



Social Science Community Newsletter

Volume 7, April 2016 ~ Sharing knowledge for better practices

The New Blue Economy is becoming big business. High-tech enterprises like the manufacture of marine observational instruments, software development, and digital marine logistics constitute an emerging New Blue Economy. Much of this activity supports the collection of data on the ocean environment but the data itself also has great economic value. In the recently published IOOS Ocean Enterprise Report, Dr. Richard Spinrad, Chief Scientist at NOAA, explained, *“We are on the cusp of a new Blue Economy — the sustainable growth of existing ocean uses and the emergence of entirely new economic opportunities associated with our oceans, coasts and Great Lakes. Ocean information underpins this rapidly developing Blue Economy and it’s becoming a big business in its own right.”*¹

New Blue Economy supports traditional ocean economy activities like marine construction, living resources, offshore mineral extraction, ship and boat building, tourism and recreation, and marine transportation. This sector also helps to make existing ocean-dependent activities more resilient and sustainable.

As NOAA explores and directly contributes to these emerging sectors we are faced with the following question: How can we establish a clearer, more strategic direction for spurring innovation in the ocean economy?

NOAA is working with the private sector to develop a more comprehensive definition of the New Blue Economy and identify NOAA’s role within that economy. In 2015, leaders across NOAA gathered for an informal workshop. Together, they identified growing trends and methods to encourage public/private partnerships. Notable examples include working together to support:

- [Aquaculture](#) and [offshore energy](#), including renewables.
- Increasing data availability, integration, and product development to provide the raw materials for value creation in the Blue Economy (e.g. [Roffers Ocean Fishing Forecast Service](#)).
- “Tools for rules” or products developed to help the public participate and comply with the regulatory process, and technologies to measure impacts from emerging ocean uses (e.g. [seabed mining](#)).
- Connection to the private sector’s needs and to improve the discoverability of NOAA’s vast data sets and world-class predictive products and services (e.g. [Harmful Algal Bloom Forecasts](#)).

New Blue Economy is an integral part of all economic activity in our oceans, building on the principles of resilience and sustainability. NOAA provides data that is component of this economy. The private sector can take information that NOAA provides and create value-added services that increase the value of data to society. Whether it’s using satellite forecasts for fishing spots or renewable [wave energy](#), New Blue Economy has endless opportunities to bolster the mainstays in the US economy.



IOOS Ocean Enterprise Report

Ocean Enterprise consists of businesses that are backing ocean measurement, observation and forecasting. The Integrated Observing Ocean System (IOOS) released their ocean Enterprise report in February 2016. The purpose of the report was to better understand “...the scale and scope of Ocean Enterprise, raising its profile and visibility, and supporting better understanding of future growth opportunities”.¹

As Blue Economy continues growing, so will the use of data and information to assist these industries. The report is a significant bench mark that will assist the U.S. in being a leader in this field. The report can be found [here](#).

Upcoming Events



[An Overview of Social Science Research within the National Centers for Coastal Ocean Science](#). May 5, 2016. NOAA, Silver Spring, MD.

[Understanding Marine Socio-ecological Ecosystems](#). May 30-June 3, 2016. Brest, France.

[Society for Applied Anthropology Annual Meeting](#). March 29-April 2, 2016. Vancouver, Canada.

[Gulf of Mexico Climate Outreach Community of Practice Meeting](#). April 19-21, 2016. Biloxi, MS.

[Southeast and Caribbean Climate Community of Practice Workshop](#). April 13-15, 2016 in Tybee Island, GA

Tracking the Health of U.S. Coral Reefs and Dependent Coastal Communities

The National Coral Reef Monitoring Program (NCRMP) is an ongoing monitoring effort focused on tracking the health of US coral reefs and the well-being of the coastal communities' dependent upon these coral reefs. The socioeconomic component of NCRMP gathers and monitors a collection of socioeconomic variables, including demographics in coral reef areas, human use of coral reef resources, as well as knowledge, attitudes, and perceptions of coral reefs. It also tracks relevant information regarding each jurisdiction's population, social and economic structure, the impacts of society on coral reefs, and the impacts of coral management on communities. Surveys of adult residents are administered every 5-7 years in each jurisdiction. Secondary data from sources like the US Census Bureau and jurisdiction governments are regularly compiled. These data streams are used together to monitor changes over time.



Photo Credit: Jarrod Loerzel, Location: Hawaii

Monitoring surveys were administered in South Florida, American Samoa, Hawaii, and Puerto Rico. Monitoring is underway in Guam and the Northern Mariana Islands, and will take place in the US Virgin Islands in 2017. Results indicate that residents have an above average support for various coral reef management initiatives, an above average familiarity with threats posed to coral reefs, and a relatively negative perception of the change in the condition of marine resources over the last decade. Consistent relationships were also observed between several variables. For example, residents with more education tend to have a more negative perception concerning marine resource condition, more familiarity with threats posed to coral reefs and more support for coral reef management initiatives. Those who fish for the purpose of selling their catch have a more negative opinion relating to marine protected areas (MPAs).



Photo Credit: NOAA CCMA Biogeography Team
Location: US Virgin Islands

Results also highlight cultural differences between the Pacific (American Samoa and Hawaii) and Atlantic/Caribbean (South Florida and Puerto Rico) coastal populations. Pacific respondents are more likely to participate in more marine activities (i.e. fishing, gathering, swimming, and diving), rely more on the extraction of marine resources, participate in pro-environmental behavior, and consume seafood more frequently when compared to their Atlantic/Caribbean counterparts.

This work improves environmental education and outreach efforts through various products, including Infographics. Infographics based on survey results of coastal residents are now available for South Florida and American Samoa, while the creation of infographics featuring Hawaii and Puerto Rico's survey results are currently underway. Among other things, these infographics highlight how coastal residents are obtaining their information concerning their coral reefs, the degree to which they trust their coral information sources, as well as resident perception concerning the condition of marine resources and the types of marine activities these coastal residents participate in.

Infographics for South Florida and American Samoa can be seen at: <http://coastalscience.noaa.gov/news/ecosystem-management/coral/new-infographics-highlight-socioeconomics-of-coral-reef-jurisdictions-in-american-samoa-and-florida/>

For more information about this research please visit <http://www.coris.noaa.gov/monitoring/socioeconomic.html> or contact Maria Dillard at maria.dillard@noaa.gov

Did you know?
Coral reefs are among the most valuable ecosystems on earth, providing people with goods and services that include food, storm protection, and recreational opportunities.⁴

What is the Value of Information?

Farmers using satellite technology to grow crops? No, this isn't science fiction. It's yesterday's news.

NOAA satellites supply data for weather forecasts that farmers use to prevent unnecessary irrigation and decrease the use of water and the electricity that operates the pumps. Other data from NOAA satellites allow farmers to implement precision fertilization techniques that place fertilizer only where it's needed. This saves the farmers money, increases productivity and saves environmental resources.

This example shows the true value of information—information has value when it's used to improve a societal outcome (e.g., reducing costs, increasing productivity, and improving human health and safety). As one researcher put it, *“(t)he ...value of ...information is effectively zero until the information is used productively in an application that actually brings economic benefit to an end user.”*²

At the Value of Information (VOI) Workshop held on March 3, 2016, attendees from NOAA and the U.S. Geological Survey discussed key practices, real-life examples and ideas to measure the value of information to end users. The interagency workshop provided a venue for economists and other social scientists to speak with representatives from the satellite operations community, program managers, and the non-governmental sectors about the societal value of data collected through satellites and Earth-based sensors.

Mark Seiler, Chief Financial Officer at NOAA, kicked off the workshop by asking, “how do we value these scientific observations?” He explained that this is an important question as funding becomes more scarce and the need to justify financial investment to Congress and the public increases. Because of the diversity of the audience, the discussions were rich with different points of view and insights. As a result, a clearer and stronger justification for the value of information was created.

Overall, the need to create and use the same terminology when discussing the value of information was stressed throughout the workshop. The workshop examined two needs specifically: programmatic and methodological. Satellite program managers need to connect scientists to user communities and effectively track who is downloading data and how they're using it? In addition, it's important to value improved risk communication because in the end it saves lives.

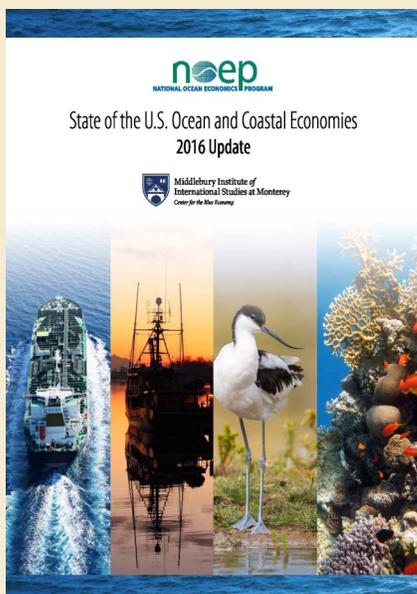
Conversations about economic methods emphasized the demand for consistent practice. Examples include creating a template that allows all studies to start from the same point and defining parameters for studies. Participants also valued cross agency partnerships and the shared services approach. A great example of methodologic need was incremental value, for instance, if the warnings came quicker, would that be the difference between packing up the fine China versus sheltering in place?

The workshop was comprised of different professions, employers, and experiences, but the end vision was the same. At the conclusion of the workshop, attendees expressed an interest in creating a community of practice and ongoing collaboration. Sometimes you just need to start with a conversation. For more information on the value of information and community of practice, contact Tracy Rouleau, tracy.rouleau@noaa.gov.

*“(t)he ...value of ...information is effectively zero until the information is used productively in an application that actually brings economic benefit to an end user.”*²



Are the economy and climate on a collision course?



U.S. populations are shifting towards major cities in coastal regions. Data released by the National Ocean Economic Program (NOEP) suggests that the largest ocean and coastal economic growth will occur on a narrow band of coastal lands. These same lands are vulnerable to climate change and the rising sea level. As the economy strengthens from these regions, these places must deal with the impacts of accelerating global change.

The Ocean Economy Coincident Index, a new tool used by NOEP, calculated ocean-related economy will likely outpace the national economy. With the rapid changes in the global environment, it has been difficult for Federal efforts to keep pace. Jason Scorse, Director of Center for the Blue Economy, underscored the imminent threat, "Something has to change. We have to be much more proactive about rethinking our relationship with the coasts if these engines of growth are going to continue to thrive. If not, America is in big trouble".³

For more information on the state of U.S. ocean and coastal economies, you can read the report [here](#).

Did you know?

BOEM and NOAA have a joint initiative that provides authoritative data to meet the needs of offshore energy and fishing communities.
Marinecadastre.gov

References

1. http://www.ioos.noaa.gov/ioos_in_action/ocean_enterprise_study.html
2. <http://www.oceaneconomics.org/Download/>
3. <http://centerfortheblueeconomy.org/2016-noep-report>
4. http://www.coris.noaa.gov/monitoring/resources/Fact_Sheet_20140812_FINAL.pdf

Recent news and publications in Social Science

- * [Relationship-scale conservation](#)
Wiley Online Library. Brooks et al. 2014
- * [Identifying Priorities for Adaptation Planning: An Integrated Vulnerability Assessment for the Town of Oxford and Talbot County, Maryland](#) NOAA NOS National Centers for Coastal Ocean Science, January, 2016.
- * [Understanding vulnerability in Alaska Fishing communities: A validation methodology for rapid assessment of indices related to well-being.](#)
Ocean & Coastal Management. Himes-Cornell et al. 2016
- * [Cooperative Research and Cooperative Management: A Review with Recommendations](#) NOAA National Marine Fisheries Service, NOAA Technical Memorandum, August 2015.
- * [Characterizing Participation in Non-Commercial Fishing and other Shore-based Recreational Activities on St. Croix, U.S. Virgin Islands](#) NOAA NOS National Centers for Coastal Ocean Science, January, 2016.
- * [Environmental attitudes in the aftermath of the Gulf Oil Spill](#) Ocean & Coastal Management. Farrow et al. 2015.
- * [Perceived Adaptive Capacity and Aspects of Impact and Recovery among Commercial and For-Hire Fishermen from New York and New Jersey One Year after Hurricane Sandy](#) Global Environmental Change. Clay et al. 2016



We would like your input. Please send us ideas for stories, articles, or social science work that we should highlight. You can contact us at: ppi.socsci@noaa.gov