

Introductory Remarks
Climate-Sensitive Diseases in the Great Lakes and Oceans: NOAA's
Oceans and Human Health Initiative (OHHI) Session

Tuesday, January 19, 11:00 AM - Noon

The Honorable Dr. Jane Lubchenco, Under Secretary of Commerce for
Oceans and Atmosphere and NOAA Administrator

On behalf of the Secretary of Commerce Gary Locke, I am delighted to be here as Administrator of the National Oceanic and Atmospheric Administration and the Under Secretary of Commerce. Thank you to the conference organizers, and especially Wendy Thomas who invited NOAA to participate in the first Environment and Health Symposium.

The focus of today's session is work within NOAA's Oceans and Human Health Initiative as it relates to Climate-Sensitive Diseases in the Great Lakes and Ocean, and the challenges we will be facing in the not-too-distant future as a result of global climate change. These challenges will require integration across the atmospheric and oceanic sciences if we are to address current and emerging public health issues and meet new demands.

Increasingly and in light of changing climate, the health of people is intimately tied to the health of the environment. The most obvious examples are extreme weather events, heat waves, hurricanes, storms, flooding and tsunamis.

But our oceans harbor public health threats beyond that of tsunamis. If our ocean is not healthy and resilient, then the benefits we receive from oceans are

at risk, and some of those benefits affect our directly. Healthy oceans can sequester and detoxify pollutants and they are more likely to keep outbreaks of pests, pathogens and diseases in check. Moreover, oceans undoubtedly harbor significant useful medicines and other compounds.

This simple diagram illustrates the intersection among environmental (or ecosystem) health, animal health, and human health. The human and ecological systems are intimately connected – humans are a part of ecosystems. They contribute to changes in ecosystems and they are affected by these and other changes. Currently NOAA and CDC are developing a Memorandum of Understanding (MOU) to pursue greater mutual understanding of these intersections, A ONE HEALTH approach, among our collaborative work with other federal agencies.

Climate-related changes in ocean currents, temperature, upwelling, precipitation patterns, and ocean acidification are likely to increase climate-sensitive diseases in the Great Lakes and ocean. Waterborne and vector-borne diseases that could arise from coastal waters include increases in pathogens such as *Vibrios* that affect seafood safety, or *Vibrio cholerae*, zoonotics (diseases transferred from animals to people) and exposure to toxins produced by harmful algal blooms (HABs) that in turn can inflict serious ocean/public health and economic consequences. Climate-induced changes could also influence the

bioaccumulation, transfer and movements of contaminants in coastal ecosystems and food webs.

NOAA, along with other world leaders can begin to meet this challenge by developing Health Early Warning Systems (HEWS) that integrate public health, marine animal health, ocean and coastal monitoring and observations, and other key elements to predict health risks. The HEWS goal is to provide enough lead time to respond to immediate threats, and to inform adaptation options at longer time scales, such as social, political, and institutional changes. Climate forecasts and other products from the climate community including NOAA are critical components in a variety of early warning systems.

Our country also needs authoritative Climate Services – like our Weather Service and Ocean Service – that can provide the clear, objective, science-based information, services, products, and tools that policy and decision-makers and the public need to make rational decisions in an all too rapidly changing and confusing world. NOAA is working hard to develop its Climate Service. We have the expertise, the local to global observations of both atmosphere and ocean, the modeling and predictive expertise, and the commitment – and we look forward to assisting the nation in this endeavor, in partnership with other agencies.

TODAYS' speakers represent work supported by the Oceans and Human Health Initiative, which has strong Centers of Excellence in OHH within NOAA but also

many academic partners. The presentations include just a few examples of the latest science on new findings on climate-sensitive diseases such as tracking vibrios in coastal waters, and how climate change may influence harmful algal blooms and the toxins they produce.

But let me end with our commitment and interest to continue to work with our international community, partners like AMS, WHO, WMO, FAO, GEOSS and a multitude of federal agencies, to help bridge the gap between connecting climate, climate change and variability, ocean science and health. Thank you.