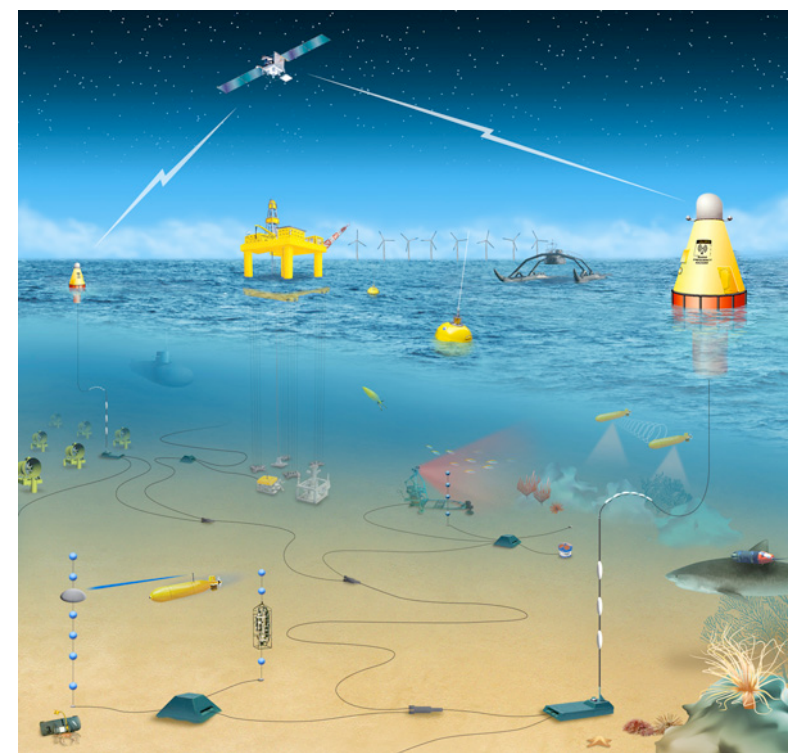
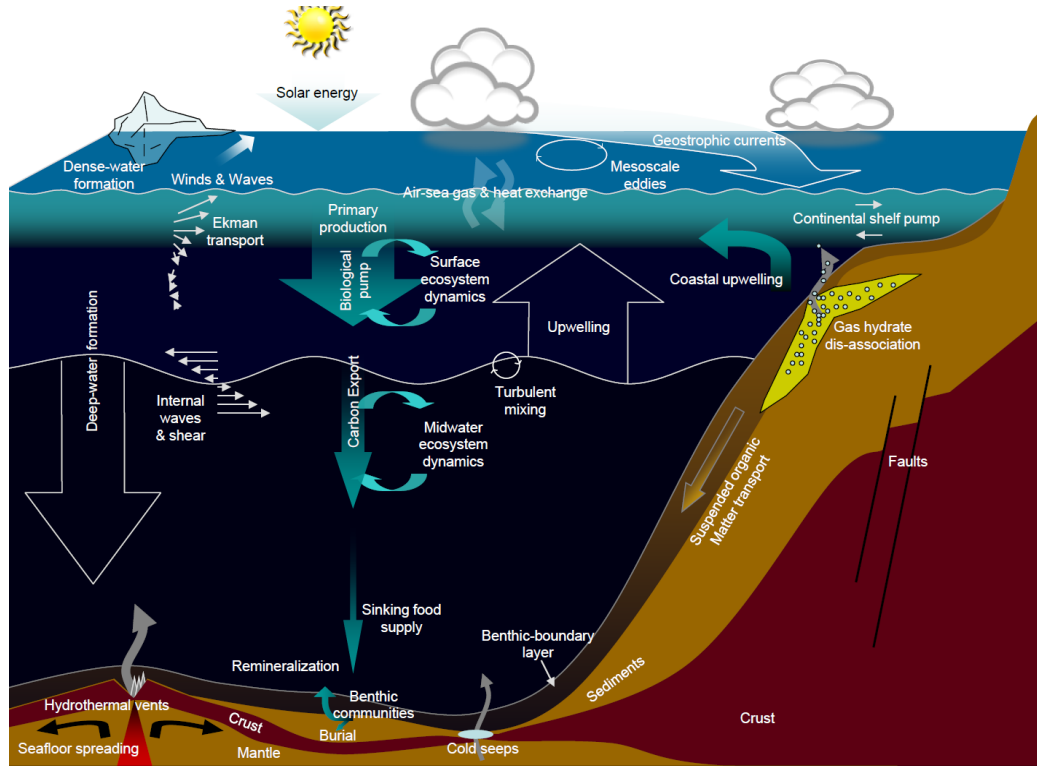




A decadal vision for marine observing infrastructures

Professor Ian Wright
 Director, Science & Technology
 National Oceanography Centre, UK

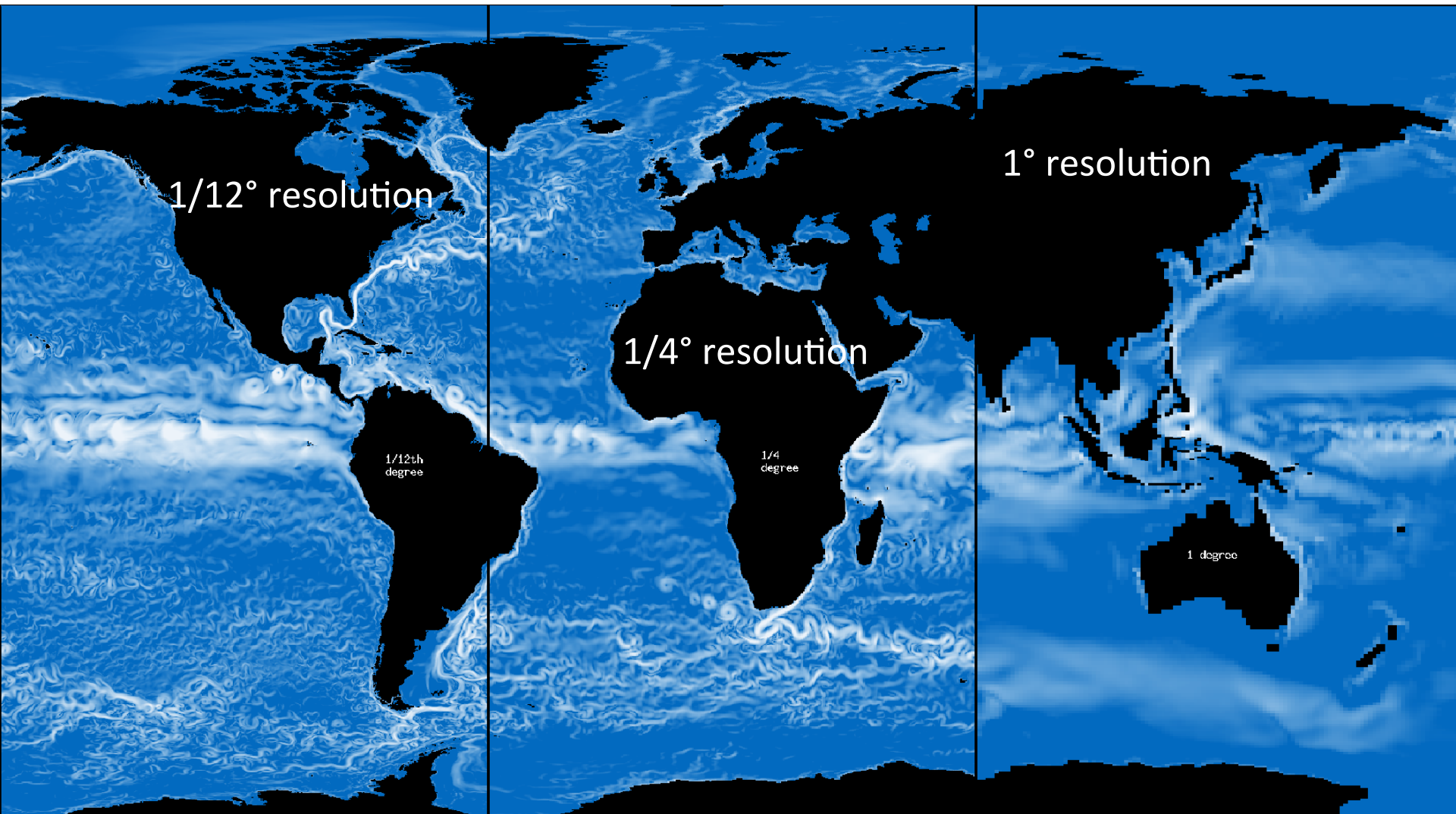
ICRI 2014, 2nd – 4th April, Athens



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NERC SCIENCE OF THE
 ENVIRONMENT

Ocean context: limited observing in space and time

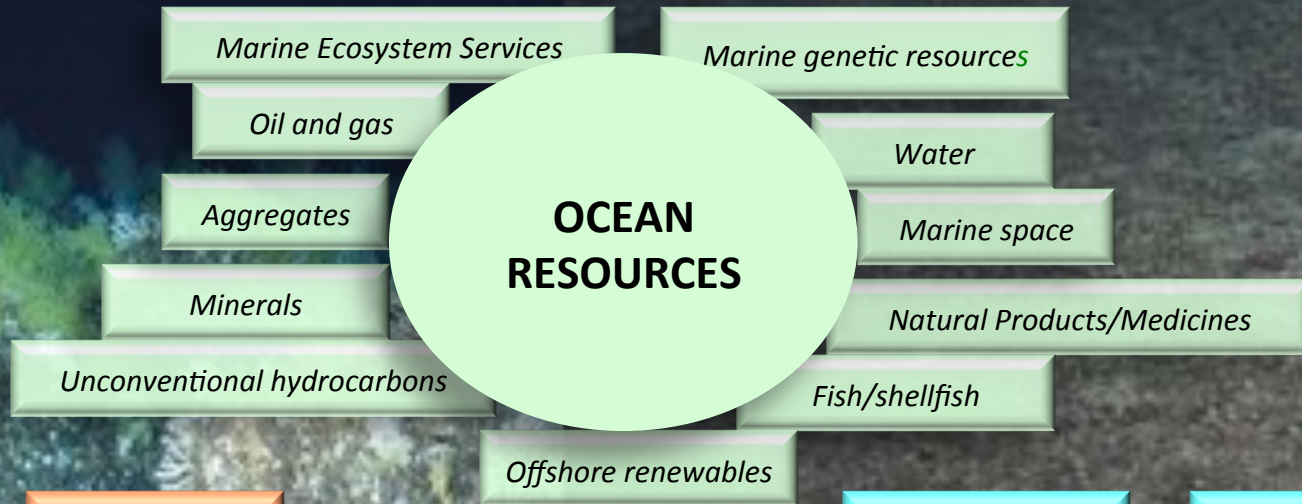


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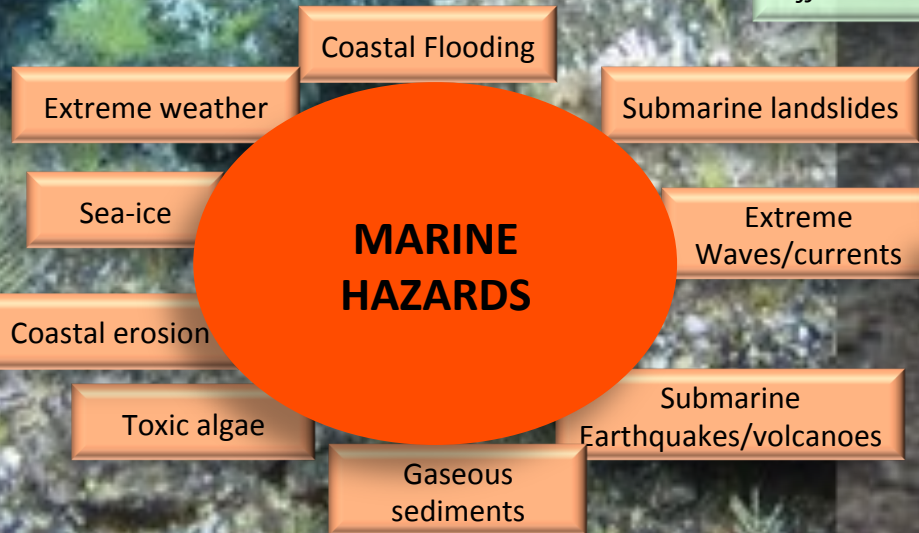
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ENVIRONMENT

Resource Exploration/Mapping/Exploitation

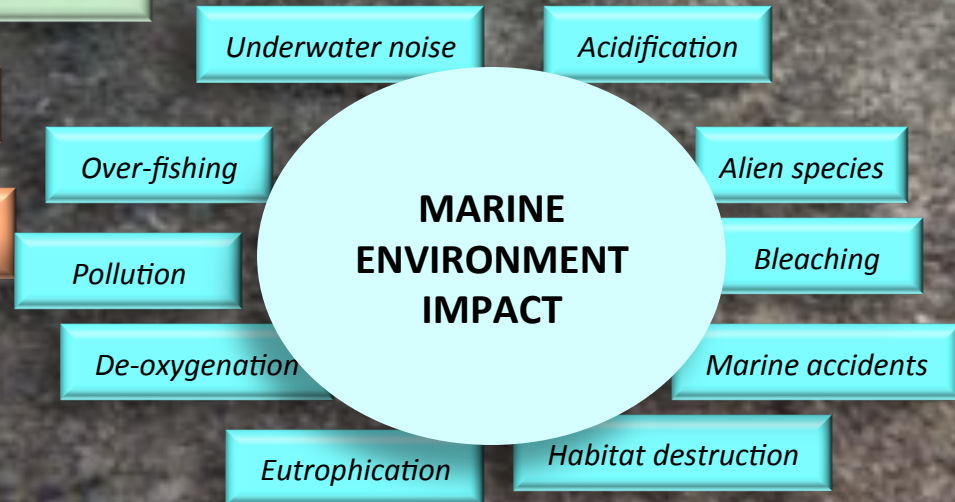


MARINE HAZARDS



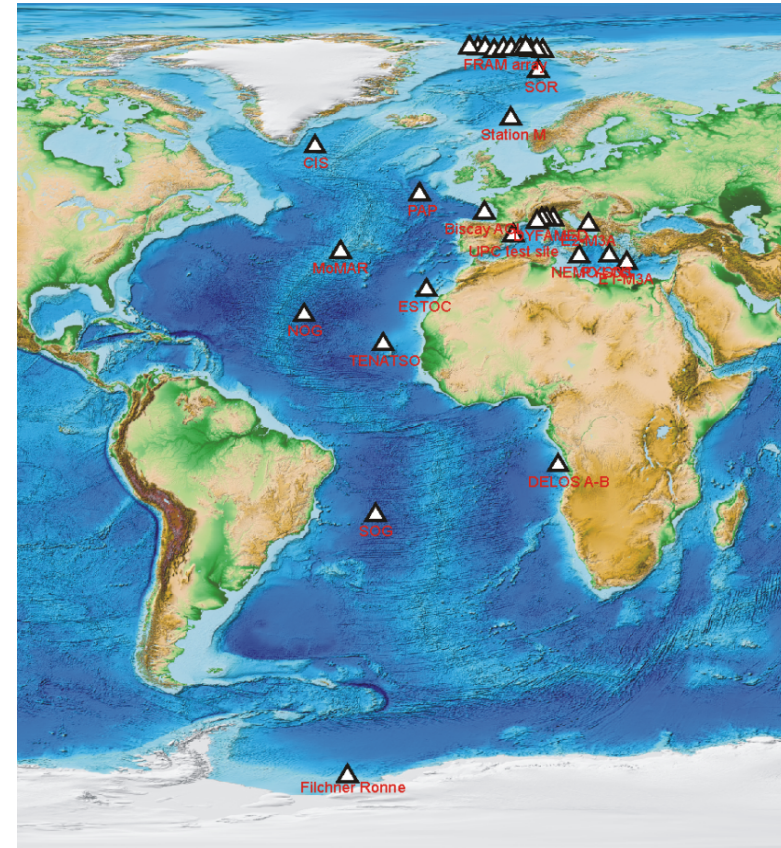
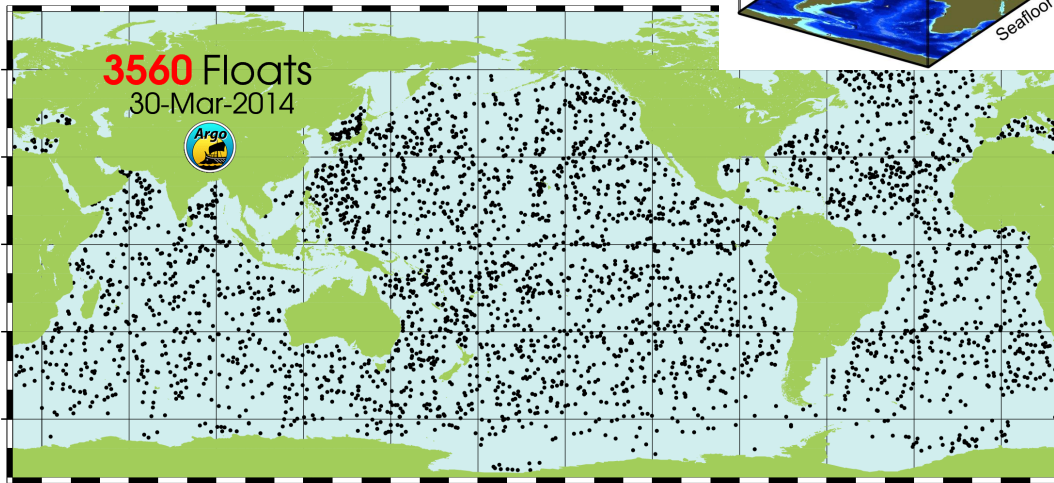
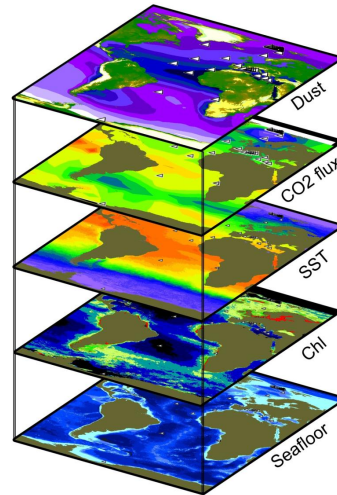
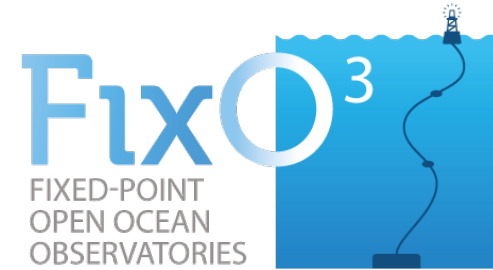
Risk management

MARINE ENVIRONMENT IMPACT



**Environmental Stewardship/
Regulation**

Current systems (fixed point and lagrangian observing) are making profound advances



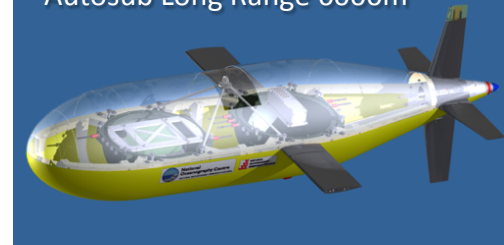
Automatic observing but not intelligent autonomy

Emerging observing intelligence

- More in situ and autonomous observations in space and time with real-time data transmission – opportunity to track events;
- Observations from crucial but challenging environments – e.g. under-ice (Arctic and Antarctica), Southern Ocean mid-winter, North Atlantic shelf break in winter;
- Integration of “fixed-point” and glider / AUV observing in deep-ocean, and shelf;
- Unmanned surface vehicles as “data gateways” for real-time data acquisition;
- Adaptive and dynamic adaptive ocean sensing.



Autosub Long Range 6000m



Autosub 6000 6000m



iRobot Seagliders 1000m



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Decadal vision

- Determine the linkage between natural variability and anthropogenic-induced change within an earth-system context;
- Provide the evidence base to both sustainably exploit ocean resources, and urbanize coastal zones;
- Develop marine observing infrastructures systems that have increasingly autonomy characterised by the traits of being in situ, instantaneous, intelligent, integrated, and international over all water-depths.

