



Promoting BlueTech
and Blue Jobs®

How do we promote the **Blue Economy** if we don't know how big it is?

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Michael B. Jones – President mbjones@themaritimealliance.org

www.themaritimealliance.org



Promoting BlueTech
and Blue Jobs®

Premise: Maritime Technology innovation is critical

Our position:

- Understanding the size of the **Blue Economy** & **BlueTech** are critical for the country
- Regional **BlueTech** clusters are critical to maritime innovation
- Creating regional and a national **Blue Voice** are critical for promoting sustainable, science-based ocean industries & creation of many good paying **Blue Jobs**

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Definitions

Maritime technology – all high-tech maritime products and services

Blue Economy – the sum of economic activity having to do with coastal and intra-coastal waters, harbors, oceans, rivers, seas and fresh water resources

Blue Jobs – all employment created by the **Blue Economy**

Blue Tech – innovation of technology in the maritime domain and related to fresh water resources

NOTES:

- 1) Hard to draw the line between **Blue Jobs** and **Blue Tech** Jobs... "I'll know it when I see it"
- 2) We include desalination & clean water related technologies in **Blue Tech**



1. Creating a **Blue Voice** & size of the **Blue Economy**

Ocean development is very different than development on land

- *Production methods/needs are different (pressure, remoteness, salt, etc.)*
- *Ocean is 3 dimensional and always changing (a challenge for MSP)*
 - *Out-of-sight, out-of-mind for land dwellers...and ocean science folks live in their own world*
 - *Need to promote collaboration & minimize competition among areas*
- *No way to gather national data – trying to change NAICS system for NAFTA*
- *Must gather data on a regional / cluster level to understand / validate national data including direct revenue & jobs, multiplier effect and areas of opportunity*
- *Case Study: the U.S. and NAFTA*

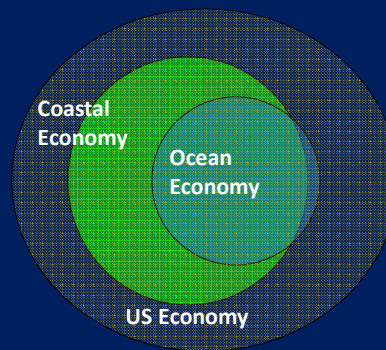
The Coastal and Ocean Economies Compared to the U.S. Economy (NOAA info)

National GDP > \$14 trillion

Coastal GDP ~ \$6.6 trillion

Ocean GDP ~ \$300 billion

Economic Activities Using Ocean Resources as an Input



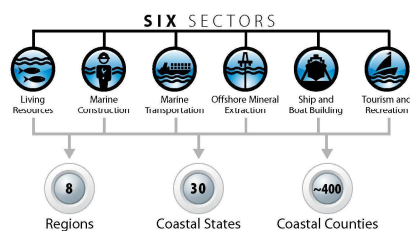
Courtesy of NOAA Coastal Service Center, Charleston, SC



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Economics: National Ocean Watch (ENOW)

What is the Ocean and Great Lakes Economy?



www.csc.noaa.gov/enow

2005 – 2011



NOAA Coastal Services Center

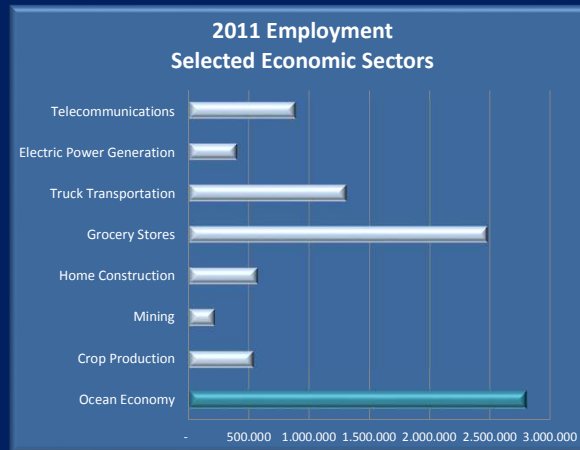
LINKING PEOPLE, INFORMATION, AND TECHNOLOGY

Courtesy of NOAA Coastal Service Center, Charleston, SC



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Relative Size of the U.S. Ocean Economy



Courtesy of NOAA Coastal Service Center, Charleston, SC



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2. The importance of **Blue Clusters** – Case Study San Diego

A critical role is developing a **Blue Voice** in a region (hard to do!)

The **TMA Foundation** (501c3) tag line is “Fostering Innovation through Collaboration”.

TMA (501c6) is the organizer of the SD **BlueTech** cluster. It’s tag line is “Promoting **BlueTech** & **Blue Jobs**”.

Common Mission to promote the creation of **sustainable, science-based ocean and water industries** representing a balance of conservation and economic development.

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2. The importance of **Blue Clusters** – 2 Boards in SD

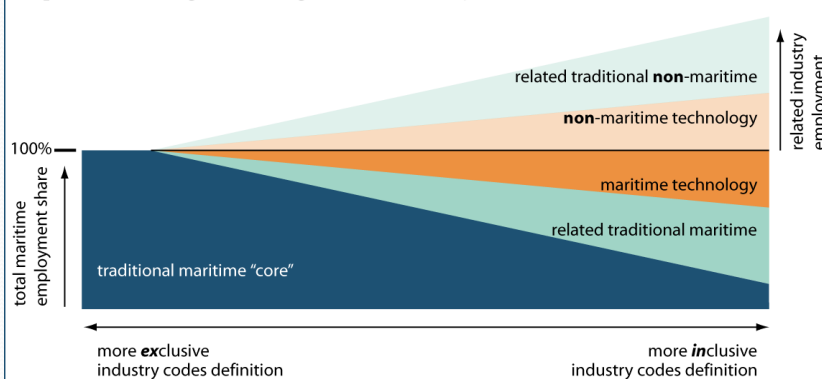
1. **The Maritime Alliance Foundation**, a 501(c)(3) Public Benefit Corp.:

- *Founded 2013 - Areas of focus:*
 - *workforce development (including OceanSTEM & veteran transition);*
 - *research (including Industry Data, Market Research & Academic Work); and*
 - *community outreach/support & research*
- *Funding from Foundations, grants, research work and special projects*

2. **The Maritime Alliance**, a 501(c)(6) Mutual Benefit Corporation:

- *Founded 2007 - Areas of focus:*
 - *economic development;*
 - *business ecosystem development; and*
 - *outreach domestically & internationally*
- *Funding from memberships, grants, conferences and special projects*

Graphic 1. Visualizing the San Diego Maritime Industry



note: Selected codes came from a variety of sources, described below. The assignment of industry codes as tech / non-tech, as well as to sub-clusters was conducted by ERISS, which bears sole responsibility for them.

source: ERISS; World Trade Center San Diego, *Maritime Economic Impact and Cluster Analysis*; The Maritime Alliance; Info-USA; Dun and Bradstreet; CorporateWiki.



2. The importance of Blue Clusters – Blue Jobs in San Diego (Sept. 2011)

- **San Diego Maritime Industry Report 2012 (San Diego, July 2012)***
 - 1,431 companies and organizations (200+ NAICS codes)
 - 700+ self-report maritime focus (350+ report over 75%)
 - 45,778 jobs and \$14 billion+ annual direct sales only
 - Maritime technology industries (as a sub-group):
 - Fastest growing segment with 18,948 jobs
 - \$6.2 billion annual revenue



“SD’s Maritime Industry Cluster, and its functional sub-set, the maritime technology or **“Blue Tech”** industry set, create one of the most unique regional economies in the world...Current industry codes and official occupational classifications are generally ill-suited to fully capturing the uniqueness of the SD maritime cluster and, especially, **Blue Tech.**” (p. 4).

* Sponsored by San Diego Workforce Partnership, San Diego Regional EDC and **The Maritime Alliance**

Understanding the **Blue Economy** is Critical to Promote Sustainable, Science-Based Ocean Industries

RESEARCH is one of three areas of focus for TMA Foundation. There is a dearth of economic data on the **Blue Economy** in the U.S. and worldwide. TMA Foundation is helping fill the gap by developing ground-breaking reports with partners. The following reports are available in part or in their entirety (depending on the report) on the website or to our members. **We are looking for partners for a series of additional studies.**

San Diego Maritime Industry Report 2012
 This report was the first-of-its-kind for the U.S. and believed to be the only comprehensive survey on the entire Maritime Industry – including **BlueTech** – for any region in the nation. The survey found 46,000 direct jobs and more than \$14 billion revenue (2011). When studied, indirect and induced jobs will add considerably to the job count and revenue.

San Diego Maritime Cluster Study 2012: Summary of Survey Results
 This summary report details the findings of the San Diego maritime business survey conducted by ERISS Corp. for the subsequent industry report. The report provides an overview and description of the answers to the individual questions from both telephone and online surveys.

Marine Spatial Planning in San Diego & Stakeholder Overview
 A March 2014 research project of the UCSD School of International Relations and Pacific Studies (IRPS) commissioned by TMA Foundation. It showed broad regional support for Marine Spatial Planning (MSP) and the potential for billions of Dollars of positive economic benefit by developing a MSP program for the region.

Blue Tech Economic Impact on San Diego
 A May 2014 research report from the SDSU School of Business that establishes the multiplier effect (and economic value) of the **BlueTech** supply chain in San Diego county and the State of California for two San Diego-based **BlueTech** companies with over \$40 MM in revenue.

Updating the NAICS Codes: What One Needs to Know
 The North American Industry Classification System (NAICS) needs to be revised to capture economic data related to the oceans. Without this, the **Blue Economy** cannot be quantified for NAFTA countries. This primer is based on U.S. government documentation and discussions with relevant U.S. officials. Although it has been reviewed by the Economic Classification Policy Committee, it is no substitute for the actual NAICS documents available at cepusa.gov or provided in **Federal Register Notices** and **preliminary notice advisories**.

Please contact TMA Foundation if you want to help! To ensure consideration, proposals related to the potential revision of NAICS for 2017 must be submitted in writing no later than July 21, 2014. This document will remain available online until then.

Rev. 12 July 2014

3. Understanding the Blue Economy & BlueTech

1. TMA estimates there are 4,000 **BlueTech** companies in the U.S., but there has been no national study.
2. Year 1 of NOAA Ocean Observation three year study found 571 U.S. companies spread across the U.S. in 3 of 16 sectors. **23.6% in CA!!**
3. NOAA estimates **San Diego Blue Economy** to be \$1.8 billion (net of tourism), but **TMA study shows \$14 billion (net of tourism).**
4. NAICS codes don't capture **BlueTech** & why it needs to change.
5. International focus and funding for the **Blue Economy** and **BlueTech** – China, Canada, Europe, etc.



4. TMA Efforts

Regional & state level:

- Research is essential (multiple studies)
- Articles + Op-Ed pieces shape understanding and opinion
- Regional buy-in & maritime VISION for the first time ever:
 - City/County/Port resolutions – March / April 2015
 - Port of San Diego – “Donut Hole” legislation
 - Funding being sought for State Wide Study
 - **BlueTech** incubator + various Centers of Excellence
 - Working with State legislators / briefing & visits in Sacramento
- Major, on-going OceanSTEM & workforce development effort
 - Adding **Blue Economy Workforce Development** to Day 2 of 7th annual **BlueTech & Blue Economy Summit** on Nov. 9-10 in San Diego



4. TMA Efforts (cont.)

Federal, NAFTA and International level:

- Helped create & are a Strategic Partner of USCS “Marine Tech Team”
- SMEs for first ever study for NOAA on value of ocean observation
- Mounted effort to change NAICS codes (proposal + education)
 - Contact with US Census/BEA + Statistics Canada + INEGI
 - One of only two organizations that submitted change proposal in 2014
 - Working with multiple individuals at multiple agencies to effect change
 - Contacts also with EU and UN statistics offices
- Harvard-led U.S. Cluster Mapping effort – getting maritime included
- TMA recently hosted first ever NAFTA **BlueTech** cluster workshop
- Series of events focused on economics & policy at SAIS in DC



5. Conclusion

1. We must do a better job of understanding the **Blue Economy**
 - More studies including the supply chain nationally / internationally
 - More success stories (needed for funding)
 - More focus on **Blue Jobs** (& more workforce development training)
2. **BlueTech** clusters are critical to promote the industry
 - *Think Global...Act Local!*
 - Coalition of **BlueTech** clusters very important
 - Coordination of industry codes is important
 - Regional level
 - International level

*"If you want to go quickly, go alone.
If you want to go far, go together."*
an African proverb

We need each other. We need to collaborate.



Contact Information:

Michael B. Jones, President (ext. 141)

The Maritime Alliance

2877 Historic Decatur, Suite 200

San Diego, CA 92106

Tel. (619) 450-4600

mbjones@themaritimealliance.org

www.themaritimealliance.org

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