

## The analysis of storm impacts on the Hudson estuary and coastal New York Bight using the Hyperspectral Imager for the Coastal Ocean (HICO)

Raymond Sambrotto

Lamont-Doherty Earth Observatory of Columbia University

Access to HICO data is requested by Raymond Sambrotto in support of his current NASA project ("Winter Storm Extremes and Vulnerability Along the Atlantic Coast", Research Opportunities in Space and Earth Science ROSES-2012, NASA grant NNX14AD48G). The overall goals of this project are to assess the environmental and social impacts of powerful winter storms on the New York Bight region. The project includes meteorologists, climate dynamicists, oceanographers and social scientists. The HICO data will be used by R. Sambrotto to record the impact that winter storms have on the coastal waters of New Jersey, New York and Connecticut. The ability to request the collection of new HICO data in this region over the next 2 winters would allow us to collect data at the time of the storm to provide the best analysis of their impacts. The NASA project is already using MODIS data processed at 250 m spatial resolution and the HICO data is expected to provide significantly greater information on the impact of storms to local communities and built infrastructure. The HICO data will be used to estimate some of the existing geophysical parameters from MODIS such as Chl a, suspended sediments and CDOM. It will also be used to investigate the application of more experimental algorithms based on specific wavelengths. This approach is designed to:

- Clarify the impact of storms on various categories of built environments and natural shorelines.
- Separate the role of storms from the background seasonal changes.
- Investigate algorithms for characterizing microbial populations in coastal waters, especially bacterial levels and harmful algal blooms.