

Adapting to Change

Whatever the Cause

Empowers Us

&

It's Time to Take Steps

To make Ecosystems more
Resilient & to reduce the likelihood
of catastrophic changes

Guiding Principles of the National Wildlife Refuge System

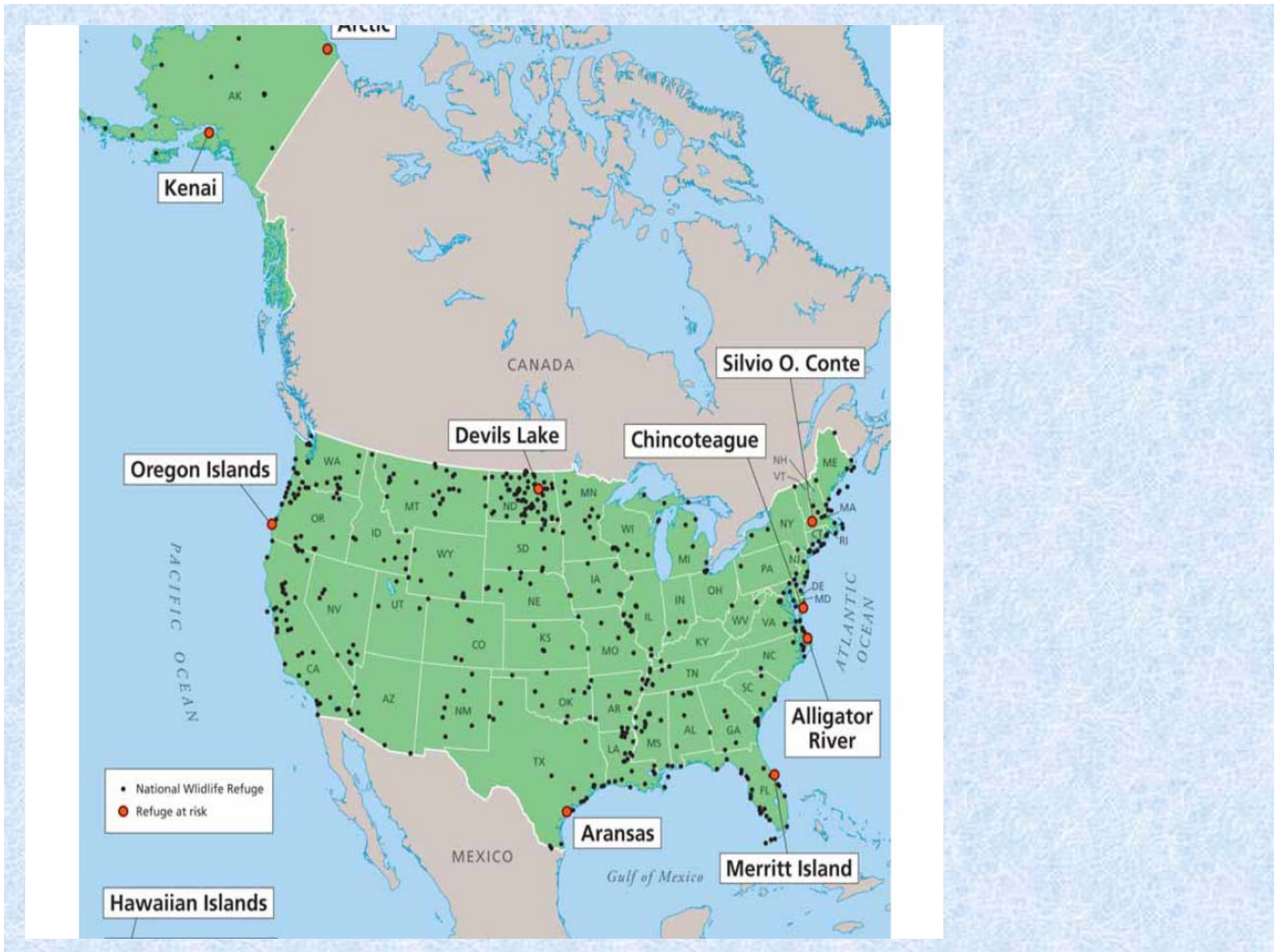
- We are land stewards - 548 in America 11 in NC
- Land is a community of life - ecosystems
- Wildlands and the perpetuation of diverse and abundant wildlife are essential to the quality of American life
- We are public servants & we owe folks hard work, integrity, fairness, & a voice in the protection of their natural resources – entrusted to us to conserve
- Management is necessary – ranging from preservation to active manipulation of habitats and plant & animal communities to achieve our mission
- Partnerships are welcome and essential to help us meet our mission

Refuges at Risk

THE THREAT OF GLOBAL WARMING




America's
10 Most Endangered
National Wildlife Refuges
2006










Legend

-  National Wildlife Refuges
-  RTNCF Ecosystem
-  States

Ecological Regions

-  Coastal Plain
-  Piedmont
-  Mountains



National Wildlife Refuges

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Cape Hatteras National Seashore

Oregon Inlet

Pea Island National Wildlife Refuge







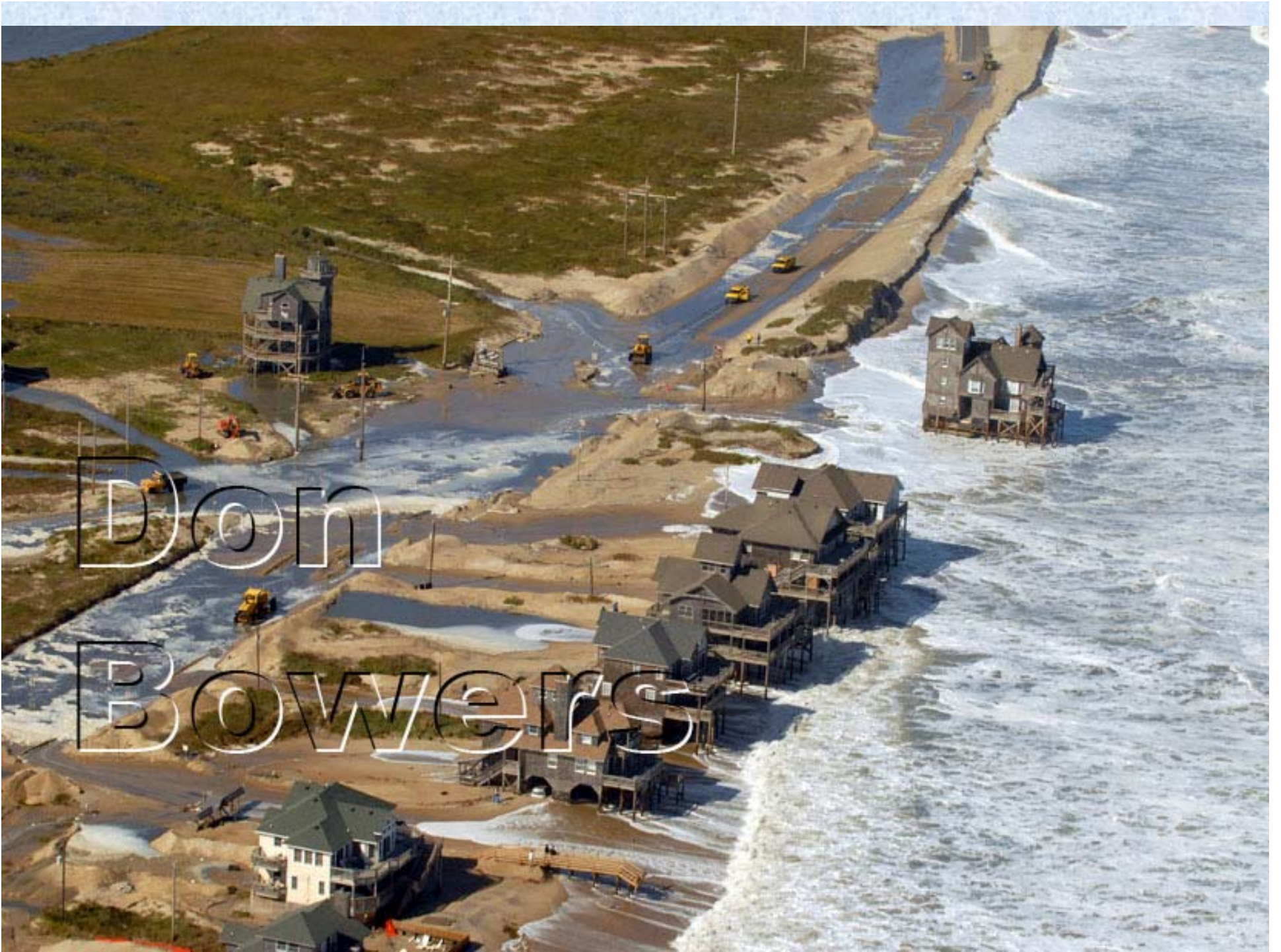


Don

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ALLIGATOR RIVER

NATIONAL WILDLIFE REFUGE



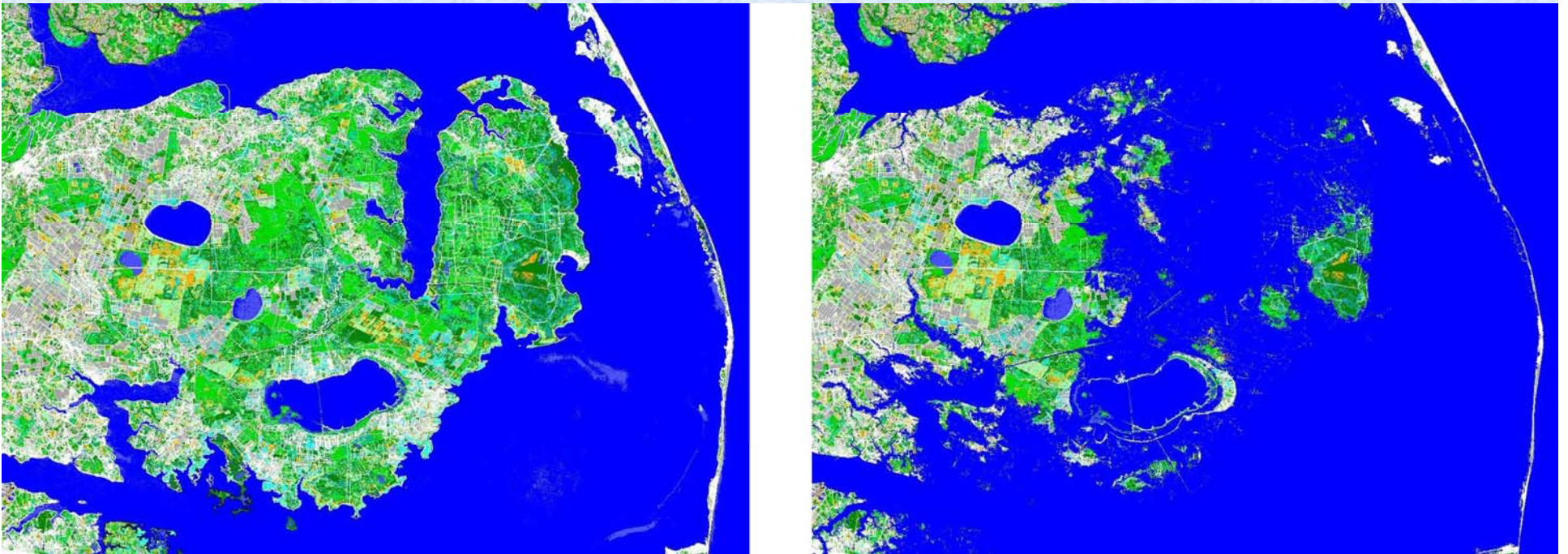
LEGEND

-  Roads leading into this section are private and closed to the general public. Public access is by water only.
-  Roads open to motorized vehicles.
-  Roads open seasonally to motorized vehicles.
-  Refuge Boundary



North Carolina's Albemarle Peninsula

The two maps below show present conditions on the left and, on the right, the extensive areas that would be flooded by the most conservative projection of 32 inches of sea level rise in the next 100 years.



More than 540,000 acres on the Peninsula are currently under conservation protection . . . & we could lose as much as a million acres to rising seas within the next 100 years. (information from TNC)

Effects of Rising Sea Level



**On Plant Communities &
on Carbon Sequestration
(SPB Kill)**



Adaptive Management Strategies for Climate Change?



Conservation tactics will include:

Hydrologic Restoration: restoring the hydrology and associated wetland systems, primarily through mitigation and management of ditches;

Land Restoration, Reforestation and Shoreline Transition: protecting existing natural habitat, especially inland and upland of current conservation lands in order to facilitate the movement of species as sea level rises; ensuring that shorelines are not subject to hard armoring and supporting living shorelines;

Oyster Reef Restoration: restoring oyster reefs in Pamlico Sound to buffer shorelines from storms and rising seas; and

Measuring and Monitoring Project Impacts on Carbon Sequestration: working with experts, develop strategies for establishing a baseline for soil carbon in the system and monitoring the effects of various management tactics on the gain and loss of soil carbon.

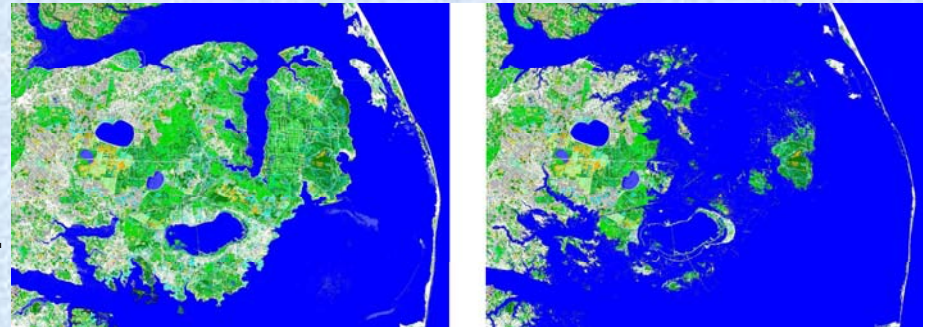
Partners Include:

- North Carolina Chapter of The Nature Conservancy
- North Carolina Coastal Federation



Potential Partners Include:

- North Carolina Wildlife Resources Commission
- North Carolina Department of Natural Resources
- Coastal Counties – Dare, Hyde,
- DoD – Dare County Bombing Range
- Corporations, Private Trusts, NGOs, etc., ..



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