

What does...

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**A bottlenose dolphin with a fungal
Infection off San Diego California**

**Cruise ship passengers in Alaska
with diarrhea from eating oysters**

**Robins in the Midwest,
infected with West Nile virus**



**A red tide that killed 150 manatees
and closed beaches in Florida**



**Storm surge from Hurricane *Katrina*
breaching New Orleans levees and
increased mental illness**

...have in common?



A rare but life-threatening tropical fungus that causes lung infections in both people and animals has been seen **in the Pacific Northwest** and could spread, researchers are reporting. The fungus, known as *Cryptococcus gattii* (or *C. gattii*), has infected dozens of humans and animals--including cats, dogs, and dolphins--in Washington and Oregon in the past [2010] five years.

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September 6, 2012, 1:28 pm [3 Comments](#)

The Baffling Nexus of Climate Change and Health

By [DYLAN WALSH](#)

Vibrio parahaemolyticus, a gram-negative, halophilic bacterium that inhabits warm estuarine waters worldwide, is the most common cause of seafood-associated bacterial gastroenteritis in the United States. The most common vehicle for this infection in the United States is the consumption of raw or improperly cooked oysters. **Before the summer of 2004, Alaskan waters were thought to be too cold to support levels of *V. parahaemolyticus* high enough to cause disease.**



From the One Health Home page...

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Established Dec 1 2010



One Health Initiative will unite human and veterinary medicine

The One Health Initiative is a movement to forge co-equal, all inclusive collaborations between physicians, osteopaths, veterinarians, dentists, nurses and other scientific-health and environmentally related disciplines

<http://www.onehealthinitiative.com/index.php>



, including the American Medical Association, American Veterinary Medical Association, the American Society of Tropical Medicine and Hygiene, the Centers for Disease Control and Prevention (CDC), the United States Department of Agriculture (USDA), and the U.S. National Environmental Health Association (NEHA). Additionally, more than 600 prominent scientists, physicians and veterinarians worldwide have endorsed the initiative.

<http://www.onehealthinitiative.com/index.php>

One Health Mission statement



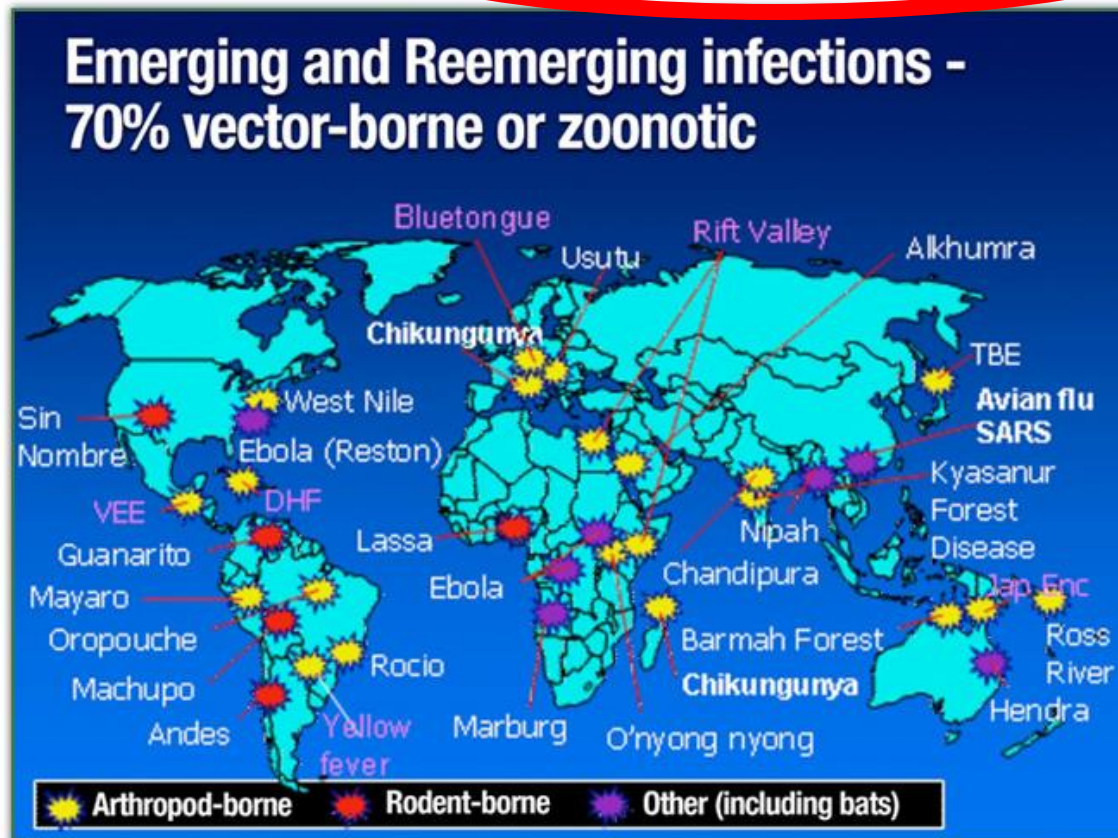
Recognizing that human health (including mental health via the human-animal bond phenomenon), animal health, and ecosystem health are inextricably linked, One Health seeks to promote, improve, and defend the health and well-being of all species by ***enhancing cooperation and collaboration between physicians, veterinarians, other scientific health and environmental professionals*** and by promoting strengths in leadership and management to achieve these goals.

Vision Statement:

One Health (formerly called One Medicine)

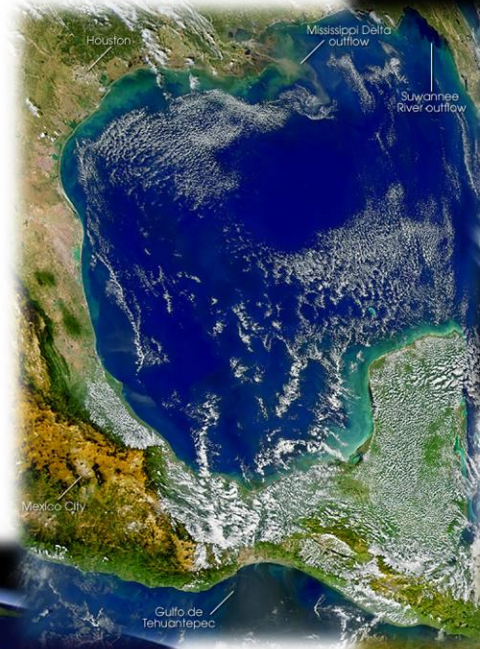
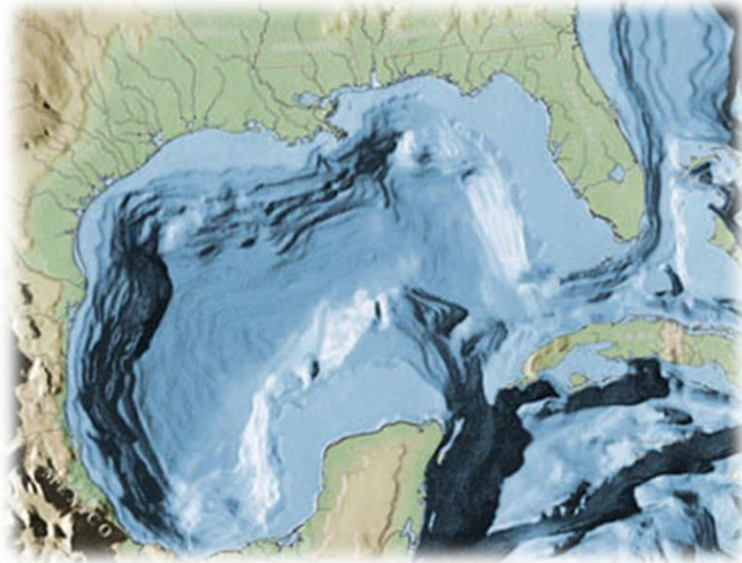
is dedicated to improving the lives of all species—human and animal—through the integration of human medicine, veterinary medicine and environmental science.

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What if we used the Gulf of Mexico as the means to fully realize the one health concept?

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What if we used the Gulf of Mexico as the means to fully realize the one health concept?

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RESTORE LEGISLATION

Provides for establishment of
Centers of Excellence in each state

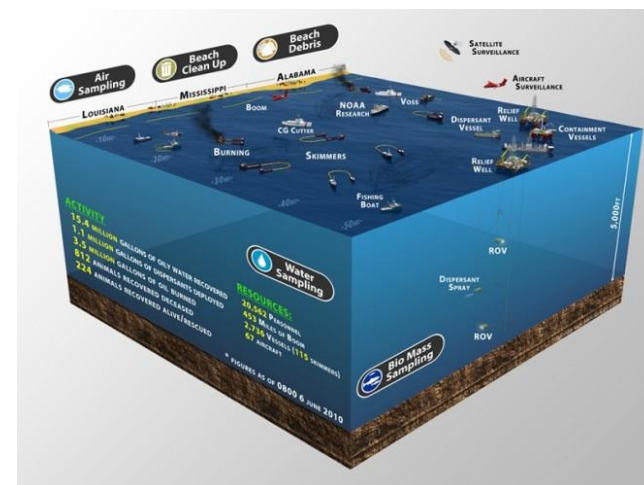
TEXAS ONEGULF

A TAMU System Consortium Proposal
Chancellor Sharpe has presented to the
Governor. The first and only proposal on record



ONE HEALTH is the collaborative effort of multiple health science professions, together with their related disciplines and institutions – working locally, nationally, and globally – to attain optimal health for people, domestic animals, wildlife, plants, and our environment.

TEXAS ONEGULF would be the first attempt to bring the “environment” fully into the one health concept, specifically the marine environment. The one health concept has been predominantly medically focused. Our proposal would be the first attempt to fully realize the one health concept

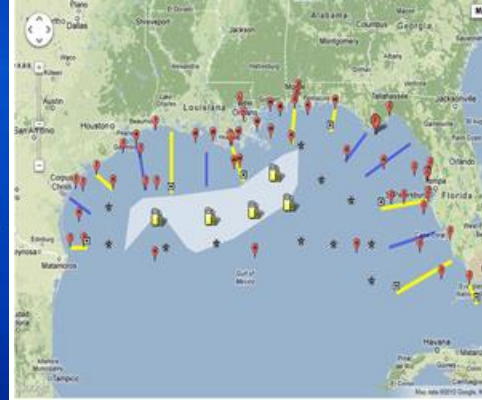
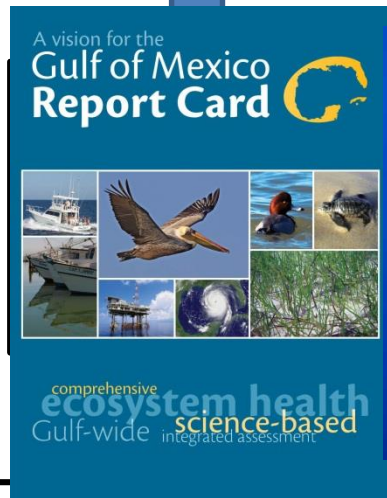


A concept
the health
economy



Data and information syn
together. Additional activity
differ from NSF funde

Component
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this



Human Health and Well-Being

One Health, is a concept that seeks to break down the cultural isolation between the professional health disciplines and ecosystem sciences while elucidating associated socioeconomic and political factors involved in global public health issues. All components under OneGulf must inform human health and well being. Examples

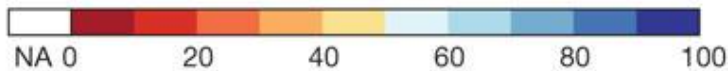
- Increasing number of harmful algal blooms (red tide) translates into greater rates of respiratory problems and decreased economic activity in beach areas.
- Continued loss of coastal wetlands increases potential for storm surge damage and higher insurance rates
- Higher concentrations of heavy metals (like mercury) in pelagic fish has economic impacts to fisheries and potential health risks to people.

An index to assess the health and benefits of the global ocean

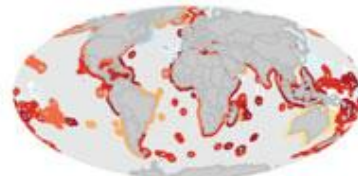
B.S. Halpern, et al

Nature 488, 615–620 (30 August 2012)

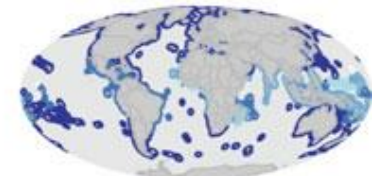
Index



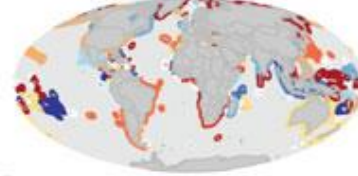
Food provision



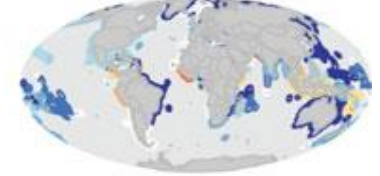
Artisanal fishing opportunity



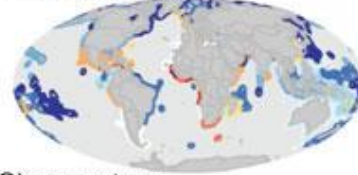
Natural products



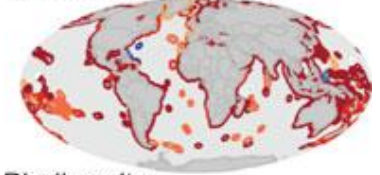
Carbon storage



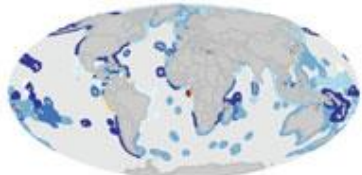
Coastal protection



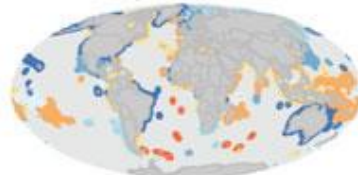
Tourism and recreation



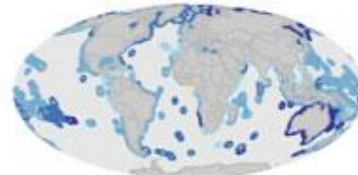
Coastal livelihoods and economies



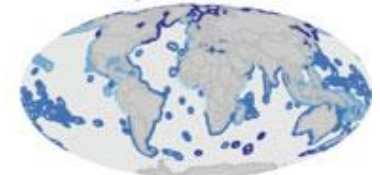
Sense of place



Clean waters



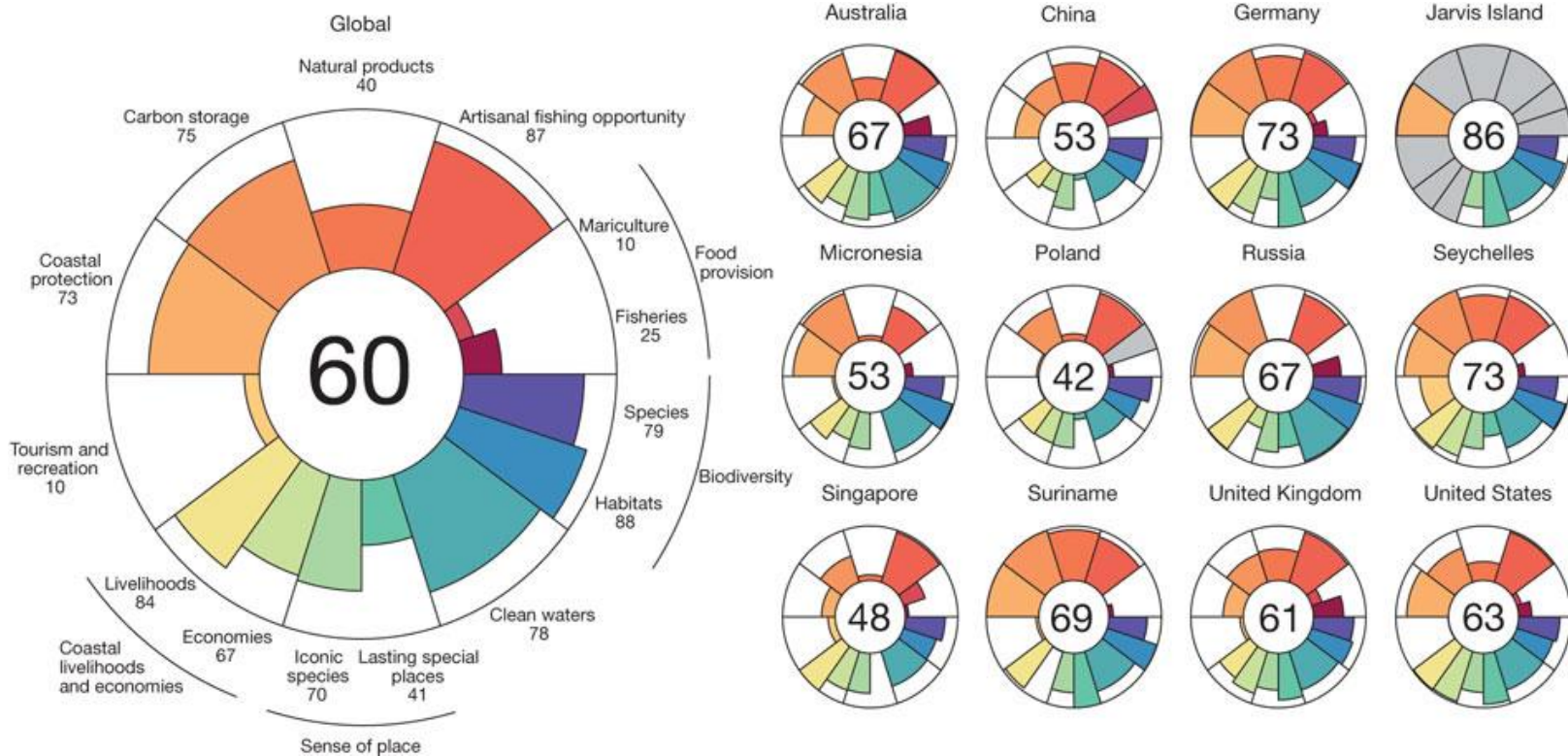
Biodiversity



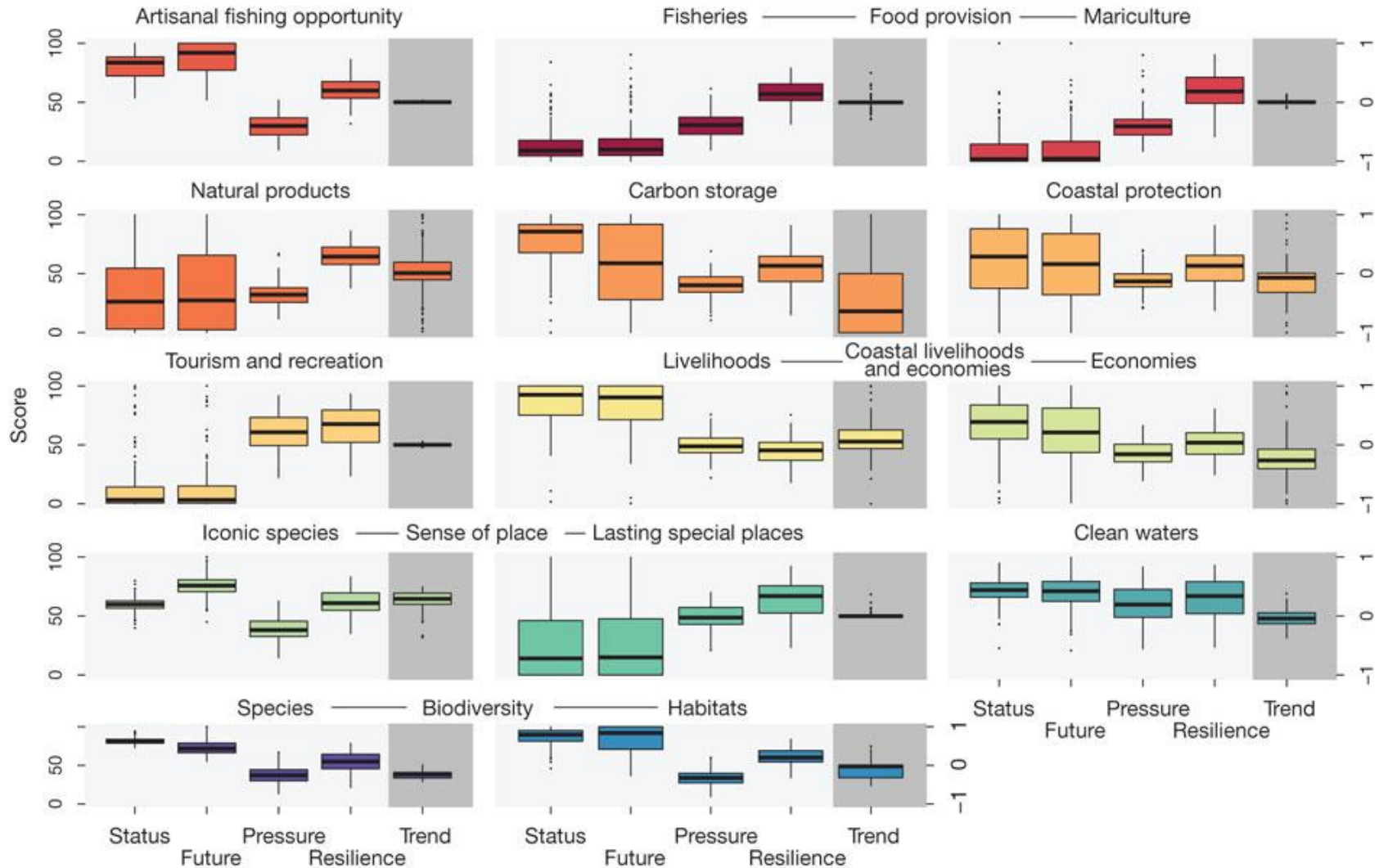
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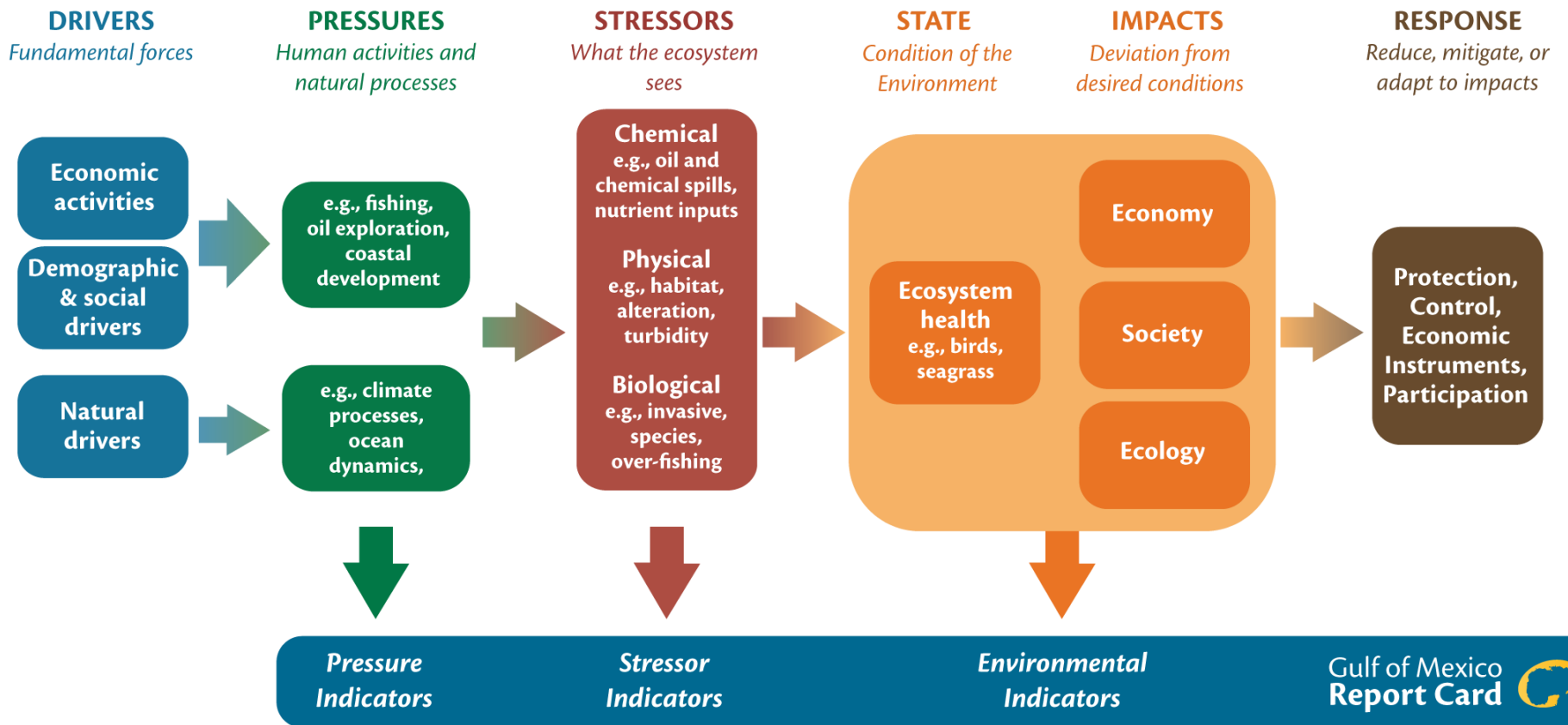
Nature 488, 615–620 (30 August 2012)



Box and whisker plots for status, likely future state, pressures, resilience (light grey area), and trend (dark grey area) for country-level scores for each goal and sub-goal.



The Report Card foundation is a science-based conceptual framework **HRI**



**If you do not know where you came from,
or where you are...**

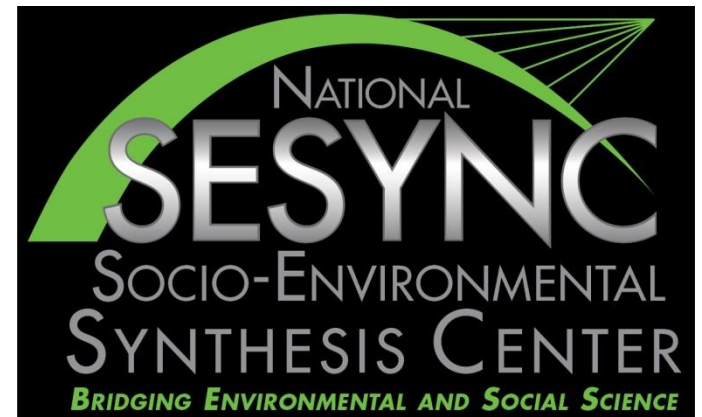
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**... how will you know where you are
headed and when you arrive?**

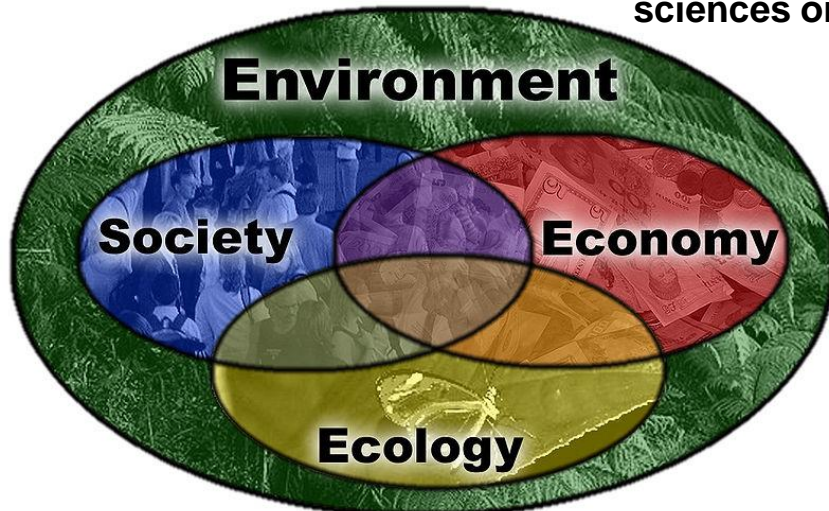
NSF Grant Launches Center for Synthesizing Environmental and Related Research Results

To help identify solutions for today's most pressing environmental challenges, the National Science Foundation (NSF) recently funded a national synthesis center in Annapolis, Md., through a \$27.5 million award to the University of Maryland.



http://www.nsf.gov/news/news_summ.jsp?cntn_id=121229

The center is the newest in a series of synthesis centers--centers that bring together and meld research from many disciplines of science--funded by NSF over the last 15 years. It is the first of these centers to integrate the natural sciences and social sciences, previous centers focused on natural sciences only.



The National Socio-Environmental Synthesis Center, known as SESYNC, will be home to research on such issues as water availability, sustainable food production, and the interaction between human activities and ecosystem health.

http://www.nsf.gov/news/news_summ.jsp?cntn_id=121229

Why a Synthesis and Solutions Center for the Gulf of Mexico?



The Gulf of Mexico is a complex large marine ecosystem, whose health and productivity is vital to the energy and environmental security of the United States and the region.

- **Maintaining the balance between a healthy environment and a healthy economy is essential to a sustainable future for the Gulf of Mexico.**
- **The Gulf faces many environmental challenges to assure its continued health and productivity.**



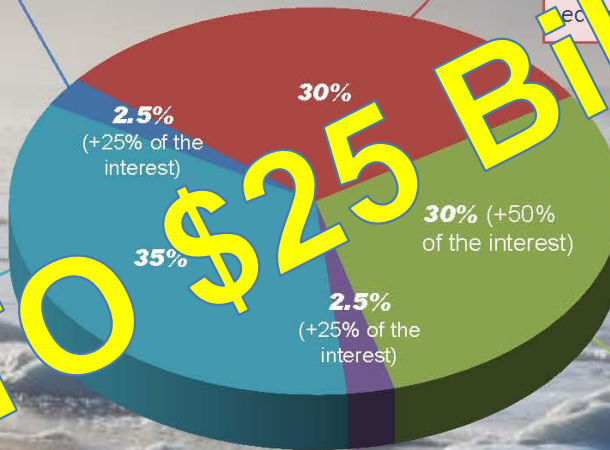
Because of its complexity, environmental problem solving here requires multidisciplinary synthesis across the biological sciences, computational sciences, geosciences, social sciences and economics, engineering, and educational research

What will the RESTORE Act do?

Establish Five “Centers of Excellence” for Gulf Coast Research. One **Center of Excellence** will be established in each Gulf state to further Gulf Coast science, monitoring, and technology. The Centers will be housed by nongovernmental organizations, consortia, or universities.

Give Money to States Based on Spill Impacts. Almost one-third of the funds will be divided between Gulf states **according to how severely each state was impacted by the oil spill**. In order to receive funds, states must develop funding plans listing the projects that will receive grants. State plans may include both environmental and economic recovery projects.

Give Money to States in Equal Shares for Local Recovery. Just over one-third of the funds **will go directly to the five Gulf states**, in equal shares, to be used for ecological and economic restoration. States can only use the funds for specific purposes, including restoration of natural resources, workforce development, job creation, tourism promotion, promotion of Gulf seafood, and flood protection. Each state will be required to develop a science-based implementation plan that describes how selected projects meet the goals of the RESTORE Act.



Give Money to an Interstate “Restoration Council” for Local and Interstate Recovery. The RESTORE Act will create a **Gulf Coast Ecosystem Restoration Council**, whose members will be federal officials and the Gulf state governors. The Council’s funds will go toward developing and implementing a science-based plan, which can only include projects to restore and protect natural resources.

Fund Long-Term Monitoring of Gulf Fisheries. The Act establishes a **Restoration Science Program** to fund monitoring efforts to ensure the long-term sustainability of Gulf fisheries.