The importance of science in global policy processes

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Multi-stakeholder dialogue and capacity-building partnership event
UNHQ, New York, 24 – 24 JAN 2019

- Observations
- Science
- Assessment
- Policy
- Realization of SDGs

IMMENSE. INEXHAUSTIBLE, IMPERVIOUS

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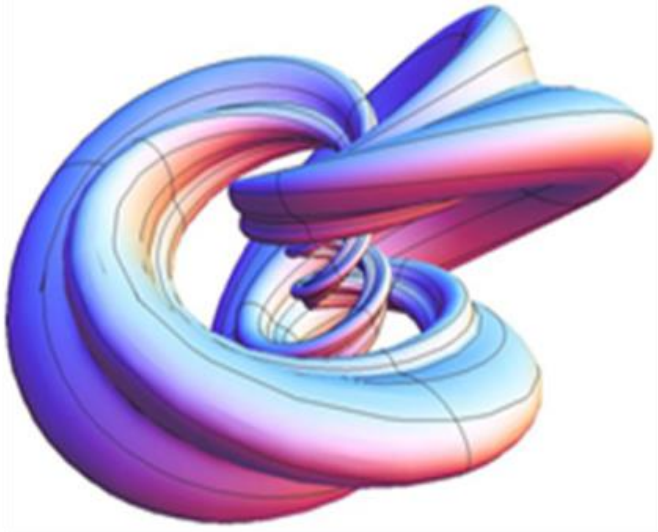

http://www2.port.ac.uk/department-of-mathematics/research/nonlinear-and-complex-

http://projectmanager.com.au/how-knowledge-management-bridges-the-project-skills-gap/

https://www.infoworld.com/article/3180757/cloud-computing/how-to-get-the-m services-in-a-multi-cloud-world.html

/www.nationalgeographic.org/encyclopedia/marine-debris/

United Nations Educational, Scientific and Cultural Organization

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ALL SDG14 TARGETS NEED SCIENCE SUPPORT

14.1 Prevent and Reduce marine pollution

14.2 Manage and Protect marine & coastal ecosystems

14.3 Minimize impacts of Ocean Acidification

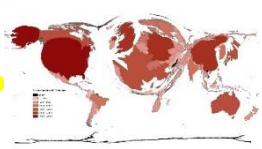
14.4 Implement fisheries science-based management Plans

14.5 Conserve 10% coastal and marine areas

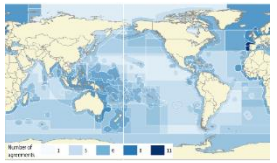
14.6 Prohibit certain forms of fisheries subsidies

14.7 Increase socioeconomic benefit of SIDS

14.a Increase scientific knowledge – Transfer of marine technology



14.b Provide access for artisanal fisheries to marine resources & markets



14.c Enhance conservation & sustainable use of oceans via international law

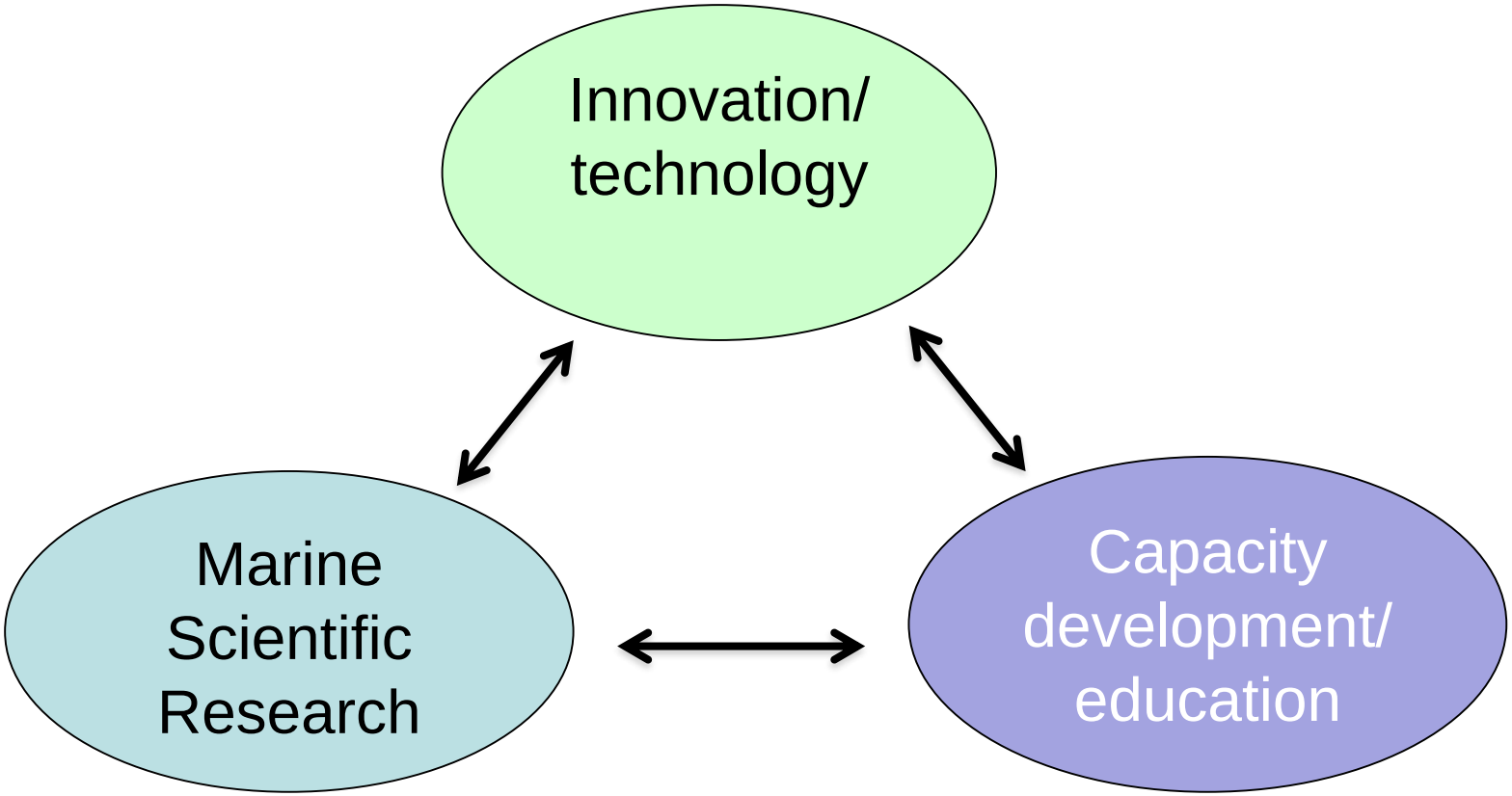

SUSTAINABLE DEVELOPMENT GOALS
17 GOALS TO TRANSFORM OUR WORLD
1 NO POVERTY
2 ZERO HUNGER
3 GOOD HEALTH AND WELL-BEING
4 QUALITY EDUCATION
5 GENDER EQUALITY
6 CLEAN WATER AND SANITATION
7 AFFORDABLE AND CLEAN ENERGY
8 DECENT WORK AND ECONOMIC GROWTH
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
10 REDUCED INEQUALITIES
11 SUSTAINABLE CITIES AND COMMUNITIES
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
13 CLIMATE ACTION
14 LIFE BELOW WATER
15 LIFE ON LAND
16 PEACE, JUSTICE AND STRONG INSTITUTIONS
17 PARTNERSHIPS FOR THE GOALS
SUSTAINABLE DEVELOPMENT GOALS

Why Science

- ✓ Ocean responses to pressures/stressors
- ✓ Ocean responses to management actions
- ✓ Predict consequences of change
- ✓ Design mitigation
- ✓ Guide adaptation
- ✓ Forecast
- ✓ Disaster risk reduction / early warning

Science for sustainability is based on...

...the knowledge triangle



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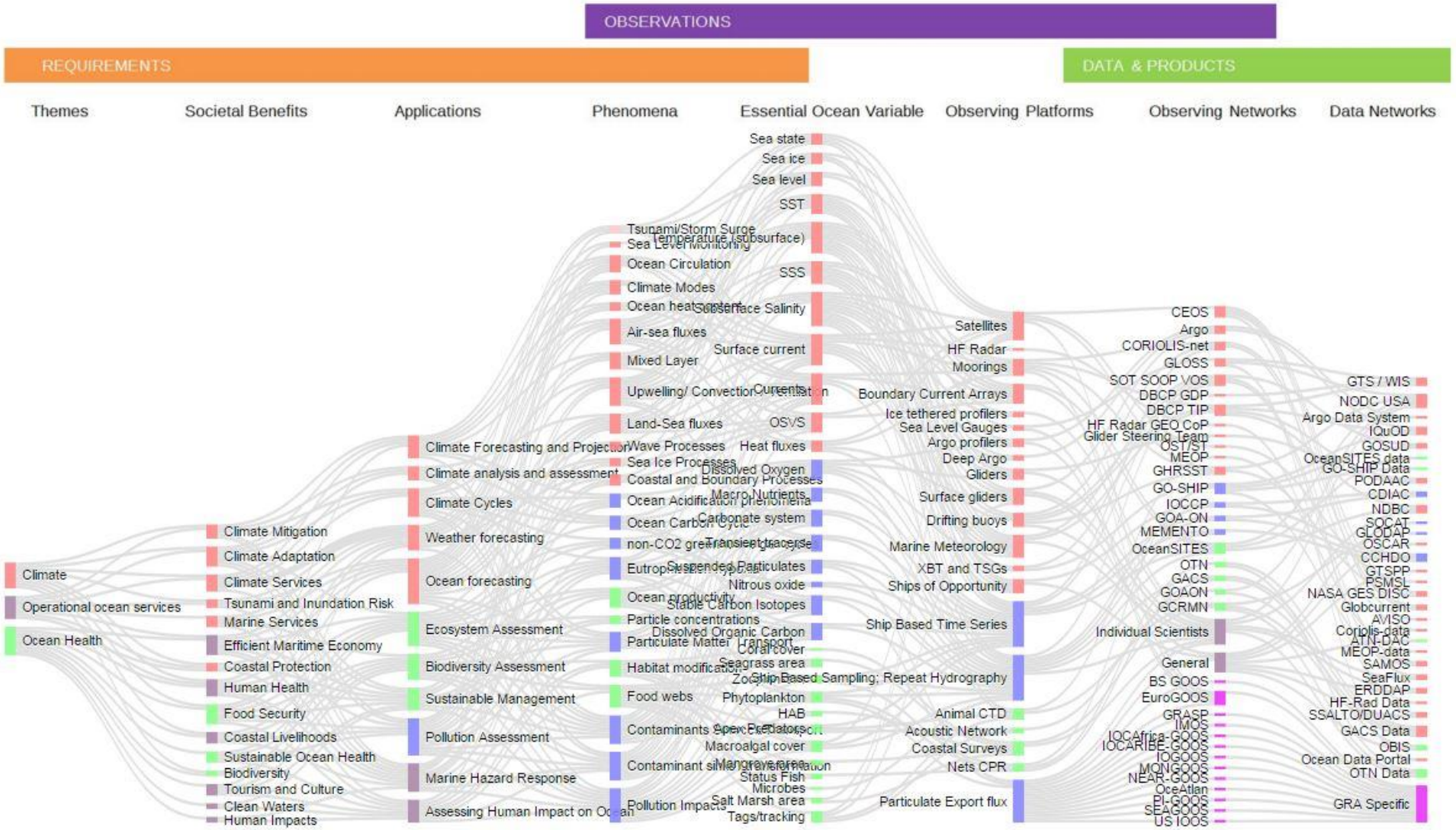
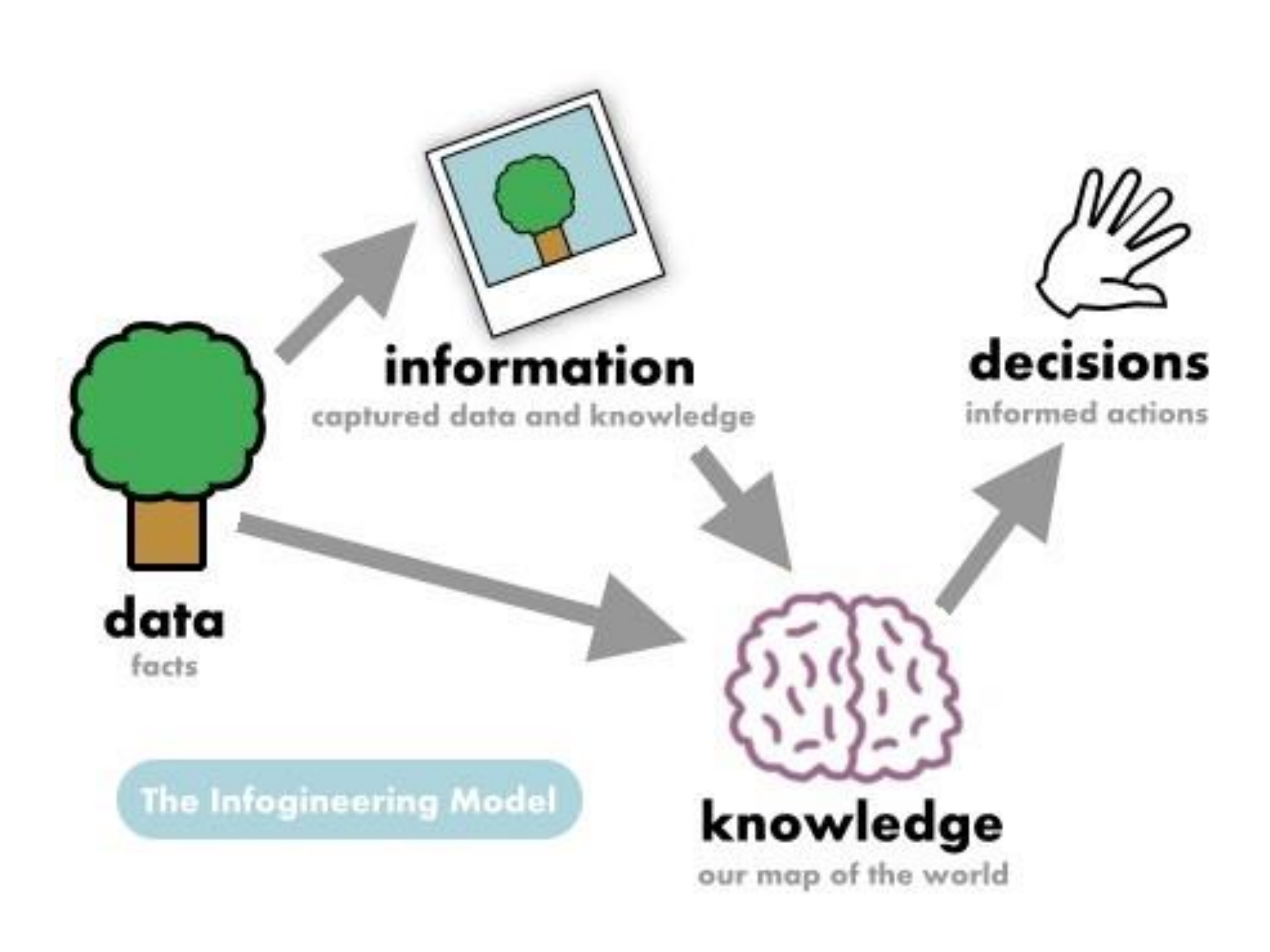
Key Findings

1. Global ocean science is '**big science**'.
2. Ocean science is **multidisciplinary.**
3. There is more equal **gender balance** in ocean science than in science overall.
4. Ocean science **expenditure** is highly variable worldwide.
5. Ocean science benefits from **alternative funding.**
6. Ocean science **productivity** is increasing.
7. International collaboration increases **citation** rates.
8. Ocean **data centres** serve multiple user communities with a wide array of products.
9. **Science-policy** interactions can occur through many avenues.
10. National **inventories** on ocean science capacity exist only in few countries.

Themes – Societal Benefits – Applications – Phenomena – Variables – Plataforms – Observing Networks – Data Networks

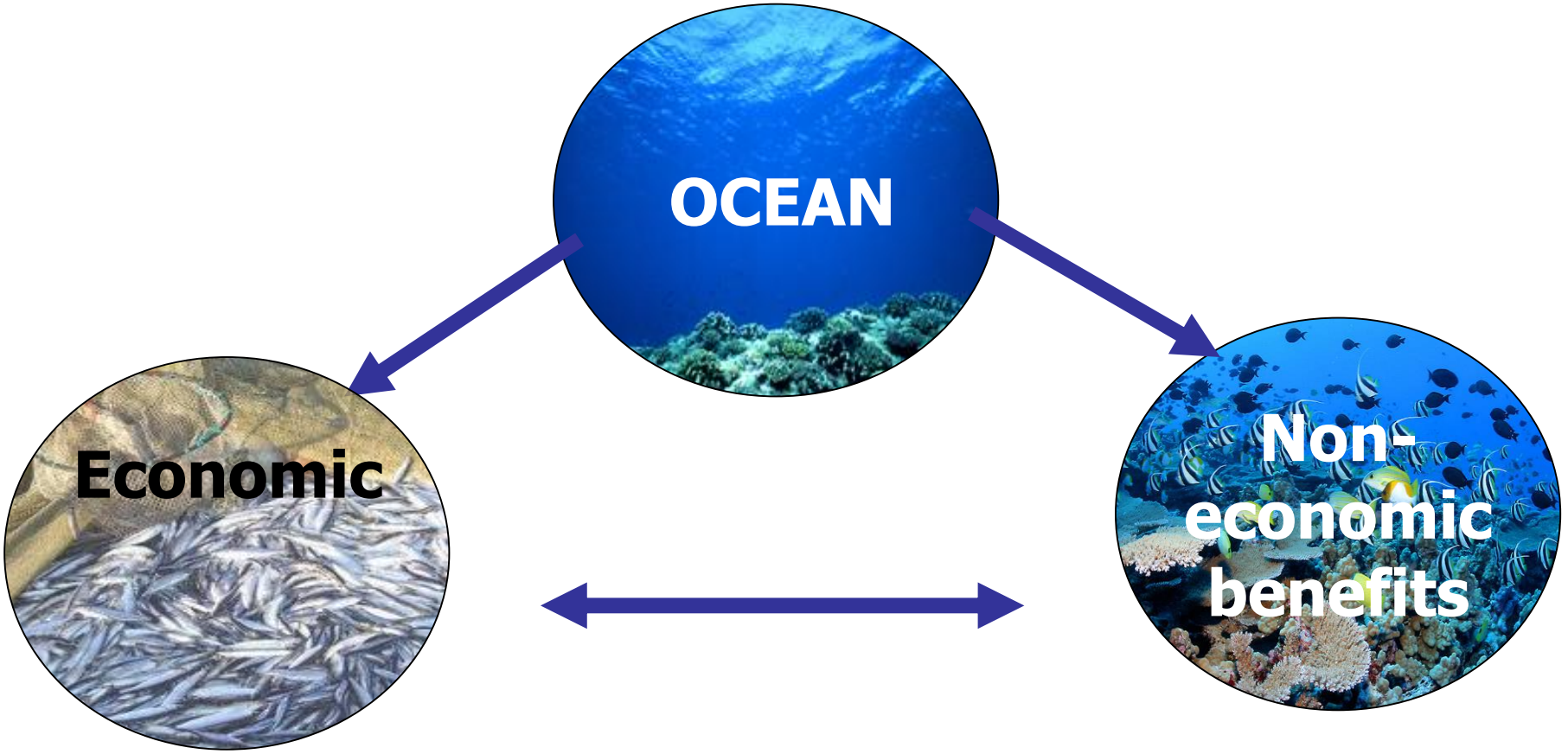


Communicating Science


information
captured data and knowledge
decisions
informed actions
data
facts
knowledge
our map of the world
The Infogineering Model


GOOD
BETTER
BEST

The Ocean - A source of social and economic wealth



Fisheries and aquaculture
Travel and tourism
Ports, infrastructure, maritime transport
Pharmaceuticals, cosmetics
Energy and minerals

Biological services
Regulating services: carbon, flood protection, erosion control
Waste and nutrient recycling
Cultural, aesthetic

www.workpack.in/2018/01/23/return-investment-roi-engineering-construction-project-management-software/

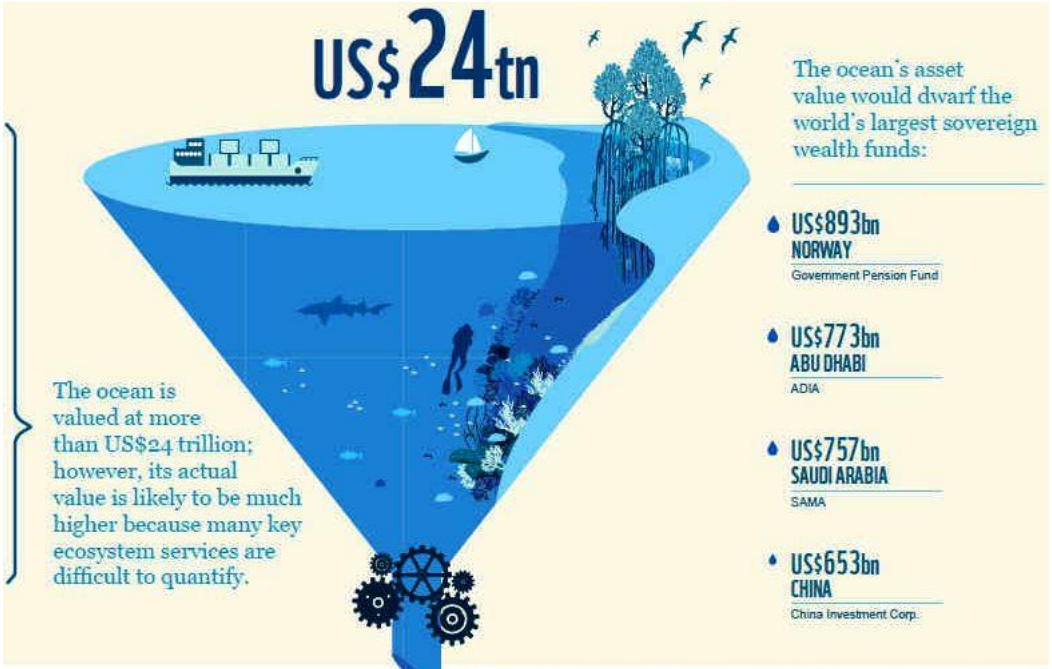
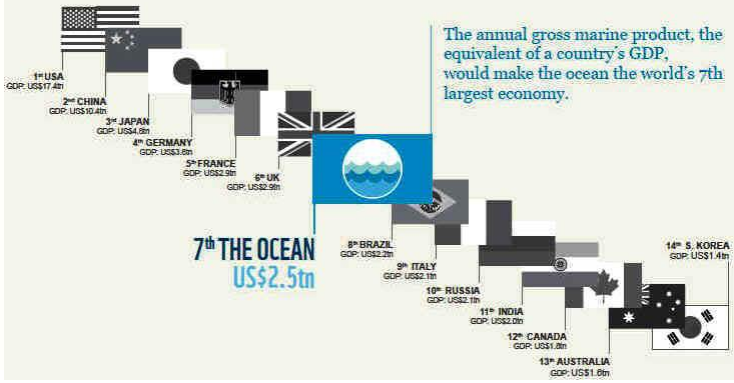


FIGURE 3 - OCEAN ECONOMY DEPENDENT ON HEALTHY ASSETS

Gross marine product is the ocean's annual economic value.

More than two-thirds of the gross marine product is dependent on healthy ocean assets.

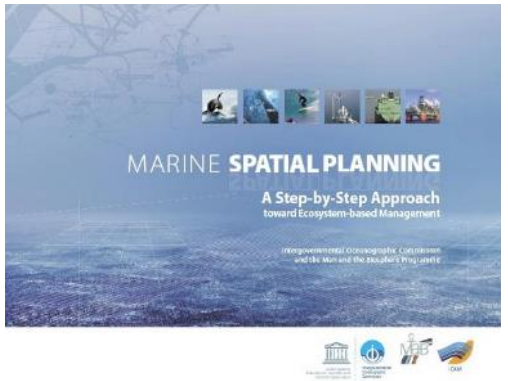
FIGURE 2 - ANNUAL GROSS MARINE PRODUCT

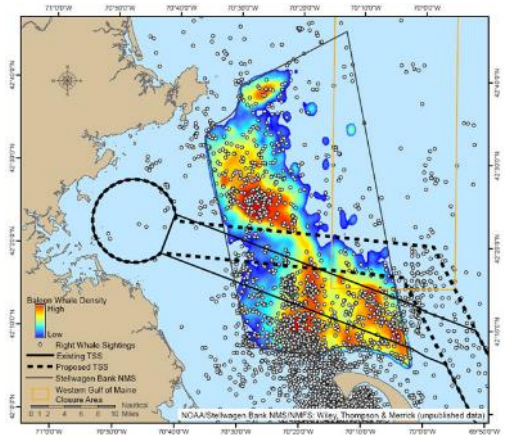


WORLD WILDLIFE FUND - OCEAN ECONOMY REPORT 2015

An optimal resource allocation requires ocean planning

FROM	TO
Individual species	Ecosystems
Small spatial scale	Multiple scale
Short-term perspective	Long-term perspective
Humans: independent of ecosystems	Humans: integral part of ecosystems
Management divorced from research	Adaptive management
Managing commodities and economic sectors	Sustaining productions potential for goods and services





Benefits

- Reduce conflicts among uses
- Increased predictability and certainty
- Facilitate compatible uses
- Preserve critical ecosystem services

THE ASSESSMENT CYCLE

Adapted from Maki (2002, 2004)

ASSESSMENTS

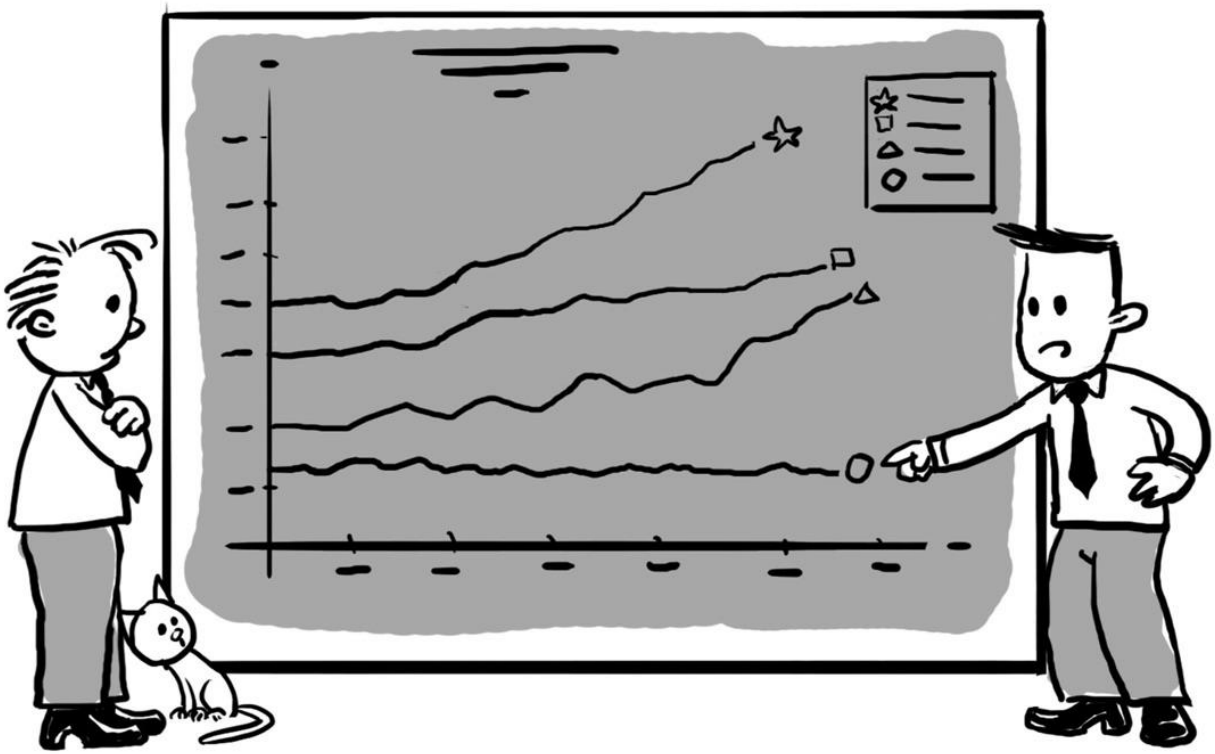
- Product (expert reports, data and information)
- Process (composition, mandate, procedures)

- Authoritative
- Makes “Product” Influential

- Relevance
- Legitimacy
- Credibility

- Approach & Findings related to needs
- Balance and Fairness
- Validity of information, methods, procedures

- Baselines
- Trends

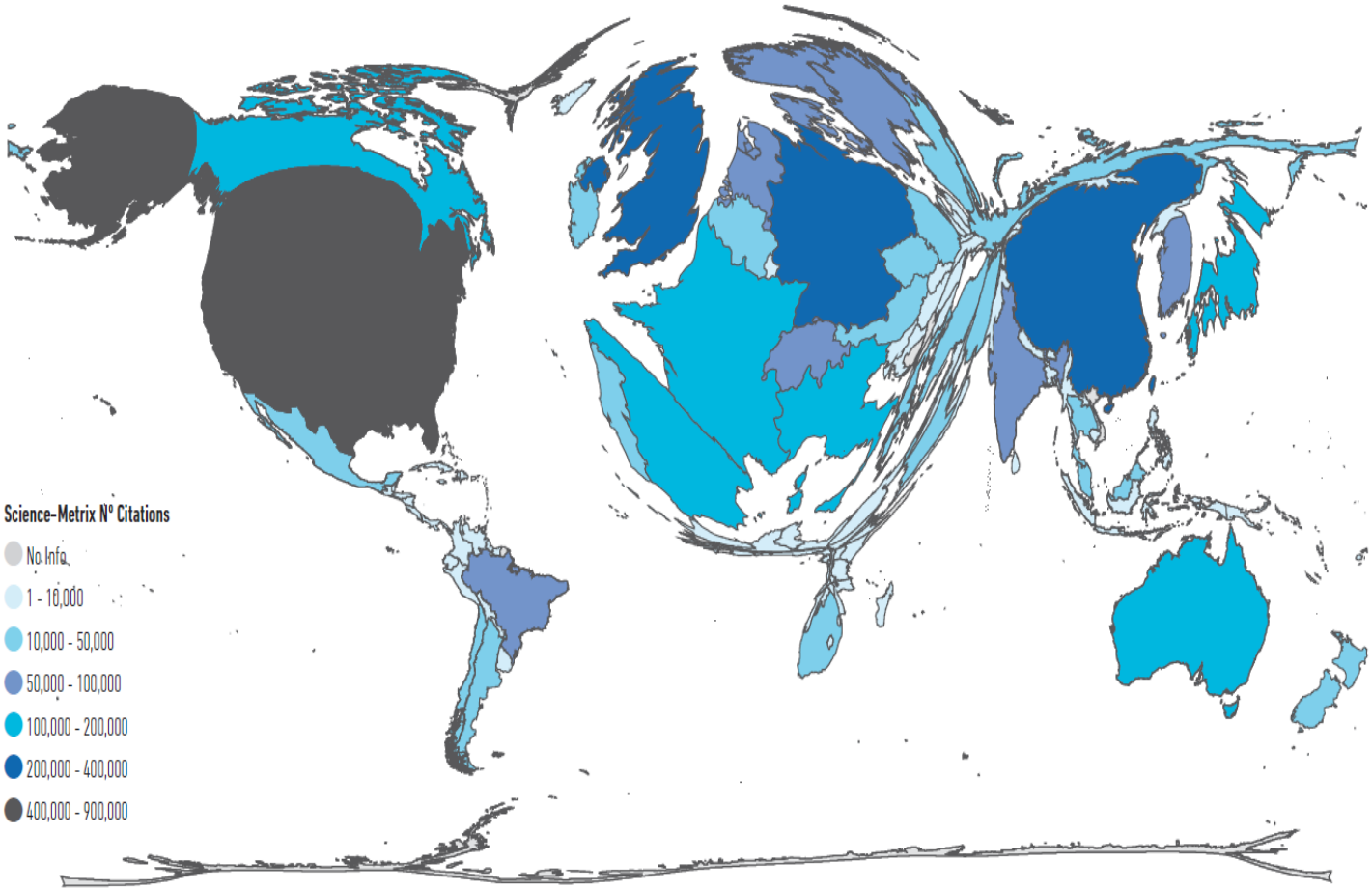


Research and Ocean Education

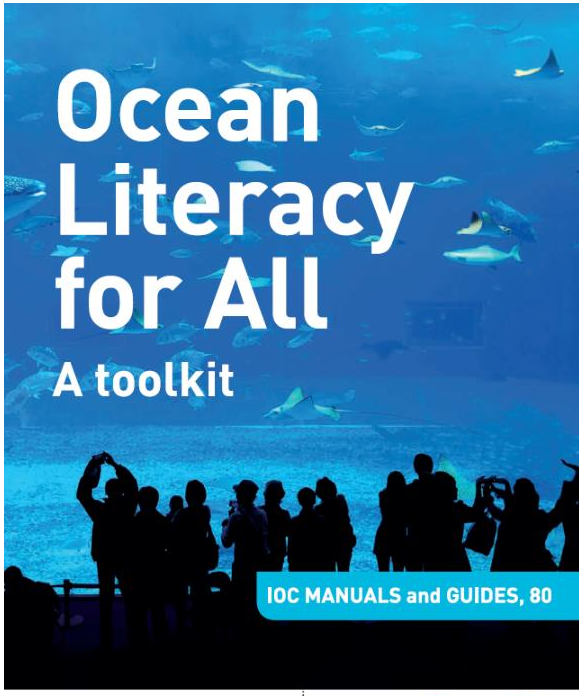
How 'big' is our ocean science?

Global Citation Map for **Ocean Science**

Area of each country is scaled and deformed according to the number of citations received




COLLECTION
ACCESS
ANALYSIS
SYNTHESIS
APPLICATIONS AND DEVELOPMENT
COMMUNICATION AND AWARENESS



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Sustainable Development Goals