INTRODUCTION

The Chandeleur Islands comprise a 50 km long island chain located South-Southeast of St. Bernard Parish, Louisiana. As part of the Breton National Wildlife Refuge, the islands house many types of vegetation that provide the means for a suitable habitat for many species of wildlife, several of which are threatened and endangered. Over the past 30 years, the Chandeleurs have acted as a prime target for hurricanes that pass through the Gulf of Mexico. The effect of these hurricanes has permanently deteriorated the island’s stability and wildlife population. These barrier islands are also the first line of defense for coastal cities. They protect marshes and estuaries that contribute directly and indirectly to the livelihood of thousands of people along the Louisiana coast. This project looks to assess the impact of hurricanes, tides, cold fronts, and ENSO to aid resource managers in restoration projects that can benefit the islands and minimize loss.

GOALS

- Quantify damage from tropical cyclonic events during the past 30 years
- Measure vegetation/land loss and growth over a 30-year period
- Evaluate land loss trends and correlate trends to weather and sea surface phenomena
- Assess barrier island transgression using MODIS imagery from 2000 to 2009
- Perform accuracy assessment of results
- Contribute to restoration and management efforts

METHODS

**Data Acquisition**
- Landsat 2-4 MSS and Landsat 5 TM. USGS Global Visualization Viewer
- ASTER: Land Processes Distributed Active Archive Center (LP DAAC) using the NASA Warehouse Inventory Search Tool (WIST)
- MODIS: LP DAAC

**Demonstrating Chandeleur Island Transgression**
- Time Series Product Tool (TSPT) processed images were collected daily from 2000-2008. MOD 9 GQ and QA were used to aid in tracking the transgression of the Chandeleur Islands over an 8-year period.

**RESULTS CONTINUED**

The peak NIR reflectance value of each plot indicates the location of the island. From 2000-2008, the southern end of the islands moved 4 pixels, or approximately 1000 m, to the west.

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