

SMART Ocean – SMART Industries: Supporting Atlantic Observations from Space by Scaling up Ocean Observations from Industry Ships and Platforms

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The International Business Alliance
for Corporate Ocean Responsibility

The Multiple Use Ocean



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A diverse Ocean Business Community



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1. Direct Ocean Users

- Industries that depend on the ocean for the extraction or production of goods (living, non-living, energy) and the provision of services (transport, tourism, etc.)

2. Ocean User Support Industries

- Industries that depend on direct users for their existence (e.g. shipbuilders) or drive ocean industry growth (e.g. extractors, manufacturers, retailers that transport materials or products by sea)

3. Essential Ocean Use “Infrastructure”

- Insurance, finance, legal and other essential services that enable ocean industries to operate



Growing Ocean Use

- Offshore oil and gas
- Shipping
- Mariculture/Aquaculture
- Mining / Seabed mining
- Fisheries
- Cruise and coastal tourism
- Dredging
- Submarine cables/pipelines
- Offshore wind energy
- Wave/tidal energy
- Ports/marinas
- Recreational boating/use
- Desalination
- Navy/military use
- Carbon sequestration
- Finance/Investment
- Insurance
- Maritime Legal

Expanding...

- Kinds of use
- Levels of activity
 - Duration
 - Intensity
 - Frequency
- Location of activity
 - Geographical Extent
 - Frequency

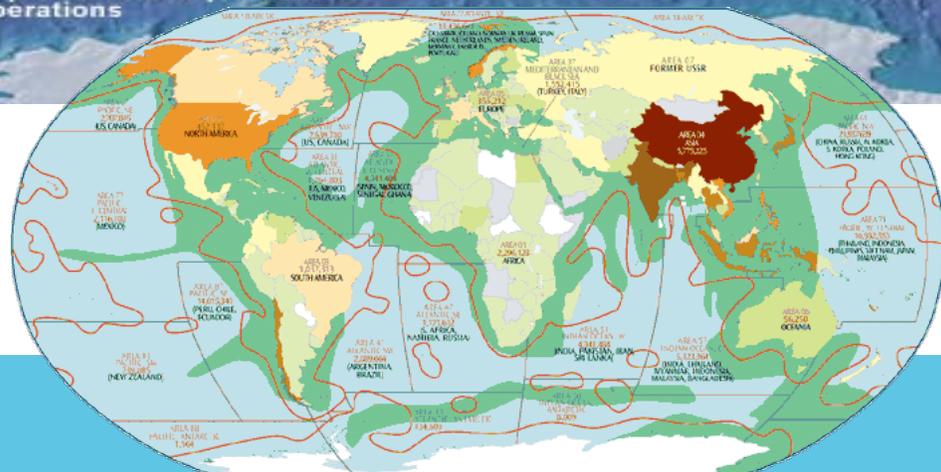
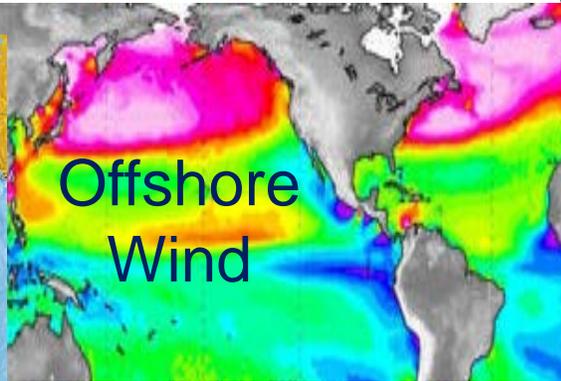
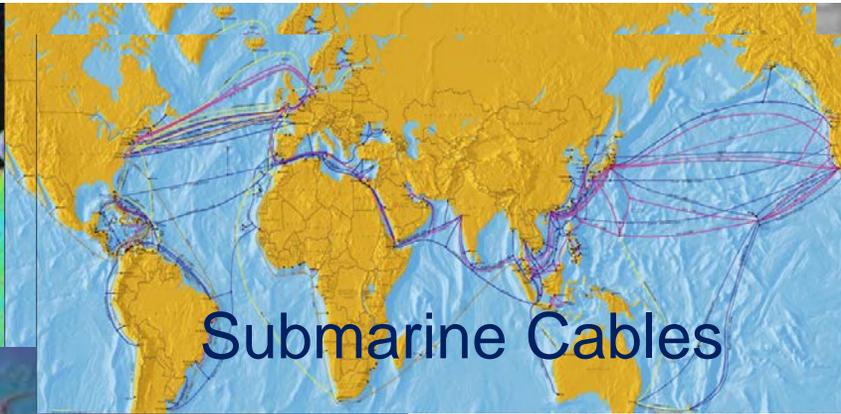
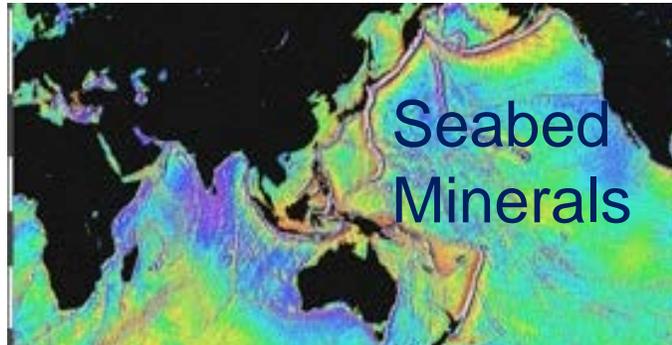


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Ocean Industry Activity



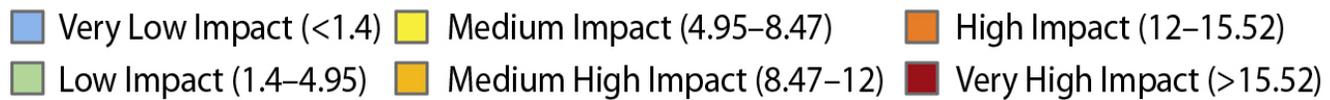
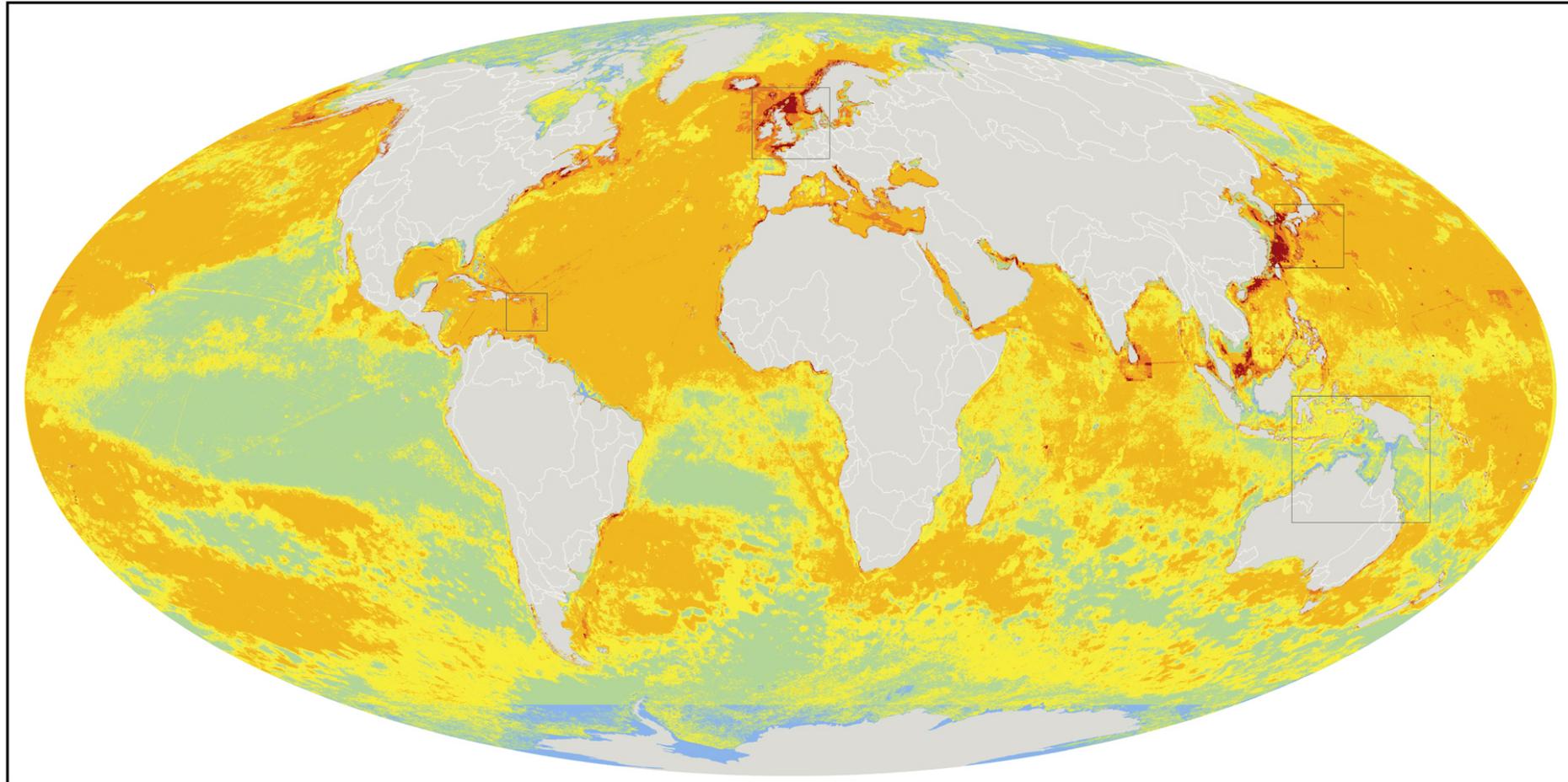
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Drivers: Ecosystem Impacts



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The Ocean Business Community Challenge



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- **Ocean industries require access and social license to use ocean space and resources**
- Many of the **critical issues** creating impacts and affecting access and social license are **cross-cutting or cumulative**
- Sustaining ocean health and productivity requires **responsible use** and stewardship **by all users**
- Best **efforts by a single company**, or an entire industry sector, **are not enough** to secure ocean health
- Ocean **industries will benefit from collaboration** with other sectors to **create synergies** and **economies of scale** to address impacts and ensure access and social license
- **Need structure/process** for ocean industry leadership and collaboration

International, Cross-Sectoral BUSINESS Leadership Alliance

- **Bringing ocean industries together**, e.g. oil/gas, shipping, fisheries, aquaculture, tourism, offshore renewables, technology, investment, etc.
- **Catalyzing private sector leadership, collaboration and action in**
 - Advancing “Corporate Ocean Responsibility”
 - Communicating responsible ocean industry/economy
- 75+ members worldwide; 40,000+ in global network

Goal: Healthy, productive global ocean and its sustainable use and stewardship by responsible ocean business community

Creating business value for responsible companies

- Access and social license for responsible ocean use
- Synergies and economies of scale in addressing issues
- Stability and predictability in ocean operations

WOC Partnerships and Formal Recognition

- **UNESCO Intergovernmental Oceanographic Commission (IOC)** – MOU
- **UN Framework Convention on Climate Change (UNFCCC)** – Accredited to COPs
- **UN Division of Ocean Affairs and Law of the Sea (DOALOS)** – Close working partner
- **International Hydrographic Organization (IHO)** – Official Observer
- **International Seabed Authority (ISA)** – Accredited Observer
- **Convention on Biological Diversity (CBD)** – Accredited to SBSTTAs and COPs
- **International Whaling Commission (IWC)** – Accredited Observer
- **Group on Earth Observations (GEO)** – Accredited Partner
- **Ocean Climate Platform** – Member
- **International Standards Organization (ISO)** – Underwater Acoustics Sub-Committee Member
- **Int'l Chamber of Commerce (ICC), Global Business Alliance for Sustainable Dev't** – Member
 - and more...



Cross-Cutting Framework Areas for Leadership and Collaboration:

- **Sustainable Development Goals (SDGs) for the Ocean Business Community**
- **Ocean Investment Platform**
- **Digital Ocean / Big Ocean Data / Ocean Cloud**
- **Young Ocean Professionals Network**
- **Sustainable Ocean Summit (SOS)**
(WOC 6th SOS, Hong Kong, 14-16 Nov, 2018)
- **Regional Ocean Leadership Groups**
(WOC Asia Pacific Business Roundtable, Bangkok, 3-4 May, 2018)



- **Improving Ocean Governance, Policy and Planning**
 - UNCLOS/BBNJ, UNFCCC, SDGs, Convention on Biological Diversity ...
 - Marine Spatial Planning/Ocean zoning
- **Reducing Anthropogenic Impacts**
 - Biofouling/invasive species
 - Marine sound
 - Plastics/Port Reception Facilities
- **Conserving Marine Biodiversity**
 - Marine protected areas
- **Ensuring Food Security**
 - Sustainable fisheries/reduced IUU fishing
 - Sustainable aquaculture



- **Improving Ocean Knowledge**

- Smart Ocean / Smart Industries:

- Data from Industry Vessels/Platforms of Opportunity

- **Reducing Disaster Risk**

- Port/coastal infrastructure adaptation and resilience

- **Addressing Climate Change**

- Ocean NETs: Negative Emissions Technologies and the Ocean

- Ocean acidification

- **Advancing Energy Options from the Sea**

- Ocean renewable energy



“SMART Ocean - SMART Industries”

Ensure a **wide range of industry vessels and platforms** are:

- **Providing routine, sustained, standardized information** on the ocean and atmosphere
- Contributing to describing the **status, trends and variability** of oceanographic and atmospheric conditions
- **Improving the understanding, modeling and forecasting** of oceanic ecosystems, resources, weather, climate variability and climate change

WOC SO-SI program working to:

- **Expand the number of vessels and platforms** that collect standardized ocean, weather and climate data
- **Improve the coordination and efficiency of data sharing** and input to national/international systems
- Build on “ships of opportunity” programs

Opportunities of Ships

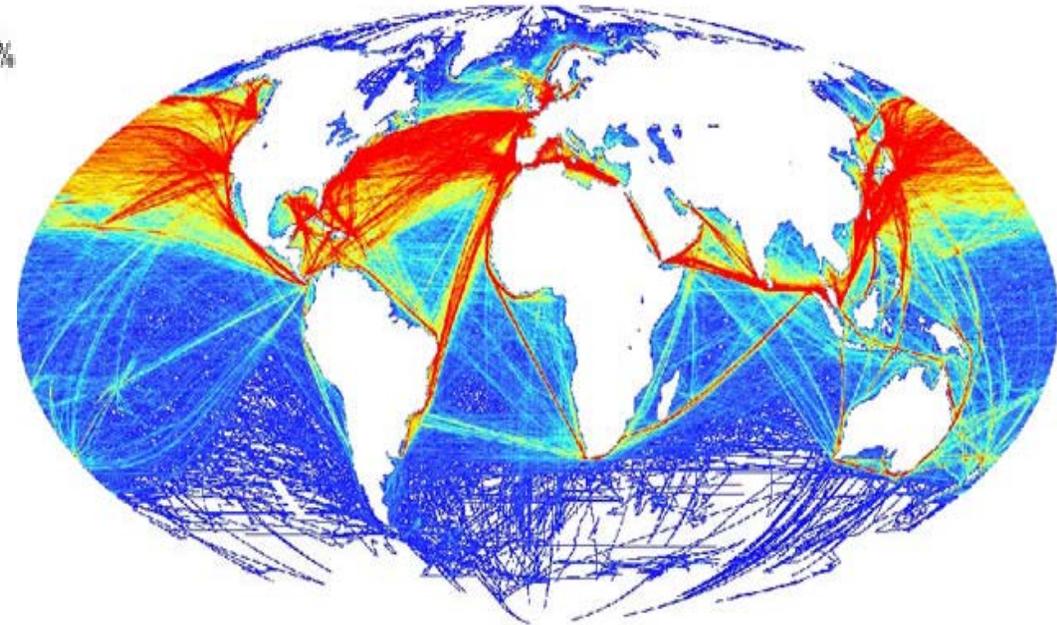
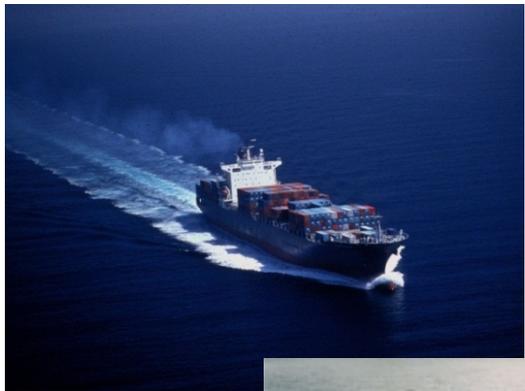
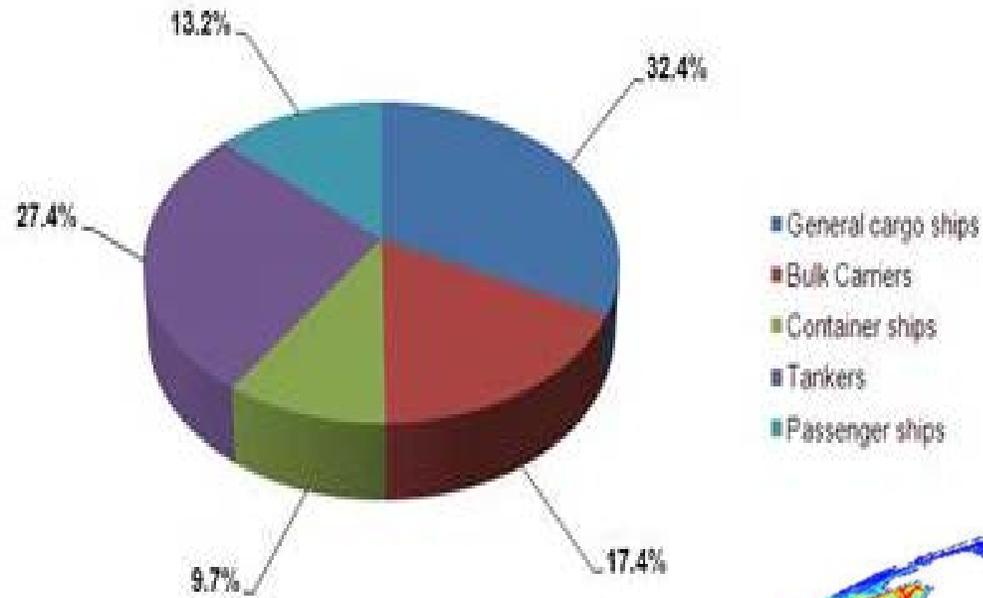


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50,054 ships (Oct 2010)

- Tankers: 13,175
- Bulk Carriers: 8,687
- Container ships: 4,831
- Passenger ships: 6,597



SHIPPING

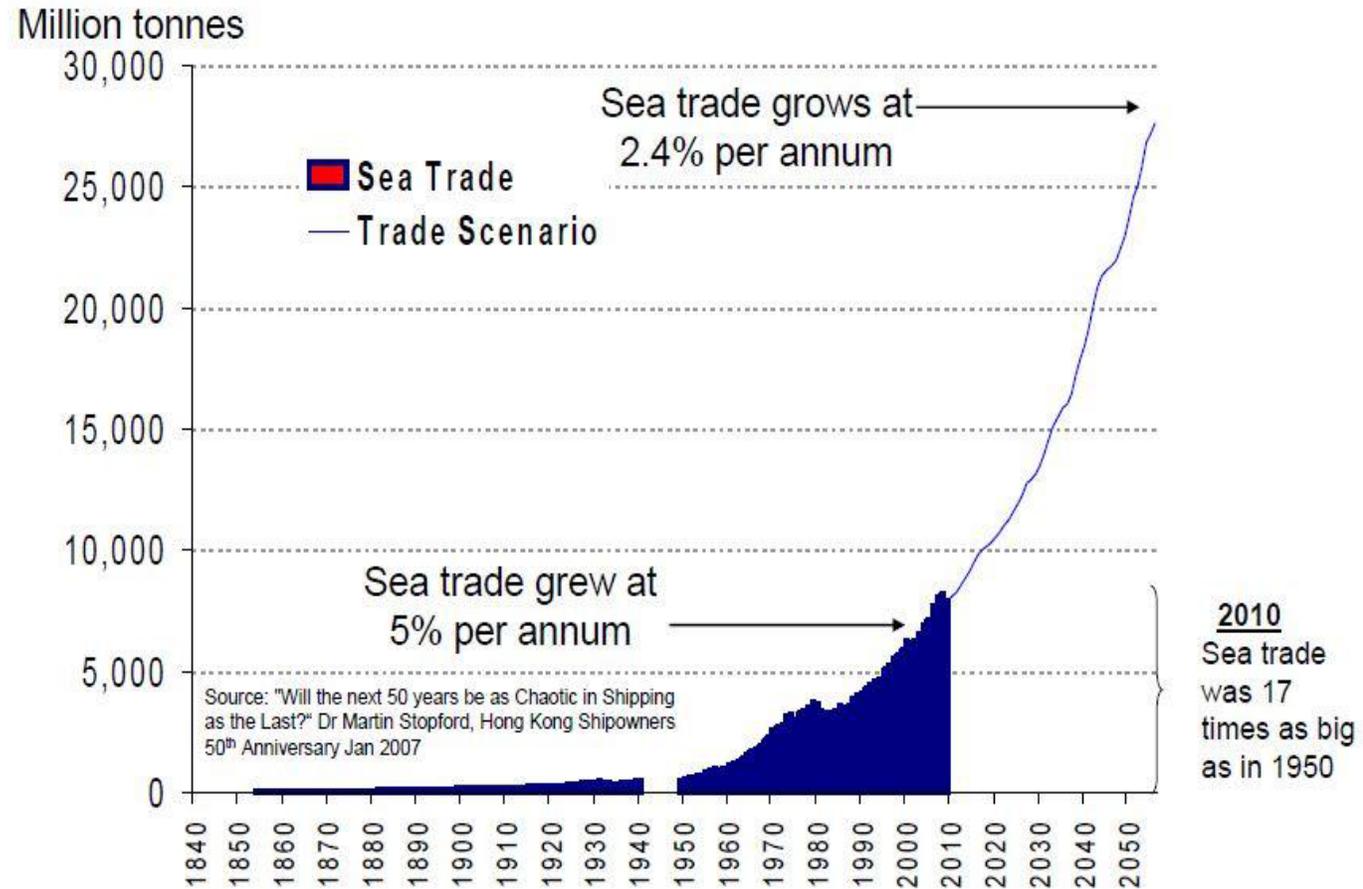
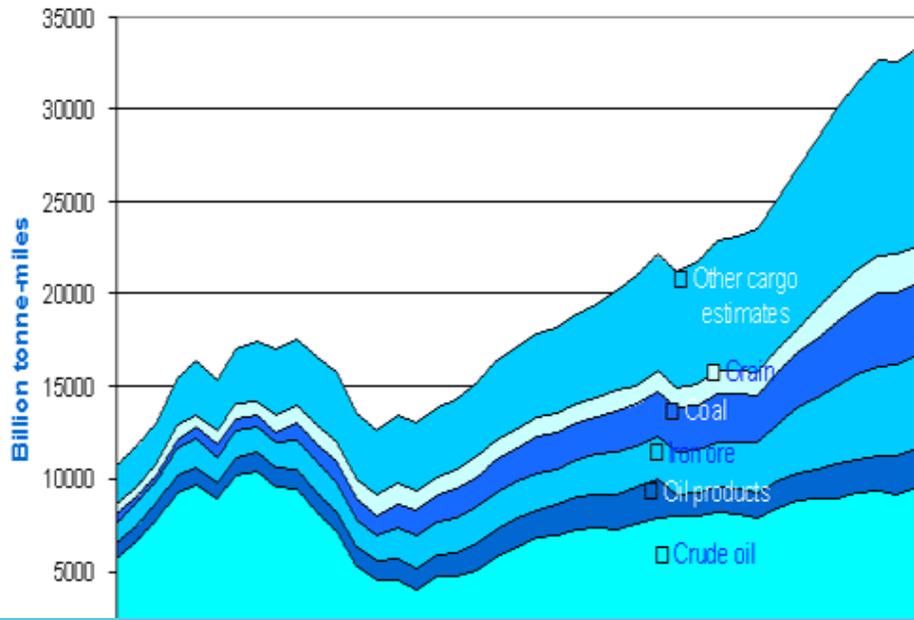
- 90% of global trade
- Container shipping has increased by 10% / year since 1985



50,054 ships (2010)

- Bulk carriers, container ships, tankers, passenger ships

World seaborne trade 1969-2010



Opportunities of Fishing Vessels



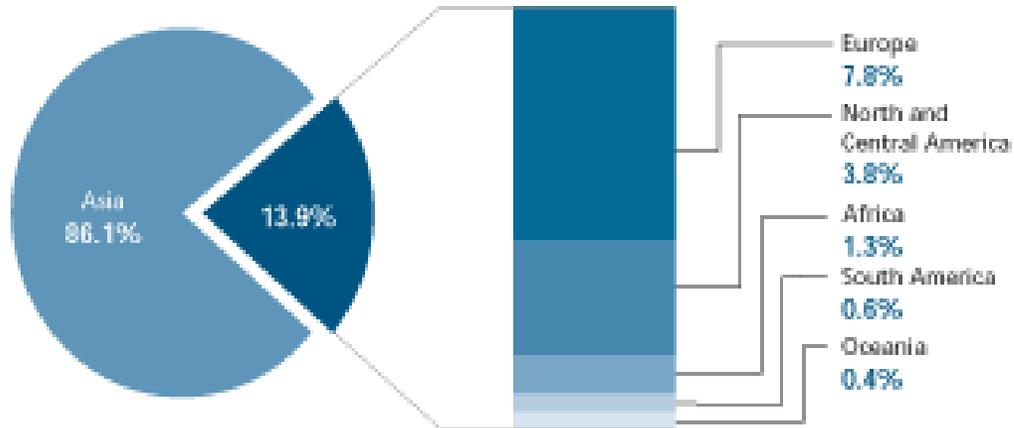
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- 3-4 million vessels
- Over 85% of world's fishing fleet is in Asia



Distribution of decked fishing vessels by continent

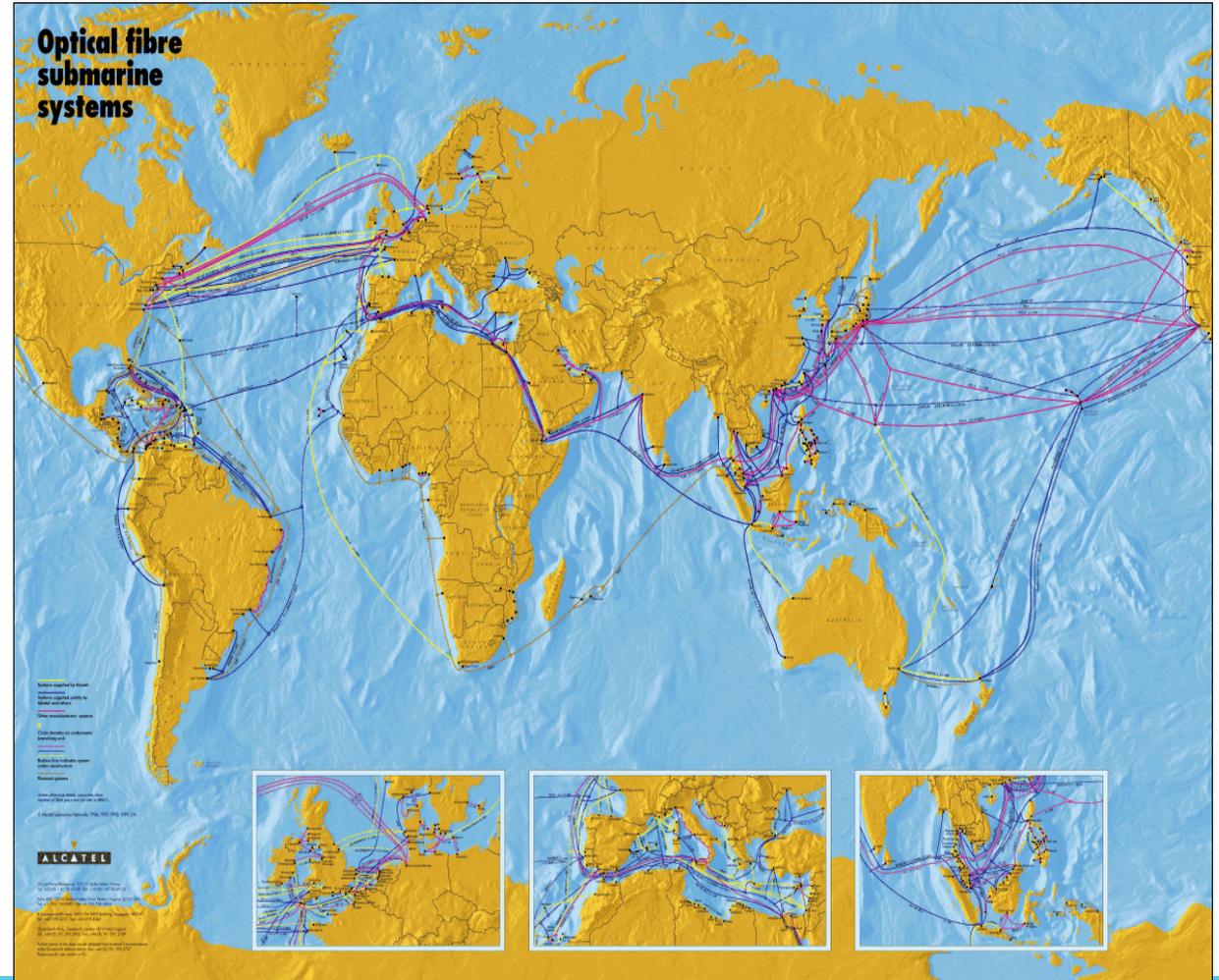


Opportunities of Submarine Cables



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- More than 1 million km of telecom cables
- Subsea power cables increasing for grids, platforms and renewables



Other Ship and Platform Opportunities



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Oil and gas



Fisheries



Aquaculture



Ferries



Offshore wind energy



Wave/tidal energy



International Ship/Platform Data Collection



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Comprehensive

- Incorporates needs and opportunities from different industries
- Addresses ocean, weather and climate data needs

Scaleable

- Within industries
- Across industries
- Upgradeable over time

Entry Options

- Retrofit – existing vessels and platforms
- New builds

Cost-Efficient

- Synergies – within and between industries
- Economies of scale

WOC...

- Engages scientific institutions/organizations to identify:
 - Priority data collection needs and areas
 - Appropriate, cost-effective, ship-suitable technology
- Identifies and recruits companies:
 - With vessels/platforms operating in the priority areas
 - Interested/capable of hosting instruments
- Instigates and facilitates working relationship between the company and the scientific institution
- Monitors, coordinates and supports interaction between company and scientific institution
- Ensures industry data collection efforts are efficient, cost effective and contribute to national and international public science programs

Smart Ocean-Smart Industries: How it works



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WOC...

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 - **Priority data collection needs and areas**
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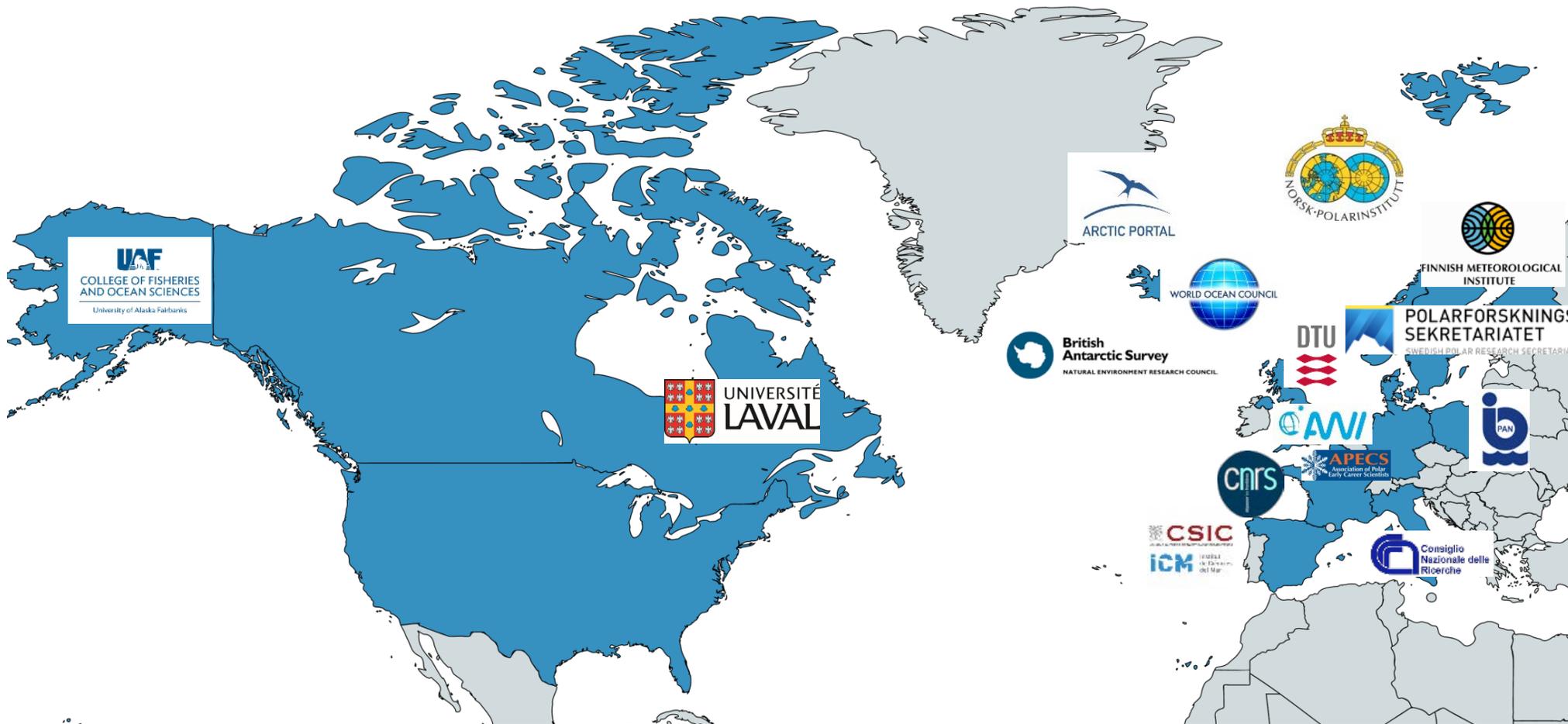
Smart Ocean-Smart Industries: Next Steps



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- **Develop pilot projects to put “Smart Industries” to work**
 - Country or company level focus, e.g. fleet level
 - Regional, e.g. Arctic, Atlantic
 - Parameters, e.g. ocean pH, bathymetry
 - Extreme weather or ocean events, e.g. tsunamis
- Define value proposition / rationale for industry and science
- Inventory existing ships / platforms of opportunity programs
- Define the “menu of options” for voluntary observations
- Define interface requirements for platforms / payload
- Develop the principles, practice and platform for industry data sharing and access

ARICE: 15 partners from 13 different countries



WP#	Title	Lead institute
WP1	Towards an Arctic Research Icebreaker Consortium	SPRS
WP2	Establishing a regular dialogue with the maritime industry	WOC
WP3	Educating a new generation of polar researchers and professionals	APECS
WP4	Proposal management and shared evaluation	AWI
WP5	Transnational access to the Arctic Ocean	CSIC-UTM
WP6	Expanding the monitoring and observation capacities in the Arctic	FMI
WP7	Enhancing virtual and remote access to data	Arctic Portal
WP8	Management of the Consortium, public outreach and impact on stakeholders	AWI

Discussion items:

- What do shipowners need/want to know to consider getting involved in voluntary data collection?
- What are the concerns/barriers to becoming involved?
- What can WOC do to facilitate involvement in data collection?
- How do companies and scientists prefer to be contacted and engaged to get involved, e.g. who should we contact?
- Suggestions on the best way forward to develop SO-SI in the Atlantic?

Advancing Multi-Sector Industry Collaboration in Ocean Sustainable Development – How?



By working with and through an ocean business leadership organization that...

- **Is a unique, private sector boundary/intermediary organization**
- **Brings together a global, multi-industry leadership alliance on implementation**
- **Has as its core mission to work with industry on sustainable development**
- **Knows the business community** and has the working relationships with industry:
 - at individual, company and/or sector level
 - at national, regional and/or global scale
- **Knows the sustainable development issues** and how they relate to industry
- **Provides long term commitment** to engaging the business community
- **Is constantly expanding** its international ocean business network of companies informed and engaged on sustainable development, science and stewardship
- **Is a credible 3rd party business organization known and respected by industry and will be involved in ocean sustainable development over the long term**

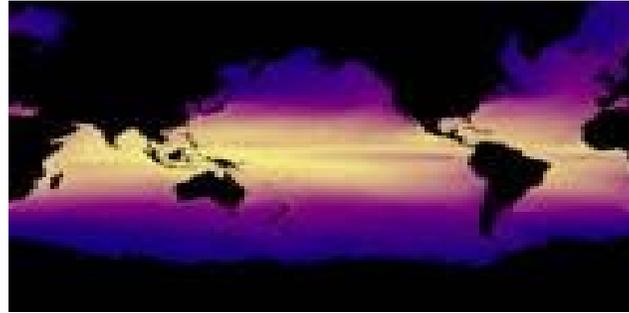
Advancing Multi-Sector Industry Collaboration



in Ocean Sustainable Development – Why?

A well-developed ocean business leadership organization will further ocean sustainable development by...

- **Serving as the portal and bridge to the entire diverse global ocean business community**
- **Identifying and involving leadership companies** and industry organizations from a comprehensive network to participate in programs and projects
- Eliciting industry ideas and input early on, e.g. identifying priorities, designing projects, engaging additional sectors and companies, etc. - and then getting to work
- Bringing private sector partners together to develop and implement projects
- **Establishing the institutional basis for continued, sustained interaction with the ocean business community**, e.g. identifying additional companies to engage
- Developing specific, targeted workshops and seminars with industry
- **Identifying and facilitating access to where the private sector is gathering**, e.g. the annual WOC *Sustainable Ocean Summit*



WOC 7th Sustainable Ocean Summit (SOS)

Paris, 20-22 Nov 2019

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