



National Center for Coastal Ocean Science  
Center for Human Health Risk at Hollings Marine Laboratory

# A Unique Partnership Providing a Scientific Basis for Sustaining & Protecting Healthy Coastal Ecosystems

The National Center for Coastal Ocean Science's Center for Human Health Risk at Hollings Marine Laboratory (HML) is named after Senator E. Fritz Hollings, in recognition of his commitment to the Nation's coasts and oceans. In 2003 HML became part of the National Oceanic and Atmospheric Administration's (NOAA) National Centers for Coastal Ocean Science (NCCOS).

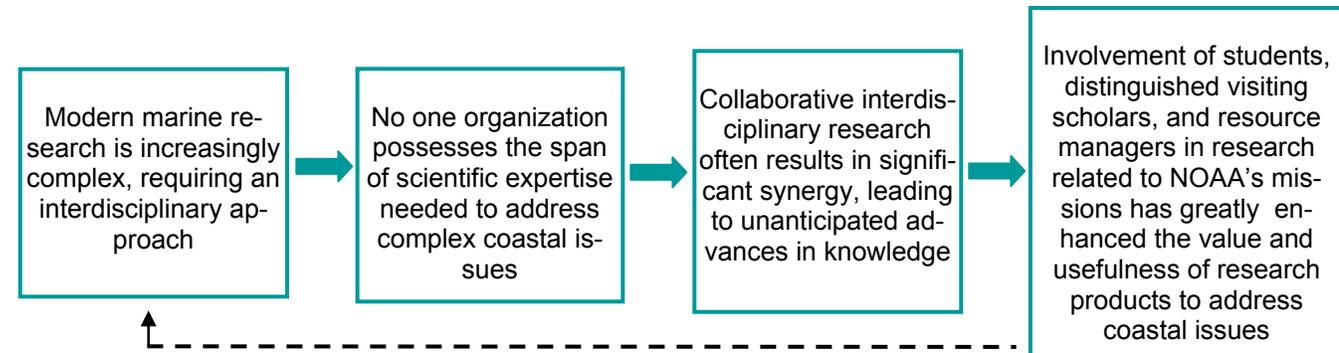
HML is the product of a long-term Joint Project Agreement among the following organizations:

- NOAA
- National Institute of Standards and Technology
- South Carolina Department of Natural Resources
- College of Charleston
- Medical University of South Carolina

This unique collaboration brings together basic, applied and biomedical research expertise to provide support and biotechnology applications to sustain and protect healthy coastal ecosystems, emphasizing linkages between environmental and human health.

## The HML Paradigm

Researchers from all partner institutions work side-by-side, combining expertise to conduct research they could not accomplish otherwise. This work spans from molecules to ecosystems, and the below model demonstrates the process of successful collaboration amongst partners.



## Major Research Themes at Hollings Marine Laboratory

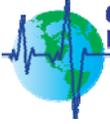
- Ecosystem Health & Well-Being
- Marine Organism Health
- Marine Natural Products

### Core Research Areas:

- Aquaculture
- Chemistry
- Ecological Research, Assessment & Prediction
- Marine Genomics
- Marine Organism Health

## Oceans & Human Health

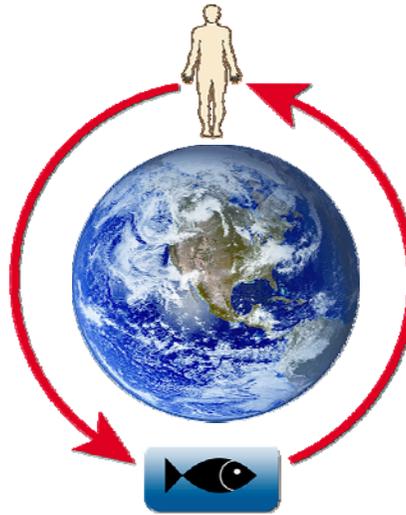
At the Center for Human Health Risk at HML, scientists better address local, regional and national resource management questions by considering human dimension aspects related to



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coastal issues, and developing this information into integrated ecosystem assessments.

As a NOAA Center of Excellence in Ocean and Human Health (OHH), HML develops new methods and approaches to evaluate marine ecosystem health. Researchers also identify and characterize chemical and microbial threats to both marine ecosystems and humans. The OHH research programs work to link coastal development to changes in the environment and surrounding ecosystems. Results are distributed to coastal managers, teachers, university students and citizens of all ages through outreach and education programming.



*NOAA has traditionally looked at how humans affect the condition of the ocean, its habitats and inhabitants. Now, scientists are taking a new look at how the health of our oceans and coasts impacts our own health and well-being. The goal is to understand and predict how the condition of these waters positively or negatively affect human health.*

### ***OHH Integrated Research Includes:***

Applied Marine Genomics  
Chemical Contaminants  
Ecosystem Assessment and Prediction  
Source Tracking of Marine Pathogens

Work within NCCOS includes long-term agreements to partner with the National Estuarine Research Reserves and National Marine Sanctuaries to conduct collaborative ecosystem research. The laboratory is also part of NOAA's Cooperative Center for Marine Animal Health, which is a collaboration between the National Ocean Service and National Marine Fisheries Service.

## World Class Facility

The HML facility is 119,500 square feet that include world class laboratories and technologies unique to NOAA and marine laboratories nationwide.

Special capacities include:

- Marine Biospecimen Bank
- Aquatic Production System
- Nuclear Magnetic Resonance Imaging Facility
- Biological Safety Laboratories
- State of the Art Genomics Technology



## Future Directions

In June 2008, Directors and scientists from the five partner institutions met to recommit to the HML Partnership, acknowledge laboratory accomplishments and agree to a collective future direction. Next steps involve working together to move HML forward collectively while remaining focused on key coastal issues and individual partner missions. As HML science moves toward a better understanding of the relationship among the health of coastal ecosystems, health of marine animals, and human health, the collaboration among interdisciplinary researchers will result in state of the art coastal resource management tools.



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