

South Carolina's
Annual State of the Beaches
Report

March 2006



**Ocean and Coastal
Resource Management**

Introduction

The following report summarizes changes to South Carolina's beaches during the past year. The results are based on beach profile surveys conducted during 2005 at approximately 400 monitoring stations throughout the state. Surveys start at a benchmark located landward of the primary dune or seawall, and at most stations continue down the beach face to a depth of -25 ft or an offshore distance of 3,000 ft, whichever is reached first. Across the dune, data is collected on foot using a Global Positioning System (GPS) receiver. On the upper beach and intertidal beach at low tide, data is collected using a GPS receiver mounted on an ATV 4-wheeler. For the offshore portion of the profile, data is collected from a boat with a GPS receiver and fathometer. These three data sets can then be integrated into one seamless beach profile, which shows a cross-section of the beach shape at the time of the survey. The 2005 data can then be compared to similar data from previous years to determine what changes have occurred to the beach profile.

The reference elevation used for data collection and for all elevations discussed in this report is the North American Vertical Datum of 1988 (NAVD88), which is approximately the same as mean sea level. Profiles are analyzed for dune erosion or scarping, changes in beach slope, and changes in unit-width sand volume, the amount of sand from the dune down to a chosen cutoff elevation per linear ft of shoreline. The presence or absence of a berm, the shelf of dry sand between the dune and the high-water mark, is noted, as well as any sand bars and corresponding troughs. Berm width is particularly important, since it represents the amount of recreational dry-sand beach seaward of the dune that is available at high tide.

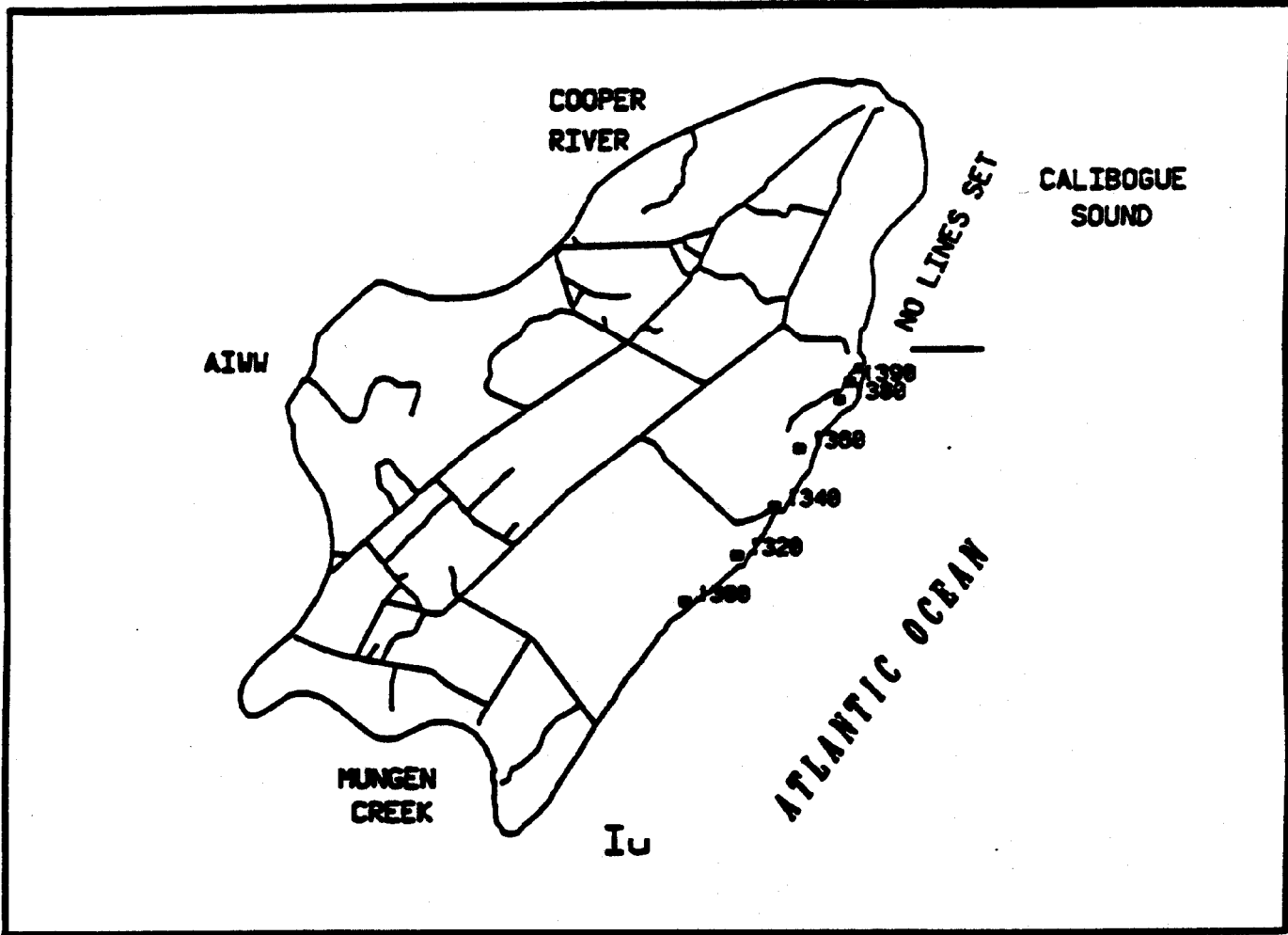
Most beaches in South Carolina go through a yearly cycle of profile change. In the summer, smaller waves tend to push sand up the beach, forming a wider berm and a steeper beach slope below mean high water. In the winter, higher energy waves erode sand from the berm and move it to an offshore bar, resulting in a narrower high-tide beach and a more gently sloping beach below mean high water. In many cases this seasonal profile variation is greater in magnitude than the long-term trend for a particular

island or beach—that is, the change observed from October to April and then from April back to October can be greater than the change observed for consecutive Aprils or Octobers.

As called for under the Beachfront Management Act, all beaches in the state have been classified as standard zones or inlet zones. Inlet zones are regions in close proximity to a tidal inlet, where the presence of the inlet plays a dominant role in erosion or accretion patterns on the beach. Most inlet zones are unstabilized, meaning the inlet channel is not anchored by jetties or groins, and the surrounding shoreline is often quite dynamic. On the location maps that appear in this report, standard zones are designated as “S”, unstabilized inlet zones as “Iu”, and stabilized inlet zones as “Is”. In general, the larger Sea Islands in Charleston and Beaufort counties consist of a standard zone in the central portion of the island and an inlet zone at either end. The smaller Sea Islands are entirely inlet zones. In the Grand Strand, the shoreline is a continuous standard zone, interrupted by small inlet zones at the swashes.

The remainder of this report contains individual summaries for each island or beach in the state surveyed during the past year. The area from Capers Island to North Island is essentially undeveloped and is not surveyed. Summaries are presented in a south-to-north progression. The geographic setting of each beach is discussed, along with any significant long-term trends. A location map is also provided showing survey monument locations. Finally, a state-wide summary is found at the end of the report, along with an assessment of beach renourishment needs.

Plots for any individual monitoring station can be viewed on the internet at <http://camelot-2.coastal.edu/profiles/plotbybm.php>, a web site developed and maintained by Dr. Scott Harris at Coastal Carolina University in Conway, SC.



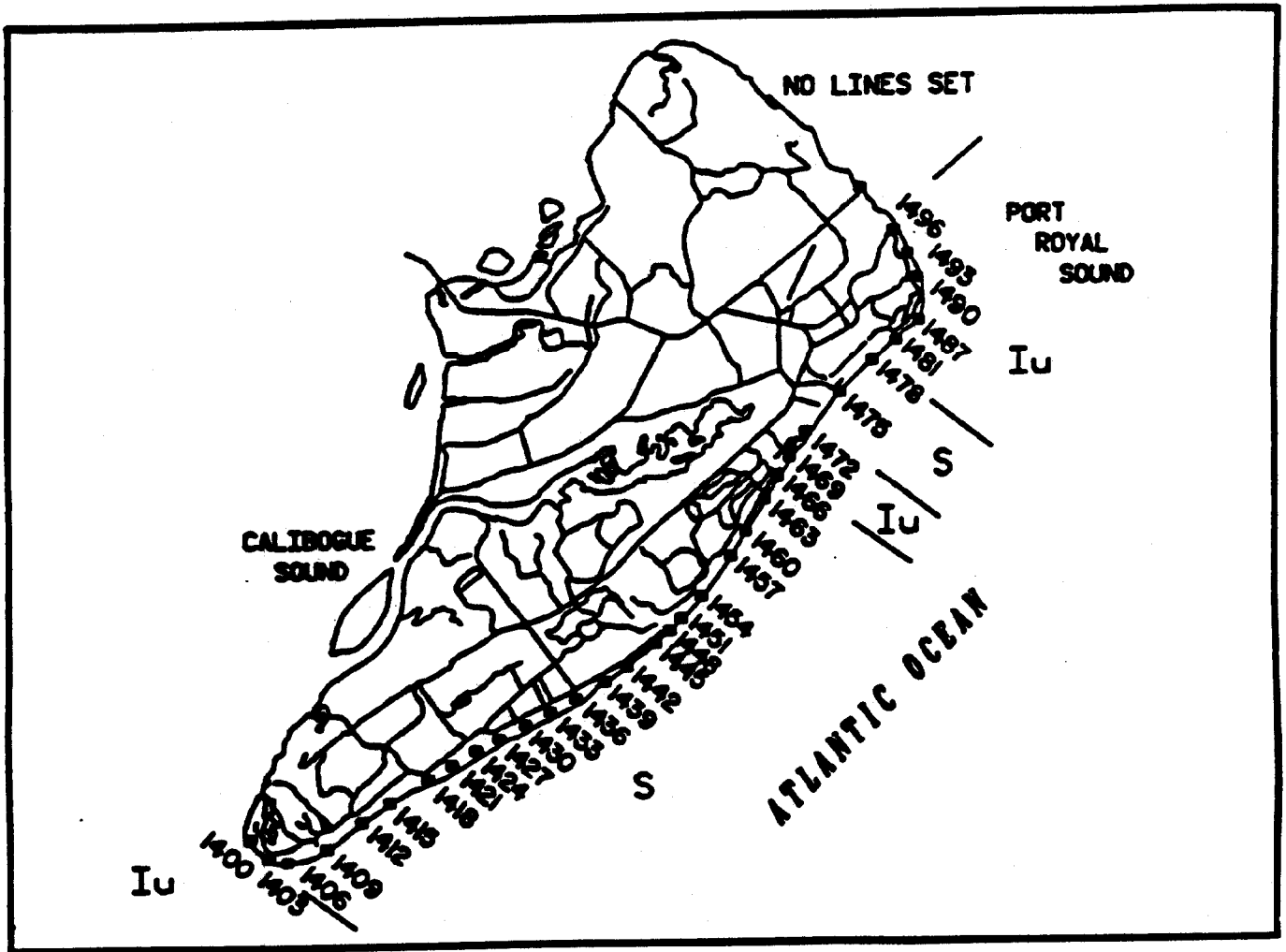
Daufuskie Island

Daufuskie Island

Daufuskie Island is located to the south of Hilton Head Island, between Calibogue Sound to the northeast and Mungen Creek to the southwest. The entire island has been classified as an unstabilized inlet zone. A renourishment project was constructed here in December 1998, and has performed very well over the past 7 years. Long-term erosion rates on the island average -4 to -5 ft per year but go as high as -10 to -11 ft per year in places. Beginning at the northeast end of the island in the Melrose Tract and moving southwest, erosion rates begin at -1 ft per year but quickly increase to -7 ft per year near the clubhouse, then reach a maximum of -11 ft per year along the southern end of the Melrose Tract and in the northern end of the Oakridge Tract. There is a wooden bulkhead approximately 4,000 ft long in this area.

At the southwest end of the Oakridge Tract the long-term erosion rate decreases to about -6 ft per year, and continues to decrease to about -4.5 ft per year through much of the Bloody Point tract. At the southern end of the Bloody Point tract, at Bloody Point, the rate increases again to a maximum of approximately -8.5 ft per year. This area is very dynamic; it experienced extreme short-term erosion during much of 2001 and 2002, and then became highly accretional in 2003.

There are a total of 12 monitoring stations on Daufuskie Island, with the earliest beach survey data collected in 1988. Five of these 12 stations were surveyed most recently in October 2002 and August 2005. At station 1300, in the Oak Ridge tract just south of the bulkhead, the beach is still 100 ft wider and 8 ft higher than it was prior to renourishment. At station 1320, in the Melrose Tract about 1200 ft north of the southern end of the bulkhead, the beach is also still 100 ft wider and 8 ft higher than it was prior to renourishment. At 1340, the other station along the bulkhead in the Melrose Tract, the renourishment sand berm has cut back to about half its original width but is still about 75 ft wide. North of the bulkhead station 1360 has been fairly stable since 2002 and still shows a substantial beach renourishment sand berm. At station 1380, located at the northeast end of the development, the renourishment sand berm is also still 150 ft wide and 6 ft high.



Hilton Head Island

Hilton Head Island

Hilton Head Island, located between Calibogue Sound to the southwest and Port Royal Sound to the northeast, is one of the state's largest barrier islands. Hilton Head Island can be divided into five geomorphologic reaches, which are each discussed below. A beach renourishment project placed 2.5 million cubic yards of sand on the Hilton Head shoreline between May and November 1997, and another project of similar magnitude is expected to start construction in the summer of 2006. Most recent beach survey data was collected in July 2004 and August 2005.

The portion of Sea Pines Plantation bordering on Calibogue Sound is an unstabilized inlet zone, subject to the influence of the Sound. The long-term shoreline change rate is 2 to 5 ft per year of accretion. This area experienced moderate erosion during the mid 1990's and was not renourished as part of the big 1997 project, but was renourished in the winter of 1999. SCCC monuments 1400-1409 are located here. As a result of the 1999 renourishment the beach width here was increased by as much as 250 ft, and even with some erosion over the past 4 years is still more than adequate. Most stations here were stable to slightly accretional during the past year.

The second zone on Hilton Head is a 10 mile-long standard zone that extends from station 1412 in Sea Pines Plantation to station 1469, just south of the Folly. This area includes South Forest Beach, North Forest Beach, and Palmetto Dunes. Both North Forest Beach and Palmetto Dunes were included in the 1997 renourishment project, which began at the Hilton Head Inn. Long-term shoreline change rates vary in this zone-- they are accretional south of Coligny Circle and erosional north of Coligny Circle, with the rate of erosion increasing with distance from the Circle and reaching a maximum of -6 ft per year in Palmetto Dunes.

All stations in Sea Pines, from monument 1412 through 1424, were stable or showed slight accretion on the intertidal beach. This area is generally the most stable to accretional section of Hilton Head Island, and has a well-established dune. Most stations in South Forest Beach, 1427 through 1436, also showed a trend of minor upper-beach accretion last year. This area is also stable in the long-term, with a well-established dune.

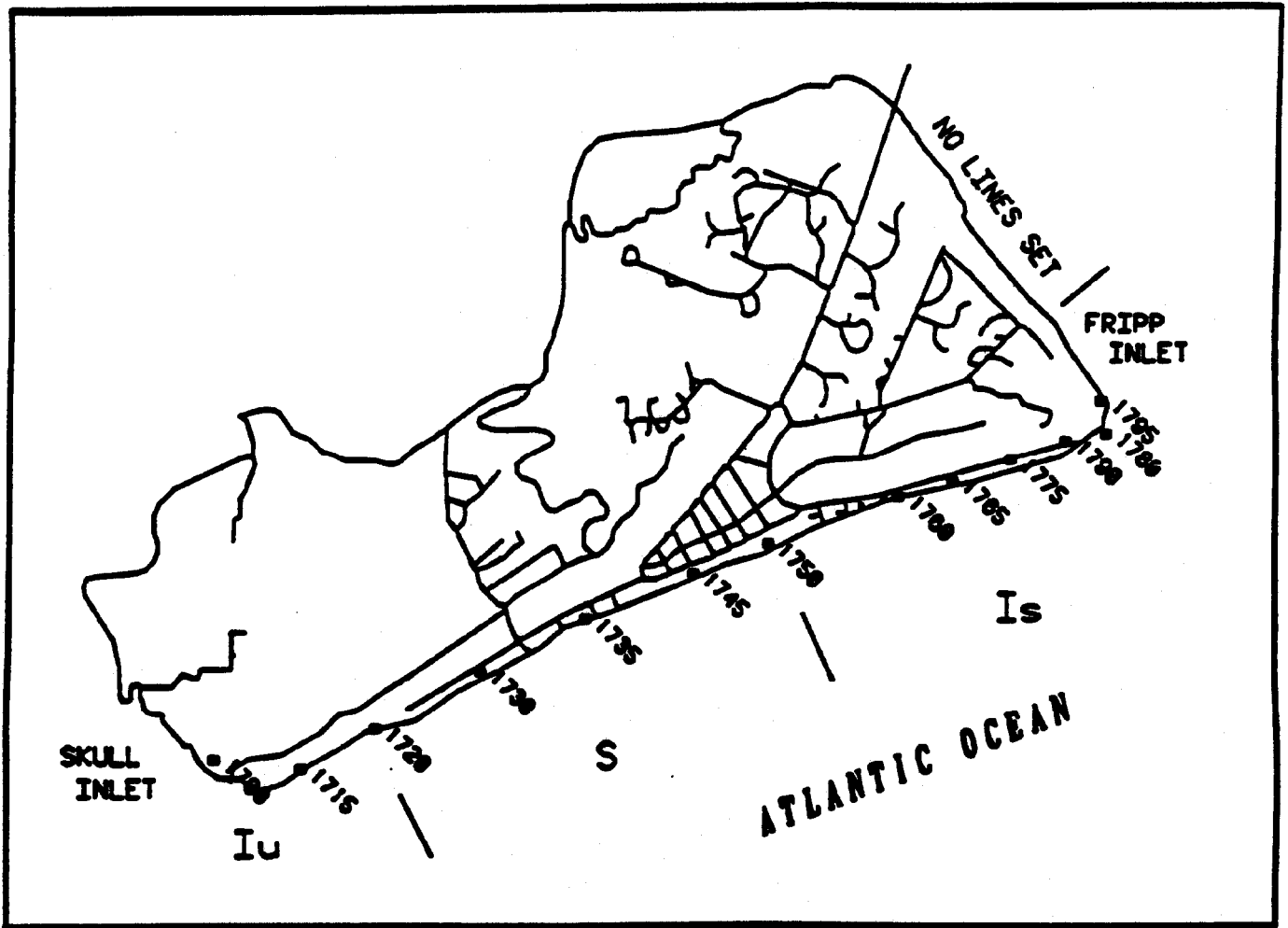
In North Forest Beach and Palmetto Dunes the long-term shoreline change rates become erosional. Beach profiles here showed sand deficits prior to renourishment, but unit-width volumes increased dramatically as a result of the 1997 beach fill project. Stations 1437 through 1448, located in North Forest Beach, showed substantial erosion of the renourishment berm between September 1998 and November 1999, but only minimal loss of renourishment sand since then. The area became more erosional during the past year, with most stations losing 20 to 50 ft of upper beach berm.

Stations 1451 through 1466 are located in Palmetto Dunes, where long-term erosion rates range from -5 to -6 ft per year. These stations showed the same general trend as North Forest Beach—most stations had been stable from 2000 through July 2004 but experienced 20 to 40 ft of upper-beach berm erosion through August 2005.

The third zone on Hilton Head is a 2,200-ft long unstabilized inlet zone, located on either side of the Folly. Stations 1468, 1469 and 1472 are the monitoring stations in this reach, which historically was very dynamic because of the inlet channel. However, a small jetty constructed on the south side of the Folly in 1997 has helped stabilize this region. Long-term erosion rates here are around -2 ft per year. During the past year these stations showed erosion along the dune and upper-beach berm.

The fourth zone is a 1.3 mile-long standard zone that extends from just north of Burke's Beach Road to the Westin Hotel and includes stations 1474 through 1478. Long-term shoreline change rates here are stable. In the short-term, 1475 showed some berm erosion and a stable dune, while the other stations farther to the northeast were stable.

The fifth zone is an unstabilized inlet zone that includes all of the Port Royal Plantation shoreline. Survey stations 1481 through 1496 are located here. This region shows two distinct shoreline trends, with long-term accretion along the Atlantic shoreline to station 1484, and erosion of -3 to -4 ft per year along Port Royal Sound. This section of Hilton Head Island was not surveyed in 2005 but qualitative observations show continued accretion along the Atlantic shoreline at stations 1481 and 1484, while the Port Royal shoreline was stable or slightly erosional.



Fripp Island

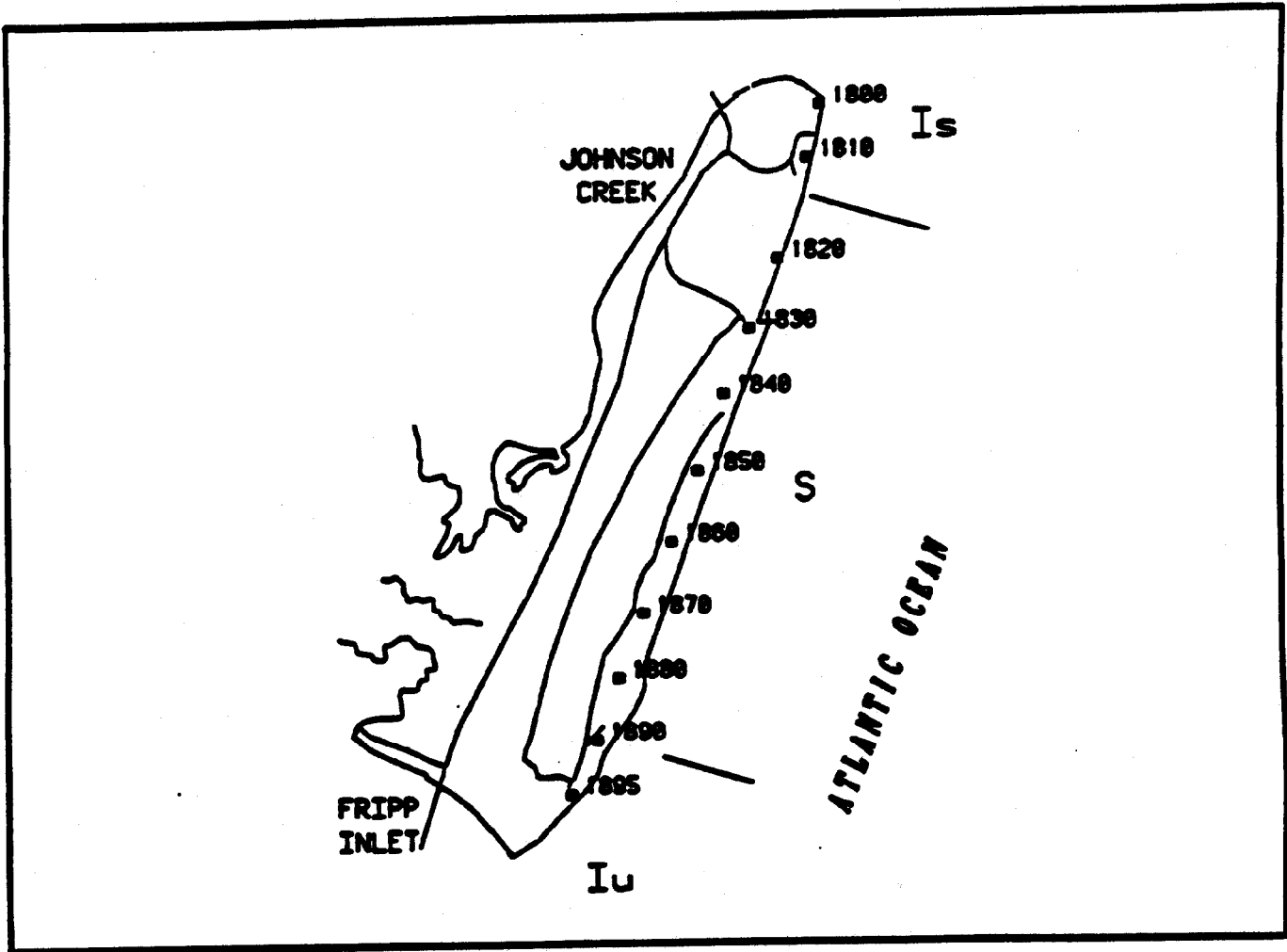
Fripp Island

Fripp Island is a three-mile long barrier island located between Pritchards Island and Skull Inlet to the southwest, and Hunting Island and Fripp Inlet to the northeast. Development on the island is primarily single family residential, and the island is almost continuously armored with revetments. The central portion of the island is classified as a standard zone, with an unstabilized inlet zone at the southwest end and a stabilized inlet zone at the northeast end. An analysis of long-term erosion trends has shown the island to be stable, although sand-bypassing events across Fripp Inlet, with a period of decades, can cause significant changes to the beach profiles on the island.

There are 15 beach survey monuments located on Fripp Island. Most recent profile data was collected at most of these stations during July 2005. Station 1700, on Skull Inlet, is sheltered from the open ocean and shows virtually no change from year to year. Stations 1715 through 1735 face the Atlantic Ocean along the southern half of Fripp Island. The beach width is narrower here, and at high tide there is little to no dry sand seaward of the substantial rock revetment. This beach is also fairly stable, and from June 2004 to July 2005 the profile data shows only minor changes on the intertidal beach.

The beach condition changes at station 1745, on Winter Trout Rd. Northeast of here and up to station 1760 at house #763 on Marlin Drive, the beach has been strongly accretional in recent years. A large offshore sand shoal attached to the shoreline here in 2004, and as a result the beach gained a tremendous amount of sand. This section of beach is hundreds of feet wider than along the southern half of the island. At station 1745 the dune field is over 200 ft wide but actually decreased in width by about 50 ft during the past year. Station 1750 on Seahorse Drive shows a similar trend. The apex of the shoal attachment was located at station 1755 on Tautog Drive, where the increase in beach width reached a maximum. The northeastern limit of the sand shoal attachment is located at station 1760, near house 763 Marlin Drive, where the beach width has decreased considerably in the past year since shoal attachment.

Stations 1765 to 1790, on the northeastern end of the island, are the last two monitoring stations that face the Atlantic Ocean. During the mid-1990's a massive sand bar attached onto the beach here, increasing the beach width by hundreds of feet, but during the late 1990's that sand was eroded away. At present the beach is very narrow, with no dry-sand beach seaward of the revetment at high tide and very little beach even at low tide. The final two monitoring stations on Fripp Island are 1795 and 1798, located on Fripp Inlet. These stations show typical inlet profiles—very steep, no dry-sand beach, and only minor changes from year to year.



Hunting Island

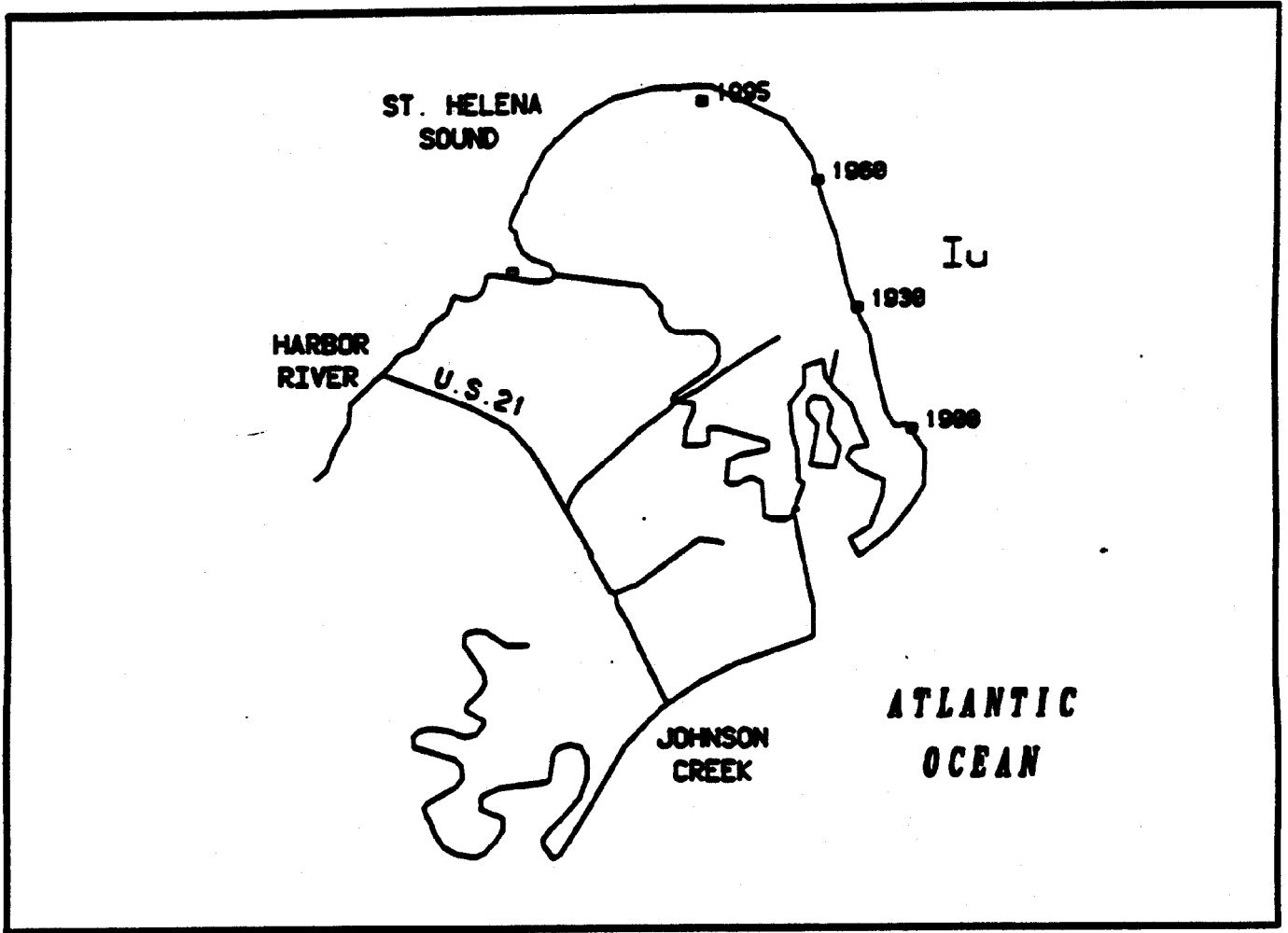
Hunting Island

Hunting Island is a state park located between Fripp Island and Harbor Island. The island has historically been very erosional, with long-term rates ranging from -7 up to -15 ft per year. Short-term erosion rates over the past few years have been even higher. The central portion of the island is a standard zone, while the southern end along Fripp Inlet is an unstabilized inlet zone and the northern end along St. Helena Sound is an inlet zone stabilized by an 800-ft terminal groin. Hunting Island has been renourished several times in the past 20 years, most recently in March 1991, but is presently in a critically eroded state. A renourishment project is scheduled to begin some time in 2006.

The 11 beach monitoring stations on Hunting Island are unique in that their identification numbers increase from north to south. The most recent surveys, conducted during June and December 2004, show that the beach at Hunting Island continues to wash away. Almost all stations experienced erosion, typically ranging in magnitude from 10 to 50 ft. Erosion was slightly less at the northern end of the island, at station 1800, which benefits from the stabilizing effect of the terminal groin about 500 ft to the north.

With the exception of the extreme southwest and northeast ends of the island there are no sand dunes or high-tide beach at Hunting. Instead, the subtropical maritime forest vegetation literally falls off into the ocean, creating a bone yard of trees trunks and overturned root systems on the beach.

In order to protect Cabin Road, the beachfront access road to the southern end of the island and the houses located there, the US Army Corps of Engineers has conducted two Emergency Shoreline Protection Projects over the past few years along a 2,500 ft section of beach where the road is threatened. This work involves dredging about 250,000 cubic yards of sand from Fripp Inlet and pumping it onto the beach at Cabin Road. In addition to this work the SC Dept. of Parks, Recreation and Tourism, as owner of the island, is planning a large-scale renourishment project that is expected to be under construction some time in 2006. In the mean time, Hunting Island remains one of the state's most critically eroded beaches.



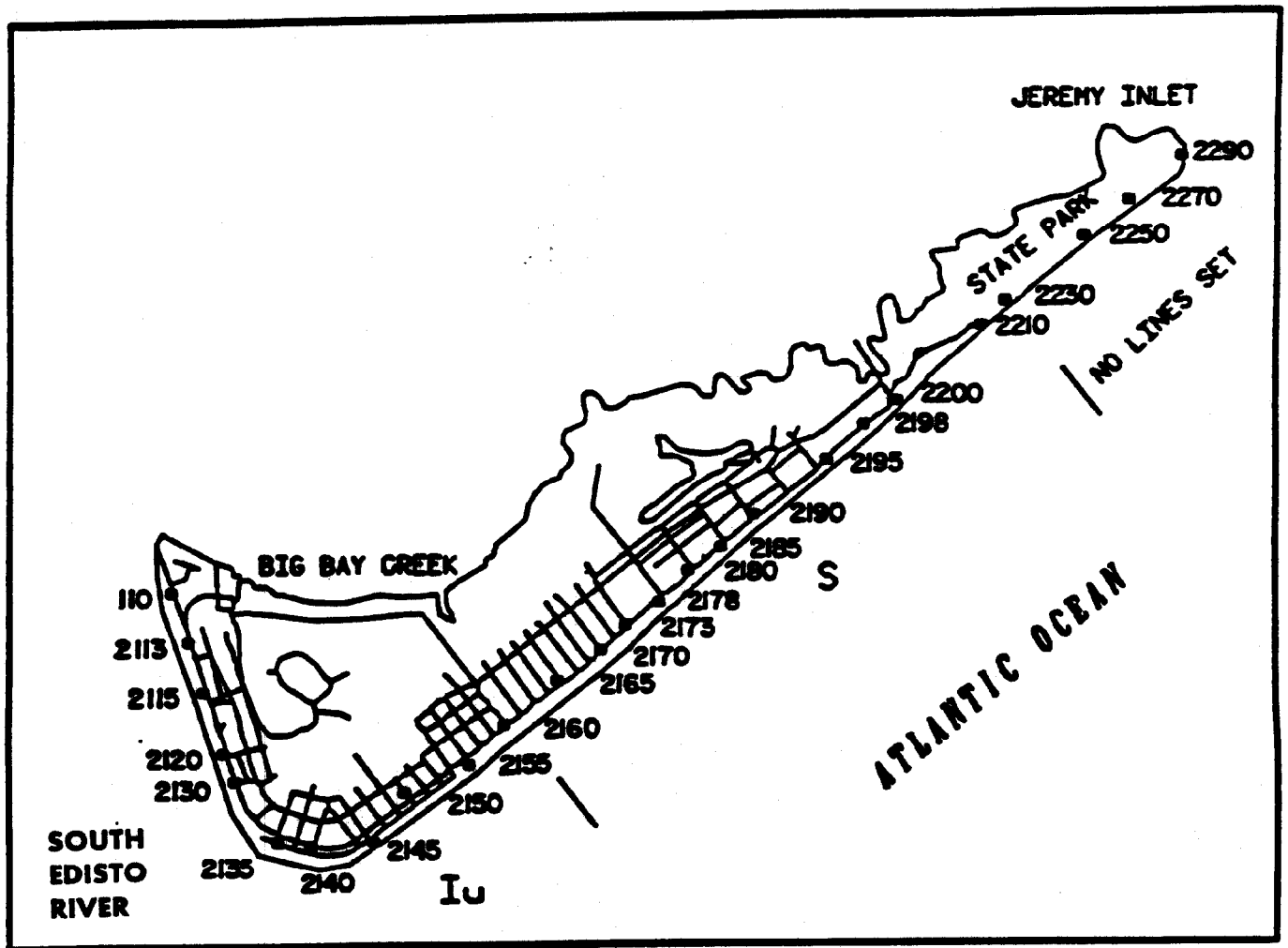
Harbor Island

Harbor Island

Harbor Island is located between Hunting Island and Johnson Creek to the southwest and St. Helena Sound to the northeast. Beachfront development is primarily single-family residential, with a few condominium buildings. The entire island is classified as an unstabilized inlet zone, and while the shoreline is very dynamic it is generally accretional in the long term. The beach width decreases dramatically from south to north. There are a total of six beach monitoring stations on Harbor Island. Beach survey data was not collected here during the past year, so comments on the relative condition of the beach are based on recent qualitative field observations.

Stations 1900 and 1930 are located at the southern end of the island, where the beach is wide and the long-term trend is accretional. Station 1900 is located closest to Johnson Creek and the beach profile here is extremely wide, over 2,000 ft. A series of intertidal sand bars and troughs are constantly shifting back and forth in this area, changing the shape of the lower beach profile. At present a moderate-sized sand bar located offshore at the heel of the island is in the process of welding onto the intertidal beach. At station 1930, near the multi-family units, the beach sand volume is also greater than average and the profiles appear to be accretional. The northern end of the offshore sand bar is located just southwest of this station.

The beach width narrows significantly to the north at stations 1960 and 1980, on Harbor Island Drive North. The beach here goes through cycles of erosion and accretion that typically last for a few years. It was erosional during the late 1990's, stabilized in 2001, accreted some during 2002, and now appears to be somewhat erosional again. There is still no sand dune here, no dry-sand beach, and the high-tide swash line comes very close to several houses. At station 1995, located where the shoreline begins to curve onto St. Helena Sound, the dune field is wider, with a series of small, well-vegetated dunes. The intertidal beach is fairly narrow but this is typical of an inlet vs. open-coast shoreline. This section appears to be accreting. Station 1998 is also located within the lower wave energy environment of St. Helena Sound, so that the beach profile drops off fairly rapidly. The beach here shows only minor changes from year to year and is stable at present.



Edisto Beach

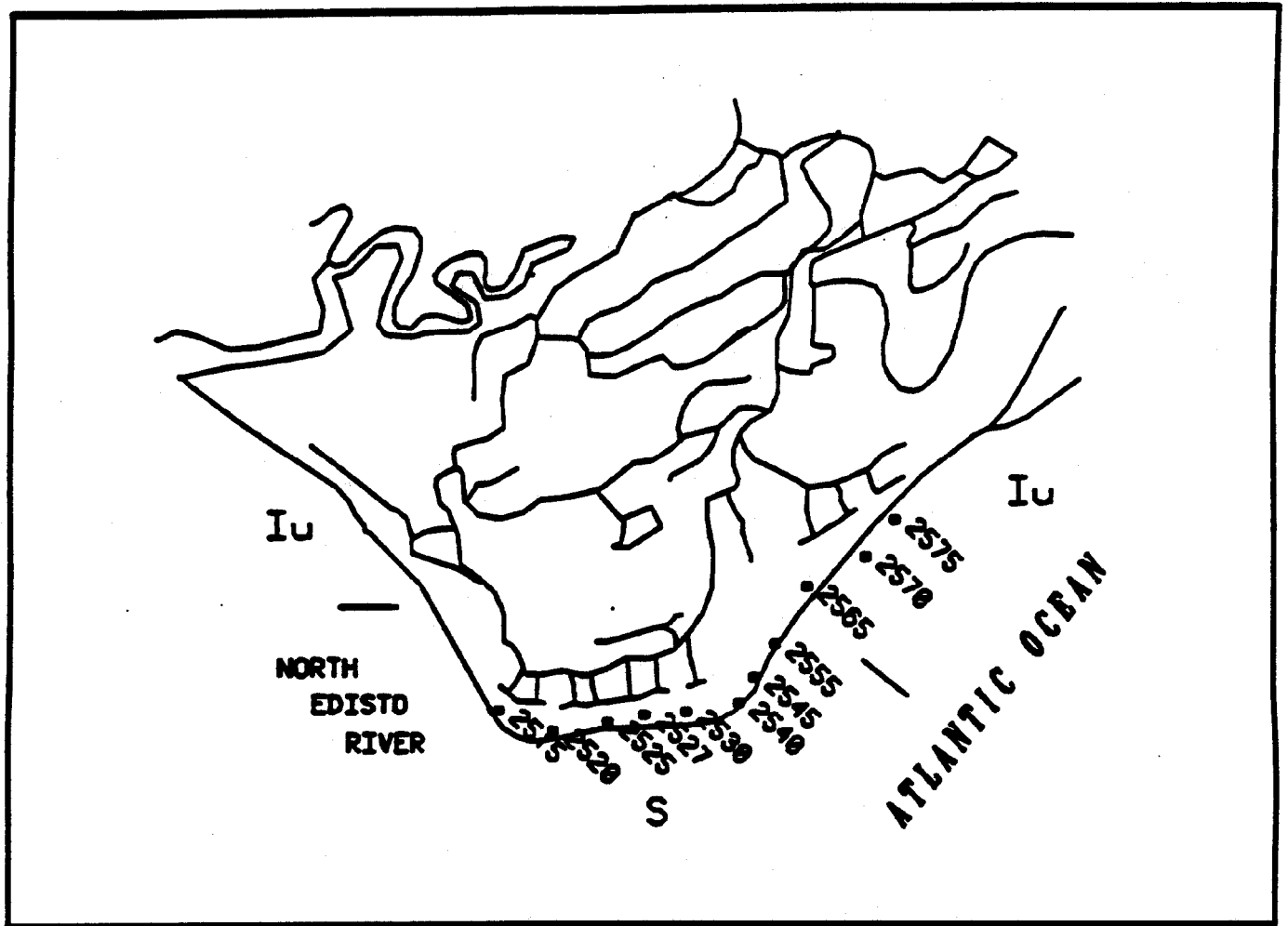
Edisto Beach

Edisto Beach is a barrier island situated between the South Edisto River and Jeremy Inlet. The northeastern portion of Edisto Beach is a state park, which includes camping sites, while the remainder of the island is primarily single-family residential. An extensive groin field on the island serves to stabilize the shoreline position. South of station 2160 (Marianne St.), the island is classified as an unstabilized inlet zone and is slightly accretional. The rest of the island, including the state park, is a standard zone and with low long-term erosion rates but an extreme lack of sand. There are 27 beach survey monuments on Edisto Beach, which were surveyed in August 2004 and July 2005.

Stations 2110-2130 are located along the South Edisto Inlet shoreline. These stations are sheltered from the open ocean and generally experience only modest seasonal changes on the intertidal beach. Stations 2135 at Edisto Street and 2140 at Billow Street are located on The Point, the shoreline curve between the South Edisto River and the Atlantic Ocean. Historically this section of beach can be very dynamic but has remained stable in recent years.

The oceanfront southern half of Edisto Beach, from stations 2145 to 2165, has the widest oceanfront beach on Edisto. Most stations here experienced only minor seasonal changes through July 2005. The northern half of developed Edisto Beach, from station 2170 to station 2200 at the Pavilion, remains one of the most critically eroded sections of beach anywhere in the state. All stations in this reach suffer from a considerable sand deficit and have virtually no beach at high tide and no protective dune between the ocean and the development. Many houses in this area are located on the active beach, with ocean water surging up under the house pilings during extreme high tides. This area did not experience much erosion through July 2005, when the most recent survey data was collected, but was hit hard by Tropical Storm Tammy in early October 2005.

Stations 2200 to 2230 in Edisto Beach State Park are comparable to the northern half of Edisto Beach. Beach width is minimal, the dune is maintained by periodic sand scraping, and the campsites and access roads in the park still remain very vulnerable to erosion.



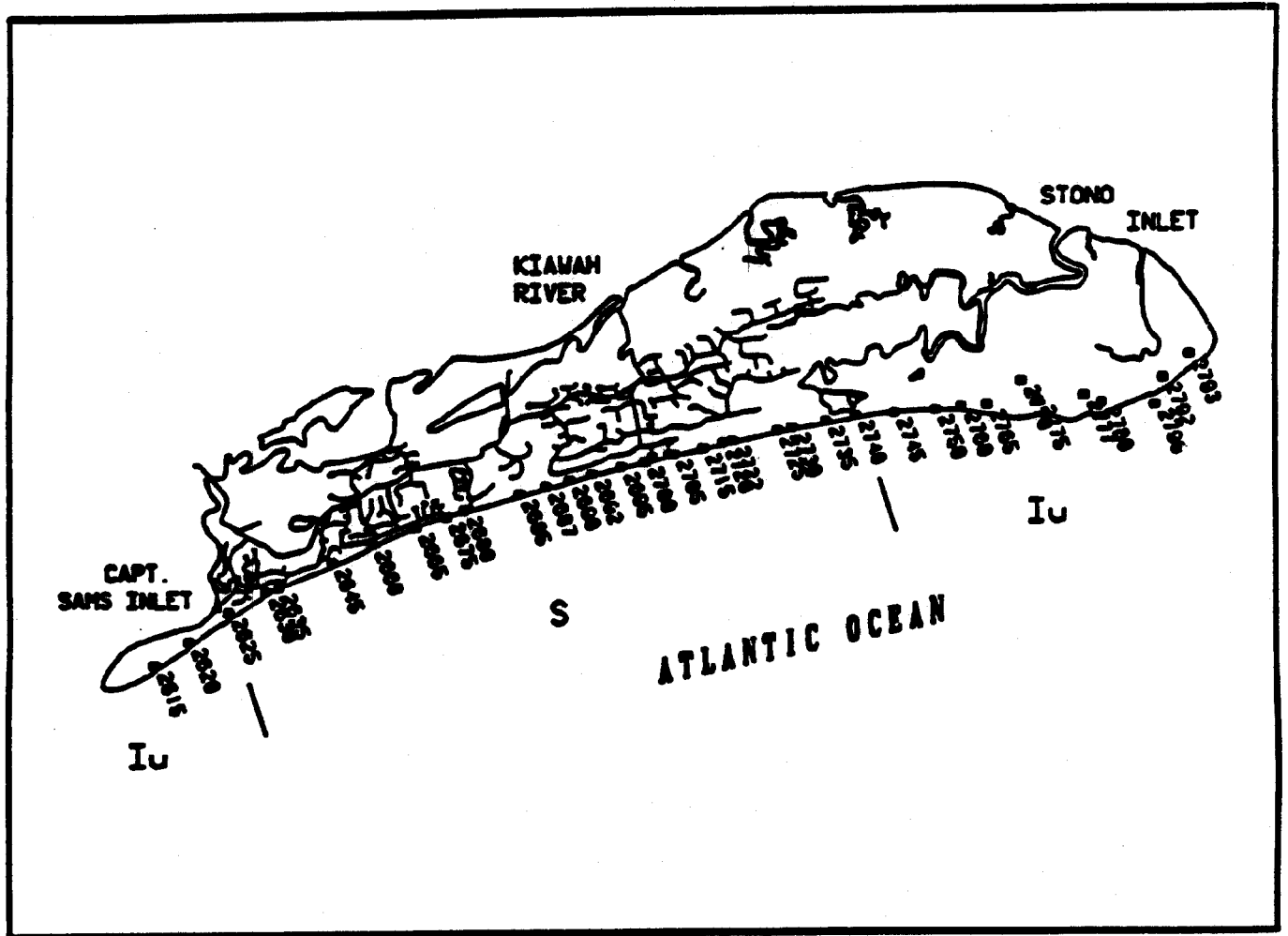
Seabrook Island

Seabrook Island

Seabrook Island is a barrier island approximately 4 miles long, situated between North Edisto Inlet and Captain Sams Inlet. Development on the island is a mix of single-family and multi-family structures. A continuous 5,000-ft section of shoreline is armored with rock revetments and a few seawalls. The entire island is classified as an inlet zone—the armored portion is a stabilized inlet zone, while the remainder is unstabilized. Shoreline change patterns have been quite dynamic over the past 50 years with long-term erosion rates of -2.6 ft per year along the revetment and a “stable” rate to the northeast. There are 11 beach monitoring stations on Seabrook Island. Three of them, stations 2545, 2565, and 2570, were surveyed during June 2004 and September 2005.

Station 2515, at Beach Club Villas along the North Edisto River, is a typical inlet profile—very steep and fairly stable. Stations 2520 through 2540 are located along the revetment, from the Beach Club to Renken Point. This section of Seabrook Island has lacked a dry-sand beach for many years, but the artificial movement of sand to this area from the intertidal portion of the beach to the north has corrected this situation and a minimal dry-sand beach now exists. In addition, changes to the northern marginal flood channel of the North Edisto River are benefiting the beach. The channel has historically been fairly deep and pinched in very close to the shoreline, creating a steep profile and making it difficult to retain a dry-sand beach, but within the past few years the channel has filled in, decreasing in depth from -20 ft to -5 ft. As this trend continues it will be easier to maintain a dry-sand beach seaward of the revetment here.

In the North Beach area, from station 2545 to 2575, the high-tide beach averages over 500 ft in width. This area is closer to Captain Sam’s Inlet and its nearness to the inlet causes the shoreline to be more dynamic, experiencing episodes of moderate erosion or accretion from one year to the next. However, the substantial width of the dry-sand beach makes these changes of less concern than they might be elsewhere. In 2005 station 2545, near Cobia Court, showed a stable dune field and moderate changes on the intertidal beach. At station 2565 near Seascape Court the dune was stable but the beach seaward of the dune eroded back about 100 ft. Station 2570 off Oyster Catcher Court experienced some dune erosion and also lost about 75 ft of beach seaward of the dune.



Kiawah Island

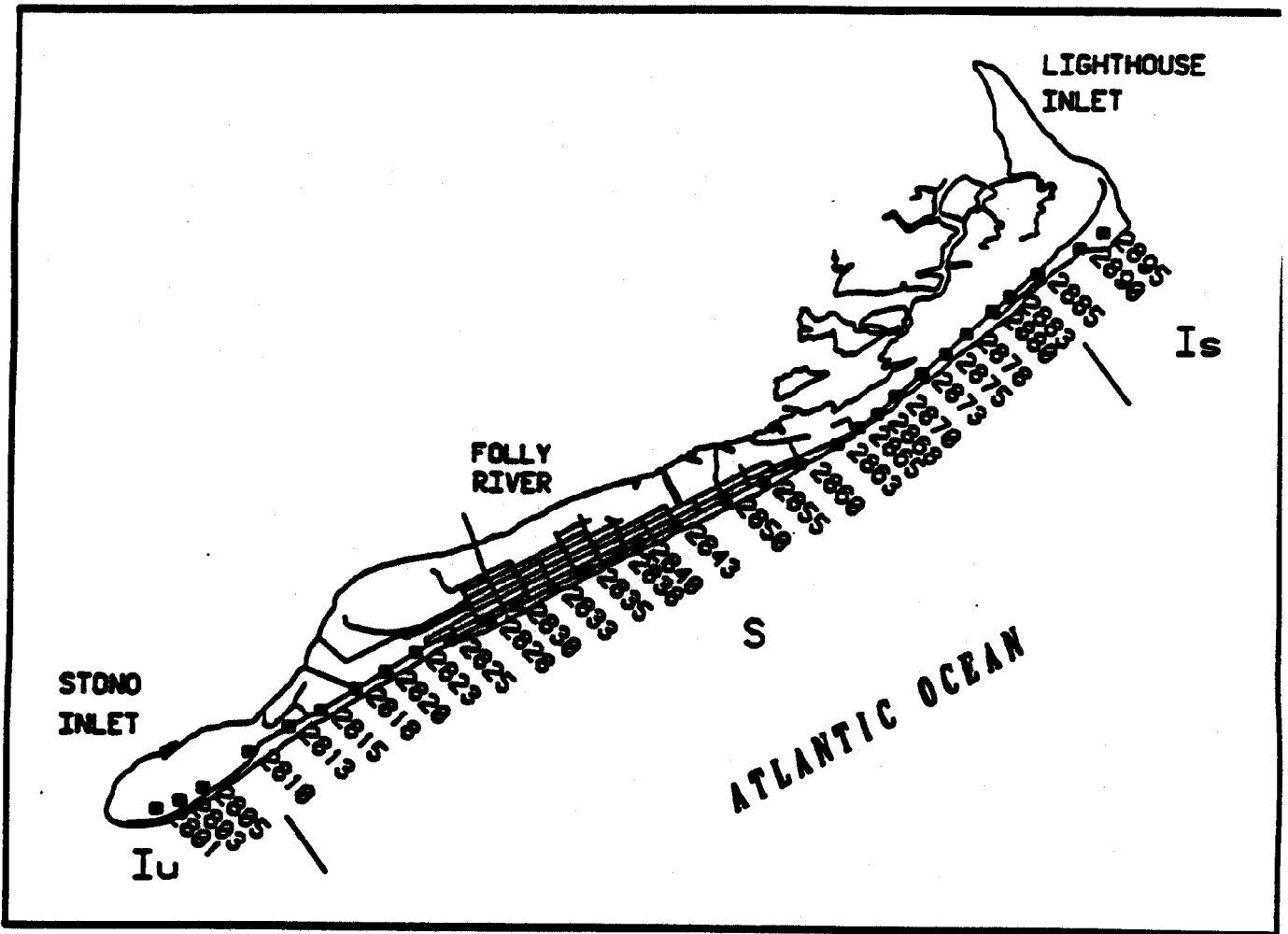
Kiawah Island

Kiawah Island is a ten-mile long barrier island, located between Seabrook Island and Captain Sams Inlet to the west, and Stono Inlet and Folly Beach to the east. 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. Most oceanfront development here is single-family residential, although there are some multi-family residential buildings, commercial structures, a golf course, and a public park. The long-term erosion rate averages a half-foot per year for most of the island.

Eighteen beach monitoring stations on Kiawah Island were most recently surveyed in June 2004 and May and June 2005. Stations 2615 through 2645 are located at the western end of Kiawah, where land use consists of undeveloped property, a beach park, single-family homes, and some multi-family structures. This is usually one of the most stable sections of Kiawah Island. For all stations here the primary dune was stable and the beach profile seaward of the dune showed either no change or minor erosion.

The area from station 2660, near the middle of Eugenia Ave., through station 2680, at the eastern end of Windswept Villas, experienced significant erosion in 1995 and 1996, stabilized from 1997 through 1999, became erosional again in 2000 and 2001, and was accretional between 2002 and 2004. Through June 2005 the dune field was stable but the beach seaward of the dune showed minor erosion. Other stations to the northeast, from 2685 on Turtle Beach Lane to 2735 at the Kiawah Beach Club, also showed a stable dune and minor changes seaward of the dune.

The condition of the beach changes along the Ocean Course golf course, from station 2745 to 2780, which historically has been the most unstable section of Kiawah Island. Station 2750 experienced dune scarping and about 50 ft of erosion seaward of the dune, with comparable erosion at 2760 near the 18th fairway and 2765 near the Clubhouse. The erosion worsened at stations 2775 and 2780, where emergency sand scraping was repeatedly performed during the fall of 2005. The last two Kiawah Island monitoring stations, 2785 and 2790, are located along the Stono Inlet shoreline far from any development and were not surveyed during 2005.



Folly Beach

Folly Beach

Folly Beach is located between Stono Inlet and Kiawah Island to the southwest, and Lighthouse Inlet and Morris Island to the northeast. Nearly all of Folly's shoreline is armored and contains groin fields. Oceanfront development is mostly single-family residential, with one large condominium and one large hotel in the center of the island, a public park at the southwest end, and a large tract of undeveloped property at the northeast end. Long-term erosion rates are -1 to -3 ft per year, although in recent years the northeast end of the beach has been highly erosional. The 33 monitoring stations at Folly Beach were surveyed in June 2004 and January 2005. A major beach renourishment project placed over 2 million cubic of sand from an offshore borrow source on the beach at Folly during the summer and fall of 2005, but since the most recent survey data was collected prior to project construction this section of the report will only describe the pre-renourishment condition of the beach.

At the western end of the island in the county park, station 2803 showed significant accretion on the lower beach, while stations 2805 in the middle of the park and 2810 at the gatehouse were stable. This area experienced significant erosion from 1995 through 2003 but has since stabilized. Most other stations on the western section of Folly Beach, from station 2813 just outside the park to station 2825 at 3rd St. West, were fairly stable and showed only minor changes seaward of the buried line of revetments and seawalls. Station 2828 in front of the Holiday Inn seawall was very stable but has virtually no dry-sand beach at high tide. Station 2830, immediately northeast of the seawall, was also fairly stable.

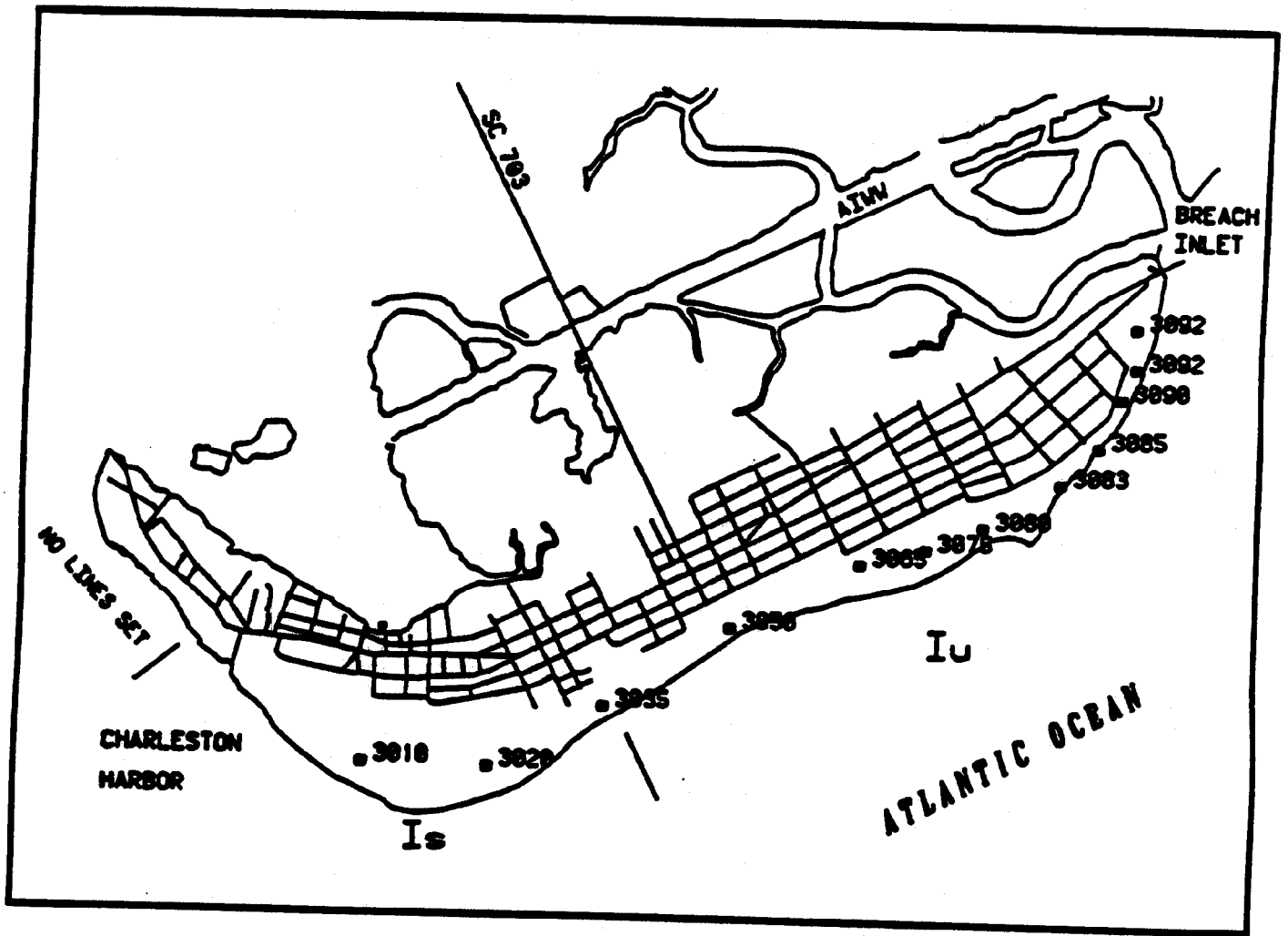
The next section of beach is the first eight blocks east of the Holiday Inn, from station 2833 up to 2843 at 8th St. East. This area has a moderate dune over or seaward of the line of rock revetments. Almost all profiles in this area were stable during the current survey period.

The section of beach closer to the area commonly referred to as the Washout was more erosional. The dune at station 2850 at 10th St. East scarped back and the entire beach profile down to -5' was eroded. The erosion was worse at 2855 at 12th St. East, where the dune and beach profile down to the -5' contour eroded back 30'. Stations 2860 at 13th St. East and 2863 near the last house before the Washout showed similar erosion on the dune and beach profile.

Stations 2865 and 2867 are located squarely in the middle of the Washout, where the ocean is closest to the road and there are no residential lots on the seaward side of Ashley Ave. Both of these stations were quite stable through January 2005, perhaps because the beach width here was already minimal in 2004 with little additional sand to be lost.

The erosion picked up again on the northeast side of the Washout. In the region from station 2973, just east of the Washout, to 2885, near the Sumter Drive beach access parking area, all stations experienced a general trend of dune scarping and erosion on the upper beach and intertidal beach. In most cases the dune was cut back by 20 to 25 ft. The last monitoring station, 2890 on the former Coast Guard base property, also showed considerable dune scarping and erosion on the upper and intertidal beach.

Based on qualitative observations of the beach from the start of the renourishment project in June 2005 through project completion in November 2005 and then in the two months following project completion, it appears the beach at the Washout and at the northeast end of Folly has experienced the most rapid loss of renourishment sand, primarily due to the effects of Tropical Storm Ophelia in September and Tropical Storm Tammy in October. The Army Corps of Engineers is currently exploring the possibility of conducting follow-up renourishment at the northeast end of Folly Beach to replace the renourishment sand lost during these two storms.



Sullivan's Island

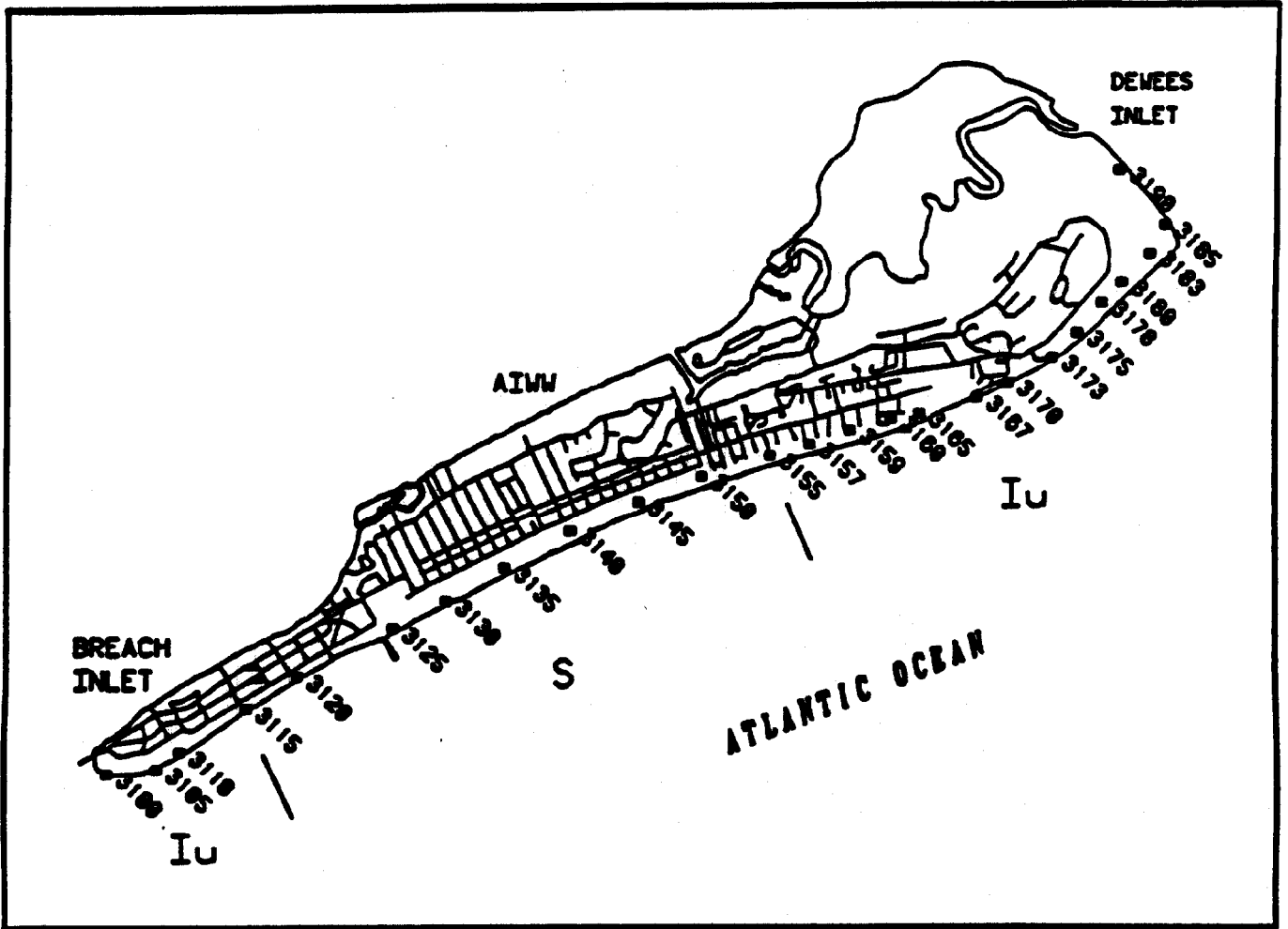
Sullivans Island

Sullivans Island is located between Charleston Harbor and Breach Inlet. The Charleston Harbor north jetty, which comes ashore on Sullivans Island, has caused the long-term shoreline trend to be stable or accretional for much of the island. Periodic shoal attachment and movement of the channel at Breach Inlet can cause the shoreline in this region to be quite dynamic, and the long-term erosion rate here is -2 ft per year. Beach surveys were conducted at 3 of 10 monuments in the center of the island in July 2002 and August 2004, so comments for the rest of the island are primarily based on qualitative observations about the condition of the beach.

Survey monuments 3010-3035, between Station 16 and Station 19, are located within the Charleston Harbor north jetty. This area is extremely accretional in the long-term but has been stable to slightly erosional for the past several years. However, the tremendous beach buildup over the past century still leaves this as one of the widest beaches in South Carolina, as measured from the row of oceanfront houses out to the high-tide swash line.

Survey monuments 3050-3080 are located along the center section of Sullivans Island. The area is outside the north jetty and sand shoals from Breach Inlet periodically attach to the beach here, so that long-term trends are accretional but the shoreline is quite dynamic. The three monuments here that were surveyed in 2004, 3050 at Station 22½, 3065 at Station 26, and 3080 at Station 28, all show dune and upper-beach accretion.

Monument 3083 at Station 29 marks the transition point between the accretional center section of the island and the erosional northeastern end of the island along Breach Inlet, where the long-term erosion rate is -2 ft per year. The beach at 3083 has been fairly stable in recent years but the beach at 3085 near Station 30, 3090 near Station 31, and 3092 near Station 32 has been seriously eroded for several years. These survey monuments are all located close to Breach Inlet and continue to show steep and narrow inlet profiles with a sand deficit, no dune, and no high-tide beach. This 3-block section of Sullivans Island, about 2,000 ft long, is one of the most critically eroded beaches in Charleston County.



Isle of Palms

Isle of Palms

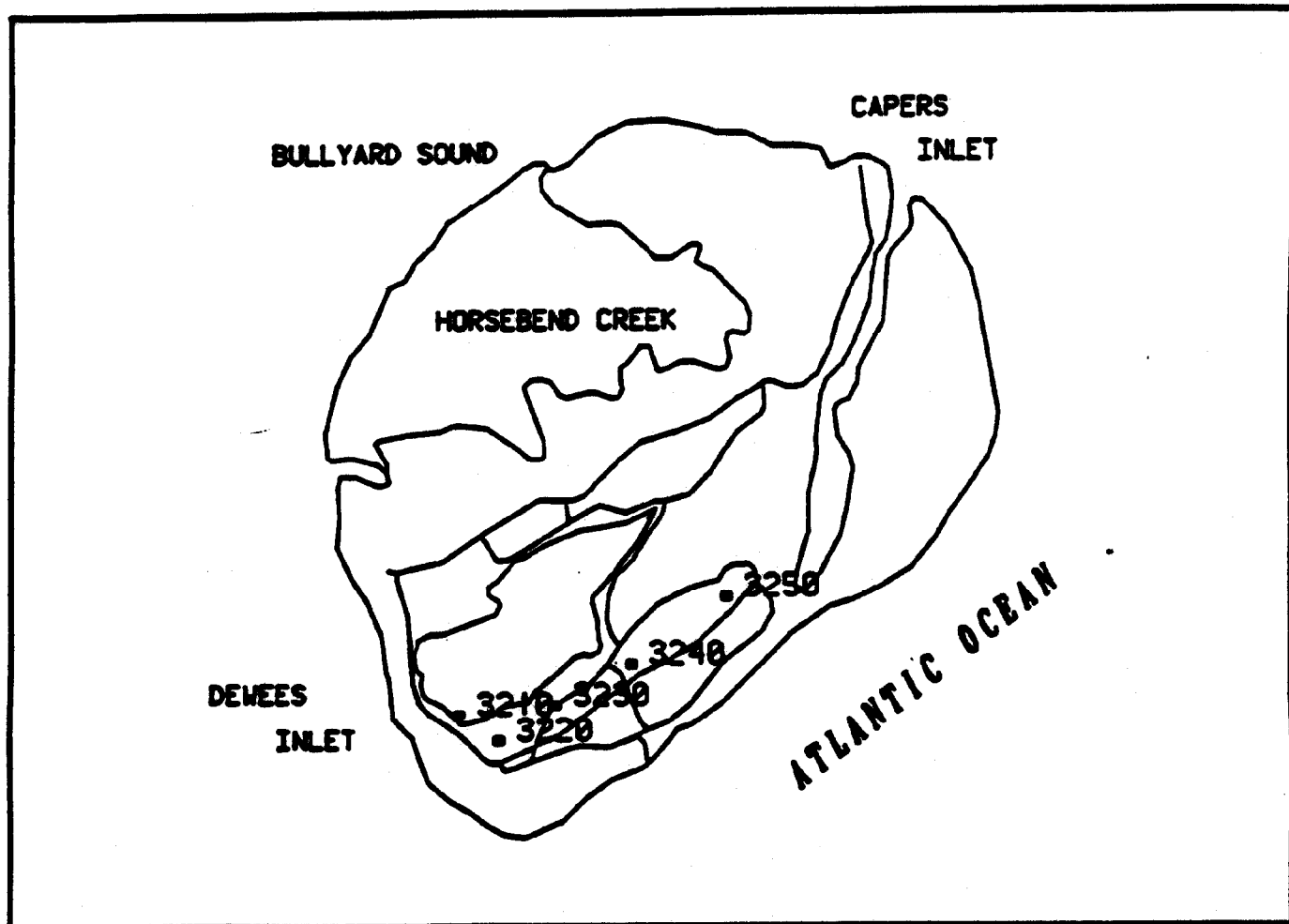
The Isle of Palms is located between Breach Inlet and Sullivans Island to the southwest, and Dewees Inlet and Dewees Island to the northeast. The island is generally accretional, primarily because the downdrift Charleston Harbor jetties interrupt the longshore flow of sand from north to south, and the official long-term shoreline change rate is stable to accretional. The northeastern end of the island, near Dewees Inlet, is extremely dynamic and can experience hundreds of feet of beach erosion or accretion over a few years. There are 22 monitoring stations on the Isle of Palms, which were surveyed in August 2004 and May 2005.

Stations 3100-3110, from Breach Inlet to 3rd Ave., are influenced by the inlet's channels and shoals and are usually more dynamic than the central portion of the island. This area is strongly accretional in the long term and experienced minor upper beach accretion during the past year.

Stations 3115-3155, from 6th Ave. to the Citadel Beach Club, are located along the more stable portion of shoreline in the center of the island. Beach profiles here typically show a well-defined primary sand dune and only minor to moderate seasonal variations from year to year. This area was stable to slightly accretional during the past year, with stations 3155 at the Citadel Beach Club and 3157 near 50th Ave. experiencing the most dune and upper beach accretion.

Beginning at station 3159 near 53rd Ave. and continuing on into Wild Dunes, beach profiles are close enough to Dewees Inlet to be effected by periodic bar bypassing from the inlet shoal complex, and as a result profiles here are more dynamic than the rest of the island. These shoal attachment episodes cause extreme accretion in the area of shoal attachment and severe but localized erosion immediately adjacent to the attachment site. These shoal attachment episodes generally occur about every 6-8 years and last about 18 months, with the most recent event terminating in the fall of 1996.

Station 3159 near 53rd Ave. and 3165 near 57th Ave. were fairly stable through May 2005, but the dynamics of the inlet-dominated shoreline became apparent beginning at station 3167, at the southwest end of Beachwood East, which was erosional through May 2005. The next two stations, 3170 at the northeast end of Beachwood East and 3173 near the Property Owners Clubhouse, both gained sand on the entire beach profile from the +4 ft contour down to the -8 ft contour. Erosion picked up again on the other side, at station 3175 near Mariners Walk. The erosion worsened at the last two stations on the Isle of Palms. Both station 3178 near SummerHouse condominiums and station 3180 at Port O'Call condominiums lost about 100 ft of beach between August 2004 and May 2005. The erosion here continued through the rest of 2005 and has since reached a critical point, as emergency beach renourishment and sand scraping have been performed to keep the ocean from encroaching onto several condominiums and the golf course.



Deweese Island

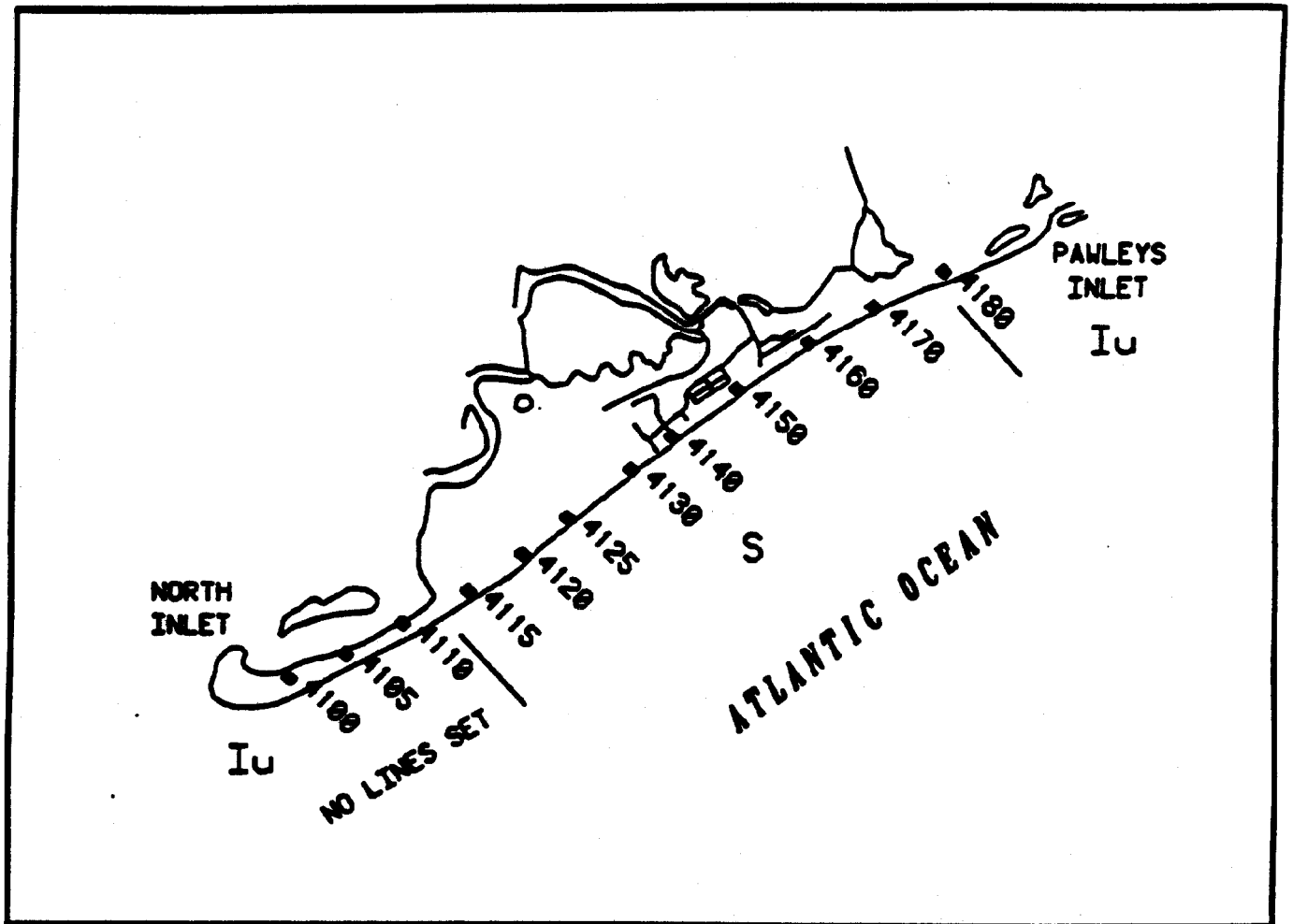
Dewees Island

Dewees Island is located between Dewees Inlet to the southwest, and Capers Inlet to the northeast. The island is approximately two miles long, and is classified as an unstabilized inlet zone. The shoreline is very dynamic, with long-term erosion rates of -3 to -12 ft per year, although in recent years the entire island has been accreting. There is limited single-family development here. There are 9 monitoring stations on Dewees Island, which were most recently surveyed in October 2004 and October 2005.

Station 3220 is located on top of a bluff along Dewees Inlet. The beach here can be very dynamic but was fairly stable in 2004 and showed only minor accretion at the seaward end of the profile.

Along the developed southern half of Dewees, station 3230 showed very little change through October 2005. Stations 3240, 3250, and 3255 all experienced some erosion at the seaward end of the profile, between the 0 and -5 ft contours.

Along the undeveloped northern half of Dewees Island, station 3260 showed slight accretion just seaward of a sizable primary dune, while 3270 showed slight erosion along this same portion of the profile. Station 3280 is closer to Capers Inlet and has a very wide profile that extends several hundred ft offshore. This station showed only minor changes during 2005. The last monitoring station, 3290, is located on Capers Inlet. The primary dune here is usually quite stable, while seaward of the dune a large sand flat, most of it intertidal, extends offshore for hundreds of feet. During the past year the primary dune was again very stable and a large offshore sandbar finally attached to the beach here, filling in the intertidal lagoon and channel that had persisted here for several years.



Debidue Island

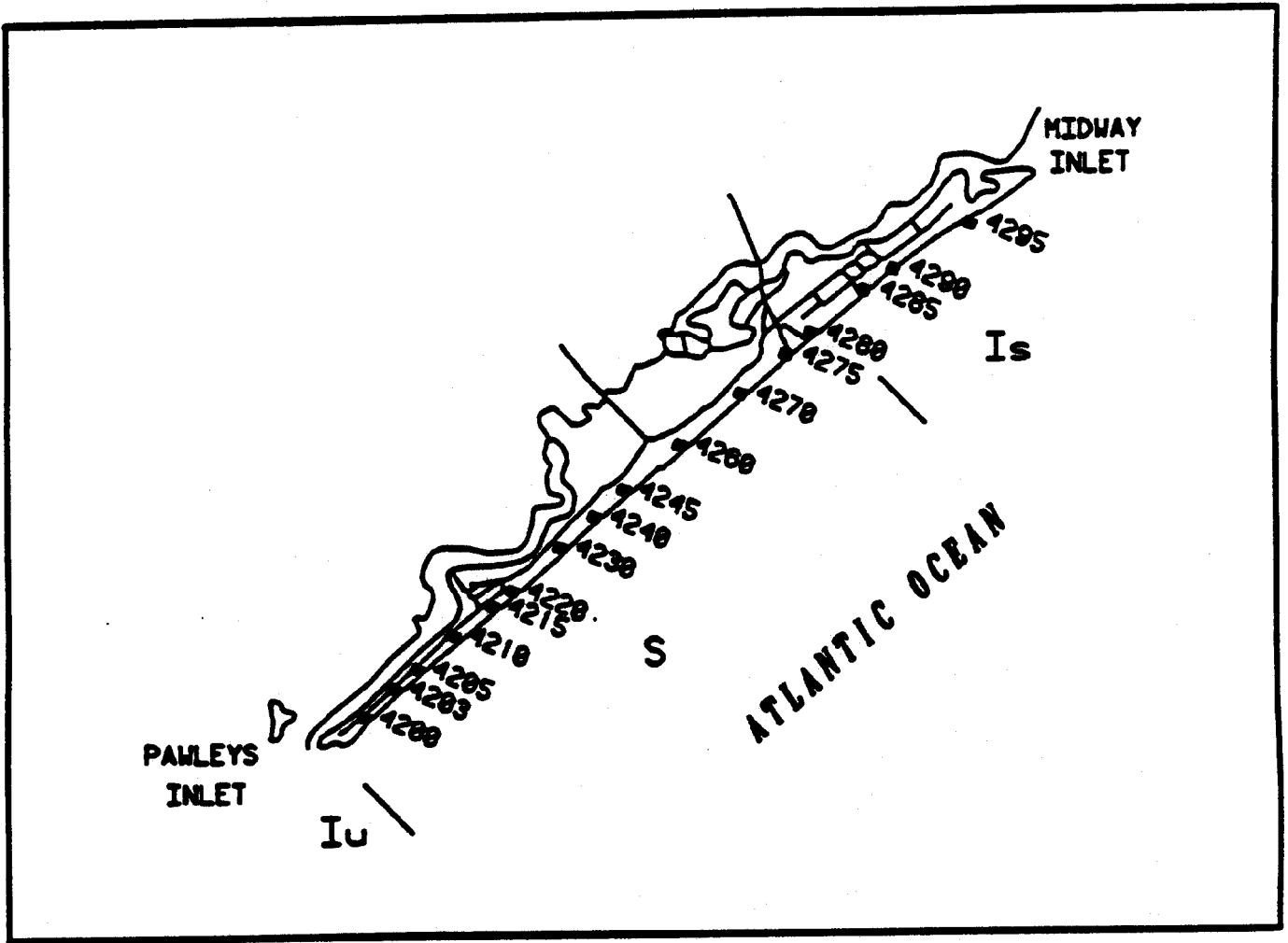
Debidue Beach

Debidue Beach, located between North Inlet and Pawleys Inlet, is the southernmost of the Grand Strand beaches. The central portion of Debidue is armored with a continuous 4,500-ft long bulkhead. The area south of the bulkhead has experienced long-term erosion rates of -8 to -12 ft per year, while the area north of the bulkhead is stable to accretional. The southern half of Debidue Beach is scheduled for renourishment in the spring of 2006. Stations here were surveyed in May 2004 and June 2005.

At station 4115, located near the southern end of the maritime forest closest to North Inlet, the upper beach has continued to erode and cut back by about 50' during the past year. At station 4125, about 1,000 ft south of the bulkhead, the long-term trend is erosional and the primary dune experienced erosion on the seaward face through June 2005. Farther seaward the lower intertidal portion of the profile also experienced significant erosion. At the south end of the bulkhead station 4130 has also experienced significant erosion from the bulkhead out to the -15 ft contour, as the beach face just seaward of the bulkhead dropped 3 to 4 ft vertically. This south bulkhead section of beach has historically been the most critically sand-starved beach profile at Debidue.

Station 4140, near the northern end of the bulkhead, is the "pivot point" on Debidue—the beach typically erodes to the south and accretes to the north. During the past year this station saw erosion between the +7 ft and -2 ft contours, as the beach cut back by up to 25 ft.

Stations 4150-4180 are located north of the bulkhead. This is a mostly undeveloped area with an extensive dune field, and historically the beach is usually quite stable. From May 2004 through June 2005 the dune field here once again remained unchanged. Station 4160 experienced some minor berm and upper beach erosion, while 4170 experienced some minor accretion on the berm. Both 4150 and 4180 were stable along the entire profile.



Pawleys Island

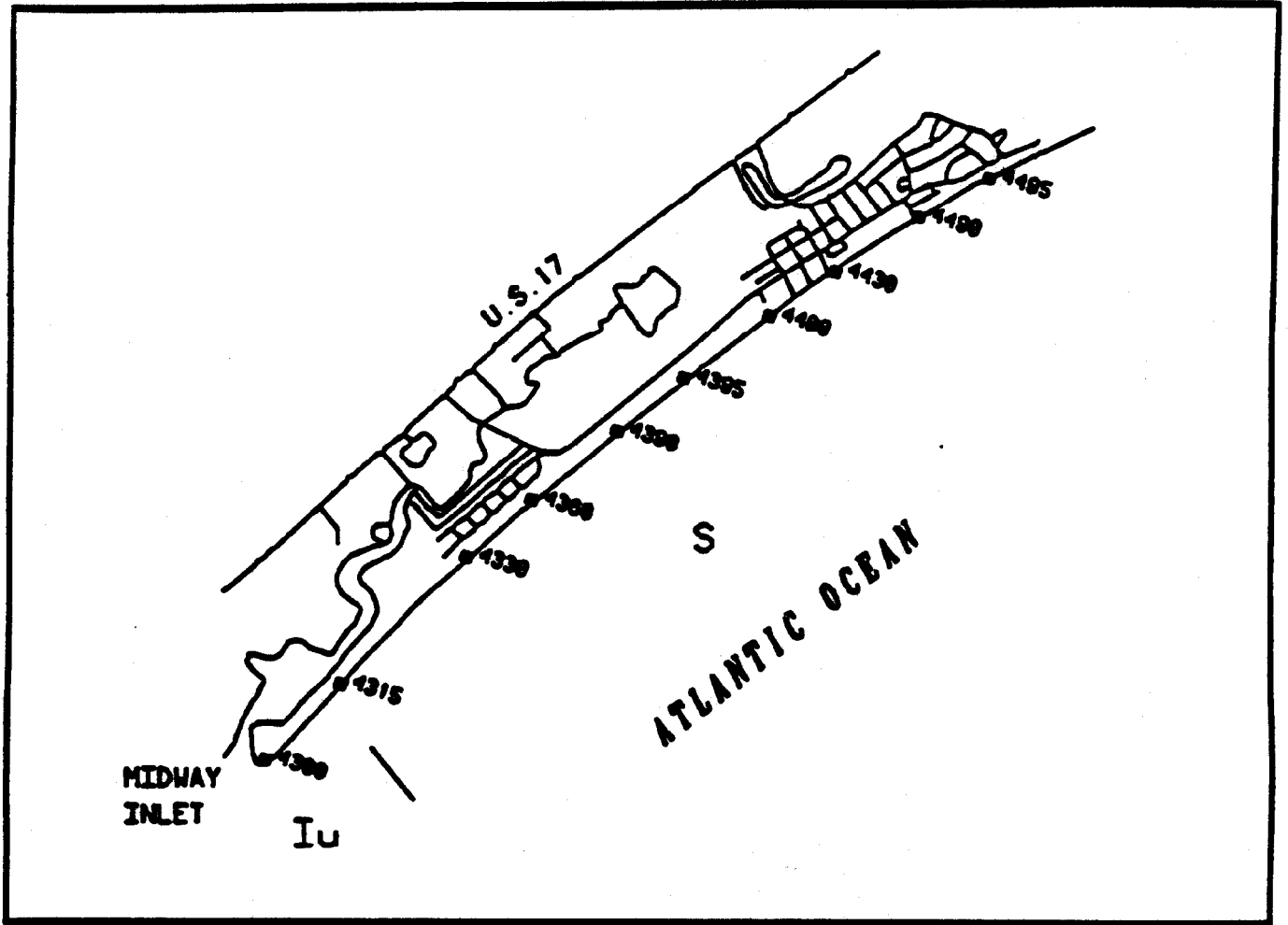
Pawleys Island

Pawleys Island is located between Pawleys Inlet and Midway Inlet. Groin fields on Pawleys have counteracted a slight erosional trend to produce a stable shoreline with an official long-term erosion rate of zero. The southern portion of Pawleys is low-lying, with little or no sand dunes. The central portion has some of the highest dunes in the state, while the northern, accretional end has a wide field of low dunes. A beach renourishment project using sand borrowed from the sand spit at the southern end of the island was completed in 1999. Sixteen monitoring stations at Pawleys were surveyed in April 2004 and June 2005.

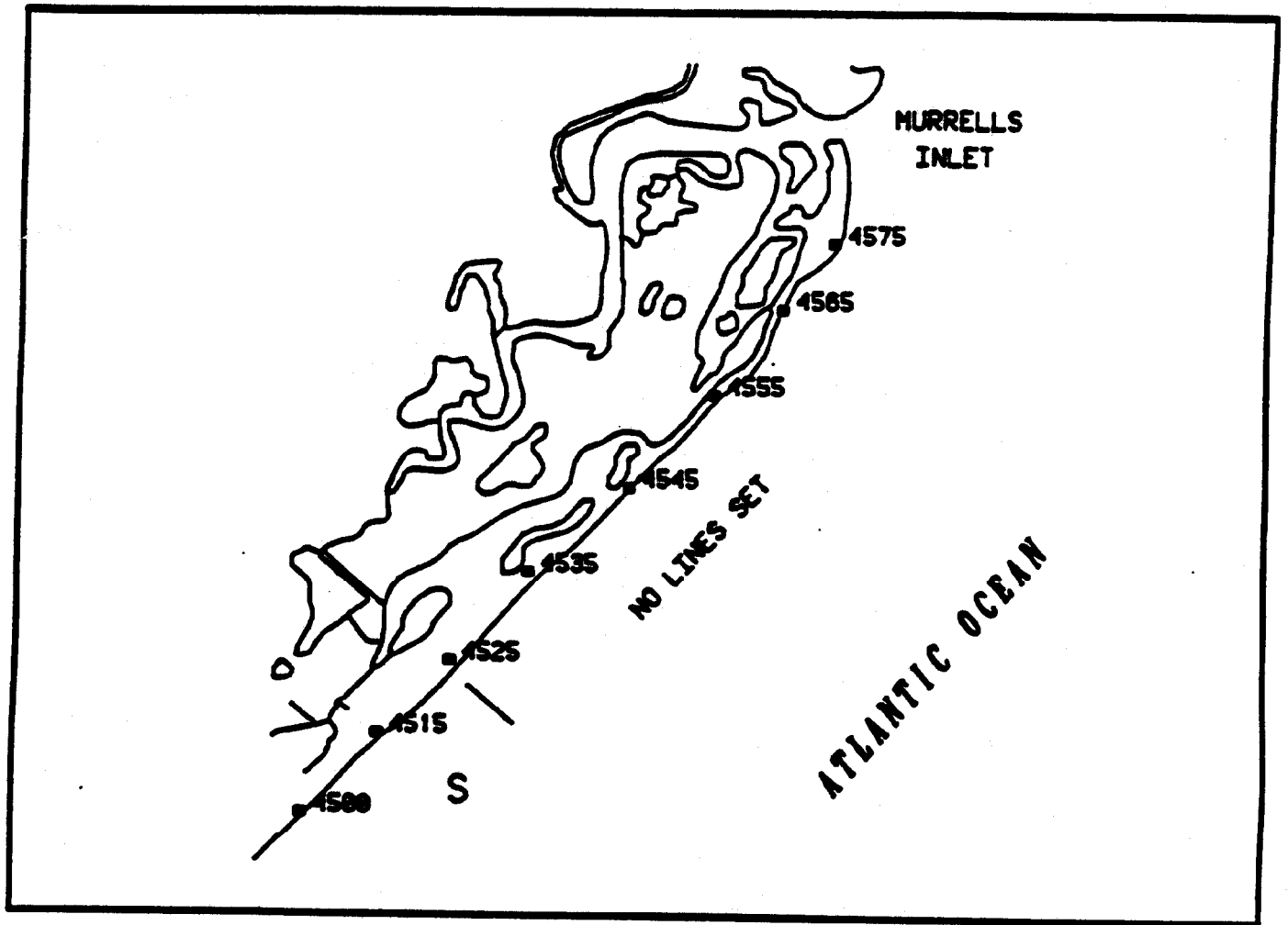
While there are no monitoring stations at the southern end of the island, it is apparent from visual observations that the dune in the public parking area has been chronically eroded for the past few years, and the southernmost groin cell, where the last 13 houses on Pawleys are located, still has no sand dune. Stations 4200-4220 are the 6 monitoring sites located north of this groin cell, in the developed, low-lying southern end of Pawleys Island. In this region station 4200 experienced some minor dune erosion, the berm at stations 4203 and 4205 eroded back by about 30 ft, and the other stations saw some minor berm erosion and minimal changes on the intertidal beach between the +3 ft and -5 ft contours.

The central portion of Pawleys Island, with a large primary dune, is represented by stations 4230-4280. All of the profile stations here were fairly stable, with some experiencing minor berm erosion and most gaining or losing a small amount of sand on the intertidal beach. Historically, this entire section of beach has always been the most stable portion of Pawleys Island. It shows little change from year to year, has an adequate sand volume, and, in most places, also has one of the largest sand dunes in the state.

Stations 4285 to 4295 are located closest to Midway Inlet, where the beach is much wider and is generally more dynamic. The long-term trend here is accretional, and most houses are several hundred feet landward of the high-tide water line. The entire beach profile was fairly stable here, with some changes on the intertidal beach. Station 4285 did experience some accretion on the seaward side of the primary sand dune.



Litchfield Beach



Huntington Beach State Park

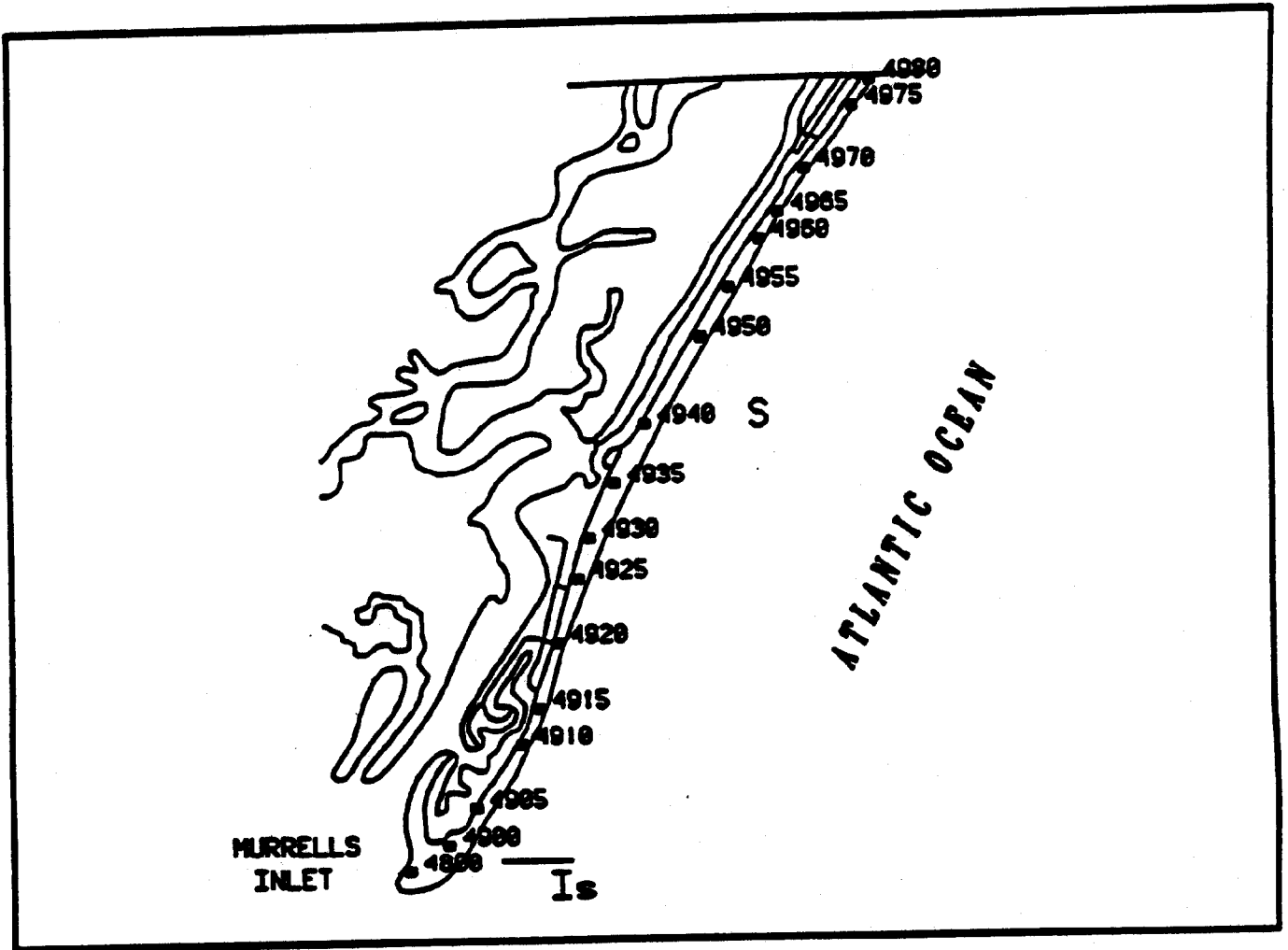
Litchfield Beach/Huntington Beach State Park

Litchfield Beach, North Litchfield, and Huntington Beach State Park represent a continuous, uninterrupted sediment budget compartment. This area is bounded by Midway Inlet to the south, and Murrells Inlet to the north. The southern spit at Litchfield is a low-lying area with a small dune field, while the central portion of this reach contains a large, well-defined primary dune, one of the largest in the state. The official long-term shoreline trend is "stable" for this entire area, and in fact, Litchfield Beach and North Litchfield Beach are among the most stable beaches in South Carolina. All stations here have a significant primary dune that generally shows no sign of erosion from year to year, and changes to the beach profile are usually limited to minor sand gains or losses on the active beach seaward of the dunes. The northern reach, in the state park, is directly influenced by Murrells Inlet and the south inlet jetty. Beach surveys here were taken at 14 stations in May 2004 and June 2005.

During the past year stations 4315-4495 in Litchfield and North Litchfield showed an extremely stable dune field. Seaward of the dune, a moderate-size berm about 35 ft in width that formed between 2003 and May 2004 was eroded away by June 2005, as the upper-beach profile returned to its 2003 shape. Seaward of the berm these stations show only minor intertidal and lower-beach changes down to about the -7 ft contour.

Stations 4500-4565 are located in Huntington Beach State Park. In the southern end of the park, stations 4500, 4515, and 4525 are morphologically similar to North Litchfield Beach. They have a stable, well-defined dune and experienced some moderate changes on the intertidal beach. Station 4500 also lost the berm that formed in 2004.

As proximity to Murrells Inlet increases the primary dune becomes somewhat smaller and the shoreline can become more dynamic, although the inlet itself is stabilized by jetties that were constructed in the early 1980's. Stations 4535 and 4545 showed virtually no change during the past year. Station 4555 was more dynamic, experiencing erosion from the seaward dune face down to the -10 ft contour. At station 4565, just north of the vehicular beach access path, a 75 ft wide berm that formed in 2004 was lost to erosion as this station also exhibited the influence of nearby Murrells Inlet.



Garden City (Georgetown County)

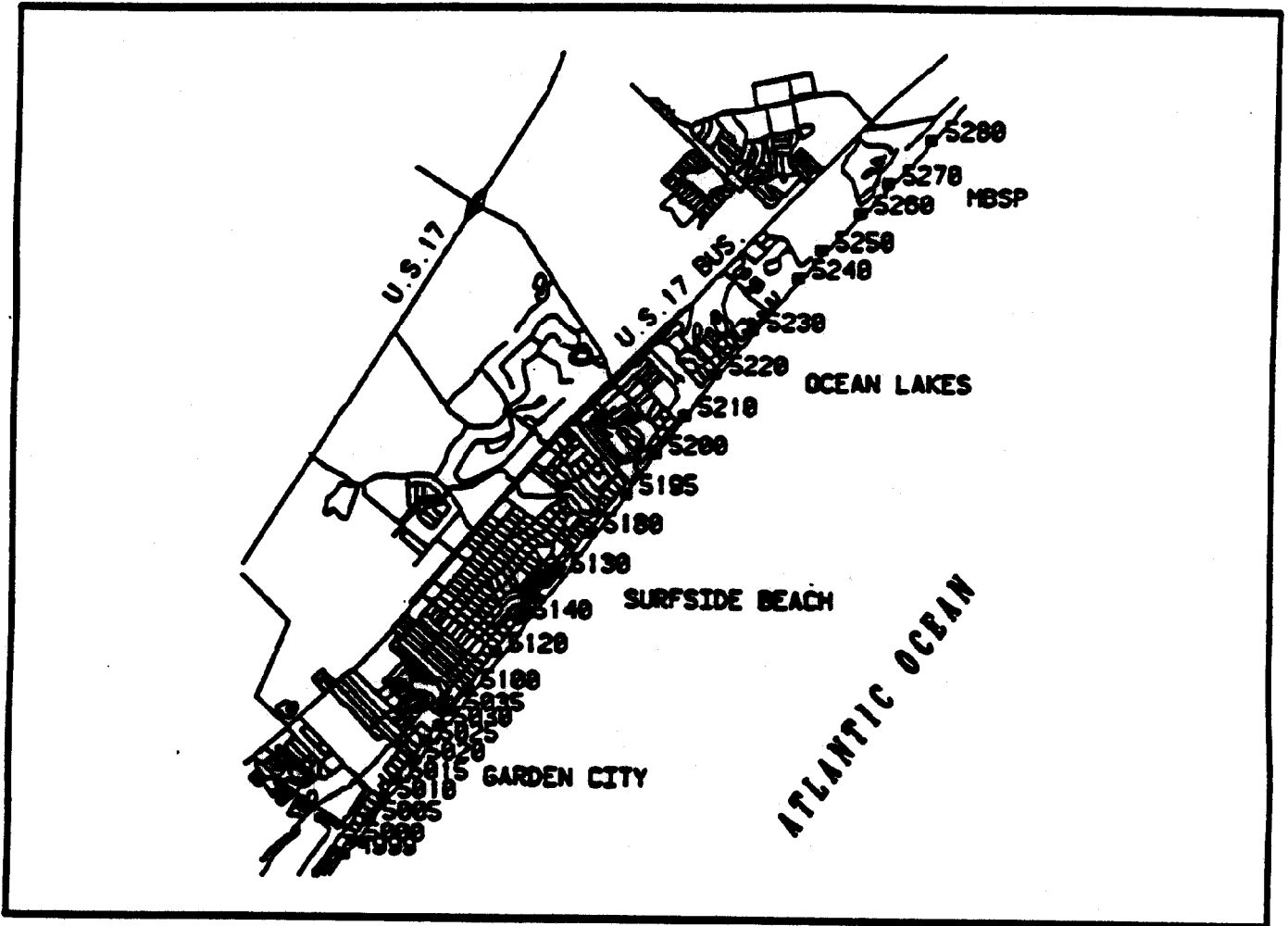
Garden City Beach

This section of shoreline begins at Murrells Inlet and extends northward to the southern limit of the Town of Surfside Beach. The southern half of Garden City, from station 4900 to 4955, contains few shore-protection structures, while in the northern half, between stations 4960 and 5030, seawalls and bulkheads become predominant. Generally, sand volumes are adequate in the unarmored section of Georgetown County, begin to decrease in the armored section of Georgetown County, and reach a minimum in the armored section of Horry County. The long-term erosion rate is about -1.5 ft per year. Much of Garden City was renourished in 1998 as part of the Army Corps of Engineers Grand Strand Renourishment Project, and the very southern end of Garden City, closest to Murrells Inlet, was renourished with 100,000 cubic yards of sand in 2003. There are 24 monitoring stations here, which were surveyed in May and November 2004.

Most stations in the standard zone from 4900 through 4955 are unarmored, have a well-defined dune, and are fairly stable. Historically the only exception is found along a 2,000 ft section of beach south of Pompano Drive, between stations 4910 to 4920, where the shoreline is armored and curves seaward and the beach is narrower and more vulnerable. This is the area that was renourished in 2003, and while some of this renourishment sand was quickly lost the remaining berm has stabilized and showed only slight erosion during the most recent survey period. The other monitoring stations in this general area all experienced minor berm accretion but also lost sand on the lower beach between the 0 and -3 ft contours.

North of station 4960 the shoreline is predominantly armored and the beach width decreases. Stations 4960 through 4999, in Georgetown County, and station 5000, in Horry County just south of the pier, still show a minimal dry sand beach seaward of a small dune or bulkhead. During the past year all stations here experienced erosion on the lower beach between the 0 and -4 ft contours as the lower beach profile dropped about 2 ft vertically. The more northerly stations here also gained some sand on the berm.

Stations 5005 to 5035, the northernmost section of Garden City in Horry County from the pier to Melody Lane, are mostly armored and lack a dune but have a minimal dry-sand beach. Prior to the 1998 renourishment project this area had a substantial sediment deficit, and the renourishment has not performed as well here. Through November 2004 stations 5005 and 5010 showed some erosion on the lower beach between the 0 and -4 ft contours and also some slight berm accretion, while station 5015 was fairly stable. Just north of here all stations showed a continued loss of the renourishment berm, now only 40 ft wide in places, and also erosion along the entire profile out to a depth of -5 ft.



Garden City (Horry County)
Surfside Beach
Unincorporated Horry County--South

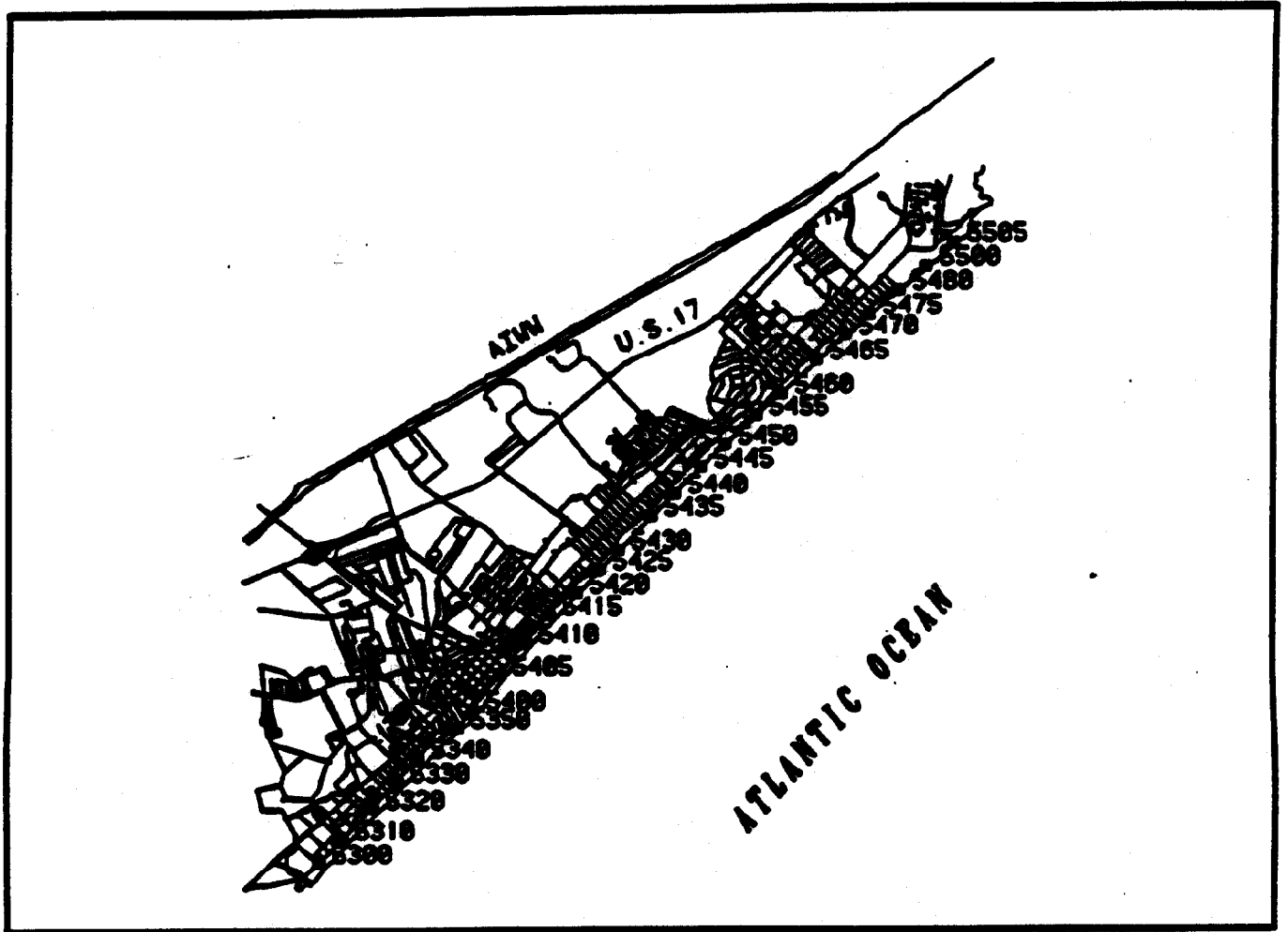
Surfside Beach and Unincorporated Horry County—South

This section of the Grand Strand includes 6 monitoring stations in the Town of Surfside Beach, and 9 stations in the unincorporated region north of Surfside Beach—the campground region, Long Bay Estates, and Myrtle Beach State Park. Surveys here were completed in May 2004 and November 2004. The long-term erosion rates here are around one foot per year, and in general the beach is stable.

Stations 5100 at 16th Ave. South through 5195 at 16th Ave. North fall within the Town of Surfside Beach, and almost all stations here have a well-established primary sand dune. Surfside Beach was renourished in 1998 as part of the Army Corps of Engineers Grand Strand Renourishment Project, and the project reached equilibrium within a few years. In the southern portion of Surfside Beach, from station 5100 to 5130, the beach profile experienced slight erosion from the +5 to the -5 ft contour during the current survey period while the dune remained stable. North of here, through station 5195, the profiles all showed some minor accretion on the upper beach, as the berm increased in width by 30 to 40 ft.

Stations 5200 to 5240 are located in the campground section. Every station here has a well-established dune except for 5220, which is armored with a rock revetment. Through November 2004 the beach survey stations here all behaved similarly to the northern half of Surfside Beach, gaining 30 to 40 ft of sand on the upper beach berm.

In Myrtle Beach State Park the profiles all have a well-established dune, and the beach is usually very stable. This area was not directly renourished in 1998, although it probably received an indirect benefit from renourishment to the north and south. Stations 5250 to 5270 are located here, and showed only minor changes through November 2004. Most stations did gain a slight amount of sand on the upper beach berm and showed only minor changes along the rest of the profile. At station 5280, located at the Springmaid fishing pier, the beach profile was also fairly stable and showed small sand gains on the berm.



Myrtle Beach

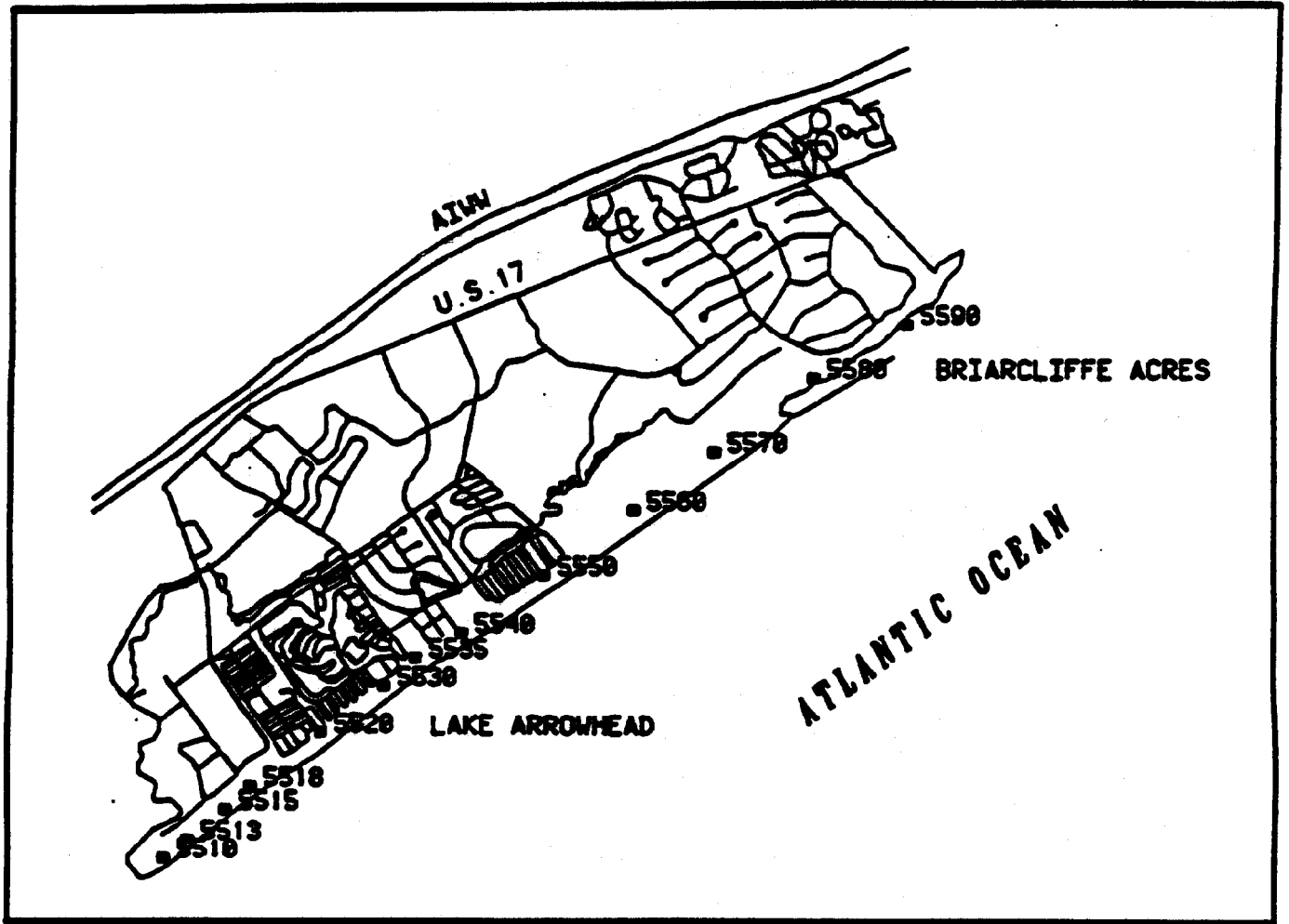
Myrtle Beach

The next area is the eight-mile section of shoreline within the Myrtle Beach city limits. The long-term erosion rate here is about one-half ft per year. Myrtle Beach was renourished between May and December 1997 as part of the US Army Corps of Engineers Grand Strand Renourishment Project. This fill reached equilibrium within a few years, and has since stabilized. The most recent beach surveys were conducted at 23 monuments in October 2003 and February 2005.

Stations 5300-5430, from 29th Ave. South to 31st Ave. North, are located in the southern commercial district. There are many seawalls and bulkheads in this region, and before renourishment sand volumes were relatively low. The 1997 renourishment project stabilized by 2000 and the upper beach berm has lost only a minor amount of sand since then. During the latest survey period almost all stations showed accretion on the upper beach as the berm increased in width and also grew vertically by 1 to 2 ft. Below the berm stations in the southern section of Myrtle Beach, from 5300 at 29th Ave. South to 5330 at 15th Ave. South also lost sand from the 0 to -5 ft contour, but north of here the remaining stations were fairly stable on the lower beach. In general the dry-sand berm width here is still adequate and continues to provide storm damage protection and a recreational benefit.

The area between stations 5435 and 5465, from 31st Ave. North to 67th Ave. North, is primarily a residential section with some commercial sites. There are few bulkheads or seawalls, and although a primary dune exists in many areas there are also unarmored sections where the highland, usually a residential lawn, simply slopes down to the berm. Most stations here were fairly stable during the most recent survey period, which is usual for this area. At some stations the berm grew vertically by 1-2 ft while maintaining the same general width.

Stations 5470 - 5480 are located in the northern commercial district, although there are several residential structures here as well. A small but well-defined primary dune exists along most of the beach. Surveys show the beach profile here to be fairly stable during the past year, with only minor changes.



Unincorporated Horry County--North

Unincorporated Horry County—North

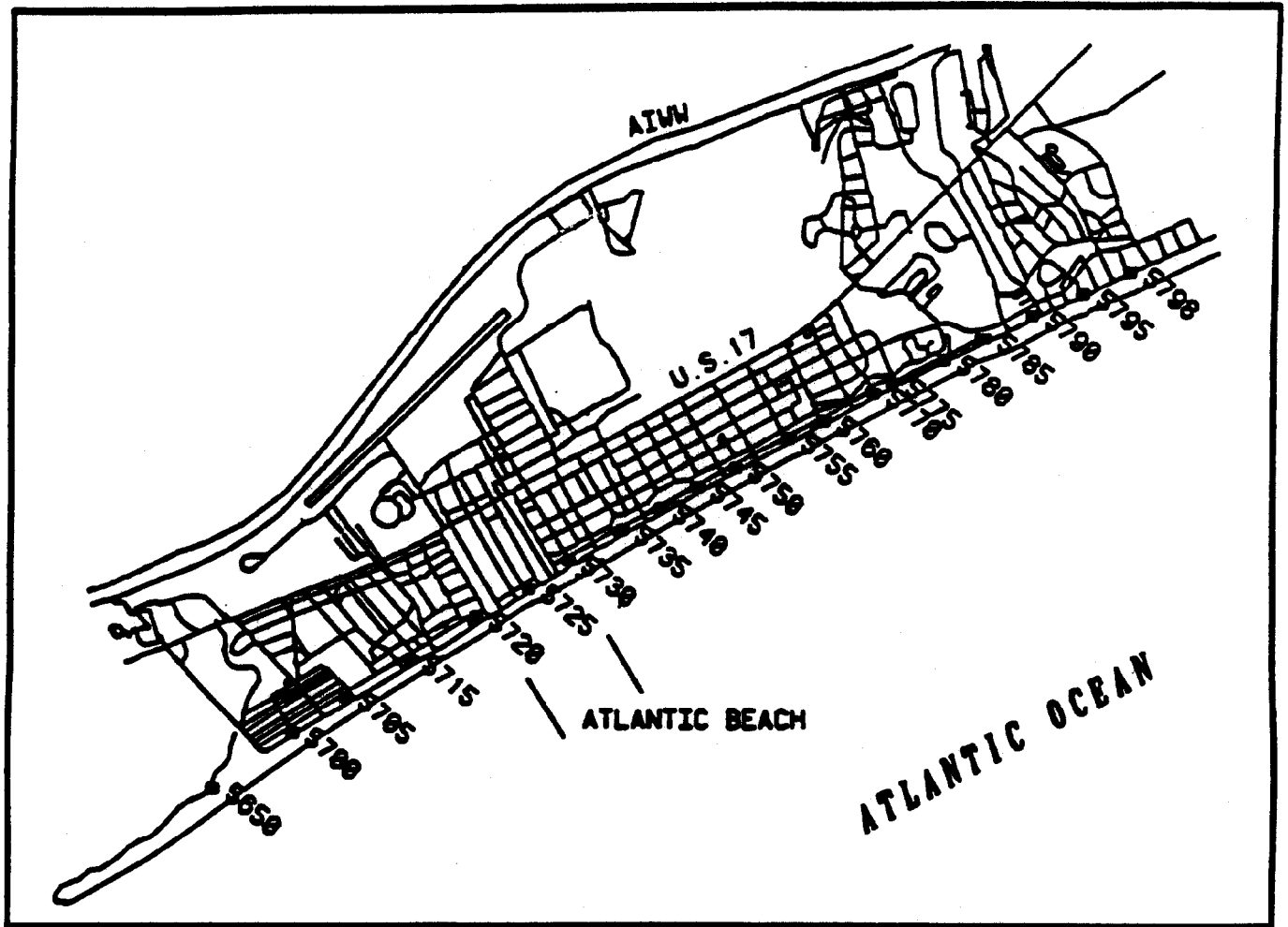
This area of unincorporated Horry County is located between the City of Myrtle Beach and White Point Swash, and includes the Shore Drive section, the campground section, and Briarcliffe Acres. The long-term erosion rate is about one-half ft per year. There are 14 beach survey monuments located here, which were most recently surveyed in November 2003 and March 2005.

Stations 5500 and 5505 are located on Club Road, just north of the City of Myrtle Beach and south of Singleton Swash, where there is little oceanfront development. The beach here has a well-developed primary dune and the shoreline is usually quite stable from year to year, including the most recent survey period.

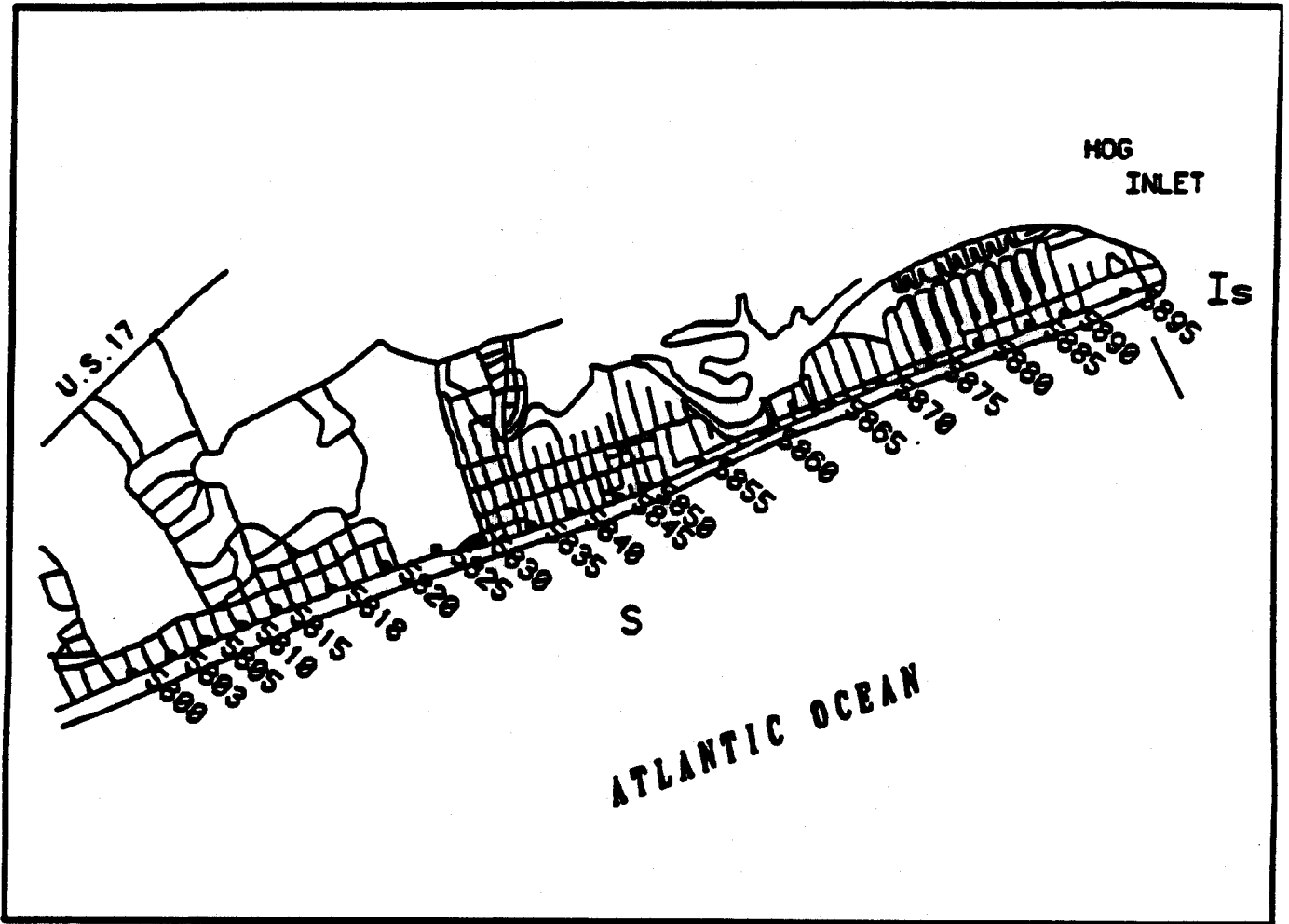
Stations 5510 to 5518 are located north of Singleton Swash along Shore Drive, where shoreline armoring is extensive and a dry-sand beach has generally been absent. This area was renourished by Horry County in 1999, when a 150-ft wide dry sand berm was created. The beach profile here has experienced post-project adjustment ever since, as the renourishment berm has cut back by 20 to 50 ft per year. From November 2003 through March 2005 the upper beach berm moved landward by another 30 to 40 ft.

Stations 5520-5550 are located in the campground section, where oceanfront development is a mixture of campsites and resort hotels. Although this section was not renourished in 1999 it did receive some indirect benefits from the nearby Shore Drive renourishment project. Most stations here also experienced 40 to 50 ft of berm erosion, and a general loss of sand along the entire profile from the berm down to the -3 or -4 ft contour.

Stations 5560-5590 are located in Briarcliffe Acres, where the oceanfront is undeveloped and a well-defined primary dune exists with virtually no shoreline armoring. This area is usually quite stable but showed even more dramatic berm erosion during the most recent survey period, as the upper beach cut back by 60 ft at station 5570 and 80 ft at station 5580.



North Myrtle Beach--Southern Half



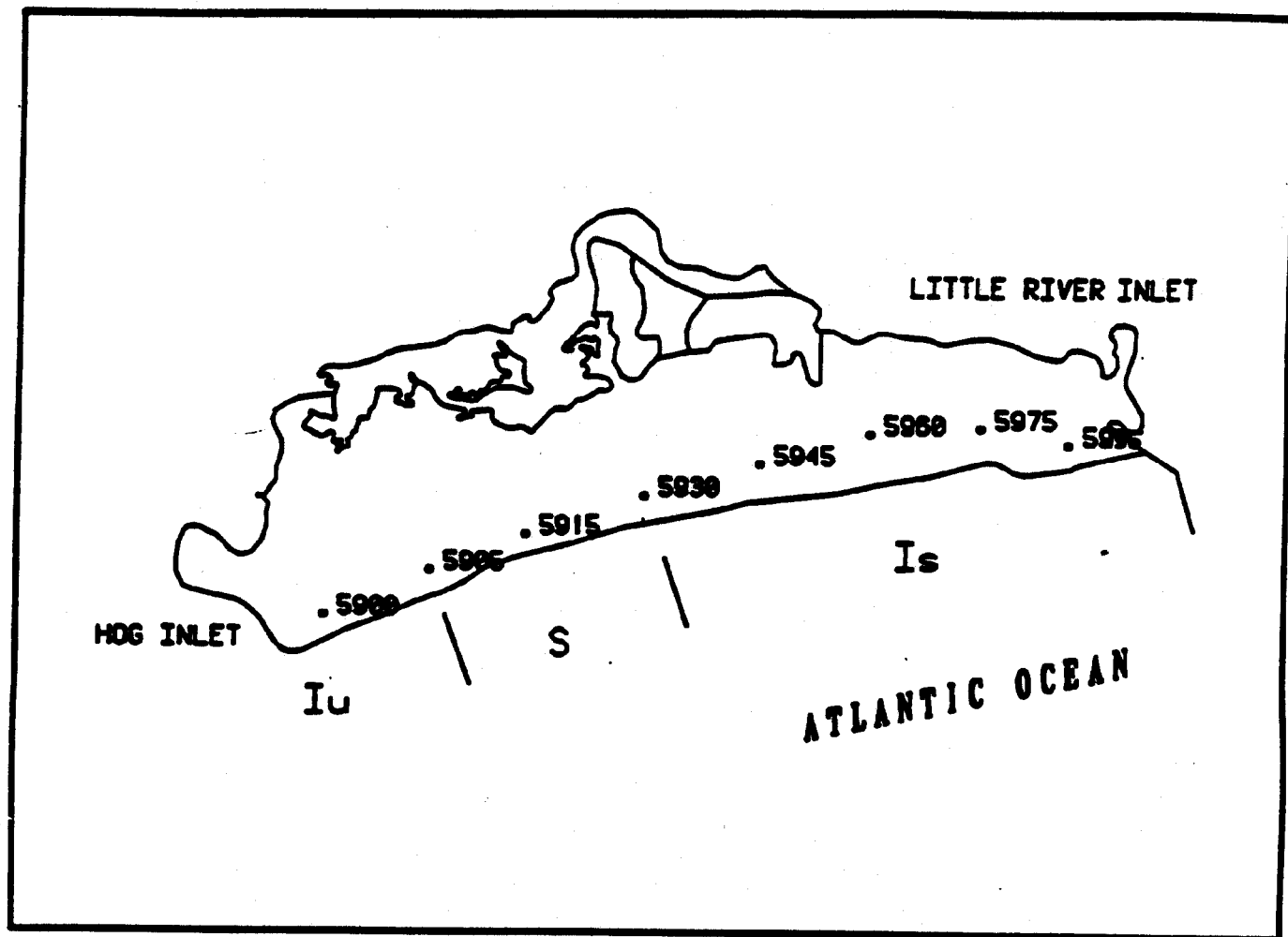
North Myrtle Beach--Northern Half

North Myrtle Beach

This section includes the City of North Myrtle Beach and Atlantic Beach, from White Point Swash to Hog Inlet. The shoreline is heavily developed and much of it is armored, with alternating zones of commercial and residential structures. The beach at North Myrtle Beach is typically wider and flatter than other Grand Strand beaches. The long-term erosion rate is about a half-foot per year. North Myrtle Beach was renourished by the US Army Corps of Engineers between September 1996 and April 1997, increasing the dry-sand beach width by over 100 ft and unit-width sand volumes by over 70 cubic yards per ft. The renourishment project has since stabilized, and some of the sand still remains on the upper beach. There are 43 beach survey monuments here, which were surveyed in March 2004 and also January or May 2005.

In the Windy Hill section, the southernmost portion of North Myrtle Beach from 48th Ave. South to 34th Ave. South where stations 5650-5720 are located, the upper beach profile was fairly stable with some erosion on the lower beach at a few stations. In the Crescent Beach section, from 28th Ave. South to 2nd Ave. North where monitoring stations 5730 through 5798 are located, most stations experienced about 30 to 40 ft of erosion on the berm. At many of these stations the erosion continued on down the profile from the berm to the -3 ft contour. In the Ocean Drive section, from 2nd Ave. North to Sea Mountain Highway where stations 5800 to 5830 are located, a few stations were stable but most experienced about 20 ft of erosion on the upper-beach berm.

In the Cherry Grove section between station 5835 at Sea Mountain Highway and 5850 at 32nd Ave. North the character of the beach changes. Much of this area is armored and experienced chronic sand deficits prior to renourishment. This same 7-block area south of the Cherry Grove pier has also experienced higher erosion rates following the renourishment project, and the beach here is currently not as wide as the beach north of the pier or south of 28th Ave. North. During the current survey period the profile from the berm down to the 0 ft contour cut back by about 20 ft. North of the pier, from station 5855 at 37th Ave. North to 5890 at 58th Ave. North, a few stations showed berm erosion but most were stable or even accretional on the primary dune. Station 5895 on Hog Inlet was also stable but there is virtually no berm or high-tide beach here.



Waites Island

Waites Island

Waites Island is an undeveloped three-mile long barrier island located between Hog Inlet to the southwest and Little River Inlet to the northeast. Little River Inlet was stabilized by the construction of a jetty system between 1981 and 1983. The southwest end of Waites Island is an unstabilized inlet zone, the central portion is a standard zone, and the northeastern section is a stabilized inlet zone. Most of the island has a long-term erosion rate ranging from -4 to -10 ft per year, although jetty construction has helped to stabilize the shoreline and lessen the erosion. During most of the 1990's the Hog Inlet shoreline was extremely erosional, losing several hundred feet, but has changed to an accretional mode in recent years. There are 6 monitoring stations on Waites Island, which were most recently surveyed in May 2004 and January 2005.

During the past 3 years almost all profiles at Waites Island were stable or show signs of moderate accretion on the upper beach. Station 5905, closest to Hog Inlet at the south end of the island, had showed some signs of erosion in earlier years and was slightly erosional between 2002 and 2003, but has been accretional since then. During the current survey period the primary dune here with a crest elevation of +14 ft was stable, while an emerging dune seaward of the primary dune continued to develop. Station 5915 showed the same characteristics—a stable primary dune at +15 ft and a smaller dune developing on the seaward side of it.

The remaining stations on Waites Island, 5930, 5945, 5960 and 5975, were all quite stable through January 2005, with a minimal gain of sand on the seaward side of the primary dune. In general, it appears the accretional phase that began on much of the island several years ago is continuing. This may be due to the long-term stabilizing influence of the Little River jetties, which may eventually decrease the officially adopted long-term erosion rates on Waites Island.

State-Wide Summary

Two tropical storms caused erosion to South Carolina's beaches during 2005. Ophelia in mid-September caused damage to the shore in the northern part of the state, while Tammy in early October caused more extensive erosion in the Charleston area and resulted in the collapse of an oceanfront house at Edisto Beach. Both storms followed similar tracks, forming off the Atlantic coast of Florida and then moving slowly up the southeastern US coast. These storms followed on the heels of the 2004 hurricane season, which was even more damaging.

In response to the extensive erosion of the 2004 hurricane season a major beach renourishment project was sponsored by the Army Corps of Engineers at Folly Beach during the summer and fall of 2005, using a combination of federal and municipal funding. In addition, \$4.75 million dollars in state renourishment funding for fiscal year 2005-2006 was allocated to Edisto Beach State Park and the Town of Edisto Beach for a beach renourishment project scheduled to begin construction by April 2006. Other renourishment projects scheduled for 2006 include a privately-funded project at Debordieu Beach that is also expected to start construction by April 2006, a state-funded renourishment project at Hunting Island State Park that should start construction in the spring or fall of 2006, and a locally-funded project at the Town of Hilton Head Island that is expected to start construction in the summer of 2006.

In general the inlet zones, those beaches closest to unstabilized tidal inlets, are the most dynamic beaches and may experience the greatest shoreline erosion or accretion. Other sections of beach away from tidal inlets can still experience chronic beach erosion. Regardless of its designation as an inlet zone or standard zone, any section of beach with a sand deficit and a minimal beach width should be considered at-risk, since the dunes and dry-sand beach provide a buffer between the ocean and high-ground development. At present, these at-risk beaches with sand deficits and a minimal dry-sand beach width at high tide include the following areas:

Beaufort County - the southwestern and northeastern ends of Fripp Island (which is protected by a substantial rock revetment), all of Hunting Island (scheduled for renourishment later this year), and the northeastern end of Harbor Island.

Colleton County - the northeastern half of Edisto Beach including the state park, all of which is scheduled for renourishment this spring.

Charleston County - the central portion of Seabrook Island (which is protected by a substantial rock revetment), the northeastern end of Folly Beach (renourished in 2005 and possibly scheduled for follow-up renourishment in the near future), and the northeastern end of Sullivans Island on Breach Inlet.

Georgetown County - the southern end of Debidue Beach (scheduled for renourishment this spring), and the southern end of Pawleys Island including the large public parking area (currently being studied for a renourishment project by the Corps of Engineers).

Horry County - the northern portion of Garden City Beach and the Cherry Grove section of North Myrtle Beach have narrower beaches and lower sand volumes than surrounding areas. From a statewide perspective they cannot be truly considered at risk, but taking into account the massive amount of development and infrastructure in this area, and the corresponding level of tourism, they are considered to be the most likely candidates for future renourishment. The Army Corps of Engineers may be performing a large-scale renourishment project for the entire Grand Strand area some time in the next 2 years that will be similar to the project constructed in the late 1990s.

The following represents a ranking of beach renourishment and beach restoration needs based upon DHEC-OCRM Regulation 30-18, which sets forth criteria for evaluating beach renourishment projects. Proposed projects are ranked based upon the environmental impact of the project, the public recreational benefits, the storm damage mitigation benefits to adjacent buildings and structures, the expected useful life of the project, and the extent of support for the project. Beaches which are highly eroded but already scheduled for renourishment during 2006 are not included in this list.

Beach Renourishment Funding Needs
SCDHEC Office of Ocean and Coastal Resource Management

| Project Area | Project Notes | Costs by State Fiscal Year (in millions of dollars) | | | | | | | | | | | | | |
|--------------------------|-----------------------|---|-------|---------|-------|---------|-------|---------|-------|---------|-------|---------|-------|---------|-------|
| | | FY02-03 | | FY03-04 | | FY04-05 | | FY05-06 | | FY06-07 | | FY07-08 | | FY08-09 | |
| | | State | Other | State | Other | State | Other | State | Other | State | Other | State | Other | State | Other |
| North Myrtle Beach | Corps Project in 2008 | 0 | 0 | 0 | 0 | 0 | 0 | 0.15 | 0 | 0.5 | 0 | 1.0 | 10.0 | 0 | 0 |
| Horry Co.- Shore Drive | Corps Project in 2008 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.5 | 0 | 1.0 | 10.0 | 0 | 0 |
| Myrtle Beach | Corps Project in 2008 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.5 | 0 | 1.0 | 10.0 | 0 | 0 |
| Surfside Beach | Corps Project in 2008 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.5 | 0 | 0.9 | 10.0 | 0 | 0 |
| G'town Co. - Garden City | Corps Project in 2008 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.5 | 0 | 1.0 | 10.0 | 0 | 0 |
| Pawleys Island | Corps Project in 2007 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.0 | 8.0 | 0 | 0 | 0 | 0 |
| Sullivans Island | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.4 | 1.5 | 0 | 0 | 0 | 0 |
| Folly Beach | Corps Project 2005 | 0 | 0 | 0 | 0 | 0 | 14.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Edisto Beach | | 0 | 0 | 0 | 0 | 0 | 0 | 4.75 | 3.0 | 0 | 0 | 0 | 0 | 2.4 | 2.5 |
| Hunting Island | | 5.0 | 0 | 3.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2.5 | 2.5 |
| Erosion Monitoring | Annual Surveys | 0 | 0.1 | 0 | 0.1 | 0 | 0.1 | 0.1 | 0 | 0.1 | 0 | 0.1 | 0 | 0.1 | 0 |
| Yearly Totals | | 5.0 | 0.1 | 3.5 | 0.1 | 0 | 14.1 | 5.0 | 3.0 | 5.0 | 9.5 | 5.0 | 50.0 | 5.0 | 5.0 |

Notes:

1. Funding sources listed as "Other" can be a mix of federal and local government funds.
2. The pending Edisto Beach Renourishment Project will include the Town of Edisto Beach and Edisto Beach State Park. Total project cost is estimated at \$7.75 million, with \$4.75 million coming from the state and \$3 million coming from the local governments. The Edisto Beach State Park section will cost \$1.75 million and will be paid for exclusively with state funds. The Town of Edisto Beach section will cost \$6 million and will be paid for with \$3 million in state funds and \$3 million in local government matching funds (\$1.5 million from the Town of Edisto Beach and \$1.5 million from Colleton County).
3. Most projects sponsored by the Army Corps of Engineers are funded 65% federal, 35% non-federal. It is anticipated that the next Corps-sponsored Grand Strand Renourishment Project in 2008, extending from North Myrtle Beach to Garden City in Georgetown County, will be funded at this ratio. Based on the previous project costs, funding requirements are estimated at \$10 million state, \$10 million local and \$40 million federal, for a total project cost of \$60 million. State money earmarked in FY06-07 for renourishment in the Grand Strand will be carried over and spent in the next fiscal year.
4. State money earmarked for Pawleys Island and Sullivans Island in FY 06-07 may not be needed if potential projects in these areas are canceled or if matching funds from local governments are not available.

First Priority: The Grand Strand

The 26-mile stretch of beach from the Cherry Grove section of North Myrtle Beach to southern Garden City Beach near Murrells Inlet was all included in a massive beach renourishment project sponsored by the Army Corps of Engineers in 1996-1998. At the time the overall effort was described as a 50-year project, with follow-up renourishment expected to be performed every 8-10 years. If federal funding is available it is likely that another large-scale renourishment project will be constructed here around 2008. Based on past federal/state/local funding ratios it is expected the state's share of this next project will cost approximately 10 million dollars. State money should begin to be allocated to this project now, and over the next few years, so that the total amount required will be available when needed.

Second Priority: Pawleys Island, Georgetown County

The southern end of Pawleys Island is low-lying, with little or no sand dunes. A 1999 beach renourishment project using sand borrowed from the sand spit at the southern end of the island provided temporary relief but did not add any new sand to the littoral system. The dune that protects the public parking area has been chronically eroded for the past few years and has been rebuilt several times by emergency sand-scraping. This large public parking area, one of the few areas providing good public beach access in Georgetown County, is in jeopardy. The developed southern end of Pawleys Island also lacks a sand dune, and the ocean water comes up under several houses at high tide. The Corps of Engineers is currently studying the beach erosion problem at Pawleys Island. Any federal renourishment project here will most likely include a requirement for both state and local funding.

NOTE: Sullivans Island, Charleston County

While most of Sullivans Island is stable to accretional, the section closest to Breach Inlet from Station 29 to Station 32 has a long-term erosion rate of -2 ft per year and has been chronically sand-starved for at least 10 years. This 3-block section of Sullivans Island, about 2,000 ft long, is one of the most eroded beaches in Charleston County. The beach is steep and narrow with little to no sand dune and no high-tide beach. Local match for state money may be problematic.

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