

NOAA'S Ocean and Human Health Initiative



OCEANS & HUMAN HEALTH INITIATIVE

Healthy Oceans, Healthy People and Healthy Economies



National Oceanic and Atmospheric Administration's (NOAA) Oceans and Human Health Initiative (OHHI) is taking a new look at how the health of our oceans, coasts and Great Lakes impacts our own health and well-being, in the context of existing knowledge of how our activities affect the health of aquatic environments. The goal of the OHHI is to understand and predict how the condition of these waters positively or negatively affect human health. In turn, the OHHI will provide tools, technologies and environmental information to resource and public health managers and the public to maximize health benefits and reduce or eliminate health risks.

Our oceans, coasts and Great Lakes affect every person on the planet no matter where they live. We receive many benefits from the oceans worth billions of dollars from seafood, recreation and transportation industries; harder to measure ecosystem services such as shoreline protection, climate regulation and nutrient recycling; and contributions to our daily aesthetics and cultural heritage. The Great Lakes, one of the largest freshwater sources in the world, supply more than 40 million people with drinking water. Also, the diversity of species found in our oceans offer great promise for a treasure chest of pharmaceuticals and natural products to combat illnesses and improve our quality of life.



Recent discoveries of marine-based pharmaceuticals include pain medication derived from snails, anti-viral drugs from sponges, anti-inflammatory compounds from corals, and anti-cancer agents from marine bacteria.

Yet our oceans can also threaten human health, just as humans can threaten ocean health - the link is inextricable. Over the last several decades our waters have become conduits for environmental threats to human health including infectious diseases, harmful algal toxins and chemical pollutants from eating contaminated seafood or coming into direct contact with polluted drinking waters and recreational beaches. Sentinel species such as whales, dolphins and other marine organisms are becoming ill and dying because of environmental degradation. This can shed light on how the condition of ocean environments could affect people both now and in the future.

Throughout the country thousands of beaches and shellfish beds are closed annually due to the presence of harmful marine organisms, chemical pollutants or algal toxins.



The incidence of infections associated with exposure to contaminated seafood and harmful algal blooms has steadily increased and results in huge public health costs and economic losses to recreational and commercial fisheries.



There is a rise in unusual mortality events among marine mammals and sea turtles.

To tackle these issues, Congress authorized the Oceans and Human Health (OHH) Act of 2004, and directed NOAA as our nation's lead ocean agency, to develop the OHHI and cooperate and coordinate with an interagency OHH effort comprised of the National Science Foundation, National Institute of Environmental Health Sciences and other Federal agencies and departments.



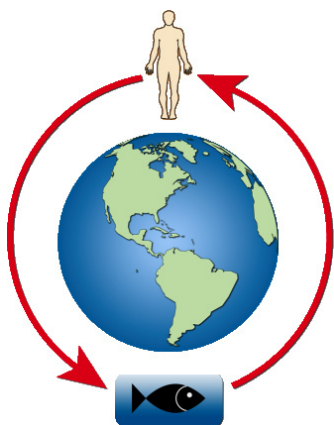
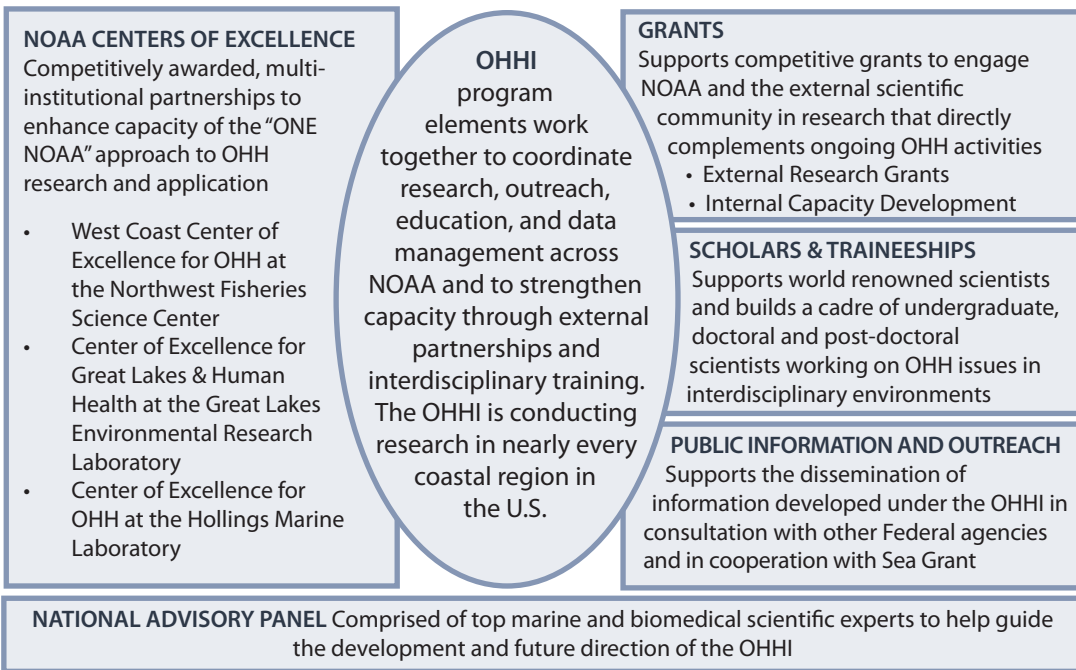
OHHI scientists conduct research that can lead to effective management decisions to reduce threats to human health from diseases, harmful algal blooms, and chemical contaminants in our waters



NOAA's OHHI accelerates the pace of scientific discovery through cross-disciplinary collaboration of ocean, biomedical and public health researchers resulting in rapid application of new findings to protect human health and coastal environments. Through identification of potential health risks and studying sentinel species and habitats, the OHHI develops tools, technologies and environmental information along the spectrum from detection to monitoring to prediction, resulting in a reduction and prevention of coastal and ocean related human health risks. These products and services are transferred to public health and natural resource managers, decision-makers and the public. The OHHI strives to:

- Develop and transfer environmental and public health monitoring and assessment capabilities
- Produce biological and chemical sensors to rapidly measure public health threats and incorporate them into ocean observing systems
- Develop and transfer early warning systems and forecasts for existing and emerging ocean and coastal health risks
- Leverage partnerships to discover and identify marine natural products and pharmaceuticals for human health benefits
- Assess and improve understanding of the comparative risk and benefit of seafood consumption
- Develop biomedical models to assess human health risks
- Coordinate environmental sampling for emergency response to natural disasters

OHHI Program Elements



The OHHI closes the loop on understanding the connections between our ocean, coasts and Great Lakes and our health.

The OHHI Supports NOAA's Mission Goals

To protect, restore and manage the use of coastal and ocean resources through ecosystem-based management; to understand climate variability and change to enhance society's ability to plan and respond; and to serve society's needs for weather and water information.

For more information on NOAA's Oceans and Human Health Initiative please visit:
<http://www.oceanservice.noaa.gov/aaoffice/OHHI/welcome.html> OR call (301)713-0855