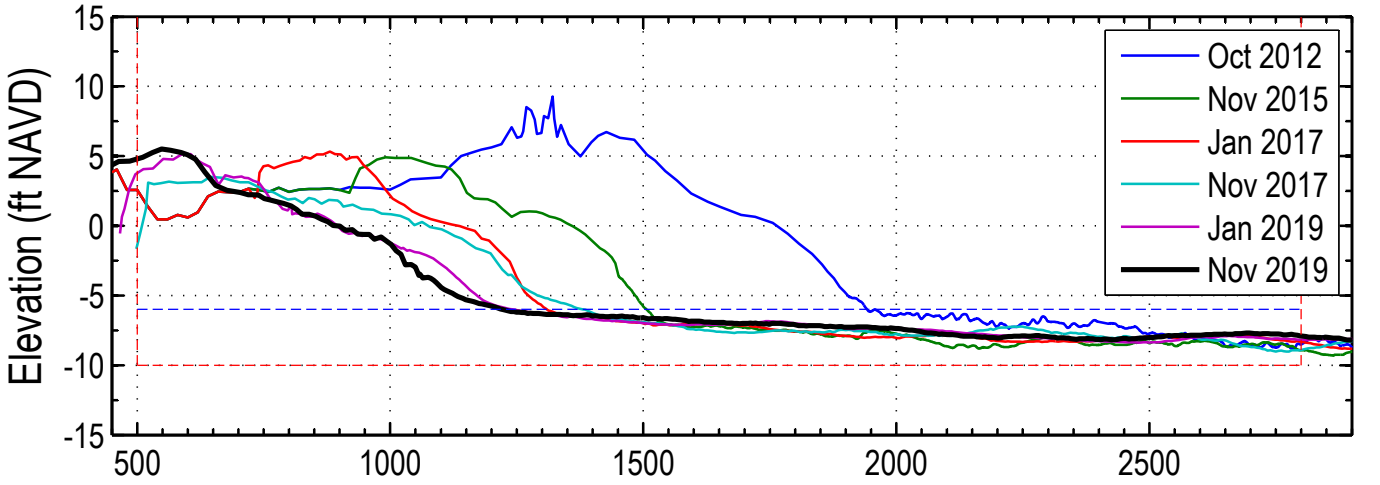


Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	-31.7	-31.9
Jan 2019 to Nov 2019	-10.5	5.6

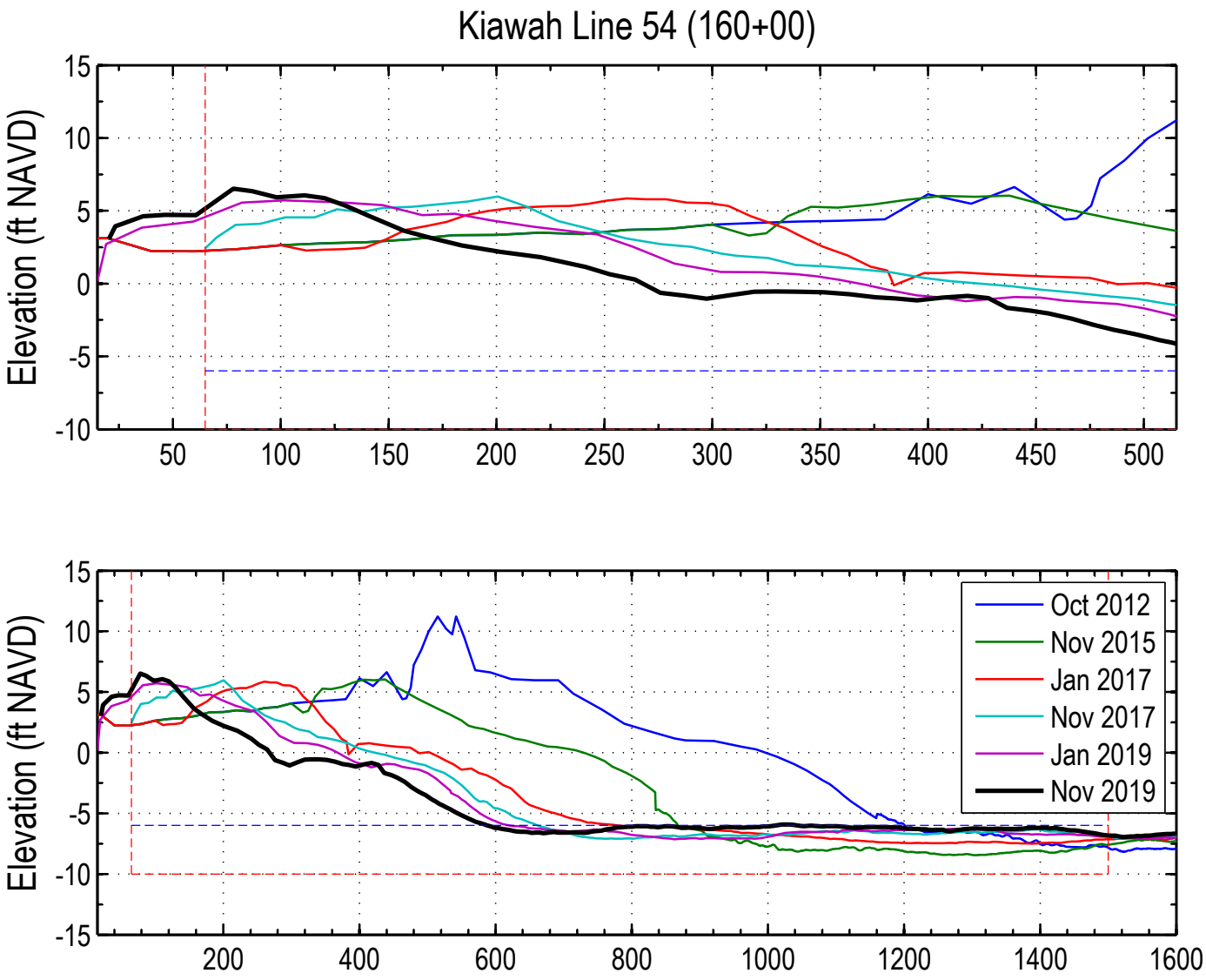


Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	-35.7	-41.5
Jan 2019 to Nov 2019	-56.2	-59.0

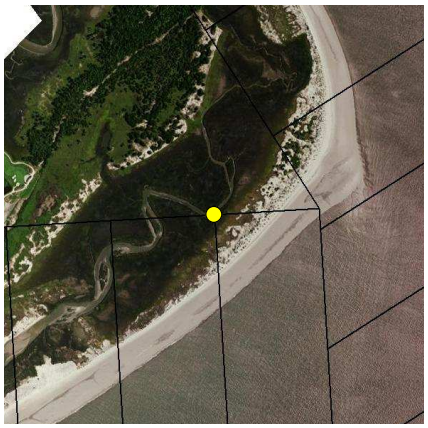


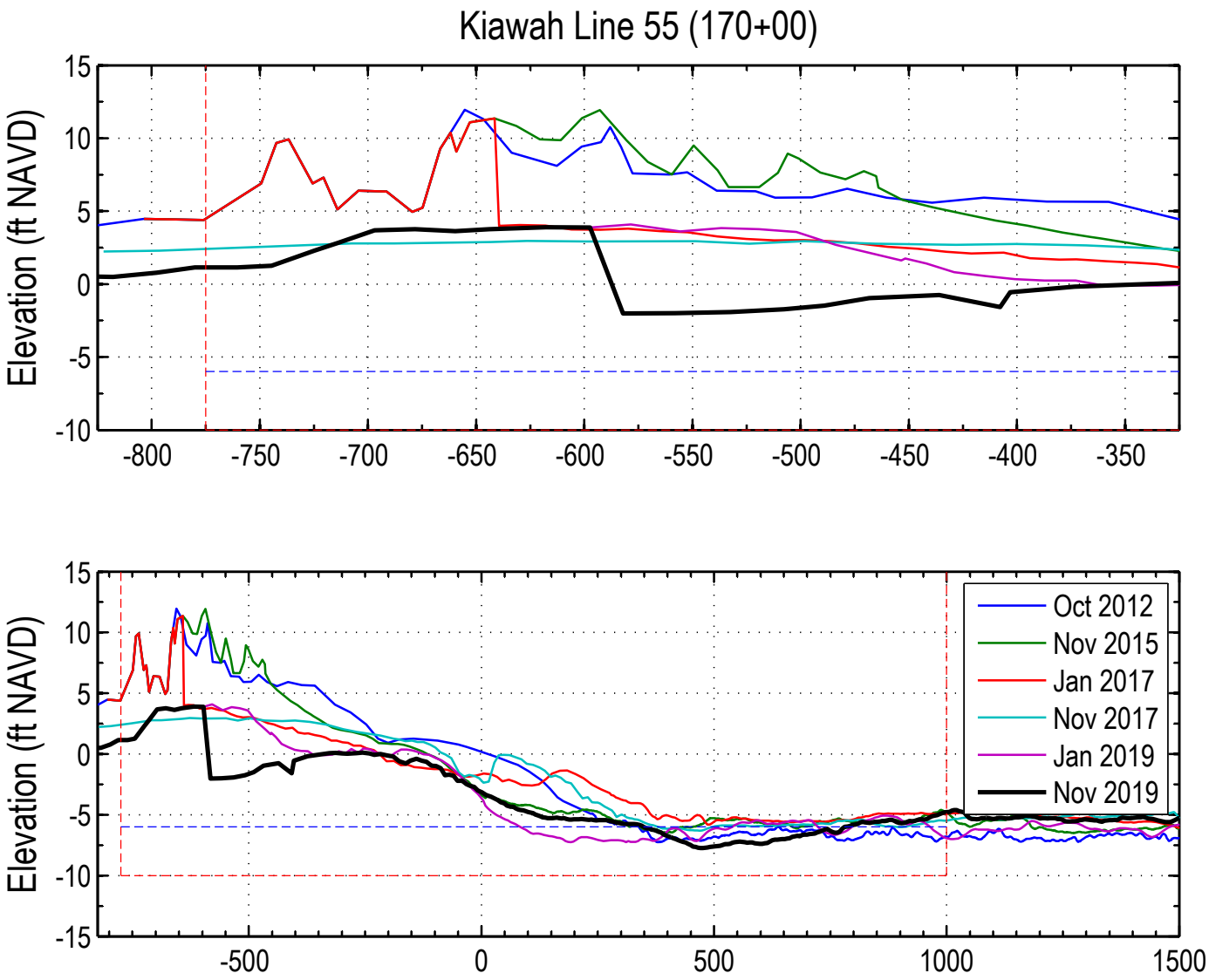


Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	-42.2	-47.4
Jan 2019 to Nov 2019	-10.2	-3.0

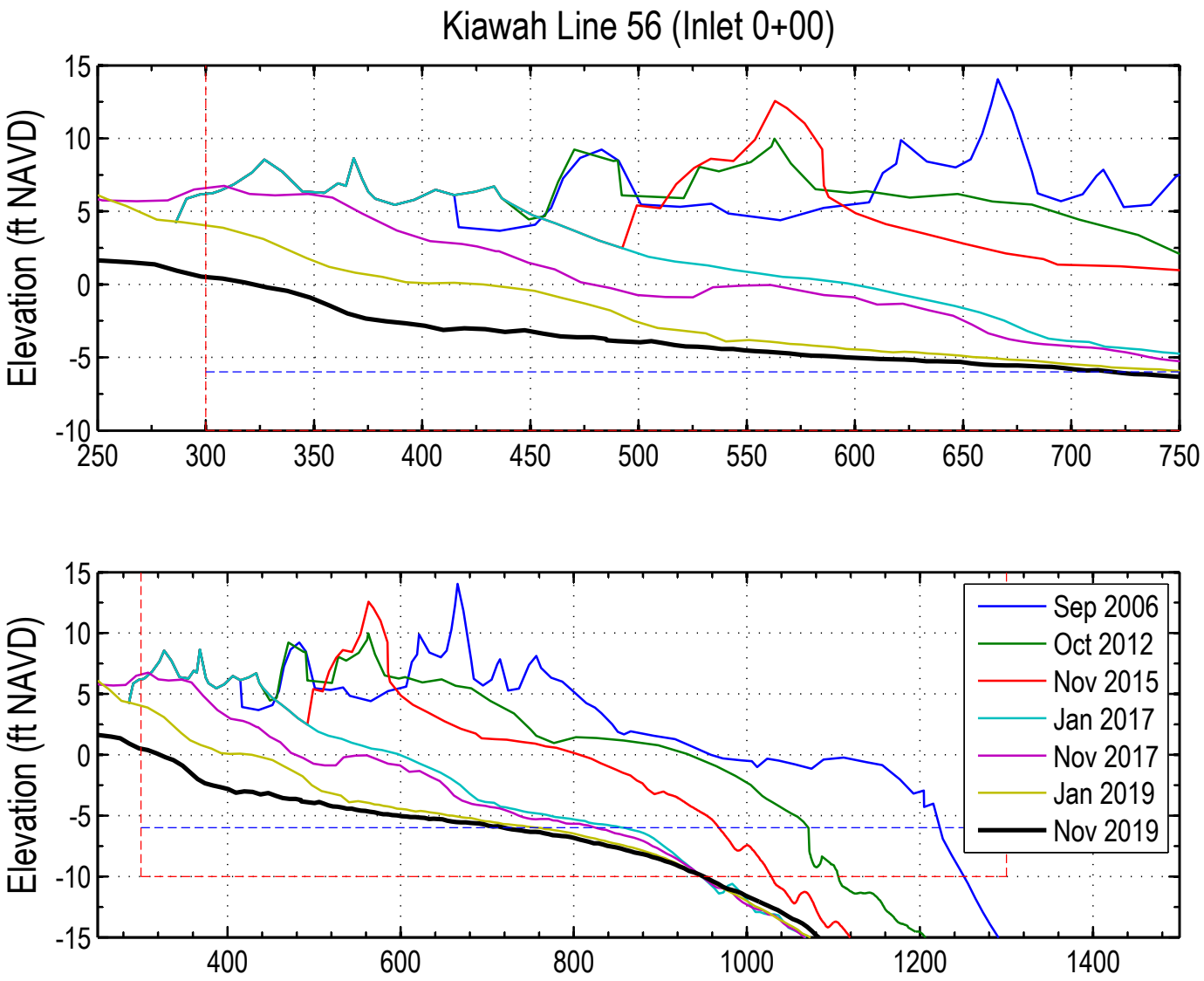


Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	-36.4	-36.1
Jan 2019 to Nov 2019	-25.8	-12.9

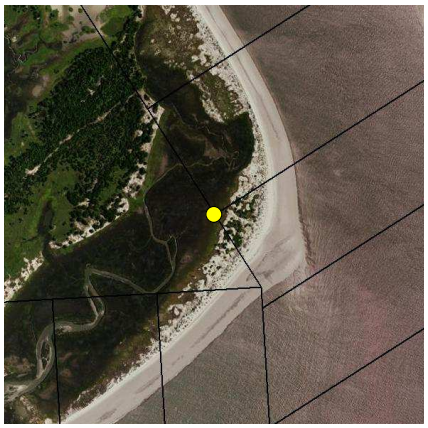




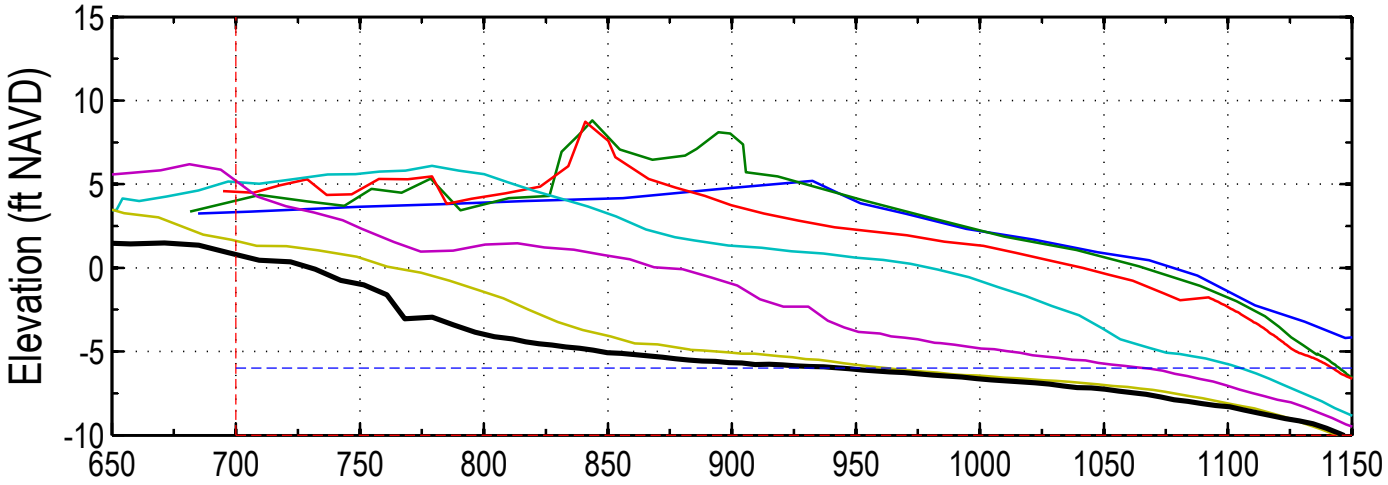
Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	-21.6	-21.5
Jan 2019 to Nov 2019	-30.4	-31.2

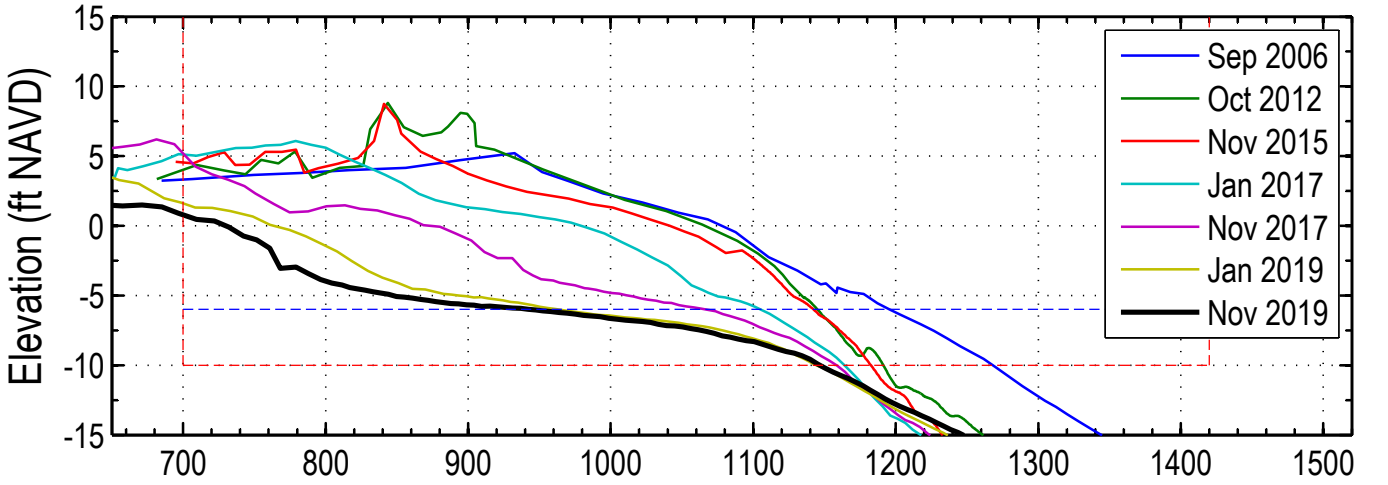


Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	-33.1	-37.8
Jan 2019 to Nov 2019	-30.1	-32.7

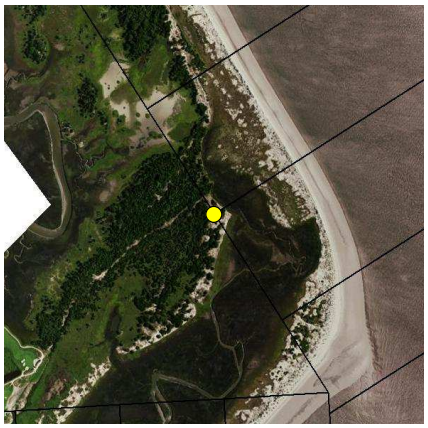


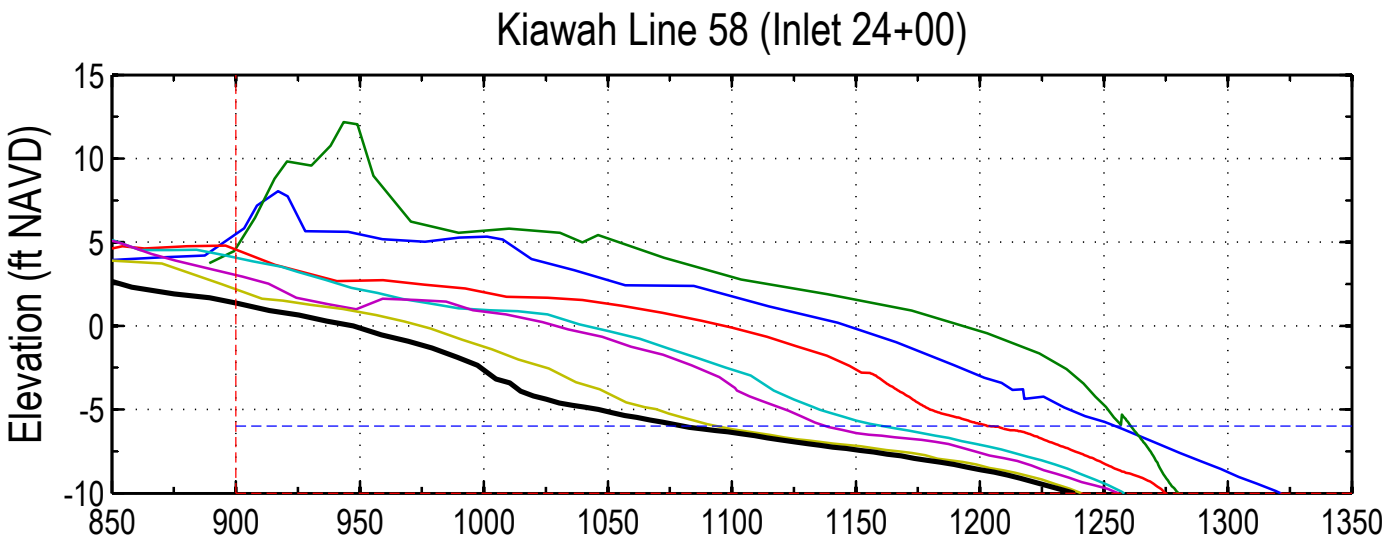
Kiawah Line 57 (Inlet 12+00)

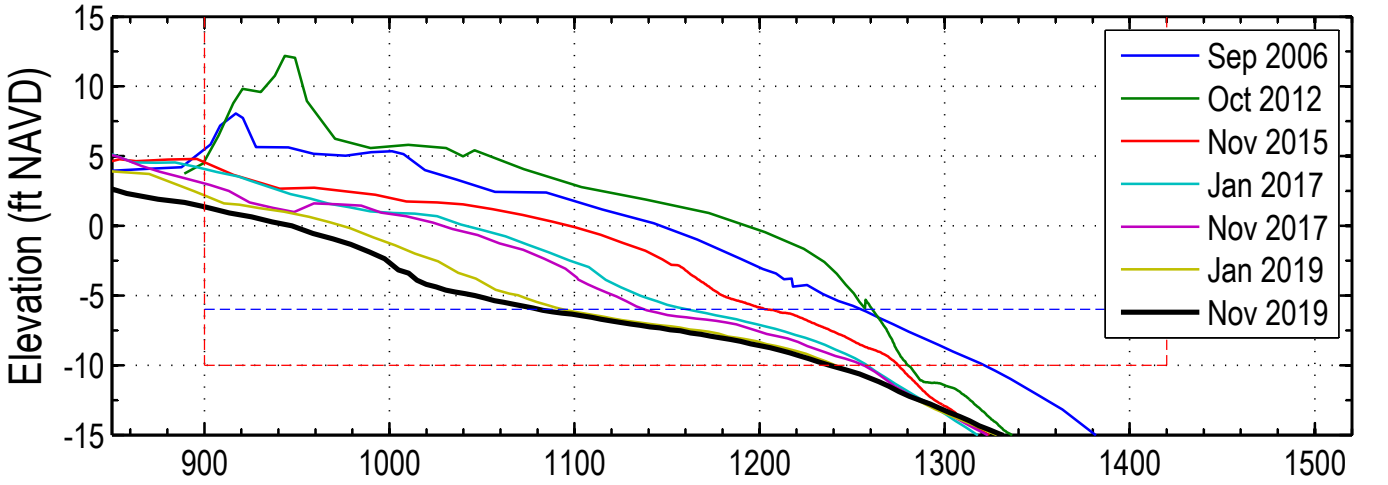




Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	-18.1	-20.1
Jan 2019 to Nov 2019	-13.6	-15.2

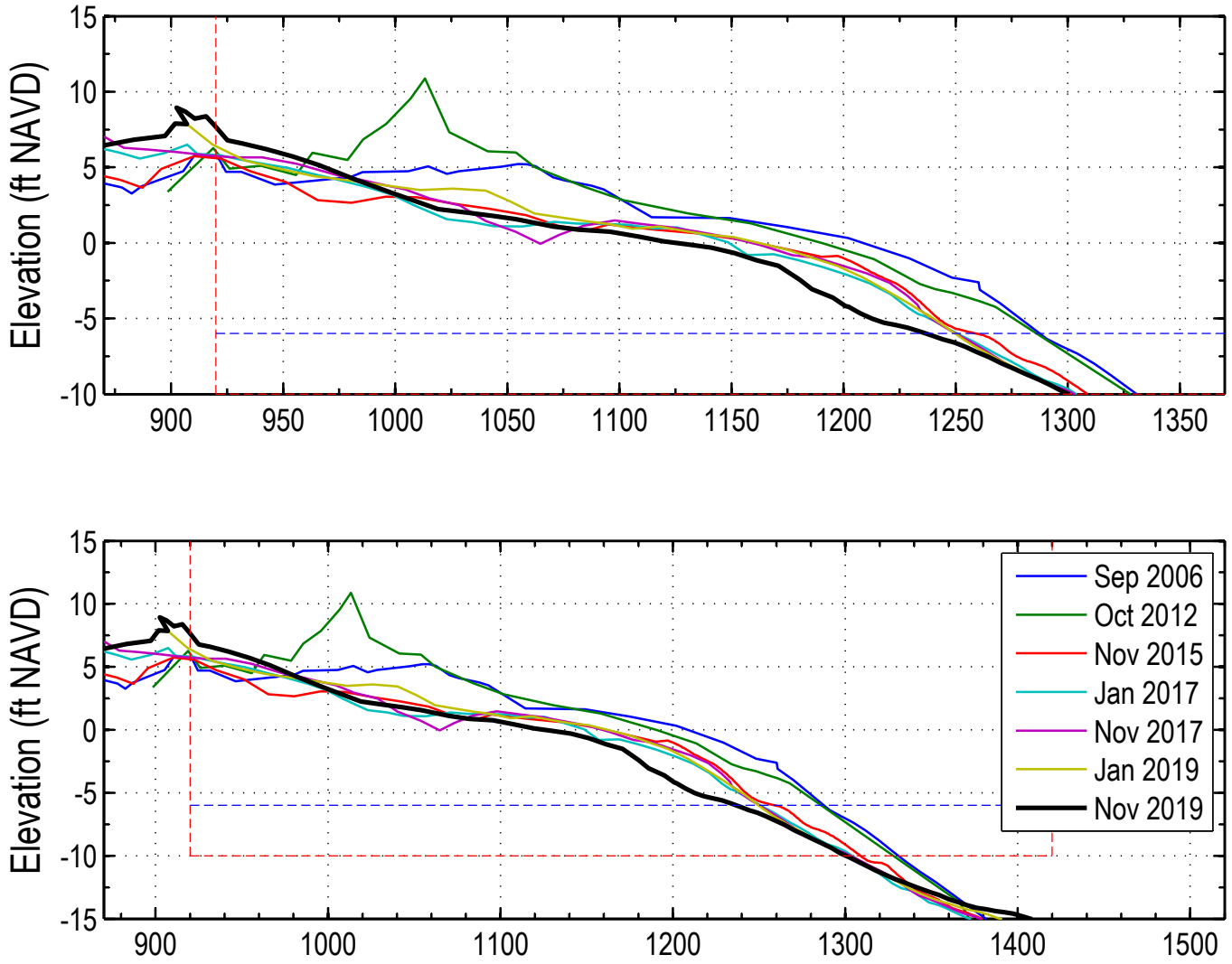






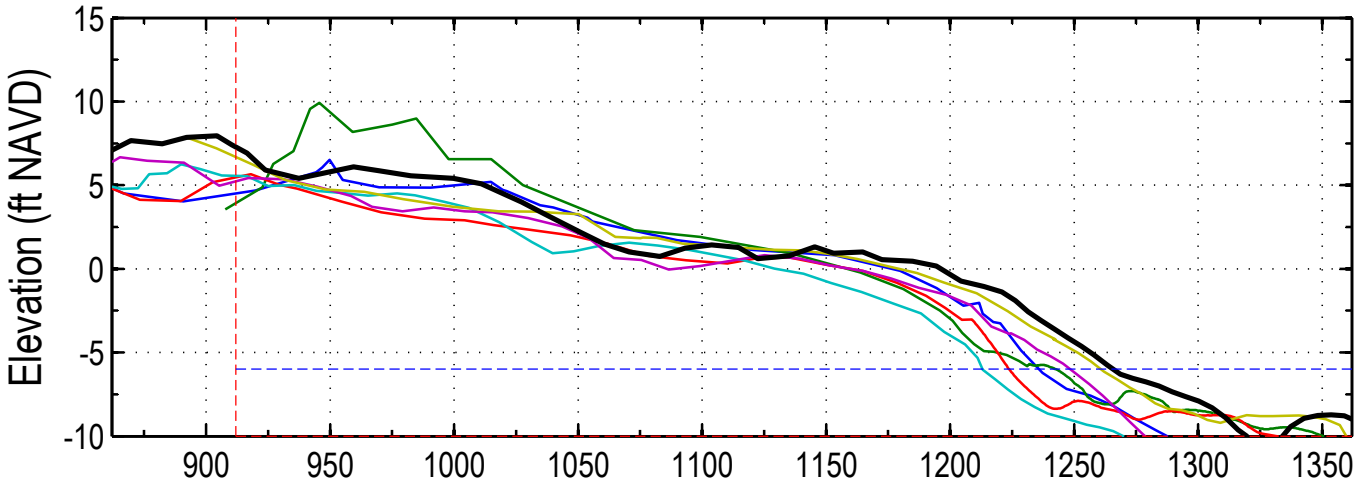
Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	-14.5	-16.6
Jan 2019 to Nov 2019	-8.6	-10.1

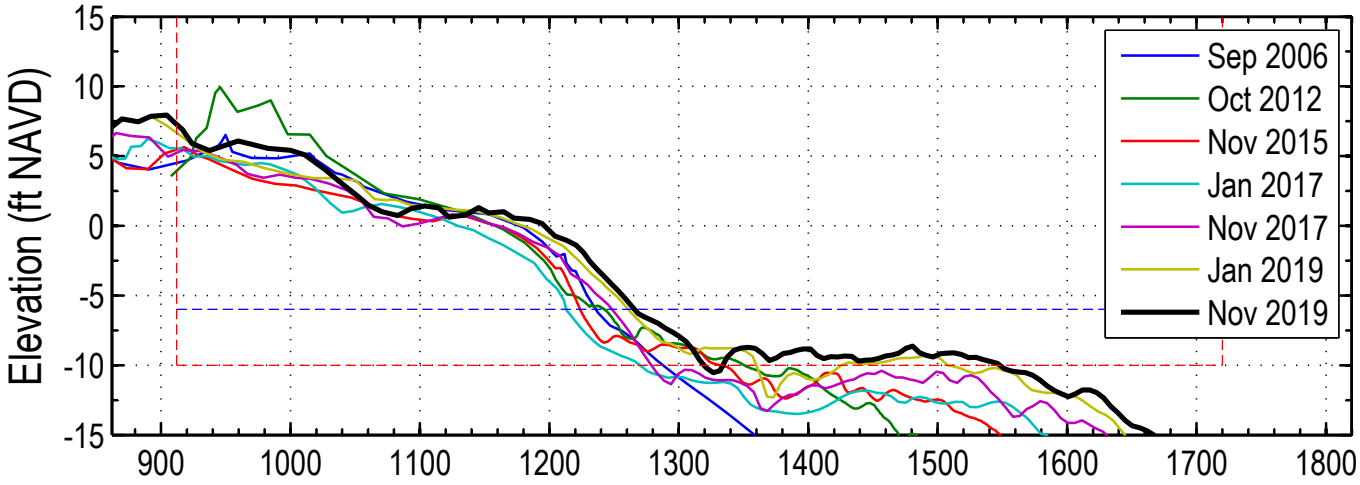
Kiawah Line 59 (Inlet 36+00)



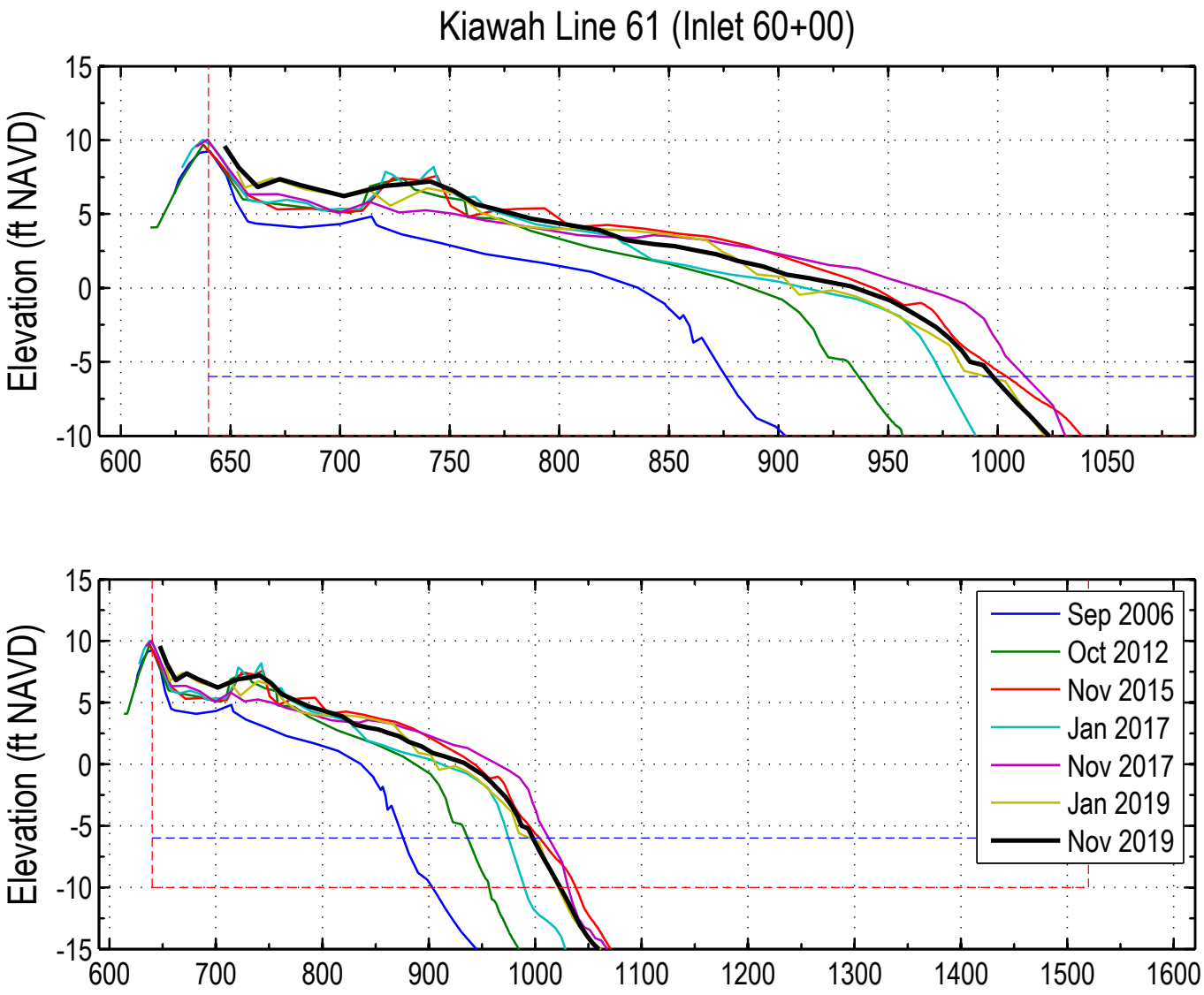
Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	-4.9	-5.7
Jan 2019 to Nov 2019	-10.6	-11.1

Kiawah Line 60 (Inlet 48+00)





Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	-0.3	0.8
Jan 2019 to Nov 2019	6.0	11.1



Date Range	Vol Chg to -6 (cy/ft/yr)	Vol Chg to -10 (cy/ft/yr)
Oct 2012 to Nov 2019	3.2	4.6
Jan 2019 to Nov 2019	4.9	4.8

Appendix 7.7 Copies of Local Laws and Ordinances

THE TOWN OF KIAWAH ISLAND

ORDINANCE 2017-20

AN ORDINANCE TO AMEND ARTICLE 16 – BEACH MANAGEMENT, CHAPTER 4 – BEACH AND DUNE PROTECTION

WHEREAS, the Town of Kiawah Island Municipal Code Article 16 – Beach Management, Chapter 4 – Beach and Dune Protection; Sections 16-401, 16-402, 16-403, 16-404, 16-405, 16-406, 16-407, 16-408, and;

WHEREAS, the Town wishes to regulate holes being dug on the beach that could produce potential problems on the beach such as impede turtle access to nesting areas, slow vehicles down when responding to emergencies, which could become a hazard if a vehicle hits a large or even shallow hole, or injure those who are biking, walking or running on the beach who do not expect to come across holes in the sand, and;

WHEREAS, the Town wishes an additional section prohibiting the digging of holes on the beach.

NOW, THEREFORE, BE IT ORDERED AND ORDAINED BY THE COUNCIL OF THE TOWN OF KIAWAH ISLAND, SOUTH CAROLINA, AND IT IS ORDAINED BY THE AUTHORITY OF SAID COUNCIL.

Section 1 **Purpose**

The purpose of this Ordinance is to adopt the amendment of Article 16 – Beach Management, Chapter 4 – Beach and Dune Protection.

Section 2 **Ordinance**

Article 16 – Beach Management, Chapter 4 – Beach and Dune Protection; Sections 16-409 is hereby created as follows:

Sec. 16-409 **Digging holes on the beach prohibited**

Altering the contour or shape of the flat beach area by digging shall be prohibited. No person shall possess on or about Kiawah's beach a metal shovel of any type. Violators will be subject to assessed fines in accordance with Section 16-816 of this chapter.

Exception:

a) *Kids plastic shovels no more than 14" in length*
b) Authorized personnel
c) Sponsored KICA, KIGR or TOKI events

a. *All holes created shall be filled at the end of the event or penalties shall be assessed to the sponsor in accordance with Section 16-816 of this chapter.*

Section 3 Severability

If any part of this Ordinance is held to be unconstitutional, it shall be construed to have been the legislative intent to pass said Ordinance without such unconstitutional provision, and the remainder of said Ordinance shall be deemed to be valid as if such portion had not been included. If said Ordinance, or any provisions thereof, is held to be inapplicable to any person, group of persons, property, kind property, circumstances or set of circumstances, such holding shall not affect the circumstances or set of circumstances, such holding shall not affect the applicability thereof to any other persons, property or circumstances

Section 4 Effective Date and Duration

This Ordinance shall be effective upon its enactment by Town Council for the Town of Kiawah Island.

PASSED, APPROVED, AND ADOPTED BY THE COUNCIL FOR THE TOWN OF KIAWAH ISLAND ON THIS 7th DAY OF NOVEMBER, 2017.

_____
Craig Weaver, Mayor

_____
Petra S. Reynolds, Town Clerk

10/03/2017 1st Reading Approval

11/07/2017 2nd Reading Approval

THE TOWN OF KIAWAH ISLAND

ORDINANCE 2017-21

AN ORDINANCE AMENDING ARTICLE 16, CHAPTER 4, SECTION16-406, BEACH WALKOVERS

WHEREAS, Section48-39-10 of the South Carolina Code of Laws, 1976, as amended creates the Coastal Division of the Department of Health and Environmental Control (hereinafter DHEC) and empowers the Coastal Division with authority to promulgate necessary rules and regulations pertaining to activities within the "critical area" which specifically includes the area from the mean high-water mark landward to the setback line as determined in Section 48-39-280 of the South Carolina Code of Laws, 1976, as amended, and;

WHEREAS, the Coastal Division of DHEC has promulgated certain rules and regulations governing the construction of beach walkovers in the "critical area" and such rules and regulations are contained in the South Carolina Code of State Regulations, R 30-13 (0) (1), and;

WHEREAS, The Coastal Division of DHEC may require the removal of a beach walkover that extends more that ten feet onto the "active beach." It reviews such beach walkovers on a case by case basis and such enforcement procedures are consistent with what is anticipated by this Ordinance, and;

WHEREAS, Section 48-39-350 of the South Carolina Code of Laws, 1976, as amended requires that coastal municipalities prepare, adopt, and periodically revise a local comprehensive beach management plan, and;

WHEREAS, the Town of Kiawah Island as a coastal political subdivision of the State of South Carolina shares concurrent jurisdiction with the Coastal Division of DHEC for the purpose of regulating the construction of beach walkovers in the "critical area," and;

WHEREAS, in carrying out that concurrent jurisdiction the Town of Kiawah Island has previously adopted Article 16, Beach Management, of the Municipal Code, and;

WHEREAS, the Town of Kiawah Island is fortunate in that the approximate ten miles of oceanfront development adjacent to the Town's beachfront is characterized by careful placement of structures that are considerably landward of the dune system, and;

WHEREAS, the beachfront is also characterized by an approximate ten mile beachfront strip of land separating the oceanfront property lines from the mean high water mark (this beachfront strip contains a large portion of the "critical area" referenced herein), and;

WHEREAS, this approximate ten mile beachfront strip of land is owned by the Kiawah Island Community Association but subject to the concurrent jurisdiction of the Coastal Division of DHEC and the Town of Kiawah Island, and;

WHEREAS, this approximate ten mile beachfront strip of land is characterized by a large number of beach walkovers, Private, Public and Community, some were built that should have received a permit; others if built at present would be required to obtain a permit because they exceed the dimensions that are automatically allowed and do not require permitting by the Coastal Division of DHEC, and;

WHEREAS, the Town of Kiawah Island wishes to amend Section 16-406 of the Municipal Code so as to mirror the practice regarding beach walkover compliance and enforcement interpretation employed by the Coastal Division of DHEC and so as to be consistent with the applicable regulations, and;

WHEREAS, the Town wishes to identify and distinguish "community and public beach walkovers" which because of the high volume of use may result in dune destruction (which shall be specifically identified and set forth herein) from "private beach walkovers," and;

WHEREAS, the identified high volume "community and public beach walkovers" that result in dune destruction present the Town with an entirely different set of circumstances than do "private beach walkovers," and as such shall be subject to additional regulations.

NOW, THEREFORE BE IT ORDERED AND ORDAINED BY THE COUNCIL OF THE TOWN OF KIAWAH ISLAND, SOUTH CAROLINA, AND IT IS ORDAINED BY THE AUTHORITY OF SAID COUNCIL

Section 1 Purpose

This Ordinance is adopted to replace Article 16, Chapter 4, Section 16-406, Beach Walkovers.

Section 2 Ordinance

Section 16-406, (a)(b)(c)(d)(e) Beach Walkovers is replaced with the following.

Section 16-406 Beach Walkovers

(a) All beach walkovers must be constructed in accordance with the Coastal Division of DHEC requirements as set forth in the South Carolina Code of State Regulations, R 30-13(O)(1).

(b) Definitions:

Private beach walkovers: those serving private residences.

Community beach walkovers: those serving regimes, clubs, associations, commercial entities, or the general public intended to provide high volume access to the beach,

Active beach: the area seaward of the escarpment or the first line of stable vegetation, whichever first occurs, measured from the ocean landward.

(c) It is unlawful for any private or community beach walkover to exist in a state of disrepair or in an unsafe condition. This applies only to the portion of the walkover seaward of the primary dune and on the active beach. The Town will conduct inspections and shall notify the property owner that the said beach walkover is in violation. Owners must bring said walkover into compliance within 30 days of notification. Should said owner fail to repair and/or remove the unsafe portion from the identified beach walkover within the 30-day time limit the Town of Kiawah Island shall be authorized to modify the identified beach walkover and file a real property lien against said owner's property for the costs associated with such removal or modification including reasonable attorney fees.

(d) It is unlawful for any property owner to knowingly allow any private or community beach walkover to extend more than 10 feet onto the active beach. The Town will conduct periodic inspections and shall notify the property owner via certified mail return receipt that the said beach walkover is in violation. The owner must submit their remediation plans within 30 days of notification. Once approved the owner will have 60 days to cut off the boardwalk & remove the debris from the beach. Should the owner choose to rebuild, the normal approval process for a new boardwalk will be followed. Should said owner fail to modify the identified beach walkover within the 60-day time limit the Town of Kiawah Island shall be authorized to modify the identified beach walkover and file a real property lien against said owner's property for the costs associated with such removal or modification including reasonable attorney fees.

(e) Owners of existing community beach walkovers terminating more than 20 feet landward of the active beach and causing dune vegetation destruction shall be notified by the Town to make corrections. The owner must submit their remediation plans within 30 days of notification. Once approved the owner will have 180 days to complete said remediation. Should said owner fail to extend and/or modify the identified community beach walkover that is causing dune destruction within the 180-day time frame the Town shall be authorized to extend and/or modify said community beach walkover and file a real property lien against said owner's property for the costs associated with such extension and/or modification including reasonable attorney's fees.

(f) Exception:

The Town may grant an extension to the above time frames to owners of private or community beach walkovers in the event of extenuating circumstances. Appeals shall be made to the Town's Building Official within 30 days of violation notification. The extension period if granted shall be determined by the Town's Building Official.

If any part of this Ordinance is held to be unconstitutional, it shall be construed to have been the legislative intent to pass said Ordinance without such unconstitutional provision, and the remainder of said Ordinance shall be deemed to be valid as if such portion had not been included. If said Ordinance, or any provisions thereof, is held to be inapplicable to any person, group of persons, property, kind of property, circumstances or set of circumstances, such holding shall not affect the applicability thereof to any other persons, property or circumstances.

Section 4 Effective Date and Duration

This Ordinance shall be effective upon its enactment by the Town Council for the Town of Kiawah Island.

PASSED, APPROVED, AND ADOPTED BY COUNCIL FOR THE TOWN OF KIAWAH ISLAND ON THIS 7th DAY OF NOVEMBER, 2017.

_____

Craig Weaver, Mayor

_____

Petra Reynolds, Town Clerk

10/03/2017 1st Reading Approval

11/07/2017 2nd Reading Approval

THE TOWN OF KIAWAH ISLAND

ORDINANCE 2019-01

AN ORDINANCE TO AMEND ARTICLE 16 – BEACH MANAGEMENT, CHAPTER 1 – BEACH LIGHTING

WHEREAS, the Town of Kiawah Island Municipal Code currently contains Article 16 – Beach Management, Chapter 1 – Beach Lighting, Section 16-101, 16-102, 16-103, 16-104, 16-105, and 16-106, and;

WHEREAS, the Town wishes to regulate the sources of artificial light to protect sea turtles which nest along the beaches of Kiawah Island, and;

WHEREAS, the Town wishes to amend the current sections relating to the beach lighting regulations.

NOW, THEREFORE, BE IT ORDERED AND ORDAINED BY THE COUNCIL OF THE TOWN OF KIAWAH ISLAND, SOUTH CAROLINA, AND IT IS ORDAINED BY THE AUTHORITY OF SAID COUNCIL.

Section 1 Purpose

The purpose of this Ordinance is to adopt the amendment of Article 16 – Beach Management, Chapter 1 – Beach Lighting, Sections 16-101, 16-102, 16-103, 16-104, 16-105, 16-106. Create Section 16-107 - Individual use of lights and Section 16-108 - Organized functions and Special events.

Section 2 Ordinance

Sections 16-101, 16-102, 16-103, 16-104, 16-105, and 16-106 are replaced with the following:

Sec. 16-101 Need for beach lighting regulations

The purpose of this chapter is to protect sea turtles which nest along the beaches of Kiawah Island by safeguarding nesting females and hatchlings from sources of artificial *light*.

Sec. 16-102 Definitions

The following words, terms and phrases, when used in this chapter, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

Artificial light means any source of *light* emanating from a manmade device, including but not limited to, incandescent, mercury vapor, metal halide, or sodium lamps, flashlights, spotlights, street lights, vehicular lights, construction or security lights.

Beach means that area of unconsolidated material that extends landward from the mean low-water line to the place where there is a marked change in material or physiographic form, or to the line of permanent vegetation (usually the effective limit of storm waves).

Dawn means 30 minutes before sunrise.

Dusk means 30 minutes after sunset.

Floodlight means a reflector type *light* fixture which is attached directly to a building and which is unshielded.

Low profile luminaire means a *light* fixture set on a base which raises the source of the *light* no higher than 48 inches off the ground and designed in such a way that *light* is directed downward from a hooded *light* source.

New development means and includes new construction and remodeling of existing structures when such remodeling includes alteration of exterior lighting.

Person means any individual, firm, association, joint venture, partnership, estate, trust, syndicate, fiduciary, corporation, group or unit of federal, state, county or municipal government.

Pole lighting means a *light* fixture set on a base or pole which raises the source of the *light* higher than 48 inches off the ground.

Point source means the bulb, lamp, or glowing elements of a fixture from which light is emitted.

Shading coefficient means a coefficient expressing that percentage of the incident radiation which passes through the window as heat.

Tinted or filmed glass means window glass which has been covered with window tint or film such that the material has a shading coefficient of 0.45 or less.

Sec. 16-103 New Development

It is the policy of the Town of Kiawah Island that no artificial *light* shall illuminate any area of the beaches of Kiawah Island and that no exterior point source of artificial light shall be visible from the beach. To meet this intent, building and electrical plans for construction of single-family or multifamily dwellings, commercial or other structures, including electrical plans associated with parking lots, dune walkovers, or other outdoor lighting for real property (if such lighting can be seen from the *beach*), shall be in compliance with the following:

(1) Floodlights shall be prohibited. Wall-mounted light fixtures shall be fitted with hoods so that no light illuminates the beach and the point source of light is not visible from the beach.

(2) Pole lighting shall be shielded so that no light illuminates the beach and the point source of light is not visible from the beach. Outdoor lighting shall be held to the minimum necessary for security and convenience.

(3) Low profile luminaries shall be used in parking lots and such lighting shall be positioned so that no light illuminates the beach and no point source of light is visible from the beach.

(4) Dune walkovers shall utilize low profile shielded luminaries.

(5) Lights on balconies shall be fitted with hoods so that no light illuminates the beach and no point source of light is visible from the beach.

(6) Tinted or filmed glass shall be used in windows facing the ocean.

(7) Temporary lights at construction sites shall not be mounted more than fifteen (15) feet above the ground. Illumination from the lights shall not spread beyond the boundary of the property being developed, and in no case shall those lights illuminate the beach or shall the point source of light be visible from the beach. Lights shall be turned off from 9:00 p.m. until dawn during the period of May 1 to October 31 of each year.

Sec. 16-104 Exemptions for new development

The provisions of Section 16-103 shall not apply to any structure for which a building permit has been issued by the town, prior to the effective date of Ordinance No. 2019-01 (i.e., February 5, 2019), which preceded this article.

Sec. 16-105 Existing development

It is the policy of the Town of Kiawah Island that no artificial light shall illuminate any area of the beaches of Kiawah Island and that no exterior point source of artificial light shall be visible from the beach. To meet this intent, lighting of existing structures which can be seen from the *beach* shall be in compliance with the following within six months of the effective date of the ordinance from which this article is derived:

(1) Lights illuminating buildings or associated grounds for decorative or recreational purposes shall be shielded or screened such that the point source of light is not visible from the *beach or* turned off from 9:00 p.m. until dawn during the period of May 1 to October 31 of each year.

(2) Lights illuminating dune walkovers shall be turned off from 9:00 p.m. until dawn during the period of May 1 to October 31 of each year.

(3) Security lighting shall be permitted throughout the night so long as low-profile luminaries are used and screened in such a way that those lights do not illuminate the *beach* and no point source of light is visible from the beach.

Sec. 16-106 Community-Owned lighting

Street lights and lighting at parks and other publicly-owned *beach* access areas shall be subject to the following:

(1) Street lights shall be located so that the bulk of their illumination will travel away from the *beach*. These lights shall be equipped with shades or shields that will prevent backlighting and render the point source of light not visible from the *beach*.

(2) Lights at parks or other public *beach* access points shall be shielded or shaded so that the point source of light is not visible from the beach or shall be turned off from 9:00 pm to dawn during the period of May 1 to October 31 of each year.

Section 16-107 - Individual use of lights, is hereby created as follows:

Sec. 16-107 Individual use of lights

(1) Use of unfiltered lights (any color spectrum except red), including but not limited to flashlights, cellular phones, and cameras, by persons are prohibited on the beach from 9:00 pm until dawn during the period of May 1 to October 31 of each year.

(2) No unfiltered light shall be shown directly on adult turtles, eggs or hatchlings.

Section 16-108 - Organized functions and Special events, is hereby created as follows:

Section 16-108 Organized Functions and Special Events

(1) The illumination from beachfront organized functions or special event lighting shall not spread beyond the boundary of the property, and in no case shall those lights illuminate the beach or shall the point source of light be visible from the beach. No organized functions or special events shall take place seaward of the OCRM setback line between dusk and dawn during the period of May 1 to October 31 of each year.

Section 3 Severability

If any part of this Ordinance is held to be unconstitutional, it shall be construed to have been the legislative intent to pass said Ordinance without such unconstitutional provision, and the remainder of said Ordinance shall be deemed to be valid as if such portion had not been included. If said Ordinance, or any provisions thereof, is held to be inapplicable to any person, group of persons, property, kind property, circumstances or set of circumstances, such holding shall not affect the circumstances or set of circumstances, such holding shall not affect the applicability thereof to any other persons, property or circumstances.

Section 4 **Effective Date and Duration**

This Ordinance shall be effective upon its enactment by Town Council for the Town of Kiawah Island.

PASSED, APPROVED, AND ADOPTED BY THE COUNCIL FOR THE TOWN OF KIAWAH ISLAND ON THIS 5th DAY OF MARCH 2019.

Craig Weaver, Mayor

Petra S. Reynolds, Town Clerk

1/8 /2019 1st Reading

3/5/2019 2nd Reading

THE TOWN OF KIAWAH ISLAND

ORDINANCE 2019-03

AN ORDINANCE REGULATING THE USE OF SINGLE USE PLASTIC CARRYOUT BAGS, PLASTIC STRAWS, AND POLYSTYRENE/PLASTIC FOAM PRODUCTS

WHEREAS, the Town of Kiawah Island Municipal Code currently contains Article 14 – General Regulations; and

WHEREAS, single use plastic carryout bags distributed by merchants to customers and used for carrying, transporting, or storing purchased goods or products has a detrimental effect on the environment of Kiawah Island, South Carolina; and

WHEREAS, the Town Council wishes to create a uniform standard regarding the ban of the use of single use plastic carryout bags, plastic straws, and polystyrene/plastic foam products throughout the Island, and finds that it is in the best interest of the residents of the Island, environment, and marine life to reduce the use of single use plastic carryout bags, plastic straws, and polystyrene/plastic foam products by business establishments and to encourage the use of reusable carryout bags and recyclable paper carryout bags; and

WHEREAS, regulating the use of plastic straws and polystyrene/plastic foam products and encouraging the use of locally recyclable or compostable material will further protect the beaches and other natural landscapes of Kiawah Island; and

WHEREAS, the Town Council wishes to prohibit the possession and use of single use plastic bags, plastic straws, polystyrene/plastic foam products, and balloons on the Kiawah Island beach; and

WHEREAS, the Town Council wishes to create Chapter 4 - Regulation of Single-Use Plastics to be included in Article 14; and

WHEREAS, the Town Council wishes to also amend Article 16, Beach Management, Chapter 4 to create Section 16-410 to reference the prohibition on the possession and use of single use plastic bags, plastic straws, polystyrene/plastic foam products, and balloons on the Kiawah Island beach.

NOW, THEREFORE, BE IT ORDERED AND ORDAINED BY THE COUNCIL OF THE TOWN OF KIAWAH ISLAND, SOUTH CAROLINA, AND IT IS ORDAINED BY THE AUTHORITY OF SAID COUNCIL.

Section 1 Purpose and Intent

It is an objective of the Town of Kiawah Island to protect and preserve the natural environment of Kiawah Island by regulating the use of materials detrimental to the island's environment and promote the use by businesses and consumers of environmentally preferred materials. The purpose of this Ordinance is to prohibit the use of single-use plastic carryout bags for distribution and use by food or grocery establishments, food providers, retailers, stores, shops, sellers,

vendors, and other merchants for their customers to carry, transport, or store purchased goods or products, prohibit the use and distribution of plastic straws, and prohibit the distribution of polystyrene/plastic foam products. Business establishments are encouraged to make reusable carryout bags available for sale, recyclable paper carryout bags available for such distribution and use and use locally recyclable and compostable material.

Section 2 Ordinance

Article 14 - Chapter 4 - Regulation of Single-Use Plastics shall read as follows:

Sec. 14-401 Definitions and Interpretations

The following words, terms, and phrases, when used in this Ordinance, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

"Beach" That area as defined in Section 16-102 of the Town of Kiawah Island Municipal Code and extending into the waters of the Atlantic Ocean for a distance of 100 yards; provided however in addition, this shall not apply to persons operating boats in the area of the waters described herein.

"Business Establishment" Any food or grocery establishment, food provider, retail, or commercial enterprise that provides single-use plastic carryout bags to its customers through its employees, agents, or independent contractors associated with that business. The term includes, but is not limited to, retailers, stores, shops, sellers, vendors, warehouses, merchants or any other entity that sells goods and products that use and distribute single-use plastic carryout bags to their customers to carry, transport, or store purchased goods or products purchased from the business establishment.

"Town of Kiawah Island Facility" Any building, structure, or vehicle owned and operated by the Town of Kiawah Island, its agents, agencies, and departments.

"Compostable" All material in the product or package, when composted in an industrial or municipal compost operation, will break down, or otherwise become part of usable compost in a safe, timely manner.

"Customer" A client, purchaser, buyer, patron, shopper, and consumer who purchases goods, products, or merchandise from a business establishment.

"Disposable Food Service Ware" Any product, including but not limited to, containers, clamshells, bowls, plates, trays, cartons, cups, straws, stirrers, napkins, and other items designed for one-time use with prepared food, takeout food, and leftovers.

"Food or Grocery Establishment" Any sales outlet, shop, vehicle, or other places of business that sells or conveys food or beverages, in which the food or beverage is predominately contained, held, or wrapped in packaging.

"Food Provider" Any vendor, business, organization, entity, group, individual, or food or grocery establishment that offers food or beverage to the public.

"Polystyrene/plastic foam" A blown expanded and extruded polystyrene, often called Styrofoam, or other plastic foam processed by multiple techniques into consumer products. The products generally include but are not limited to, cups, bowls, plates, trays, clamshell containers, meat trays, egg cartons, coolers, ice chests, shipping boxes, packing peanuts, and beach or pool toys.

"Reusable Carryout Bag" A carryout bag specifically designed and manufactured for multiple reuses that meet the following criteria:

A. Displays in a highly visible manner on the bag exterior, language describing the bag's ability to be reused and recycled;

B. Has a handle, except that handles are not required for carryout bags constructed out of recyclable paper with a height of less than fourteen (14) inches and width of less than eight (8) inches; and

C. Is constructed out of any of the following materials:

1) Cloth, canvas, or other washable fabric, or other durable materials whether woven or non-woven;
2) Recyclable plastic with a minimum thickness of 4 mils; capable of being cleaned and disinfected, and has a minimum lifetime of one hundred twenty-five (125) uses;
3) Recyclable paper.

"Single-Use Plastic Carryout Bag" A plastic bag, made predominantly from lightweight plastic derived from petroleum or other biologically based sources, provided by a business establishment to a customer at the point of sale for the purpose of carrying, transporting, and storing the purchased goods or products.

Sec. 14-402 Regulations

A. No business establishment within the municipal boundary of the Town of Kiawah Island may provide single-use plastic carryout bags to its customers.

B. Business establishments within the Town of Kiawah Island are strongly encouraged to provide prominently displayed signage advising customers of the benefit of reducing, reusing, and recycling and promoting the use of reusable carryout bags by customers.

C. No food or grocery establishment or food provider within the municipal boundary of the Town of Kiawah Island may provide plastic straws or disposable food service ware containing polystyrene/plastic foam to its customers.

D. No business establishment within the municipal boundary of the Town of Kiawah Island may sell, rent, or provide any polystyrene/plastic foam product to its customers, except as exempted in this Ordinance.

E. All single-use plastic carryout bags, all plastic straws, all polystyrene/plastic foam products, and all balloons are prohibited from possession or use on the beach.

F. All Town of Kiawah Island facilities shall use recyclable or compostable products for disposable food service ware.

of Kiawah Island Environmental Committee showing that this Ordinance would create an undue hardship or practical difficulty not generally applicable to other persons in similar circumstances.

B. A business establishment may request an exemption to sell or provide polystyrene/plastic foam products, upon written request to the Environmental Committee showing a public health and safety requirement or medical necessity for the product.

C. All requests for exemption shall be submitted to the Chairman of the Environmental Committee in writing only and include all information necessary for the Environmental Committee to make a decision, including, but not limited to, documentation showing factual support for the requested exemption.

D. The Environmental Committee may approve the request for exemption in whole or in part, with or without conditions. The Environmental Committee shall issue its decision, in writing, within forty-five (45) days of receipt of the request. The decision of the Environmental Committee may be appealed to Town Council.

Sec. 14-405 Enforcement and Penalties

A. Any person or business establishment that violates or fails to comply with any of the provisions found in this Ordinance shall be deemed guilty of an offense and shall be subject to a fine of up to $500 or imprisonment for not more than 30 days, or both, upon conviction. Each day of violation shall be considered a separate offense.

B. In addition to the penalties set forth in this section, repeated violations of this Ordinance by a person who owns, manages, operates, is a business agent of, or otherwise controls a business establishment, may result in the suspension or revocation of the business license issued to the business establishment for the premises on which the violations occurred. The Town of Kiawah Island will not issue or renew a business license until all outstanding fines against the business establishment for violations of this article are paid in full.

C. Violation of this article is declared to be a public nuisance, which may be abated by the Town of Kiawah Island by restraining order, preliminary and permanent injunction, or other means provided by law, and the Town of Kiawah Island may take action to recover the costs of the nuisance abatement.

Section 3 Severability

If any part of this Ordinance is held to be unconstitutional, it shall be construed to have been the legislative intent to pass said Ordinance without such unconstitutional provision, and the remainder of said Ordinance shall be deemed to be valid as if such portion had not been included. If said Ordinance, or any provisions thereof, is held to be inapplicable to any person, group of persons, property, kind property, circumstances or set of circumstances, such holding shall not affect the circumstances or set of circumstances, such holding shall not affect the applicability thereof to any other persons, property or circumstances.

Section 4 **Effective Date and Duration**

This Ordinance shall take effect at the later of (2) months after the second reading or September 8, 2019.

PASSED, APPROVED, AND ADOPTED BY THE COUNCIL FOR THE TOWN OF KIAWAH ISLAND ON THIS 4th DAY OF JUNE 2019.

Craig Weaver, Mayor

Petra S. Reynolds, Town Clerk

May 7, 2019 1st Reading

June 4, 2019 2nd Reading

Article 16 - BEACH MANAGEMENT

Footnotes:
*--- **(1)** ---*
***State Law reference—** Authority of coastal municipalities to enact beach safety regulations, S.C. Code 1976, § 5-7-145(A); authority of municipalities bordering on high-tide line or high-water mark of navigable body of water, S.C. Code of Laws 1976, § 5-7-140; coastal municipalities' jurisdiction over piers and other structures and ocean waters, S.C. Code of Laws 1976, § 5-7-150.*

CHAPTER 1. - BEACH LIGHTING

Sec. 16-101. - Need for beach lighting regulations.

The purpose of this chapter is to protect sea turtles which nest along the beaches of Kiawah Island by safeguarding nesting females and hatchlings from sources of artificial light.

(Code 1993, § 16-101; Ord. No. 2001-2, 3-13-2001; Ord. No. 2019-01 , § 2, 3-5-2019)

Sec. 16-102. - Definitions.

The following words, terms and phrases, when used in this chapter, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

Artificial light means any source of light emanating from a manmade device, including but not limited to, incandescent, mercury vapor, metal halide, or sodium lamps, flashlights, spotlights, street lights, vehicular lights, construction or security lights.

Beach means that area of unconsolidated material that extends landward from the mean low-water line to the place where there is a marked change in material or physiographic form, or to the line of permanent vegetation (usually the effective limit of storm waves).

Dawn means 30 minutes before sunrise.

Dusk means 30 minutes after sunset.

Floodlight means a reflector type light fixture which is attached directly to a building and which is unshielded.

Low profile luminaire means a light fixture set on a base which raises the source of the light no higher than 48 inches off the ground and designed in such a way that light is directed downward from a hooded light source.

New development means and includes new construction and remodeling of existing structures when such remodeling includes alteration of exterior lighting.

Person means any individual, firm, association, joint venture, partnership, estate, trust, syndicate, fiduciary, corporation, group or unit of federal, state, county or municipal government.

Pole lighting means a light fixture set on a base or pole which raises the source of the light higher than 48 inches off the ground.

Point source means the bulb, lamp, or glowing elements of a fixture from which light is emitted.

Shading coefficient means a coefficient expressing that percentage of the incident radiation which passes through the window as heat.

Tinted or filmed glass means window glass which has been covered with window tint or film such that the material has a shading coefficient of 0.45 or less.

(Code 1993, § 16-102; Ord. No. 2001-2, 3-13-2001; Ord. No. 2019-01 , § 2, 3-5-2019)

Sec. 16-103. - New development.

It is the policy of the town that no artificial light shall illuminate any area of the beaches of Kiawah Island and that no exterior point source of artificial light shall be visible from the beach. To meet this intent, building and electrical plans for construction of single-family or multifamily dwellings, commercial or other structures, including electrical plans associated with parking lots, dune walkovers, or other outdoor lighting for real property (if such lighting can be seen from the beach), shall be in compliance with the following:

(1) Floodlights shall be prohibited. Wall-mounted light fixtures shall be fitted with hoods so that no light illuminates the beach and the

point source of light is not visible from the beach.

(2) Pole lighting shall be shielded so that no light illuminates the beach and the point source of light is not visible from the beach. Outdoor lighting shall be held to the minimum necessary for security and convenience.

(3) Low profile luminaries shall be used in parking lots and such lighting shall be positioned so that no light illuminates the beach and no point source of light is visible from the beach.

(4) Dune walkovers shall utilize low profile shielded luminaries.

(5) Lights on balconies shall be fitted with hoods so that no light illuminates the beach and no point source of light is visible from the beach.

(6) Tinted or filmed glass shall be used in windows facing the ocean.

(7) Temporary lights at construction sites shall not be mounted more than 15 feet above the ground. Illumination from the lights shall not spread beyond the boundary of the property being developed, and in no case shall those lights illuminate the beach or shall the point source of light be visible from the beach. Lights shall be turned off from 9:00 p.m. until dawn during the period of May 1 to October 31 of each year.

(Code 1993, § 16-103; Ord. No. 2001-2, 3-13-2001; Ord. No. 2019-01 , § 2, 3-5-2019)

Sec. 16-104. - Exemptions for new development.

The provisions of section 16-103 shall not apply to any structure for which a building permit has been issued by the town, prior to the effective date of Ordinance No. 2019-01 (i.e., [March] 5, 2019), which preceded this article.

(Code 1993, § 16-104; Ord. No. 2001-2, 3-13-2001; Ord. No. 2019-01 , § 2, 3-5-2019)

Sec. 16-105. - Existing development.

It is the policy of the town that no artificial light shall illuminate any area of the beaches of Kiawah Island and that no exterior point source of artificial light shall be visible from the beach. To meet this intent, lighting of existing structures which can be seen from the beach shall be in compliance with the following within six months of the effective date of the ordinance from which this article is derived:

(1) Lights illuminating buildings or associated grounds for decorative or recreational purposes shall be shielded or screened such that the point source of light is not visible from the beach or turned off from 9:00 p.m. until dawn during the period of May 1 to October 31 of each year.

(2) Lights illuminating dune walkovers shall be turned off from 9:00 p.m. until dawn during the period of May 1 to October 31 of each year.

(3) Security lighting shall be permitted throughout the night so long as low-profile luminaries are used and screened in such a way that those lights do not illuminate the beach and no point source of light is visible from the beach.

(Code 1993, § 16-105; Ord. No. 2001-2, 3-13-2001; Ord. No. 2019-01 , § 2, 3-5-2019)

Sec. 16-106. - Community-owned lighting.

Street lights and lighting at parks and other publicly-owned beach access areas shall be subject to the following:

(1) Street lights shall be located so that the bulk of their illumination will travel away from the beach. These lights shall be equipped with shades or shields that will prevent backlighting and render the point source of light not visible from the beach.

(2) Lights at parks or other public beach access points shall be shielded or shaded so that the point source of light is not visible from the beach or shall be turned off from 9:00 pm to dawn during the period of May 1 to October 31 of each year.

(Code 1993, § 16-106; Ord. No. 2001-2, 3-13-2001; Ord. No. 2019-01 , § 2, 3-5-2019)

Sec. 16-107. - Individual use of lights.

(a) Use of unfiltered lights (any color spectrum except red), including but not limited to flashlights, cellular phones, and cameras, by persons are prohibited on the beach from 9:00 pm until dawn during the period of May 1 to October 31 of each year.

(b) No unfiltered light shall be shown directly on adult turtles, eggs or hatchlings.

(Ord. No. 2019-01 , § 2, 3-5-2019)

Sec. 16-108. - Organized functions and special events.

The illumination from beachfront organized functions or special event lighting shall not spread beyond the boundary of the property, and in no case shall those lights illuminate the beach or shall the point source of light be visible from the beach. No organized functions or special events shall take place seaward of the OCRM setback line between dusk and dawn during the period of May 1 to October 31 of each year.

(Ord. No. 2019-01 , § 2, 3-5-2019)

CHAPTER 2. - DEFINITIONS

Sec. 16-201. - Definitions.

The following words, terms and phrases, when used in this article, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

Active beach means the area seaward of the escarpment or the first line of stable natural vegetation, whichever first occurs, measured from the ocean landward.

Baseline means:

(1) Within a standard erosion zone, the baseline is established at the location of the crest of the primary oceanfront sand dune in that zone. In a standard erosion zone in which the shoreline has been altered naturally or artificially by the construction of erosion control devices, groins, or other manmade alterations, the baselines must be established by the department using the best scientific and historical data, as where the crest of the primary oceanfront sand dune for that zone would be located if the shoreline had not been altered.

(2) Within an unstabilized inlet zone the baseline must be determined by the department as the most landward point of erosion at any time during the past 40 years, unless the best available scientific and historical data of the inlet and adjacent beaches indicate that the shoreline is unlikely to return to its former position. In collecting and utilizing the best scientific and historical data available for the implementation of the retreat policy, the department, as part of the state comprehensive beach management plan provided for in this chapter, among other factors, must consider: historical inlet migration, inlet stability, channel and ebb tidal delta changes, the effects of sediment bypassing on shorelines adjacent to the inlets, and the effects of nearby beach restoration projects on inlet sediment budgets.

Beach means those areas including the waters of the Atlantic Ocean:

(1) From the mean low-water mark one mile out;

(2) The area between the mean low-water mark and the mean high-water mark from Captain Sam's Inlet in the west to the Northernmost portion of Little Bear Island in the east; and

(3) The area between the mean high-water mark landward to include the baseline and the landward OCRM setback line beyond the baseline on Kiawah Island.

Beach/dune system means all land from the mean high-water mark of the Atlantic Ocean landward to the 40-year setback line.

Beach nourishment means the artificial establishment and periodic renourishment of a beach with sand that is compatible with the existing beach in a way so as to create a dry sand beach at all stages of the tide.

Beaches means those lands subject to periodic inundation by tidal and wave action so that no nonlittoral vegetation is established.

Coastal waters means the navigable waters of the United States subject to the ebb and flood of the tide and which are saline waters, shoreward to their mean high-water mark.

Coastal zone means all coastal waters and submerged lands seaward to the state's jurisdictional limits and all lands and waters in the counties of the state which contain any one or more of the critical areas. These counties include Charleston.

Critical areas means any of the following:

(1) Coastal waters;

(2) Tidelands;

(3) Beaches;

(4) Beach/dune system which is the area from the mean high-water mark to the setback line.

Department means South Carolina Department of Health and Environmental Control.

Inlet erosion zone means a segment of shoreline along or adjacent to tidal inlets which is influenced directly by the inlet and its associated shoals.

Mean high-water mark means the arithmetic mean of the high-water heights observed over a specific 19-year Metonic cycle. For stations with shorter series, simultaneous observational comparisons are made with a primary control tide station in order to derive the equivalent of a 19-year value.

Mean low-water mark means the arithmetic mean of the low-water heights observed over a specific 19-year Metonic cycle. For stations with shorter series, simultaneous observational comparisons are made with a primary control tide station in order to derive the equivalent of a 19-year value.

OCRM means the South Carolina Department of Health and Environmental Control's Office of Ocean and Coastal Resource Management.

Setback line means the line landward of the baseline that is established at a distance which is 40 times the average annual erosion rate as determined by historical and other scientific means and adopted by the department in the state comprehensive beach management plan. However, all setback lines shall be established no less than 20 feet landward of the baseline, even in cases where the shoreline has been stable or has experienced net accretion over the past 40 years.

Standard erosion zone means a segment of shoreline which is subject to essentially the same set of coastal processes, has a fairly constant range of profiles and sediment characteristics, and is not influenced directly by tidal inlets or associated inlet shoals.

Tidelands means all areas which are at or below mean high tide and coastal wetlands, mudflats, and similar areas that are contiguous or adjacent to coastal waters and are an integral part of the estuarine systems involved. Coastal wetlands include marshes, mudflats, and shallows and means those areas periodically inundated by saline waters whether or not the saline waters reach the area naturally or through artificial watercourses and those areas that are normally characterized by the prevalence of saline water vegetation capable of growth and reproduction; provided, however, nothing in this definition shall apply to wetland areas that are not an integral part of an estuarine system. Further, until such time as the exact geographic extent of this definition can be scientifically determined, the department shall have the authority to designate its approximate geographic extent.

(Code 1993, § 16-201; Ord. No. 2001-2, 3-13-2001)

CHAPTER 3. - BEACH TRAFFIC

Sec. 16-301. - Need for regulating traffic on beaches and dunes.

(a) Kiawah Island beaches and dunes provide a number of important functions. These include:
  (1) Storm protection for upland areas;
  (2) Habitat for a variety of plant and animal species;
  (3) Nesting habitat for sea turtles; and
  (4) Recreational opportunities for residents and guests.

(b) Regulation of wheeled and pedestrian traffic is necessary to protect natural resources and habitats and to ensure the safety of beach visitors.

(Code 1993, § 16-301; Ord. No. 2001-2, 3-13-2001)

Sec. 16-302. - Essential vehicular traffic.

(a) Vehicular traffic on the beach shall generally be discouraged. However, there are certain vehicular uses which the town deems essential to the health, welfare and safety of residents of and visitors to the town.

(b) It shall be unlawful for any person to drive any motor vehicle, of any nature or description, on the beaches and dunes of Kiawah Island seaward of the OCRM 40-year setback line, unless such use is specifically allowed as set forth below.

(c) The following uses shall be permitted, provided the vehicles satisfy those restrictions and conditions located elsewhere in this section and chapter:
  (1) Emergency vehicles;
  (2) Town and other government vehicles;
  (3) Vehicles used in the turtle monitoring program;
  (4) Vehicles used to conduct town-approved beach surveys;
  (5) Vehicles used in conjunction with town contracts, concessions or franchise agreements;
  (6) Kiawah Island Community Association security and maintenance vehicles;

(7) Kiawah Development Partners' vehicles solely for the purpose of inspecting and maintaining its beachfront properties;

(8) Vehicles used in conjunction with surf fishing and other recreational activities east of Ghost Crab Run (Ocean Course) shall generally be allowed from September 1 through May 15 of each year; provided, however, the town administrator may, at his discretion, alter the dates and/or temporarily suspend the privilege if doing so is in the best interests of the town. Vehicles used for this purpose must enter the beach via Ghost Crab Run vehicular access point, which is seaward of the Ocean Course Clubhouse, or other such entry as may be designated. A town permit shall be required; and

(9) Other vehicle uses deemed essential by the town, as permitted by the town pursuant to administrative regulations promulgated by the town.

(Code 1993, § 16-302; Ord. No. 99-2, 3-9-1999; Ord. No. 2001-2, 3-13-2001; Ord. No. 2002-4, 6-11-2002; Ord. No. 2005-5, 9-13-2005; Ord. No. 2006-9, 12-5-2006)

Sec. 16-303. - Emergency vehicular beach access points.

(a) Emergency vehicular beach access points are hereby defined as those certain access points identified below which shall be limited to vehicular use as set forth in section 16-302.

(b) Vehicular access onto Kiawah's beaches shall be restricted to the following designated emergency vehicular beach access points:

(1) Ocean Marsh Road emergency vehicular access point adjacent to the Atlantic Ocean at Lots 218 and 219, off Ocean Marsh Road and Governors Drive. This emergency access point was granted pursuant to the South Carolina Coastal Council permit No. CC-93-056 on April 20th, 1993.

(2) Eugenia Avenue emergency vehicular access point adjacent to the Atlantic Ocean between Lots 29 and 31, off Eugenia Avenue. This emergency access point was granted pursuant to the South Carolina Coastal Council permit No. CC-90-167 on July 25, 1990.

(3) Ghost Crab Run emergency vehicular access point adjacent to the Atlantic Ocean near and in front of the Ocean Course Club House. This emergency access point has been in continuous use for decades and did not require a South Carolina Coastal Council permit. This emergency vehicular access point more fully appears on an undated plat prepared for Kiawah Beach Company by Sea Pines Plantation Company Engineering Group, a copy of which is on file in town hall.

(4) Ocean Marsh Road emergency vehicular access point adjacent to the Atlantic Ocean at Lot 225, off Ocean Marsh Road. This emergency access point was granted pursuant to the South Carolina Coastal Council permit No. CC-93-032 on April 20, 1993.

(5) Beachwalker Drive emergency vehicular access point adjacent to the Atlantic Ocean at Beachwalker County Park, off Beachwalker Drive. This emergency access point was granted pursuant to OCRM permit No. 97-171-H in 1997.

(6) The Sanctuary emergency vehicular access point is adjacent to the Atlantic Ocean near and to the west of the Sanctuary Hotel. This emergency access point was granted pursuant to OCRM permit No. 05-070-E on May 18, 2005.

(Code 1993, § 16-303; Ord. No. 2001-2, 3-13-2001; Ord. No. 2006-9, 12-5-2006)

Sec. 16-304. - Wheeled and pedestrian traffic on beaches and dunes.

(a) Wheeled vehicles traveling through dune areas seaward of the OCRM 40-year setback line to the beach shall be restricted to the designated emergency vehicular beach access points. Vehicular traffic onto and off the beach through other areas shall be prohibited. The placement and/or storage of sailboats or trailers on the primary dunes, or dunes landward thereof, is expressly prohibited.

(b) Pedestrians shall not walk though dunes areas seaward of the OCRM 40-year setback line, unless on official business; provided however, this prohibition shall not apply to those dunes areas in front of beach walkovers or during golf play. Access to the beach is restricted to pedestrian access points, at beach walkovers, or emergency vehicular accesses.

(c) The retrieving and launching of sailboats (whether trailered or not) shall be limited to the emergency vehicular access points. No motor vehicles shall be allowed beyond these access points unless specifically provided for elsewhere herein. The sailboat (whether trailered or not) shall be manually retrieved or launched, provided that electric or manual winches may be used for retrieving and launching.

(Code 1993, § 16-304; Ord. No. 2001-2, 3-13-2001; Ord. No. 2013-10, § 2, 7-2-2013)

Sec. 16-305. - Operation of vehicles on beaches and dunes.

(a) Vehicles using the beach shall be operated in such a manner that pedestrians and other beachgoers are not endangered or harmed. The maximum permissible speed limit on the beach shall be 20 miles per hour. Further, vehicles shall be driven on the wet sand beach and shall not travel on the dry sand or upper beach; vehicles shall not travel into or otherwise disturb nesting or designated critical habitat areas.

(b) Vehicles traveling through dune areas to the beach shall be restricted to designated emergency vehicular beach access points. Travel onto and off the beach through other areas shall be prohibited.

(Code 1993, § 16-305; Ord. No. 2001-2, 3-13-2001)

CHAPTER 4. - BEACH AND DUNE PROTECTION

Sec. 16-401. - Importance of beaches and dunes.

Beaches and dunes along Kiawah Island provide protection against storm waves and tides, provide habitat for a variety of plant and animal species, and offer exceptional recreational opportunities. The town has determined that the protection and restoration of beaches and dunes is essential to the quality of life on Kiawah Island.

(Code 1993, § 16-401; Ord. No. 2001-2, 3-13-2001)

Sec. 16-402. - Erosion control strategies for Kiawah Island.

(a) Given the natural setting that exists along the beaches of Kiawah Island, the town will encourage erosion control strategies that work in concert with local coastal processes, and will discourage erosion control strategies that harden the shoreline. The town declares that preferred erosion control strategies for the protection of habitable and other structures along the ocean shoreline will consist of:
    (1) Dune restoration and revegetation;
    (2) Beach nourishment using approved borrow sources; and
    (3) Sand bagging (under emergency conditions).

(b) All erosion control efforts shall comply with the requirements set forth in section 1-6 of the updated town local comprehensive beach management plan, the provisions of which are adopted by reference as part of this chapter.

(c) The town must approve, in advance, all erosion control activities along Kiawah Island, including any that use the beaches, dunes or adjacent tidal inlets for borrowing, transportation or placement of sand. The town must approve any future inlet relocation projects at Captain Sam's Inlet.

(Code 1993, § 16-402; Ord. No. 2001-2, 3-13-2001; Ord. No. 2006-9, 12-5-2006)

Sec. 16-403. - Dune protection.

The town recognizes the important protective and ecological functions that a healthy dune system provides. The town also recognizes that the dune system along the oceanfront must be carefully managed to ensure these important functions are not lost. Hence, any activity, construction or alteration of sand dunes seaward of the 40-year setback line must be approved, in advance, by the OCRM and the town. Section 1-6 of the updated town local comprehensive beach management plan lists specific policies governing activities related to dune alteration, destruction, restoration and revegetation. These policies are adopted by reference as part of this chapter.

(Code 1993, § 16-403; Ord. No. 2001-2, 3-13-2001; Ord. No. 2006-9, 12-5-2006)

Sec. 16-404. - Dune restoration and revegetation.

(a) Dunes may sustain damage due to natural causes or because of man's activities. In both cases, damaged areas should be restored and revegetated using methods and materials approved by the OCRM and the town.

(b) Section 1-6 and appendix B of the updated town local comprehensive beach management plan list specific dune restoration, dune revegetation and sand fence placement guidelines. These guidelines are adopted by reference as part of this chapter and should be followed during any dune repair or construction projects.

(Code 1993, § 16-404; Ord. No. 2001-2, 3-13-2001; Ord. No. 2006-9, 12-5-2006)

Sec. 16-405. - Funding for beach and dune restoration projects.

(a) The town maintains accommodations tax and hospitality funds that must be spent exclusively toward projects such as tourism and cultural facilities, beach access, roads providing access to tourist destinations, etc. All expenditures from the fund must be approved by the town council, in accordance with procedures contained in other articles of this Code and the state code.

(b) Within the fund, the town may include a budgeted beach restoration line item. Money in this line item can be used to fund projects that:
    (1) Enhance or restore the beach and dune system.
    (2) Enhance or increase access to the beach.
    (3) Improve the condition or safety of the beach.

(Code 1993, § 16-405; Ord. No. 2001-2, 3-13-2001; Ord. No. 2006-9, 12-5-2006)

Sec. 16-406. - Beach walkovers.

(a) All beach walkovers must be constructed in accordance with the Coastal Division of DHEC requirements as set forth in the South Carolina Code of State Regulations, R 30-13(O)(1).

(b) Definitions. [The following words, terms and phrases, when used in this section, shall have the meanings ascribed to them in this subsection, except where the context clearly indicates a different meaning:]

Active beach means the area seaward of the escarpment or the first line of stable vegetation, whichever first occurs, measured from the ocean landward.

Community beach walkovers means those serving regimes, clubs, associations, commercial entities, or the general public intended to provide high-volume access to the beach,

Private beach walkovers means those serving private residences.

(c) It is unlawful for any private or community beach walkover to exist in a state of disrepair or in an unsafe condition. This applies only to the portion of the walkover seaward of the primary dune and on the active beach. The town will conduct inspections and shall notify the property owner that the said beach walkover is in violation. Owners must bring said walkover into compliance within 30 days of notification. Should said owner fail to repair and/or remove the unsafe portion from the identified beach walkover within the 30-day time limit, the town shall be authorized to modify the identified beach walkover and file a real property lien against said owner's property for the costs associated with such removal or modification including reasonable attorney fees.

(d) It is unlawful for any property owner to knowingly allow any private or community beach walkover to extend more than ten feet onto the active beach. The town will conduct periodic inspections and shall notify the property owner via certified mail return receipt that the said beach walkover is in violation. The owner must submit their remediation plans within 30 days of notification. Once approved, the owner will have 60 days to cut off the boardwalk and remove the debris from the beach. Should the owner choose to rebuild, the normal approval process for a new boardwalk will be followed. Should said owner fail to modify the identified beach walkover within the 60-day time limit, the town shall be authorized to modify the identified beach walkover and file a real property lien against said owner's property for the costs associated with such removal or modification including reasonable attorney's fees.

(e) Owners of existing community beach walkovers terminating more than 20 feet landward of the active beach and causing dune vegetation destruction shall be notified by the town to make corrections. The owner must submit their remediation plans within 30 days of notification. Once approved, the owner will have 180 days to complete said remediation. Should said owner fail to extend and/or modify the identified community beach walkover that is causing dune destruction within the 180-day time frame, the town shall be authorized to extend and/or modify said community beach walkover and file a real property lien against said owner's property for the costs associated with such extension and/or modification including reasonable attorney's fees.

(f) Exception: The town may grant an extension to the above time frames to owners of private or community beach walkovers in the event of extenuating circumstances. Appeals shall be made to the town's building official within 30 days of violation notification. The extension period if granted shall be determined by the town's building official.

(Code 1993, § 16-406; Ord. No. 2000-3, 6-27-2000; Ord. No. 2001-2, 3-13-2001; Ord. No. 2000-9, 1-9-2001; Ord. No. 2006-9, 12-5-2006; Ord. No. 2012-02, § 2, 5-1-2012; Ord. No. 2013-05, § 2, 7-2-2013 ; Ord. No. 2017-21 , § 2, 11-7-2017)

Editor's note— † Exhibit "A" is attached to Ord. No. 2013-05 and is on file in the office of the town clerk.

Sec. 16-407. - Destruction of sea oat or Venus flytrap plant.

It shall be unlawful for any person to cut, collect, break or otherwise destroy sea oat plants, Venus flytrap plants or any part thereof on public property or on private property without the owner's consent. Any person violating the provisions of this section shall be guilty of a misdemeanor.

(Code 1993, § 16-407; Ord. No. 2001-2, 3-13-2001)

State Law reference— S.C. Code of Laws 1976, § 16-11-590.

Sec. 16-408. - Discharge on the beach prohibited.

(a) Outfalls or other means of direct discharge onto the beach are prohibited. In the event that erosion of dune areas takes place and the potential for direct discharge of stormwater, pool overflow, or golf course runoff to the beach increases, developers and property owners are required to redirect any potential discharges away from the beach. The town shall work in conjunction with all affected groups to

restore and maintain natural dune areas along the shoreline as a means of reducing or eliminating the potential for direct discharge to the beach. However, property owners should not rely only on the town's dune program to control discharge.

(b) Irrigation and runoff from upland development and golf courses to dune areas shall be controlled so that non-native vegetation does not displace native grasses and ground covers.

(Code 1993, § 16-408; Ord. No. 2001-2, 3-13-2001; Ord. No. 2006-9, 12-5-2006)

Sec. 16-409. - Digging holes on the beach prohibited.

Altering the contour or shape of the flat beach area by digging shall be prohibited. No person shall possess on or about Kiawah's beach a metal shovel of any type. Violators will be subject to assessed fines in accordance with section 16-816 of this chapter.

Exceptions:

(1) Kids' plastic shovels no more than 14 inches in length;

(2) Authorized personnel; and

(3) Sponsored KICA, KIGR or TOKI events. All holes created shall be filled at the end of the event or penalties shall be assessed to the sponsor in accordance with section 16-816 of this chapter.

(Ord. No. 2017-20 , § 2, 11-7-2017)

CHAPTER 5. - CONTROL OF PETS

Sec. 16-501. - Need for controlling pets on beaches and dunes.

Kiawah Island beaches and dunes provide habitats for a variety of plant and animal species that could be harmed by free-roaming pets. Beaches also provide recreational opportunities for property owners and guests. Regulation of pets is necessary to protect natural resources and habitats, and to ensure that property owners and guests, including small children, utilizing the beach for recreational purposes are safe and not threatened by free-roaming pets.

(Code 1993, § 16-501; Ord. No. 2001-2, 3-13-2001; Ord. No. 2009-06, 9-1-2009)

Sec. 16-502. - Restraint on the beach and dunes.

(a) Owners may unleash their pets year round (in those areas of the beach designated as "Dog Use Areas" on the map of Kiawah Island showing proposed location of critical habitat areas and pet restraint requirements which is made a part thereof). This provision applies only during daylight hours, i.e., from 7:00 a.m. to 7:00 p.m. Dogs are prohibited in the areas designated "Critical Habitat Areas" on the referenced maps as well as those areas posted as critical bird habitat areas located on the eastern and western ends of Kiawah's beach. The dog use area on the map is amended to reflect that the western end of the beach known as "Beachwalker County Park" to a dog leash area effective November 1, 2014.

(b) Owners may unleash their pets from November 1 through March 15 in all areas of the beach except those areas designated as "Critical Habitat Areas" as well as those areas posted as critical bird habitat areas located on the eastern and western ends of Kiawah's beach. The owner must remain with their pet, have the pet under control, and have in their possession a leash in the event that there is a need to leash their pet, or if requested by other beachgoers. This applies only during daylight hours, as defined in subsection (a) of this section.

(Code 1993, § 16-502; Ord. No. 99-2, 3-9-1999; Ord. No. 2009-06, § 2(1), 9-1-2009; Ord. No. 2001-2, 3-13-2001; Ord. No. 2010-05, § 2, 8-30-2010; Ord. No. 2013-04, § 2, 5-7-2013 ; Ord. No. 2014-08 , § 2, 8-5-2014)

CHAPTER 6. - CRITICAL HABITAT AREAS

Sec. 16-601. - Importance of critical habitat areas.

Kiawah Island beaches and dunes provide a habitat for a variety of plant and animal species, including species that may be designated as threatened, endangered or otherwise protected. Kiawah Island beaches also provide an important nesting habitat for sea turtles. The State of South Carolina and the Town of Kiawah Island have determined that the protection of natural resources and critical habitats is of significant public interest.

(Code 1993, § 16-601; Ord. No. 2001-2, 3-13-2001)

Sec. 16-602. - Designation of critical habitat areas.

(a) The term "critical habitat areas" is defined as those areas identified by the South Carolina Department of Natural Resources (SCDNR), United States Fish and Wildlife Service (USFWS), and other natural resource agencies as providing active nesting areas, active areas of critical food sources, or specific habitat areas for endangered or threatened species.

(b) When critical habitat areas are identified, all sections of this chapter shall apply.

(Code 1993, § 16-602; Ord. No. 2001-2, 3-13-2001; Ord. No. 2006-9, 12-5-2006)

Sec. 16-603. - Town assistance for area identification.

The Town of Kiawah Island, or its designated representative, shall assist the SCDNR, USFWS, and other natural resource agencies in the identification and mapping of critical habitat areas. This shall include monitoring usage of critical habitat areas and making recommendations to the appropriate agencies as to when the areas can be unlisted.

(Code 1993, § 16-603; Ord. No. 2001-2, 3-13-2001; Ord. No. 2006-9, 12-5-2006)

Sec. 16-604. - Restriction of pedestrian, vehicular and other traffic in critical habitat areas.

When critical habitat areas are designated, the Town of Kiawah Island shall restrict pedestrian, vehicular and other traffic in the critical habitat areas, as recommended by the SCDNR, USFWS, and other natural resource agencies. This may include a partial or total restriction on all traffic in those areas. Pets in critical habitat areas are subject to the provisions stated elsewhere herein.

(Code 1993, § 16-604; Ord. No. 2006-9, 12-5-2006)

Sec. 16-605. - Signage.

When critical habitat areas are designated, the town shall post appropriate signs around the habitat areas. Signs shall be one of two types, as listed below:

(1) "Critical Habitat Area—Leash Law in effect beyond this point."

(2) "Critical Habitat Area—No trespassing beyond this point from (insert date here)—Leash Law in effect."

(Code 1993, § 16-605; Ord. No. 2001-2, 3-13-2001)

CHAPTER 7. - THREATENED AND ENDANGERED SPECIES

Sec. 16-701. - Identification of protected species.

Section 4.1 of the updated town local comprehensive beach management plan indicates that several species in South Carolina have been classified as threatened, endangered or of special concern by state and federal agencies. Thus far, census and management efforts on Kiawah Island have concentrated on the Loggerhead turtle and Piping Plover. In order to protect threatened and endangered species and species of special concern, the town may assist the South Carolina Department of Natural Resources, United States Fish and Wildlife Service, and other natural resource agencies with identification and mapping of important habitat areas along the Kiawah Island shoreline.

(Code 1993, § 16-701; Ord. No. 2001-2, 3-13-2001; Ord. No. 2006-9, 12-5-2006)

Sec. 16-702. - Protection of threatened and endangered species.

(a) The town has adopted several chapters of this Code that will serve to protect threatened and endangered species. These include: beach lighting regulations, beach traffic regulations, erosion control regulations, a leash law and regulations to protect critical habitat areas.

(b) In addition to the regulations contained in the chapters referenced in subsection (a) of this section, the town shall encourage the completion of all erosion control, inlet management and dune restoration activities during the period November 1 to May 14. In cases where such activities must take place between May 15 and October 31, the town shall work closely with property owners and natural resource agencies to ensure adverse impacts on threatened and endangered species are eliminated or reduced to the extent possible.

(Code 1993, § 16-702; Ord. No. 2001-2, 3-13-2001)

CHAPTER 8. - BEACH AND BEACH RECREATION AREA REGULATIONS

Sec. 16-801. - Littering on the beach/dune area prohibited.

It shall be unlawful for any person to throw or leave any trash, rubbish or other debris of any kind whatsoever on the beach/dune area seaward of the 40-year OCRM setback line unless such trash, rubbish or other debris is deposited in a receptacle placed on the beach seaward of the 40-year OCRM setback line for that purpose.

(Code 1993, § 16-801; Ord. No. 2001-2, 3-13-2001)

Sec. 16-802. - Negligent operation of vessels.

(a) The term "vessel" shall mean every description of watercraft, other than a seaplane on the water, used or capable of being used as a means of transportation on the water.

(b) No person may use any motor boat, boat or vessel or manipulate any water skis, aquaplane, surfboard or similar device in a negligent manner so as to endanger the life, limb, or property of any person.

(c) No person may use any motor boat, boat or vessel, or use any water skis, aquaplane, surfboard or similar device while under the influence of alcohol, any narcotic drug, barbiturate, marijuana, or hallucinogen.

(Code 1993, § 16-802; Ord. No. 2001-2, 3-13-2001)

Sec. 16-803. - Launching or retrieving of vessels restricted.

(a) No person shall launch or retrieve a vessel, excluding sailboats, surfboards, rafts, inner tubes or similar devices, anywhere on the beach seaward of the mean high water mark, except in case of emergency.

(b) No person shall propel or cause to move any vessel, except sailboats, surfboards, rafts, inner tubes or similar devices from the water onto the sand beach above the mean low-water mark anywhere on the beach seaward of the mean high-water mark, except in case of emergency.

(Code 1993, § 16-803; Ord. No. 2001-2, 3-13-2001)

Sec. 16-804. - Parasailing prohibited.

No parasailing operation shall be permitted within the jurisdiction of the town.

(Code 1993, § 16-804; Ord. No. 2001-2, 3-13-2001)

Sec. 16-805. - Overnight storage of beach equipment prohibited.

Unless the town grants special permission, it shall be unlawful for any person to leave overnight on the beach seaward of the OCRM 40-year setback line, including under dune walkovers, items of any kind whatsoever. These items include, but are not limited to, tents, tent frames, beach chairs, beach umbrellas, clothing and toys.

(Code 1993, § 16-805; Ord. No. 2001-2, 3-13-2001)

Sec. 16-806. - Public nudity prohibited.

It shall be unlawful for any person to appear or travel on the beach seaward of the mean high-water mark in a state of nudity. A person shall be in a state of nudity when his or her clothing or absence of clothing uncovers or exposes to public view his or her genitals, pubic area, or the nipple or any portion of the areola of the human female breast. This shall not apply to persons younger than 13 years of age.

(Code 1993, § 16-806; Ord. No. 2001-2, 3-13-2001)

Sec. 16-807. - Limitations on public disrobing.

No person shall disrobe, undress, dress or change his or her clothes in public view such that he or she may be found to be in a state of public nudity.

(Code 1993, § 16-807; Ord. No. 2001-2, 3-13-2001)

Sec. 16-808. - Overnight sleeping on the beach prohibited.

No person shall sleep on the beach seaward of the OCRM 40-year setback line between the hours of 10:00 p.m. and 8:00 a.m.

(Code 1993, § 16-808; Ord. No. 2001-2, 3-13-2001)

Sec. 16-809. - Reserved.

Sec. 16-810. - Wildlife and marine life.

In addition to any other applicable state or federal laws, no person shall physically harm, harass or otherwise disturb any sea turtle (including eggs and hatchlings), marine mammals or any sea bird (including eggs and young). Beached or stranded sea turtles, whales or dolphins shall be reported immediately to the town.

(Code 1993, § 16-810)

Sec. 16-811. - Fires on the beach restricted.

No person shall build or start a fire on the beach except as permitted by the town. (See section 15-105 for further regulations regarding this activity.)

(Code 1993, § 16-811; Ord. No. 2001-2, 3-13-2001)

Sec. 16-812. - Fireworks on the beach restricted.

No person shall discharge fireworks on the beach seaward of the OCRM 40-year setback line, except by permit from the town. (See section 15-209 for further regulations regarding this activity.)

(Code 1993, § 16-812; Ord. No. 2001-2, 3-13-2001)

Sec. 16-813. - Breaching of the peace prohibited.

No person shall appear on the beach seaward of the OCRM 40-year setback line in a grossly intoxicated condition or otherwise conduct himself in a disorderly or boisterous manner or use obscene language on the beach seaward of OCRM 40-year setback line.

(Code 1993, § 16-813; Ord. No. 2001-2, 3-13-2001)

Sec. 16-814. - Commercial activities restricted.

No person shall sell or offer for sale any goods or merchandise, or solicit any trade or business on the beach seaward of the OCRM 40-year setback line, except under license from the town.

(Code 1993, § 16-814; Ord. No. 2001-2, 3-13-2001)

Sec. 16-815. - Power to recall swimmers.

The duly appointed code enforcement officers of the town shall have the power and authority to recall from the waters adjoining the beach any person who, in their discretion, shall be in danger of drowning or becoming imperiled, or who may imperil the safety of others, or when the condition of wind, water, weather or any hazard, including the physical and mental condition of the person in the water, shall be such as to constitute a danger to the health, life, or safety of that person, rescue personnel or other persons within the waters.

(Code 1993, § 16-815; Ord. No. 2001-2, 3-13-2001)

Sec. 16-816. - Fines and penalties.

Unless a different penalty is specified, any person who violates a provision of this chapter is guilty of a misdemeanor and, upon conviction, must be fined not less than $25.00 nor more than $200.00 or imprisoned for not less than ten days nor more than 30 days.

(Code 1993, § 16-816; Ord. No. 2001-2, 3-13-2001)

Sec. 16-817. - Organized functions and special events restricted.

Organized functions and special events shall be held on the beach seaward of the OCRM 40-year setback line only as permitted by the town pursuant to administrative regulations as promulgated by the town.

(Code 1993, § 16-817; Ord. No. 2001-2, 3-13-2001)

Sec. 16-818. - Glass containers and products prohibited; permitted exceptions.

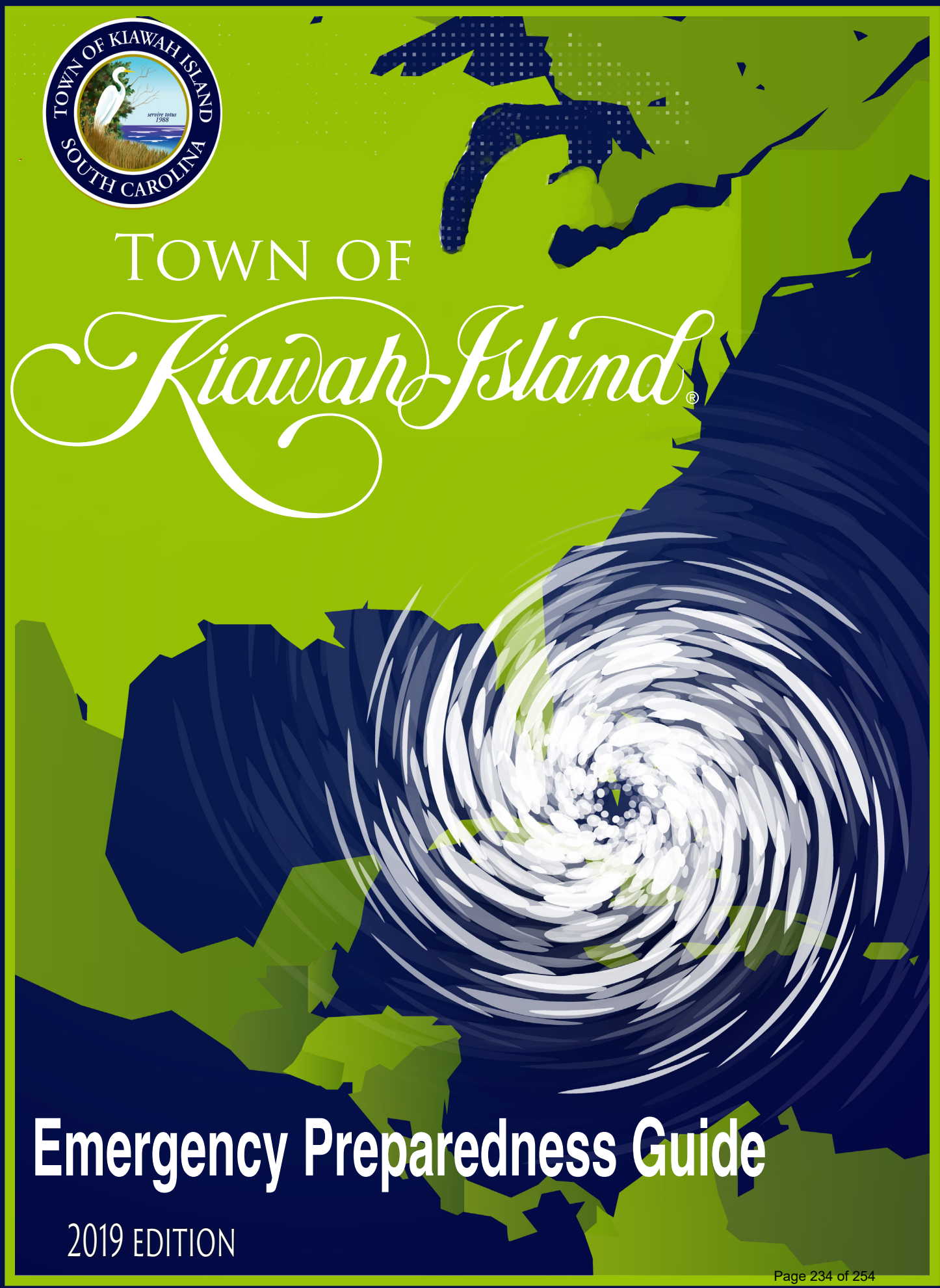
It shall be unlawful for any person to use glass containers of any kind on the beach of Kiawah Island. Glass containers shall include but not be limited to glass bottles, drinking glasses, etc.; provided however this prohibition does not include glass baby bottles or glass baby food jars if properly disposed. "Beach" shall include that area as defined in [section] 16-102 of the Municipal Code and extend into the waters of the Atlantic Ocean for a distance of 100 yards; provided however in addition, this shall not apply to persons operating boats in the area of the waters described herein.

There is an additional permitted exception for organized events. Provided a duly authorized representative of the organized event applies to the town at least ten days before the scheduled event the town shall issue a permit allowing for the use of glass containers on the beach under the following limited circumstances and pursuant to the following specific guidelines: glass beverage containers are permitted, and the beverages served from the glass containers must be served from a central location so as to allow for containment and the safe removal of broken glass. Further the organized event representative will be required to remove all glass containers from the beach upon completion of the organized event. The town shall have the right to charge a non-refundable permit fee as well as promulgate any further administrative regulations or guidelines to carry out the intent of this section. Penalties for violation of this section shall be as provided for in sections 15-501 and 15-502 of the Municipal Code.

(Ord. No. 2013-03, § 2, 5-7-2013)

Editor's note— Ord. No. 2013-03, § 2, adopted May 7, 2013 , repealed § 16-818, in its entirety and enacted new provisions to read as herein set out. Prior to this amendment, § 16-818 pertained to "Glass containers and products prohibited." See Code Comparative Table for derivation.

Appendix 7.8 2019 Kiawah Emergency Preparedness Plan


TOWN OF KIAWAH ISLAND
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1988
TOWN OF
Kiawah Island®
Emergency Preparedness Guide
2019 EDITION

TABLE OF CONTENTS

INTRODUCTION 1
OBTAINING INFORMATION 1-2
HURRICANES AND STORM SURGE 3
FLOODS 4
TORNADOES 4
EARTHQUAKES 4
FIRE 5
HAZARDOUS MATERIALS. 5
TERRORISM 5
WINTER STORMS 5
TOWN EMERGENCY OPERATIONS. 6
EVACUATION PROCEDURES. 7
- Evacuation 7
- Evacuation Zones 7
- Evacuation Route 7
- Coastal Evacuation Zones Map. 8
- Hurricane Evacuation Map 9

PERSONAL PREPARATION AND EVACUATION PLANS 10
- OPCON 3: Normal Operations. 10
- OPCON 2: Enhanced Awareness 10
- OPCON 1: Full Alert 11

TIPS FOR SHUTTING OFF UTILITIES 11
DURING A DISASTER EVENT 12
POST DISASTER EVENT AND RE-ENTRY 12
- Re-Entry 12
- Damage Assessments 13
- All Clear 13

MISCELLANEOUS 14
- Absentee Property Owners and Resort Guests 14
- Berkeley Electric 14
- Kiawah Island Utility 15
- Debris Removal 15
- Debris Collection Map 16
- Hiring a Contractor After a Disaster 17

CHECKLIST 18
EMERGENCY NUMBERS 19

The Town of Kiawah Island has other guides available for distribution such as the State Hurricane Guide, State Earthquake Guide, and FEMA flood guides. For more information call 843-768-9166 or visit our website at www.kiawahisland.org/disaster-preparedness

INTRODUCTION

Kiawah Island is a barrier island and, as such, is particularly susceptible to damage from severe weather. Natural disasters like hurricanes, floods, tornadoes and earthquakes are potential hazards that need to be addressed not only by organizations like the Town of Kiawah, but also by individual residents and property owners.

The purpose of this plan is to keep residents and organizations on Kiawah Island informed of conditions which may present a threat to life and/or property, and to insure that all information, recommendations, and/or orders coming from national, state, or local authorities are passed on to all residents and organizations.

OBTAINING INFORMATION

During a major disaster, there will be a lot of online information. Some information will be accurate while other sources can be misleading. In the event of a disaster, property owners, residents and guests are urged to monitor the communications from the Town and the Community Association. The Town of Kiawah Island will use the methods listed below to communicate:

- **CodeRED:** CodeRED is used to communicate to residents in emergency situations or critical community alerts such as evacuation notices, boil water notices, tornado warnings, and flash flood notices. Notifications are sent via voice, text and email. You must be registered to receive.

- **Email Distribution List:** Email notifications will be sent to all residents that have registered. To be added, send your name and e-mail address to sbraswell@kiawahisland.org

- **Town Website:** In an emergency, information will be posted on the Town website: www.kiawahisland.org/latest-news

- **Social Media:**
  townofkiawahisland **@TownofKiawahSC** **@townofkiawah**

MAKE SURE YOU ARE REGISTERED FOR KIAWAH'S CODERED EMERGENCY NOTIFICATION SYSTEM!

To sign up visit the Town's website www.kiawahisland.org/disaster-preparedness or download the CodeRED Mobile Alert app:

Download on the App Store

GET IT ON Google Play

OTHER INFORMATION SOURCES

- **Charleston County Emergency Operations Center:** www.charlestoncounty.org
- **SC Emergency Management Division:** www.scemd.org
- **National Hurricane Center:** www.nhc.noaa.gov

- **Radio:** The following radio stations are key participants in the Emergency Alert System and the SC Educational Radio network. They broadcast emergency information throughout the state.

Emergency Alert System Radio Stations
WIWF – 96.9 FM
WEZL – 103.5 FM

NOAA Radio Frequencies
162.550 - Charleston, Berkeley and Dorchester county
162.475 - Berkeley county
162.525 - Dorchester county

SC Public Radio
WLJK-FM 89.1/Aiken
WJWJ-FM 89.9/Beaufort
WSCI-FM 89.3/Charleston
WLTR-FM 91.3/Columbia
WHMC-FM 90.1/Conway
WEPR-FM 90.1/Greenville
WRJA-FM 88.1/Sumter
WNSC-FM 88.9/Rock Hill

- **Traffic Information** Department of Public Safety/Traffic
  www.sctraffic.org

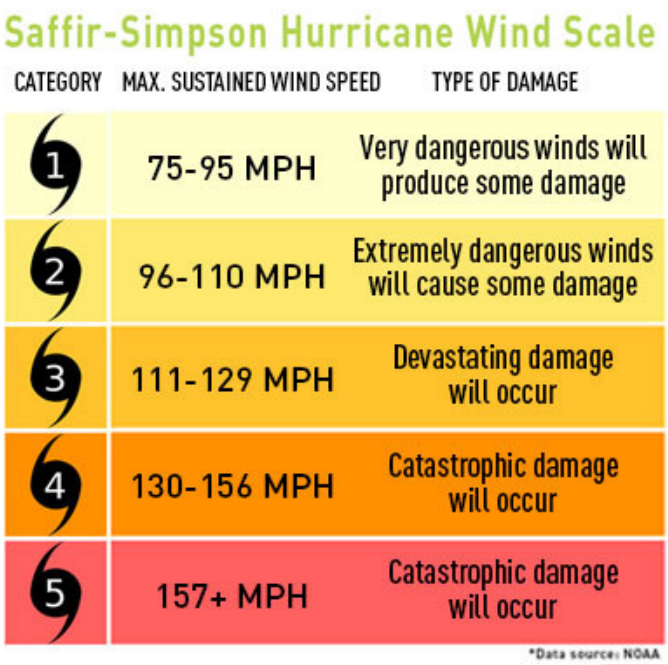
- **Traffic Cameras/Road Closures** Department of Transportation
  www.511sc.org or download the 511 South Carolina Traffic app on iTunes or Google play.

- **Weather** National Weather Service/Charleston
  www.weather.gov/chs

Recommended Twitter accounts to follow:

- Town of Kiawah Island **@TownofKiawahSC**
- Charleston County **@ChasCountyGov**
- St. Johns Fire Department **@STJFD**
- Charleston County Sheriff's Office **@ChasCoSheriff**
- Department of Transportation **@SCDOTLowCountry**

HURRICANES AND STORM SURGE

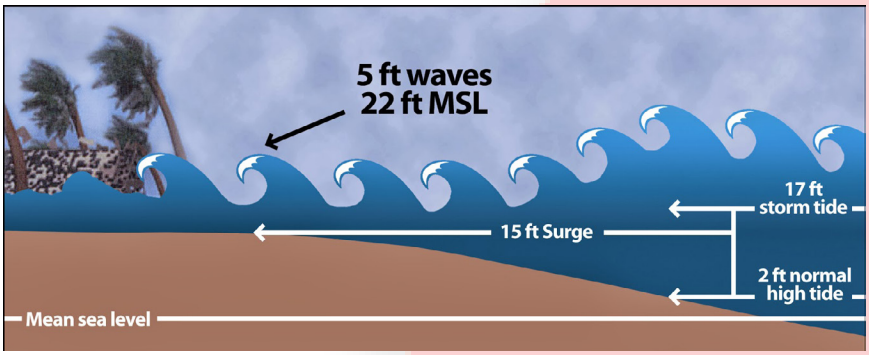


If a storm develops over warm Atlantic waters and winds intensify, it can easily become a tropical depression, then tropical storm, and finally when winds reach 74 mph a hurricane. Hurricane season is from June 1 to November 30. For our area, the greatest frequency of storms occur from August 15 to October 15, with September being the most likely time for an occurrence.

A hurricane's intensity is measured by the Saffir-Simpson Scale. Storm surge will depend on coastal configurations and other factors.

Hurricane Watch: A hurricane is possible within 36 hours. Stay tuned to the radio and television for more information. The Hurricane Center is tracking the storm and trying to predict where it may come ashore.

Hurricane Warning: A hurricane is expected within 24 hours. You may be told to evacuate.



Storm surge is often the greatest threat to life and property from a hurricane. Storm surge is an abnormal rise of water generated by a storm, over and above the predicted astronomical tide. It is produced by water being pushed toward the shore by the force of the winds moving cyclonically around the storm.

There will be more flooding if the highest surge occurs around high a tide. The coastal areas of South Carolina are very surge-prone given the low elevation and gently sloping continental shelf offshore.

Perhaps the most famous hurricane that has affected Kiawah is Hurricane Hugo. This hurricane, which hit Charleston County near McClellanville on September 21, 1989, was identified as a Category 4 storm. If Hurricane Hugo had not moved slightly north before landfall, the eye would have passed near Edisto Beach, and the storm surge on Kiawah would have been 12 to 16 feet. Hugo was responsible for thirty-five (35) deaths and approximately $7.2 million in damages.

More recently, Kiawah experienced significant impacts from Hurricane Matthew in October, 2016 and Hurricane Irma in September, 2017. Kiawah was under an evacuation order for Hurricane Matthew which dropped 11 inches of rain combined with strong winds and several feet of storm surge as the eye of the storm passed to the east of Kiawah. There was no evacuation ordered for Hurricane Irma, and even though the eye of the storm was hundreds of miles to the west of Kiawah, the storm dropped 7 inches of rain combined with an even greater storm surge than was observed during Matthew. Both storms resulted in fallen limbs and trees, utility disruptions, and beach erosion. These storms emphasized the importance of evacuation from a barrier island such as Kiawah when hurricane conditions are forecasted.

FLOODS

Flooding on Kiawah Island may be caused by a number of naturally occurring events including hurricanes, wave washes, tidal surges, King Tides and tidal waves. Heavy rains over a short period can overwhelm existing drainage capabilities and prove disastrous at high tide. Floods are extremely dangerous events and damaging to both property and lives.

The Town of Kiawah Island participates in the Community Rating System which allows property owners to receive flood insurance discounts. Currently, the Town has a Class 5 rating which typically allows for a 25% discount off flood premiums.

For more information on Community Rating System or the National Flood Insurance Program call the Town of Kiawah Development Services Department at (843) 768-9166.

TORNADOES

A tornado is defined as a violently rotating column of air extending from a thunderstorm to the ground. The most violent tornadoes are capable of tremendous destruction with wind speeds of 250 mph or more. Damage paths can be in excess of one mile wide and 50 miles long. Although most frequently associated with Texas and the southern High Plains, tornadoes can accompany tropical storms and hurricanes that move over land. Tornadoes are most common to the right and ahead of the path of the storm center as it come onshore. Tornadoes most commonly occur in Charleston County from March to May.

Waterspouts are weak tornadoes that form over warm water and are most common along the Gulf Coast and southeastern states. They have been known to move inland becoming tornadoes.

The safest place to be during a tornado is underground, preferably under something sturdy. Since Kiawah homes do not have a basement or cellar, a small room in the middle of the house - like a bathroom or a closet - is best. The more walls between you and the outside, the better. If possible, it is also recommended that you move to the center of the lowest level of your home, away from windows, and lie flat. If you are in your vehicle, seek a safe structure or lie down in a low area with your hands covering the back of your head and neck.

EARTHQUAKES

South Carolina and the tricounty area has a significant earthquake history. What may elude us is the numerous, almost monthly earthquake activity that frequents this area. No one knows whether these small quakes are a pre-cursor to the so called “Big One,” or if this seismic activity is actually releasing the buildup of pressure in the major fault line beneath the area. Since the experts can’t answer this question, everyone on the island should be aware of the earthquake threat. Over 150 seismic events have been recorded in the area since 1996, with many exceeding a 2.0 Richter Scale assessment (South Carolina Seismic Network) and the 1886 Charleston Earthquake in the Earthquake section and state that it was the most damaging earthquake to occur in the Eastern United States.

Although there is little one can do to prepare for an earthquake, the rule of thumb is “duck and cover.” Duck under a strong table, cover your head to protect them from broken glass and falling debris and STAY INDOORS UNTIL THE SHAKING STOPS. Wait for emergency personnel to order an evacuation as it is possible that bridges and roads will be unsafe and/or closed due to structural damage.
The SC Emergency Management Division publishes a Earthquake Guide that is available on their website www.scemd.org/planandprepare/disasters/earthquakes. Copies can also be obtained at Town Hall.

FIRES

Kiawah Island's summer months are marked with extremely hot temperatures with a heat index often exceeding 100 degrees, drought, and severe thunderstorms. These conditions provide the right environment for fire. Please do not carelessly toss cigarette butts, leave barbecues unattended or shoot fireworks as these actions can lead to fire. It is for this reason that the Town prohibits fireworks (except by special permit), fires on the beach and grilling on decks of multi-family homes. Call 911 immediately to report suspicious smoke or a fire.

HAZARDOUS MATERIALS

The Charleston region is a rapidly growing international port with many industries and growing businesses. Kiawah is also experiencing rapid growth. Hazardous materials are a constant threat due to the large amounts being transported in and around the area. Incidents occur almost weekly in Charleston County. Hazardous materials include substances such as flammables, combustibles, compressed gases, poisons, and corrosives. Unidentifiable substances may also be considered hazardous materials. Accidents may result in fire, explosions, radiation dangers, or contamination and toxic fumes. St. John's Fire District personnel have been trained to combat these dangers. Call 911 immediately to report an accident.

TERRORISM

Terrorism is defined as the unlawful use of force or violence against persons or property to intimidate or coerce a government, the civilian population, or any segment thereof, in furtherance of political or social objectives. The attacks on the Murrah Federal Building in Oklahoma City in 1995 and the Pentagon and World Trade Center on September 11, 2001, have proven that the U.S. is as much at risk of terrorism as any other nation. Terrorists can use a variety of weapons including weapons of mass destruction, high-powered explosive agents, chemicals, biological agents and radioactive material and nuclear weapons. An attack could cause explosions and/or fire, damage to buildings and roadways, physical injuries and death, panic, contamination, and/or evacuation. Much has been done in the Charleston region to prepare for these types of attacks. Local emergency preparedness officials have been involved in drills, hospitals have enhanced security and response measures, water utilities have performed risk assessments and upgraded security, and the Charleston Port has received $13 million in federal funding to enhance port security and screening methods. Citizens should prepare for the unexpected by creating an emergency communications plan, establishing a meeting place, and assembling a disaster supplies kit. You should also report suspicious activities to the authorities.

WINTER STORMS

Kiawah has experienced a few winter storms over the past decade that brought snow and/or ice to the island that is generally unaccustomed to such weather. The winter storm of January 2018 dropped five inches of snow and ice combined with several consecutive days of freezing temperatures, resulting in utility disruptions and impassable roads. Due to the relative infrequency of these winter storms, the Town and other island entities do not maintain inventories of winter storm resources such as snow plows and ice-melting materials for the roads. While every effort will be made to obtain these resources in advance of the next winter storm, history has shown that they are in short supply locally when needed. Residents and visitors should consider their own personal preparedness for winter storms when forecasted, including emergency supplies of water, food, and other resources for utility disruptions and restricted travel. Residents should also consider obtaining ice-melting supplies for their sidewalks, stairs, and driveways when the next winter storm is forecasted. Ultimately, residents may consider the best option to evacuate prior to the winter storm to avoid the inconveniences and disruptions caused by these storms.

TOWN EMERGENCY OPERATIONS

The National Weather Service in Charleston will identify all storms which present a real or potential danger to the area and will alert the Charleston County Emergency Management Division (EMD). The EMD will then alert all local jurisdictions, including the Town of Kiawah Island. Town officials will then alert the Kiawah Island Community Association (KICA), Kiawah Island Golf Resort (KIGR) Kiawah Partners (KP) and all others who will be integral to preserving the safety of island residents and visitors.

The Town's Municipal Emergency Operations Center (MEOC) will be set up at the Municipal Center to coordinate storm related activities and to answer inquiries from residents, visitors, and commercial interests. It will be staffed until the alert is over or evacuation is underway. Information will be disseminated via the Town website (www.kiawahisland.org), email notifications, social media and CodeRED.

The Town's MEOC will maintain contact with KICA, KIGR, and KDP, rental agencies and commercial interests. These entities will be responsible for alerting their own employees and guests and keeping the MEOC informed.

If an evacuation order is given, every person on the island is REQUIRED to evacuate.

The Mayor of the Town of Kiawah Island may declare a State of Emergency before, or after a hurricane or other disaster. If such is declared, the Mayor becomes vested with the following powers which may be exercised at his discretion:

- to establish a curfew to be effective within the corporate limits
- to prohibit the sale of gasoline, explosives, dynamite, and/or any other type of inflammable or explosive materials, firearms, or any other materials or supplies or any component parts thereof which could readily be utilized as weapons
- to mobilize and deputize an emergency safety task force
- to disperse assemblies or congregations of people
- to suspend issuance of permits
- to order evacuation of the Town
- to designate off limit areas
- to commandeer boats and vehicles
- to restrict trade/commerce (tourism)

EVACUATION PROCEDURES

When a hurricane threatens South Carolina's coast, you may plan to leave voluntarily or you may be ordered to evacuate. Charleston County no longer issues voluntary evacuation orders; however based on reports from the National Weather Service, the Governor, and Charleston County EMD, the Mayor may issue a recommendation to evacuate the island.

By evacuating early, you will be able to pick your own evacuation route. Awaiting an evacuation order, will require you to take a designated route based on your evacuation zone. You will not be permitted to deviate from this preplanned route. You could be stuck in traffic and you may not be able to find accommodations. Vehicles maybe prohibited from crossing bridges due to strong winds. You are strongly encouraged to leave early before an evacuation order issued.

Evacuation

If, and when, an evacuation order is issued, the following actions will be taken by the Town:

1. CodeRed will be activated and pertinent information will be disseminated through all channels.
2. KICA Security will ultimately block the incoming gate to all except emergency and official vehicles.
3. Providing its equipment is not being used, the St. John's Fire District personnel will broadcast the evacuation order throughout the island using loud speakers.

When an evacuation has been determined to be essentially complete, the Town's Municipal Emergency Operations Center will be relocated to an off-site location as indicated by the Mayor.

Evacuation Zones

Kiawah/Seabrook Island is in ZONE A

If, and when, an evacuation order is issued, local authorities will announce evacuations for the county by predesignated zones. The Tricounty area including Charleston, Berkeley and Dorchester County is classified as the Central Coast. The Central coast is divided into evacuation zones. Kiawah and Seabrook Island is located in Zone A. See page 8 for more information on coastal zones.

Evacuation Route

Evacuees from Kiawah/Seabrook Islands will take Road S-20 (Bohicket/Main Rd.) to US 17. They will then take US 17 south to SC 64, where you will go to Walterboro, then to North Augusta. A map depicting this route can be found on page 9.

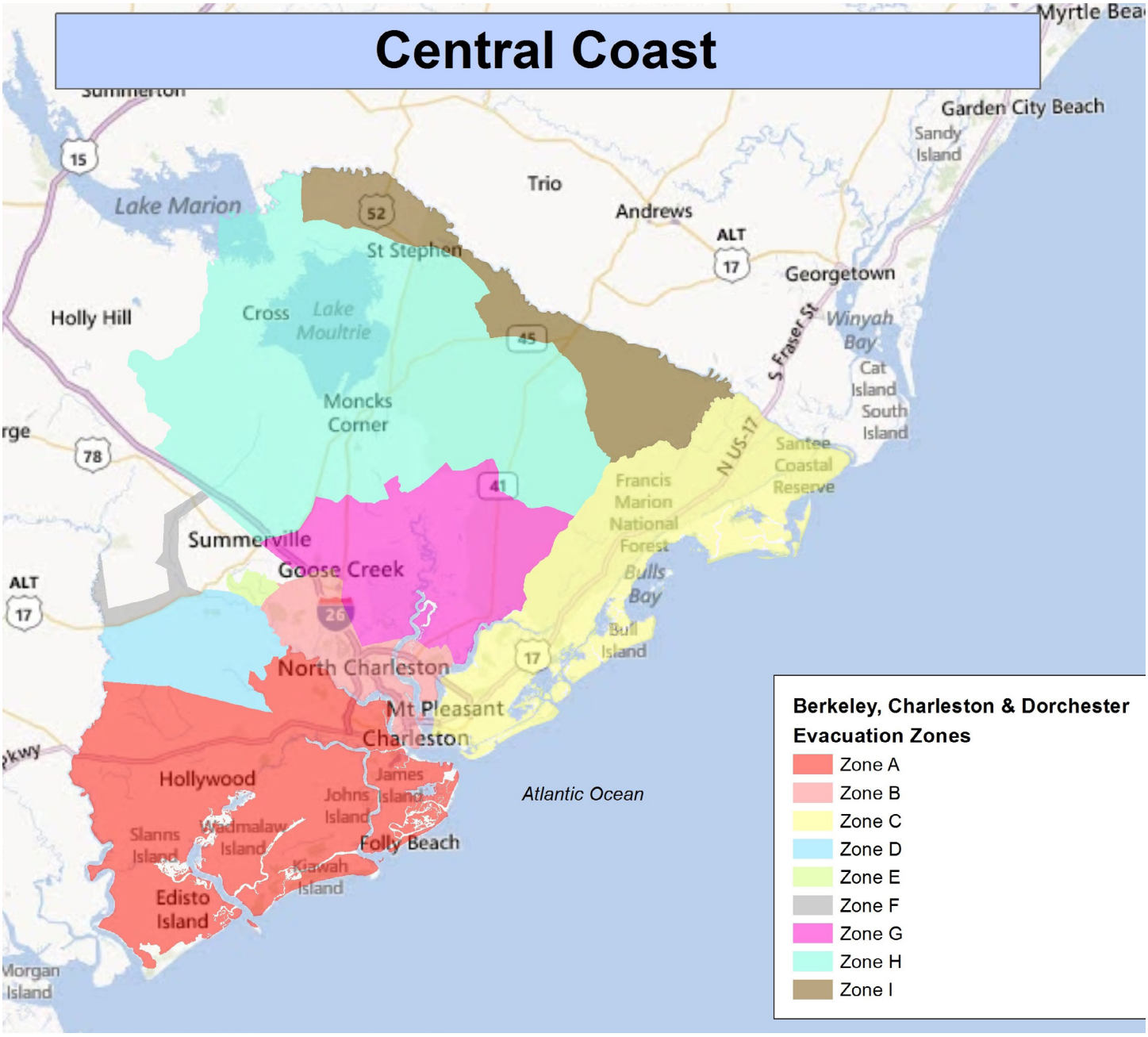
It is the Town's recommendation that you leave before a evacuation order is given so that you can choose your own route. The SC Department of Transportation has published the Hurricane Evacuation Routes map on their website www.sctraffic.org/evacroutes. Copies can also be obtained at Town Hall.

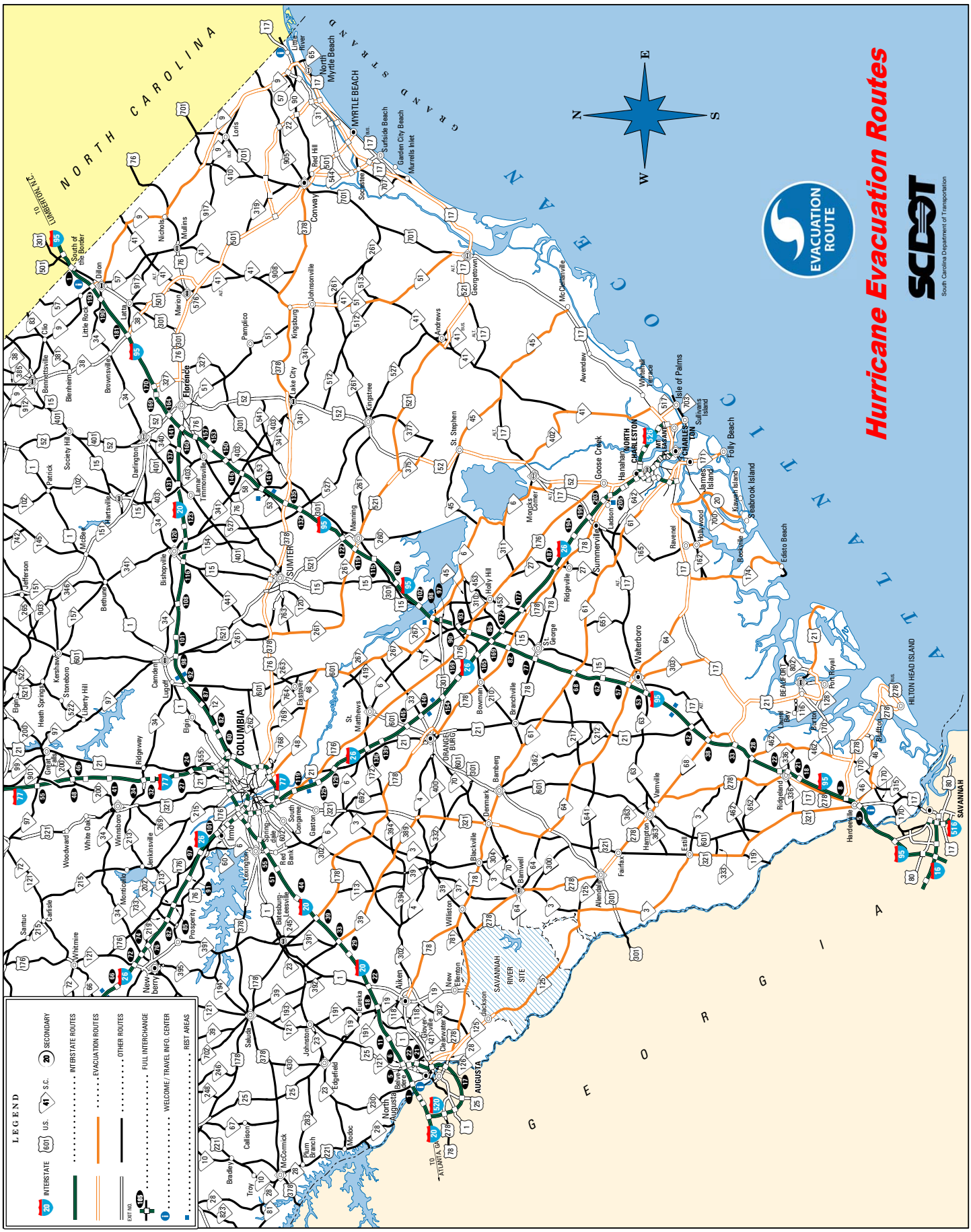
Coastal Evacuation Zones

Local authorities will announce evacuations by designated zones. For more information visit the "Know Your Zone" page at scemd.org.

According the University of South Carolina Hazard and Vulnerability Research Institute, approximately 35 percent of residents are unaware of the evacuation zone they live in and many dismiss the threat posed by storm surge entirely!

Kiawah/Seabrook Island is in ZONE A




Hurricane Evacuation Routes
EVACUATION ROUTE
SCDOT
South Carolina Department of Transportation
NORTH CAROLINA
GEORGIA
ATLANTIC OCEAN
GRAND STRAND
LEGEND
INTERSTATE
U.S.
S.C.
SECONDARY
INTERSTATE ROUTES
EVACUATION ROUTES
OTHER ROUTES
FULL INTERCHANGE
WELCOME / TRAVEL INFO. CENTER
REST AREAS
EXIT NO.
TO ATLANTA, GA.
TO CHARLOTTE, N.C.
SAVANNAH RIVER SITE
COLUMBIA
CHARLESTON
AUGUSTA
SAVANNAH
HILTON HEAD ISLAND
MYRTLE BEACH
FLORENCE
SUMTER
FRANCIS BURR

PERSONAL PREPARATION AND EVACUATION PLANS

The Charleston County Emergency Management Division and the Town of Kiawah Island operate under alert levels called Operational Conditions (OPCONs), during hurricane season. The OPCONs will be used here to provide a general timetable/framework for you to use in preparing for a natural disaster and evacuation.

OPCON 3

Normal Operations | No emergency threats. All storms and significant incidents are tracked and monitored. Coordinate and conduct prevention and preparedness activities.

Activities

• Obtain items you will need upon returning from any evacuation and organize an evacuation kit. For suggestions see page 18.
• Be sure to have an ample supply of necessary medications on hand in case obtaining renewalprescriptions becomes a problem.
• Prepare/review list of potential evacuation destinations with phone numbers and directions to have on hand.
• Prepare/review arrangements for pets.
• Review insurance coverage. Make an inventory of your belongings; photographs and/or videos of your home, inside and out, can be valuable if you have to file a claim.
• Notify Town Hall if you or someone you know will need special assistance due to physical infirmity orlanguage barrier if an evacuation is ordered.

OPCON 2

Enhanced Awareness | Disaster or emergency is likely to affect the state. Emergency Operations Plans are implemented. Full or partial activation of the Town and Charleston County Emergency Operations Center.

Activities

• Begin preparing your home by securing outdoor furniture (including patio sets, grills, garbage cans, recycling containers, etc.); securing windows and/or doors; reviewing procedures for turning off water, gas, and electricity; etc.
• Make personal preparations by gathering spending cash, important papers, medications, etc. and by preparing vehicles (fill gas tank, check oil, wiper blades, etc.) If power is disrupted, you will not be able to pump gas. It is a good idea to fill your tank at every opportunity.
• Arrange for accommodations for several days. Do not give them up until you know you can return to the island. Don't forget to question the acceptance of pets at hotels and/or the homes of friends and family.
• Review the evacuation route.
• Evacuate early if you wish to choose your own route. Let others know when you left, where you are going and how you can be reached. Don't forget to take your Evacuation Kit.

OPCON 1

Full Alert | Disaster or emergency situation in effect. Full activation of the Charleston County Emergency Operations Center. Highest state of emergency operations.

Activities

- Fill tub, sink, washing machine with water for use after the event.
- Secure your home.
- Shut off water, gas and electricity, if you have time.
- Evacuate. Let others know when you left, where you are going and how you can be reached. Don't forget to take your evacuation Kit.

TIPS FOR SHUTTING OFF UTILITIES

Preparing to Shut Off Water

- Locate the shut-off valve for the water line that enters your house.
- Make sure this valve can be completely shut off. Your valve may be rusted open, or it may only partially close. Replace it if necessary.
- Label this valve with a tag for easy identification, and make sure all household members know where it is located.

Preparing to Shut Off Electricity

- First check for any structure or water damage before turning off the main breaker. If there is damage, have a certified electrician first check out the electrical system in your home.
- When you leave, turn off the main breaker; do NOT do anything at the meter base!
- When you return, before you turn on the main breaker - turn off all individual breakers. Then turn on the main, and turn on each one of the individually, one at a time, staggered over a period of several minutes.

BE ADVISED

After an evacuation order is issued and completed, Kiawah Island Utility and Berkeley Electric may turn off their services. If you chose to remain on-island, you may not have power or water until a thorough post disaster damage assessment has been performed. There will be no medical, fire, rescue or police assistance available on the island. Even after the event, depending on the damage to the island, you may not get assistance for several days.

DURING A DISASTER EVENT

After an evacuation order is issued, water and electrical utility workers, law enforcement, fire department, EMS and KICA security will leave the island when it is no longer safe to stay. These personnel will use their best efforts to secure the island from trespassers before departing.

POST EVENT AND RE-ENTRY

The damage made by a serious event makes it difficult to predict when residents and property owners will be allowed to return to the island. The condition and safety of the island will be reviewed by County, Town and KICA officials before any property owners will be allowed to return.

Kiawah Island Utility and Berkeley Electric will need time to bring their services back on line. This process can be delayed due to line damage, inaccessibility to infrastructure, flooding, etc. **PERMISSION TO RETURN DOES NOT GUARANTEE THAT WATER AND POWER WILL BE AVAILABLE. DO NOT DRINK THE WATER UNTIL IT IS OFFICIALLY APPROVED.**

Re-Entry

Re-entry procedures will vary depending on the severity of the natural disaster but will generally be performed in stages to facilitate an orderly return to the Island following an evacuation. The time lapse between Phase 1 to Phase 3 could be hours, days, or weeks depending on the severity of the event.

Phase 1: Damage Assessment Team. Town and KICA representatives, building officials, insurance adjusters, regime and property managers will work to generally assess the damage and will report results to the Town.

Phase 2: Critical needs personnel and Disaster Response Team. Will include Town, KICA, KIGR, KP, KI Utility, Berkeley Electric and other emergency personnel. These entities will coordinate recovery activities. Coordination will continue until the Island has been substantially restored to pre-storm conditions.

Phase 3: Once the ALL CLEAR has been given, residents and property owners will be allowed to return.

REMEMBER

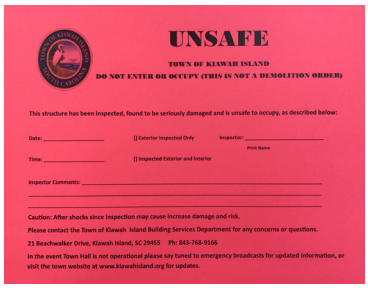
You will be wasting your time if you attempt to return to the island before the ALL CLEAR has been given by Town officials. Re-entry information will disseminated via CodeRED, email notification, the Town website, and social media.

Damage Assessments

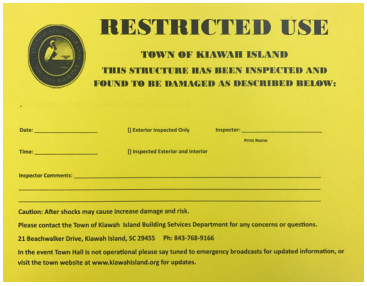
After a disaster, members of the Disaster Response Team will make preliminary visual inspections of houses and report findings to the Town's Municipal Emergency Operations Center. The purpose of such inspections is only to identify where obvious damage has occurred. The Town will post the results of visual inspections on the Town's website (www.kiawahisland.org) if possible.

Damage assessment sets the tone for the entire response operation and drives the recovery process. It also is a main component for reporting overall damage to structures, infrastructure, and critical facilities. Damage assessment response teams are dispatched throughout the community to quantify the damage and estimate repair costs and the impact on the community. Their focus is determining the degree of damage in terms of habitability, property value, and the impact on critical infrastructure and key resources.

If your home has received damage identified during the preliminary inspection, a detailed assessment will then be completed and a placard will be posted identifying the conditions found.



A red placard signifies that the structure is "unsafe" and no entry is permitted.



A yellow placard signifies that the structure is "restricted for use." These structures have received some form of damage and only the area identified is prohibited from entering.

A green placard signifies that the structure has been inspected and is "okay to occupy."

All Clear

Please wait until you hear the ALL CLEAR from Town of Kiawah Island officials. **The Town will issue an ALL CLEAR and re-entry information via CodeRED, email notifications, posted on the website and social media.**

Once authorities give the ALL CLEAR, you can return to your home but take the following precautions:

- Do not go sight-seeing and drive carefully watching for downed power lines and flooded roadways
- Use caution when re-entering your home and check for gas leaks
- Be watchful for animals which have taken refuge in your garages, storage areas, or homes
- Do not let your pets out without a leash

Please cooperate with all law enforcement agencies assigned to the Island. These entities are carrying out orders for the benefit of all and cannot make exceptions for individual residents. Do not ask individual Law Enforcement officers or National Guardsmen to make exceptions to their orders.

Absentee Property Owners and Resort Guests

The Town cannot keep track of absentee owners or house guests. Non resident property owners should leave a copy of the Emergency Preparedness Guide in their home for their personal use and/or renters.

Rental Agencies are responsible for their own guests and have developed their own policies with respect to notification of storm alerts, evacuation etc. Rental Agencies are advised to follow protocol identified by the Town, County, and State agencies.

Berkeley Electric Cooperative

In the event of power outages, the Town will disseminate information from Berkeley Electric Cooperative (BEC) and will keep you updated on the progress of restoring power.

Stay as far away as you can from downed power lines. You don't have to touch a downed power line to be electrocuted —if the line is touching any object, including the ground, it poses a deadly hazard. Report any downed power lines immediately to BEC (843-559-2458).

Portable Generators - are designed to be connected ONLY to select appliances or lamps. These generators should NEVER be connected directly to the house's wiring system. Plugging the generator into house circuitry may cause the power to feed back through the meter to the power lines and endanger lives. Install in a clean, well-ventilated area, outside any structure. NEVER add fuel while a generator is running. Turn it off and let it cool first.

If you have time prior to evacuation, turn off your electric service at the main breaker. If you do not do this, please try to do so before power is restored to your home.

Individual meter bases and weatherheads will be required before service can be restored.
This is the responsibility of the homeowner.

For more information on generator safety call BEC at 843-559-2458.

ELECTRIC POWER WAS NOT RESTORED TO THE ENTIRE ISLAND FOR TWO WEEKS AFTER HURRICANE HUGO. BE PREPARED!

Kiawah Island Utility

When you return to your home, only drink bottled water until you have been informed that the water lines have been cleared for consumption. If there is an island-wide evacuation and water is turned off, there will be a mandatory "BOIL WATER NOTICE" issued until the Department of Health and Environmental Control inspects and tests the supply to determine if it is free from contamination.

Kiawah Island Utility (KIU) has produced a brochure which provides helpful hints about preparing your home for a disaster with regard to water and sewer. Call 843-768-0641 to obtain a copy.

Debris Removal

In the event of a major storm, the Town will work closely with the St. Johns Fire District and the Community Association to reopen and clear roadways. The Town will utilize the map on page 16 which divides the island in to zones. Please refer to the map to locate your zone.

The Town has a standby emergency debris removal contract with a company that specializes in storm debris removal. If appropriate, prior to the event, the company will be notified to begin mobilizing resources. After the event, the company will be instructed to begin collection sweeps of the island. **It will still be the responsibility of home owners to place their debris at the curb.**

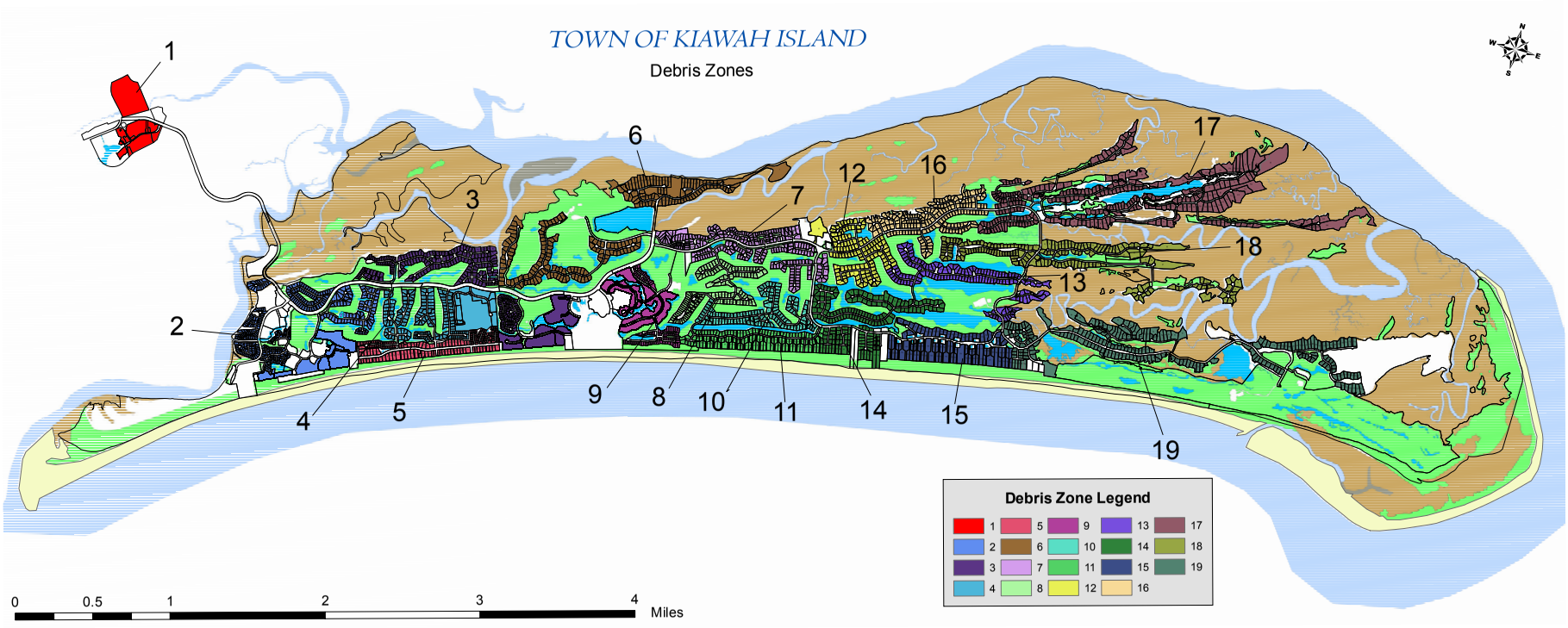
Your cooperation with proper clean-up procedures will greatly speed up restoration of the island. Please be sure to separate your debris into the following categories:

- Yard debris - including trees and brush
- Building debris - including construction materials, carpet and furniture
- Bulky metal items - including appliances and bikes
- Household garbage - including food and paper waste
- Household hazardous materials - paint, solvents, cleaners, fertilizers and insecticides should be separated with extreme care

As you clear debris from your yard and home, please be careful not to block:

- Roadways
- Fire hydrants
- Utility boxes

Completion of emergency debris clearing will depend on the severity of the storm, the weather following the event, the timely return and clean-up of efforts of property owners, and other factors that may be beyond the control of the Town.



Following damage assessment the Town with the debris removal firm will select which zone clean up efforts will begin with based upon the severity of damage. This map represents how the zones are divided. A larger version is available upon request by contacting the Town of Kiawah at 843-768-9166.

Hiring a Contractor After a Disaster

If your house has been damaged by a natural disaster — wind, fire, flood or earthquake — a reputable contractor can help you get your home repaired. Unfortunately, disasters sometimes bring out home repair rip-off artists, who overcharge, perform shoddy work and often leave without finishing the job. What can you do to find a quality contractor? The Federal Trade Commission and the Federal Emergency Management Agency offer the following tips:

• Ask to see a copy of their South Carolina Contractors License before hiring. Deal only with licensed and insured contractors. Investigate the track record of any roofer, builder or contractor you are thinking of hiring.

• Make sure that the contractor you select has a business license from the Town of Kiawah Island. Contractors may obtain a business license from Town Hall (843-768-9166).

• Be wary of builders or contractors who go door-to-door selling their services, especially those who are not known in your community or offer reduced prices because they have just completed work nearby and claim they have materials left over.

• Ask friends, relatives, neighbors, co-workers, insurance agents or claims adjusters for recommendations. Check with the Better Business Bureau to see if complaints have been lodged against any contractor you are considering.

• Do not let anyone rush you into signing a contract. Get written estimates from at least three firms. Ask contractors if there is a charge for an estimate before allowing them in your home. Ask for explanations of price variations. Do not automatically choose the lowest bidder. Get a copy of the final, signed contract.

• Beware of contractors who ask you to pay for the entire job up-front. Never give a deposit until you have done your homework. When you make a down payment, it should not be more than one-third of the total price. Pay only by check or credit card and pay the final amount only after the work is completed to your satisfaction. Do not pay cash.

• Be skeptical of contractors who encourage you to spend a lot of money on temporary repairs.

• Be cautious about using your home as security for a home improvement loan. If you fail to repay the loan as agreed, you could lose your home.

Remember! Before you remodel, repair, or build on to your house, the proper permits are required. If you have any questions regarding obtaining such permits, please call the Town's Building Services Department at (843) 768-9166. Also, before undertaking any permanent improvements, property owners must have permission from the Architectural Review Board of Kiawah Island (843) 768-3419.

If you suspect a repair rip-off, call the SC Department of Consumer Affairs (800-922-1594).
If you suspect fraud, waste, or abuse involving Federal Emergency Management Agency assistance programs, you can make a confidential report to FEMA's Inspector General's Office.

RECOMMENDED CHECKLIST

The following information is intended to be suggestive rather than all-inclusive. You should plan for your needs upon return to the island under what may be less than ideal conditions. You also need to identify those items you will want to take with you if an evacuation becomes necessary.

Prepare yourself and your family for a minimum of three days.

HOME NEEDS

- Portable water (1 gallon per person per day) for at least 10 days
- Non-perishable foods and beverages
- Flashlights and battery-operated radio, with extra batteries
- Tools, saws, rakes, kitchen needs, plastic sheeting, duct tape, candles, matches
- Normal household supplies and personal items. Replenishment of these items may be difficult depending on status of area stores and roads

EVACUATION KIT

- Cash, coins, credit cards and checkbooks
- Insurance policies and building plans
- Income tax records and other valuable papers
- An ample supply of all needed medications and first aid kit
- Personal items such as extra glasses, contact lenses, etc.
- Family photographs and memorabilia
- Special needs for children, elderly or disabled family members and pets
- Maps and hotel/motel directories
- Enough clothing, footwear and rain gear for an indeterminate stay
- Automobile records such as spare keys, jumper cables, flares, tire repair kits and blankets
- Cold weather clothing, if appropriate
- Flash lights with extra batteries
- Important telephone numbers of family, friends, neighbors, service companies HOT LINE 1-877-288-3088
- Appropriate containers to transport and safeguard these materials

EMERGENCY NUMBERS

For all emergencies call 911

Beach Patrol	(843) 518-2880
Berkeley Electric	(843) 559-2458
Charleston County Sheriff's Office	(843) 202-1700
KI Community Association	(843) 768-9194
Kiawah Island Fire Stations	#4 (843) 768-2664 / #6 (843) 768-2665
Kiawah Island Utility	(843) 768-0641
Kiawah Island Resort	(843) 768-2121
Main Gate/Security	(843) 768-5566
St. Johns Fire Department HQ	(843) 559-9194
Town of Kiawah Island	(843) 768-9166

County Emergency/Resource Numbers:

Charleston County Emergency Citizen's Info Line (843) 746-3900*
*Open During Emergency Operations Center Activation Only

American Red Cross: Lowcountry Chapter (843) 764 - 2323

Charleston Disabilities Resource Center (843) 225 - 5080
http://www.drcilc.org/

S.C. Department of Health and Environmental Control (843) 953 - 0038
(Medical Needs Assistance)

S.C. Dept. of Transportation (Evacuation Information) (888) 877 - 9151

S.C Hwy Patrol *47 from your cell phone or (803) 896 - 9621

S.C. Dept. of Health and Environmental Control (843) 953 - 2450
www.scdhec.gov/administration/ophp/hurricane/abc.htm

Pet Friendly Hotel Information www.pet-friendly-hotels.net

*Open During Emergency Operations Center Activation Only