

# Ocean science needs for implementing the SDGs

## #OceanOptimism

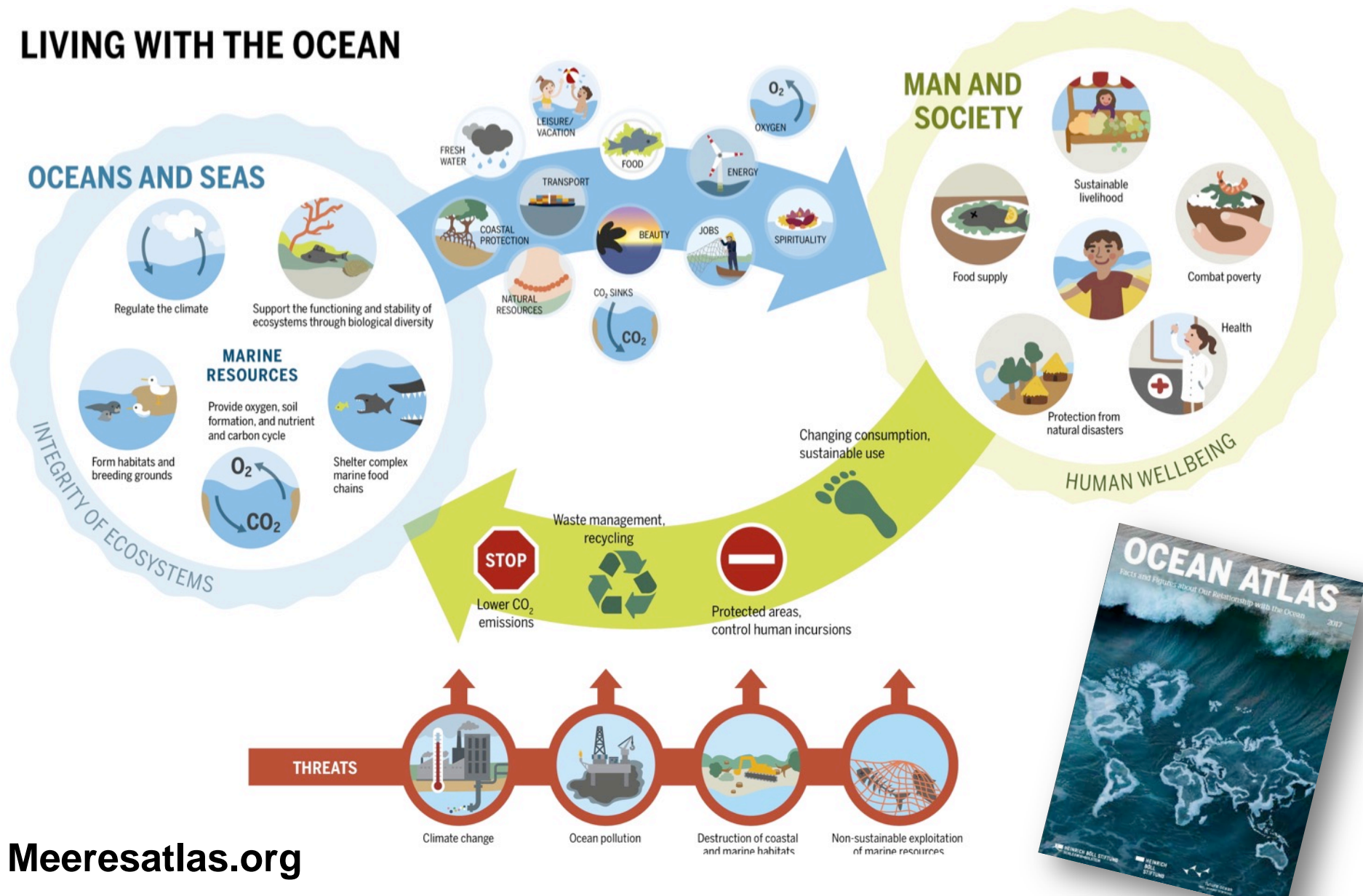
Martin Visbeck

GEOMAR Helmholtz Center for Ocean Research Kiel and Kiel University  
UNSDSN, FutureEarth, WCRP, GOOS

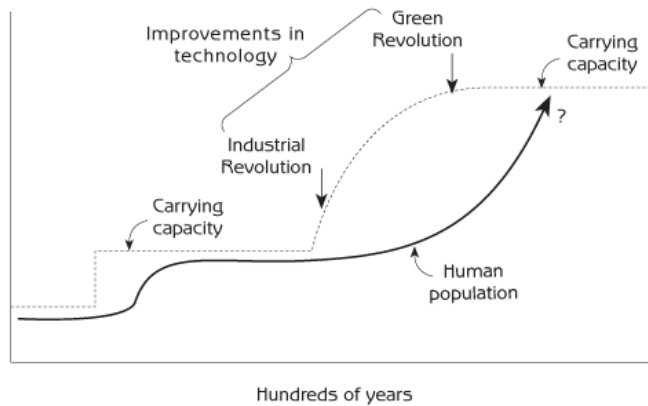


# Humanity and the Ocean

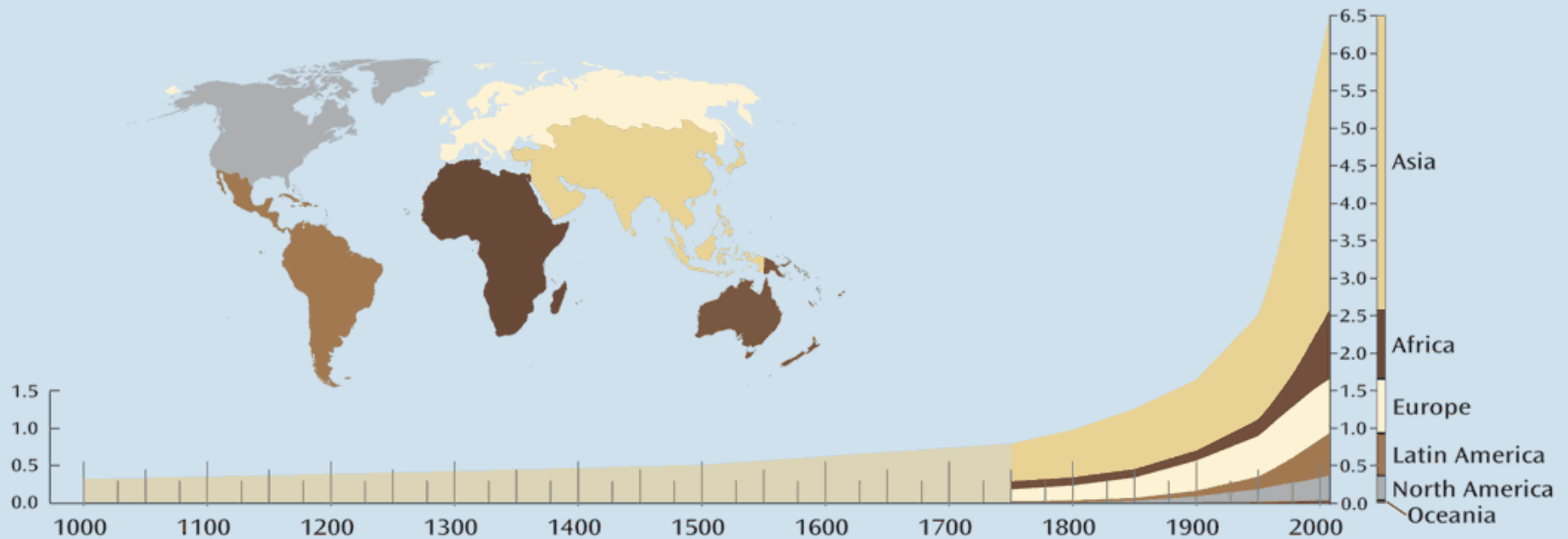
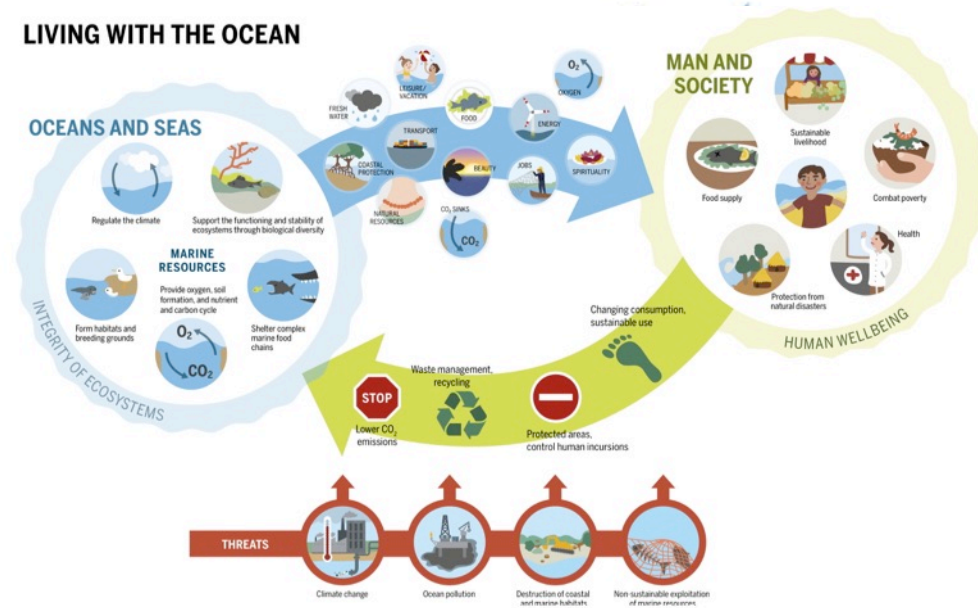
## LIVING WITH THE OCEAN



# Humanity and the Ocean



## LIVING WITH THE OCEAN



Sources: 1 - The World at Six Billion; Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, World Population Prospects: The 2004 Revision and World Urbanization Prospects: The 2003 Revision, <<http://esa.un.org/unpp>> 2 - United Nations, 1973. "The Determinants and Consequences of Population Trends, Vol.1" (United Nations, New York). United Nations, (forthcoming). "World Population Prospects: The 1998 Revision" (United Nations, New York). <<http://www.geohive.com/global/>>

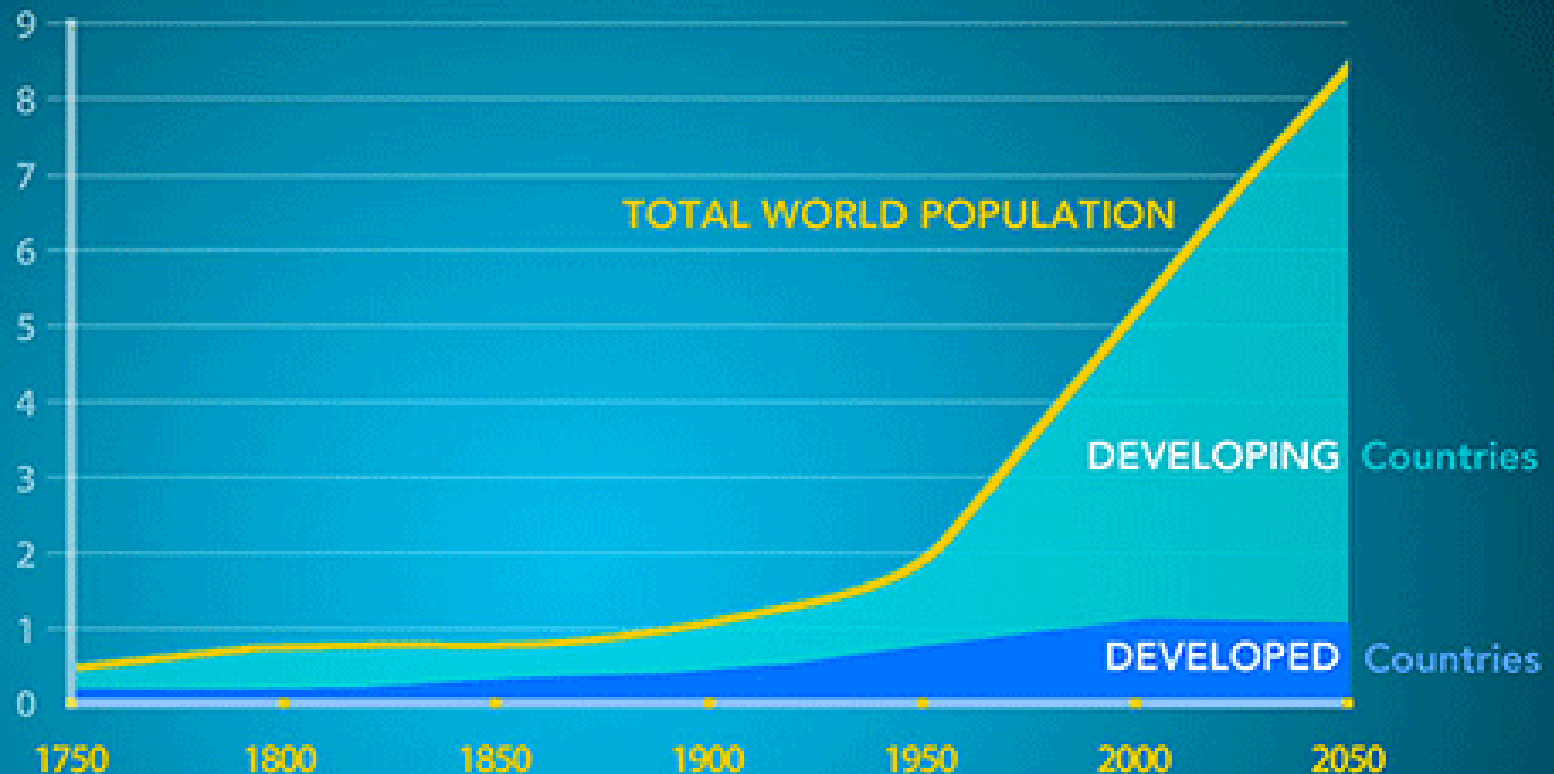


# A growing Population...

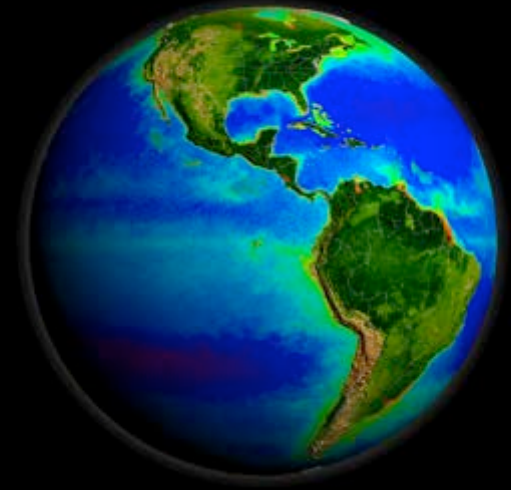
New requirement for the Ocean Space:

Food, Transport, Materials, Energy, Tourism

**WORLD POPULATION 1750-2050** (in Billions)

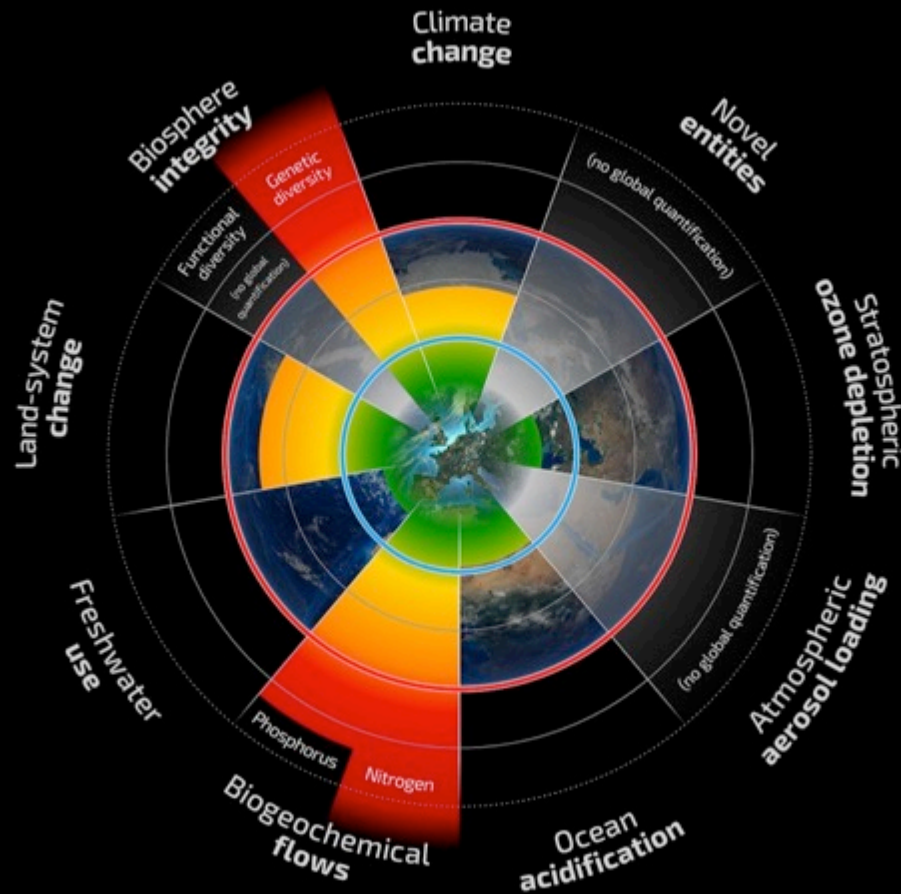


Source: World Bank, Development Education Program



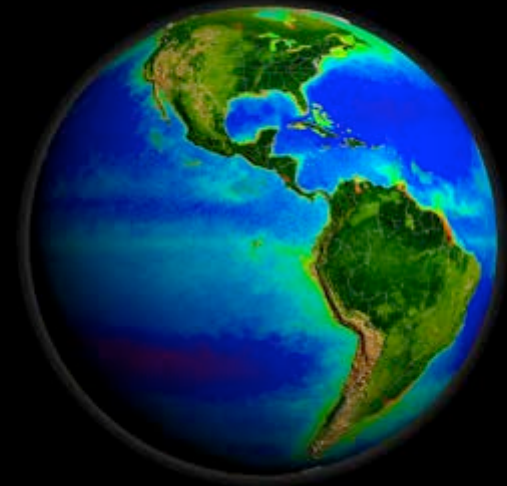
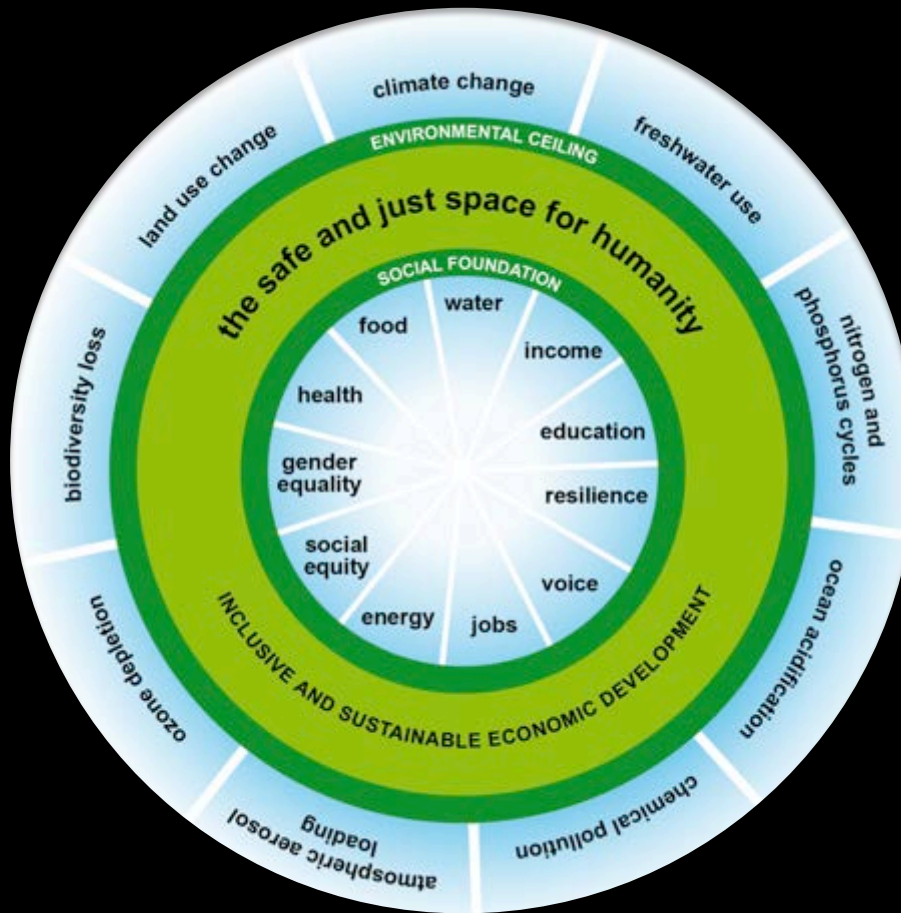
**One Planet  
One Ocean**

# Development needs to respect planetary boundaries



**One Planet  
One Ocean**

# Development needs to respect planetary boundaries



**One Planet  
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What is the safe and just operating space for humanity?

# High level policy developments in 2015/16





Sustainable Development Goal on Ocean and Seas

# Indicator Example: Ocean Health Index



**Goal 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development**

Targets are agreed to by the nations.

How to measure progress against targets?

Indicators are agreed ... *but are they the best?*

The need to derive indicators building on a smart index framework, based on information.



[GOALS](#)

[COMPONENTS](#)

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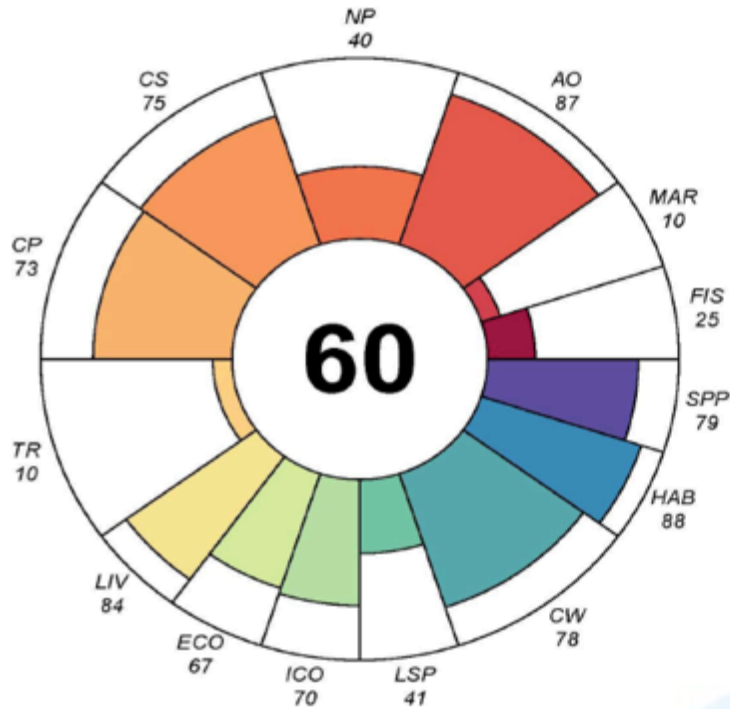
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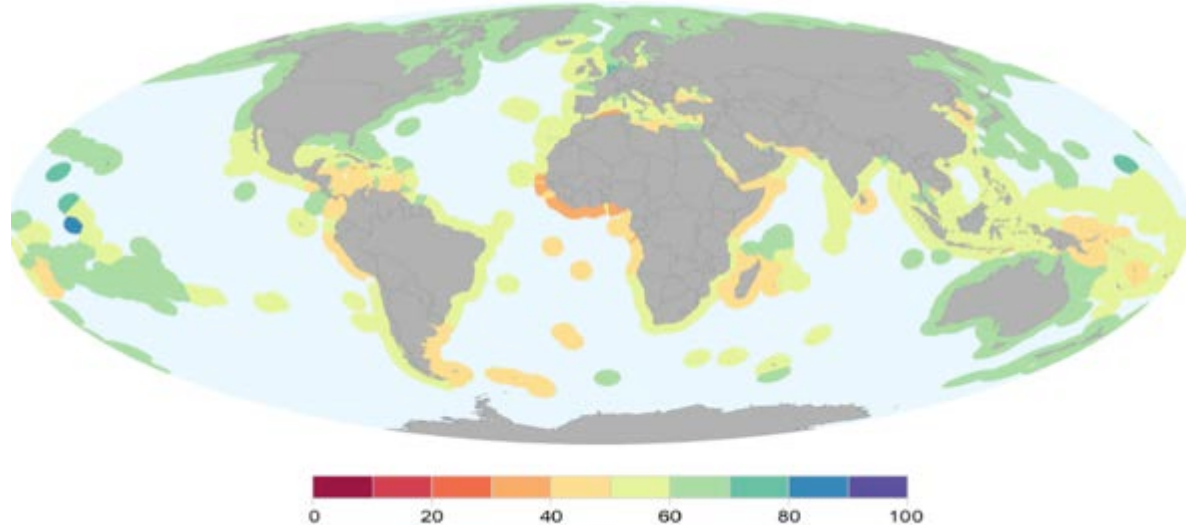


# The Ocean Health Index

## Global



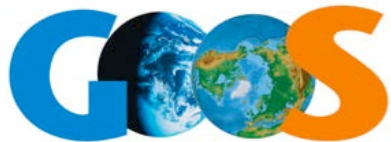
NP = Natural Products  
AO = Artisanal Opportunities  
MAR = Mariculture  
FIS = Fisheries  
SPP = Species  
HAB = Habitats  
CW = Clean Waters  
LSP = Lasting Special Places  
ICO = Iconic Species  
ECO = Economies  
LIV = Livelihoods  
TR = Tourism & Recreation



# #OceanOptimism



## Innovation, Integration and Collaboration in Ocean Observing





# Space Observations



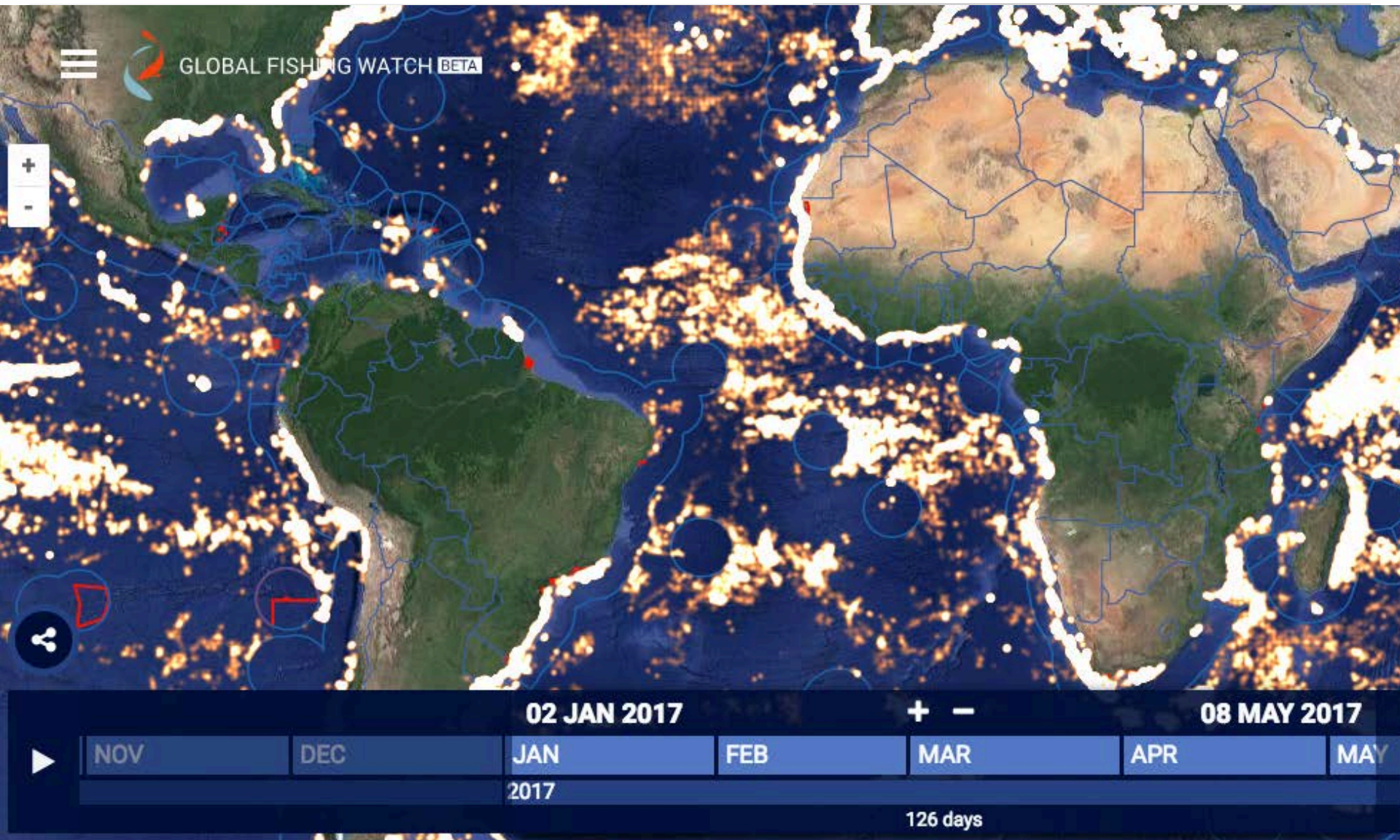


# In Situ Ocean Observing





# Innovation in Monitoring





# Innovation in Monitoring



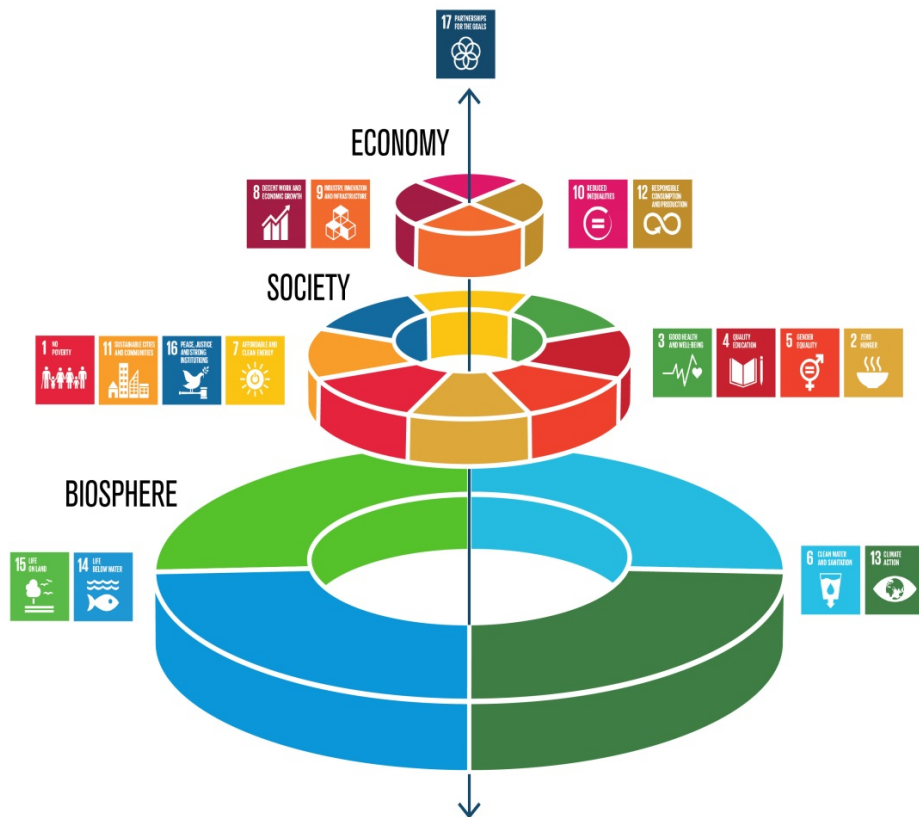
# #OceanOptimism



Understanding, Innovation,  
Global Learning and Problem Solving



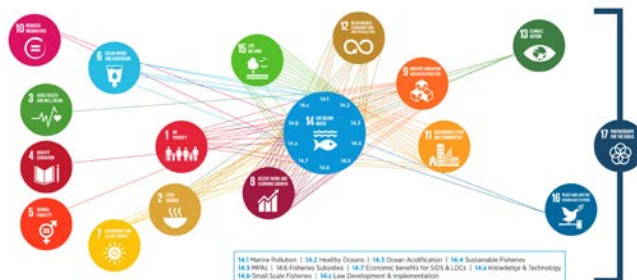
# SDG interaction and policy coherence



*"The 17 Sustainable Development Goals and 169 targets ... demonstrate the scale and ambition of this new **universal Agenda**. ... They are **integrated and indivisible and balance the three dimensions of sustainable development: the economic, social and environmental**.*

*A/Res/70/1 Preamble, 21 October 2015*

# SDG interaction and policy coherence



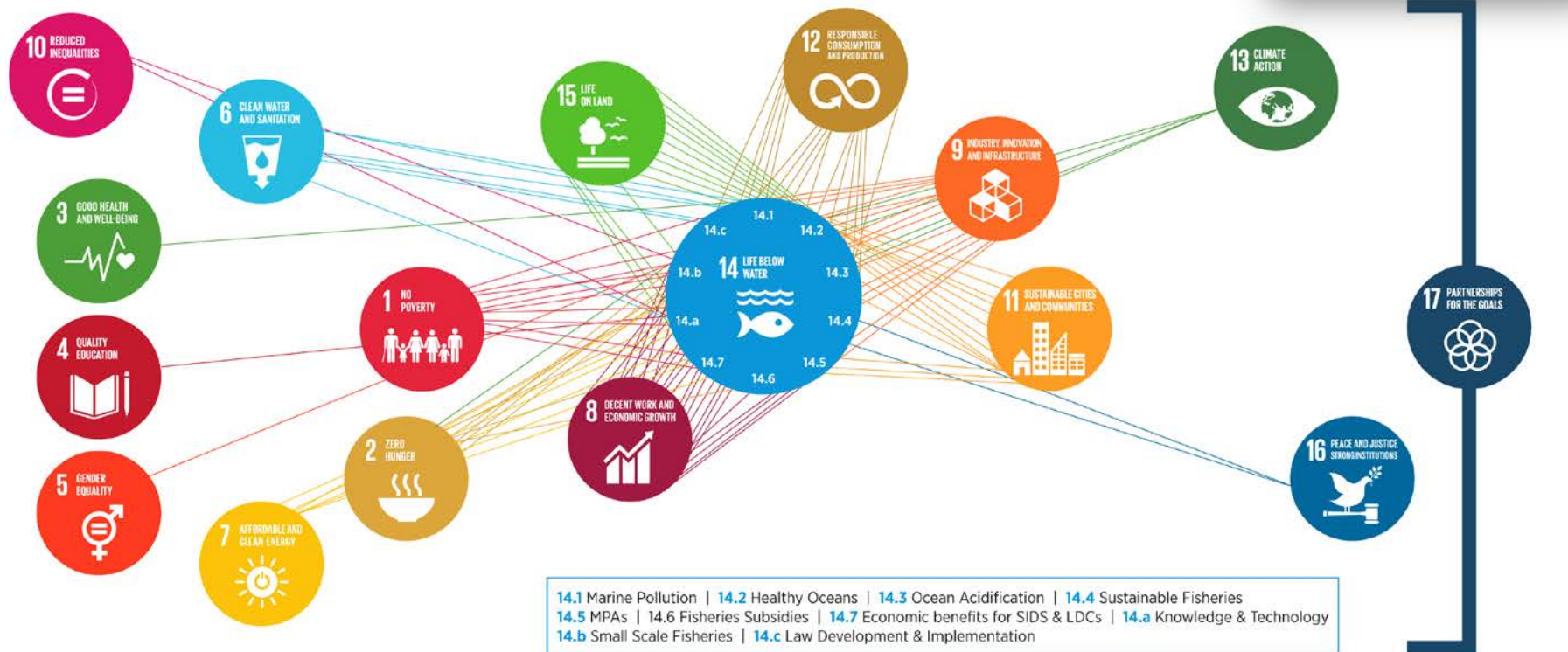
**Map the interactions between Sustainable Development Goals**  
 Måns Nilsson, Dave Griggs and Martin Visbeck present  
 a simple way of rating relationships between the targets  
 to highlight priorities for integrated policy.

## GOALS SCORING

The influence of one Sustainable Development Goal or target on another can be summarized with this simple scale.

Interaction	Name	Explanation	Example
+3	Indivisible	Inextricably linked to the achievement of another goal.	Ending all forms of discrimination against women and girls is indivisible from ensuring women's full and effective participation and equal opportunities for leadership.
+2	Reinforcing	Aids the achievement of another goal.	Providing access to electricity reinforces water-pumping and irrigation systems. Strengthening the capacity to adapt to climate-related hazards reduces losses caused by disasters.
+1	Enabling	Creates conditions that further another goal.	Providing electricity access in rural homes enables education, because it makes it possible to do homework at night with electric lighting.
0	Consistent	No significant positive or negative interactions.	Ensuring education for all does not interact significantly with infrastructure development or conservation of ocean ecosystems.
-1	Constraining	Limits options on another goal.	Improved water efficiency can constrain agricultural irrigation. Reducing climate change can constrain the options for energy access.
-2	Counteracting	Clashes with another goal.	Boosting consumption for growth can counteract waste reduction and climate mitigation.
-3	Cancelling	Makes it impossible to reach another goal.	Fully ensuring public transparency and democratic accountability cannot be combined with national-security goals. Full protection of natural reserves excludes public access for recreation.

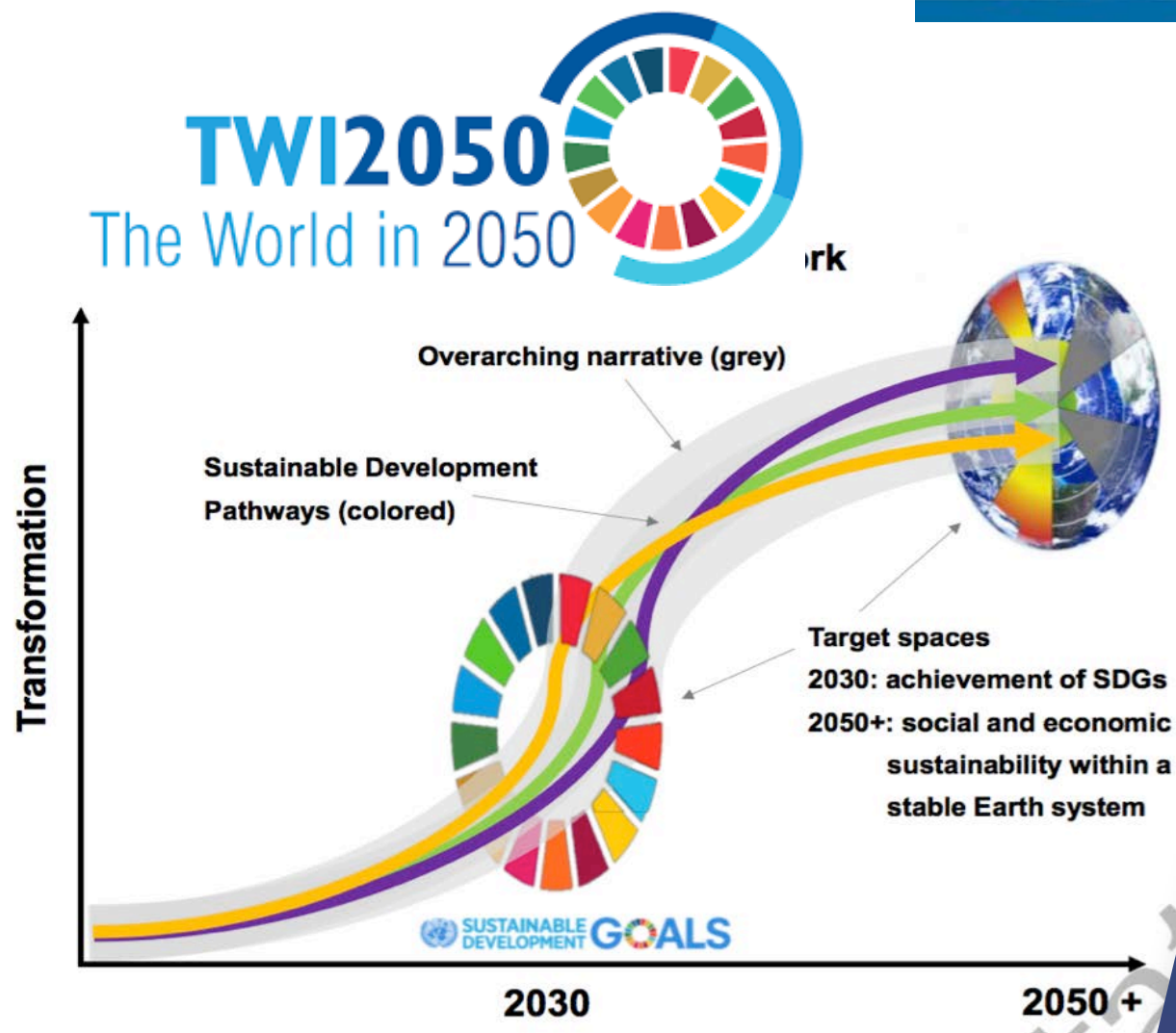
# SDG interaction and policy coherence



**97 target level interactions: 61 (positive), 1 (neutral) and 35 (negative)**



# SDG scenarios and narrative



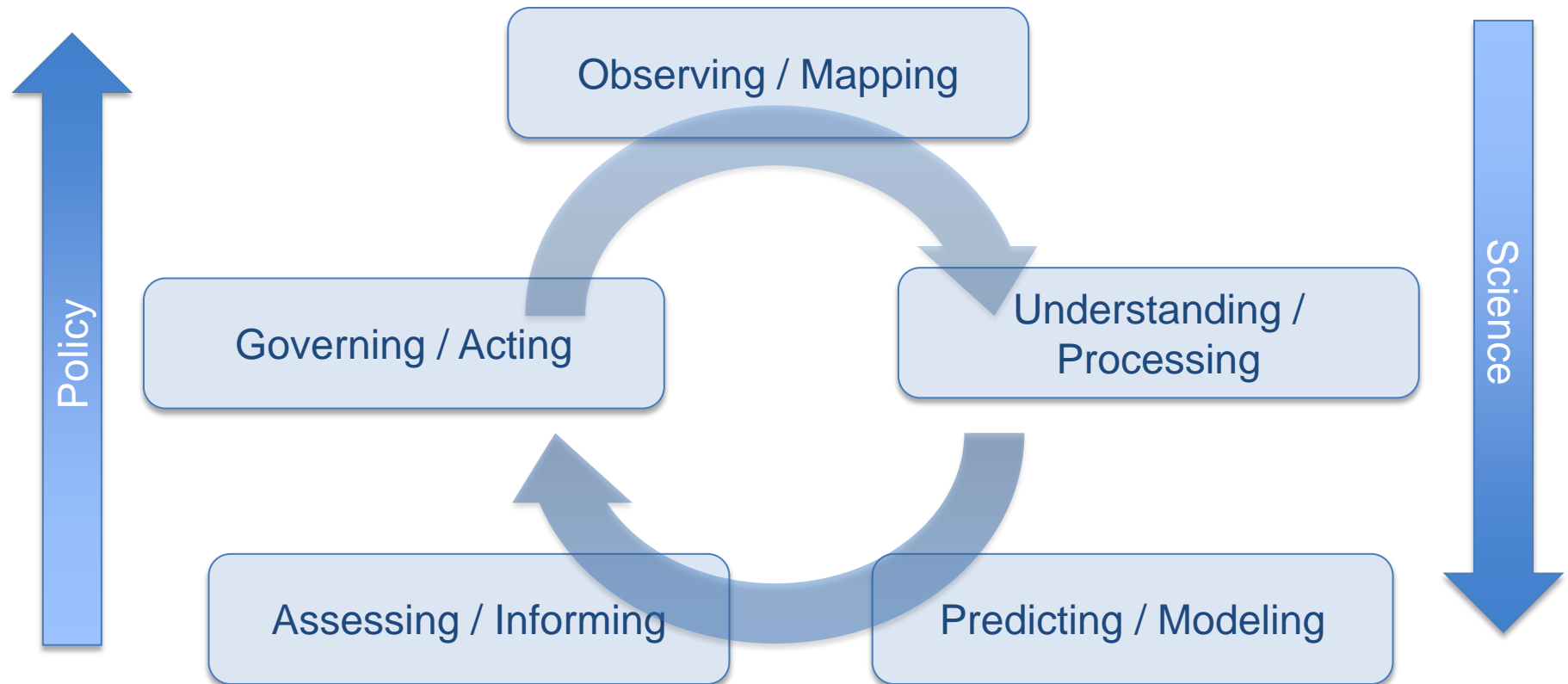


# Ocean Value Chain

Increased need for ocean information to meet a growing range of societal needs can only be fully realized if all elements of the value chain are resourced adequately.

## ***Societal Benefit***

## ***Scientific Discovery***



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*Societal Benefit* *Scientific Discovery*







THE  
**OCEAN  
CONFERENCE**  
UNITED NATIONS, NEW YORK, 5-9 JUNE 2017

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OUR OCEANS, OUR FUTURE: PARTNERING FOR THE IMPLEMENTATION  
OF SUSTAINABLE DEVELOPMENT GOAL 14

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# From Ocean Discovery to Sustainable Ocean Development

