

IF YOU'VE BEEN TO THE BEACH IN COASTAL GEORGIA, YOU'VE PROBABLY NOTICED CHANGES IN THE SIZE AND SHAPE OF OUR DUNES, MAYBE THE WIDTH OF THE BEACH, OR EVEN HOW SANDBARS SEEM TO BE CONSTANTLY MOVING. THE NATURAL AND HUMAN FORCES THAT CAUSE THESE CHANGES CAN BE SUBTLE, AND SOMETIMES VERY ABRUPT.

OUR DUNES, BEACHES, SANDBARS, AND SHOALS ARE ALL PART OF ONE DYNAMIC NETWORK KNOWN AS THE SAND SHARING SYSTEM. THIS VITAL ECOLOGICAL NETWORK PROTECTS GEORGIA'S COAST FROM STORMS, FLOODING, EROSION, AND RESULTING PROPERTY LOSS OR DAMAGE.

WITHIN THIS NETWORK ARE COASTAL BARRIER ISLANDS LIKE TYBEE, SEA, ST. SIMONS, AND JEKYLL. THE ISLANDS ARE CONSTANTLY CHANGING IN SIZE AND SHAPE IN A PROCESS THAT HAS BEEN OCCURRING FOR THOUSANDS OF YEARS. THROUGHOUT TIME, CURRENTS HAVE CAUSED THE ISLANDS TO SLOWLY MIGRATE AS WAVES PUSH SAND ALONG THEIR BEACHES TO INLETS BETWEEN THEM, CHANGING THE ISLAND'S SHAPE. AS A RESULT, THE ISLANDS SLOWLY MOVE. AS ONE ISLAND GROWS, THE FLOW OF CURRENT THROUGH THE INLETS BETWEEN THEM ERODES THE ISLAND ON THE OPPOSITE SHORE IN A LONG-TERM CYCLE THAT CONNECTS ALL OF THE ISLANDS ALONG OUR COAST.

SOMETIMES YOU MAY NOTICE YOUR FAVORITE BEACH WILL CHANGE WITH THE SEASON. SMALL WAVES CAN TRANSPORT SAND ONTO A BEACH IN SUMMER AND FALL THROUGH A NATURAL PROCESS CALLED A "LONGSHORE CURRENT." IN THE WINTER AND SPRING, LARGER WAVES CAN REMOVE SAND IN A FORCE KNOWN AS "EROSION." THIS NATURAL SEASONAL TRANSITION RESHAPES THE BEACH AND CAUSES CHANGES IN THE DUNE SYSTEM THAT ARE LESS SUBTLE THAN THE LONG-TERM MIGRATION OF OUR BARRIER ISLANDS AND IS FAIRLY EASY TO RECOGNIZE.

HAVE YOU EVER BEEN TO THE BEACH FOLLOWING A STORM? YOU MAY HAVE SEEN THAT LARGE PORTIONS OF SAND HAVE BEEN WASHED AWAY, OR ERODED, UNCOVERING HIDDEN ROCKS OR STRUCTURES. HURRICANES AND NORTHEASTERS CAN HAVE AN IMMEDIATELY NOTICIBLE EFFECT ON OUR BEACHES. EXTREME WEATHER TIDES CAN CAUSE FLOODING AND EROSION IN LOW LYING AREAS, AND CONSTANT WIND AND WAVES CAN DISPLACE HUGE AMOUNTS OF SAND IN A SHORT PERIOD OF TIME. EVENTS LIKE THESE ARE CALLED "EPISODIC CHANGES". THESE SUDDEN, DRAMATIC CHANGES ARE PROBABLY THE EASIEST FOR MOST PEOPLE TO SPOT. STRONG STORMS CAN RESHAPE THE COASTLINE FOR DECADES OR EVEN CENTURIES.

THE EVOLUTION OF OUR SHORELINE NOT ONLY DEPENDS ON THESE LONG TERM, SEASONAL AND EPISODIC CHANGES, BUT ALSO IN HOW WE AS HUMANS REACT TO THESE EVENTS. THE BUILDING OF SHORELINE PROTECTION STRUCTURES LIKE SEAWALLS AND JETTIES COULD

POTENTIALLY ALTER THE SAND SHARING SYSTEM, AND CAREFUL CONSIDERATION MUST BE MADE WHEN DEPLOYING THESE MAN-MADE SOLUTIONS.

GEORGIA'S SHORE PROTECTION ACT, WHICH BECAME LAW IN 1979, PROVIDES THE MEASURES REQUIRED TO PROTECT OUR SHORELINES AND THE COLLECTIVE RESOURCES LIKE DUNES AND BEACHES WITHIN THE SAND-SHARING SYSTEM. IT IS THE MISSION OF THE COASTAL RESOURCES DIVISION OF THE GEORGIA DEPARTMENT OF NATURAL RESOURCES TO ENSURE THAT THE PROVISIONS OF THE ACT ARE IMPLEMENTED SO OUR COAST MAY BE ENJOYED BY GENERATIONS TO COME.

NOW THAT YOU KNOW SOME OF THE CAUSES, THE NEXT TIME YOU ARE AT THE BEACH, SEE IF YOU CAN NOTICE IF THE SHORE LINE HAS CHANGED SINCE YOUR LAST VIST. DO THE DUNES LOOK THE SAME? IS THE BEACH ANY WIDER? WHAT DO THE SANDBARS LOOK LIKE AT LOW TIDE? CAN YOU IMAGINE WHAT IT MIGHT LOOK LIKE IN 100 YEARS?

WE HOPE YOU'VE ENJOYED LEARNING ABOUT GEORGIA'S EVER-CHANGING BEACHES AND OUR PARTNERSHIP WITH NATURE IN PRESERVING OUR COAST. WE'LL SEE YOU AT COASTFEST 2021!

