

Understanding the Oceans: a Grand Challenge, an Imperative



Professor Edward Hill

EuroOCEAN
2010



**National
Oceanography Centre**
NATURAL ENVIRONMENT RESEARCH COUNCIL

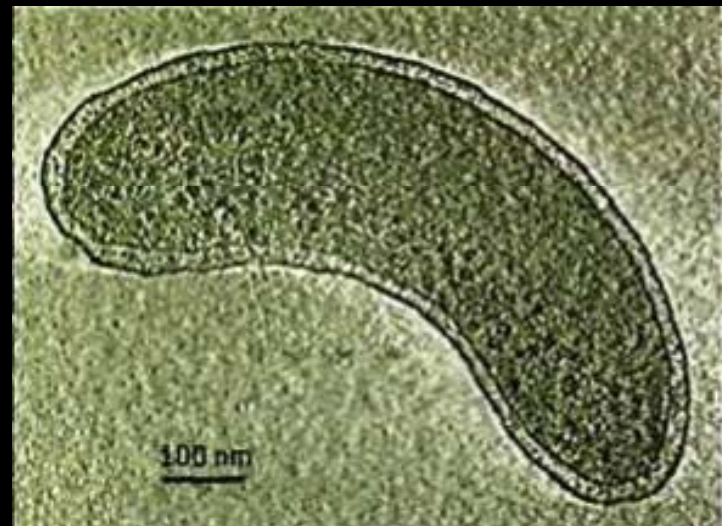
Thermae Palace (Oostende, Belgium, 12–13 October 2010)



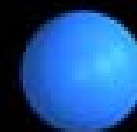
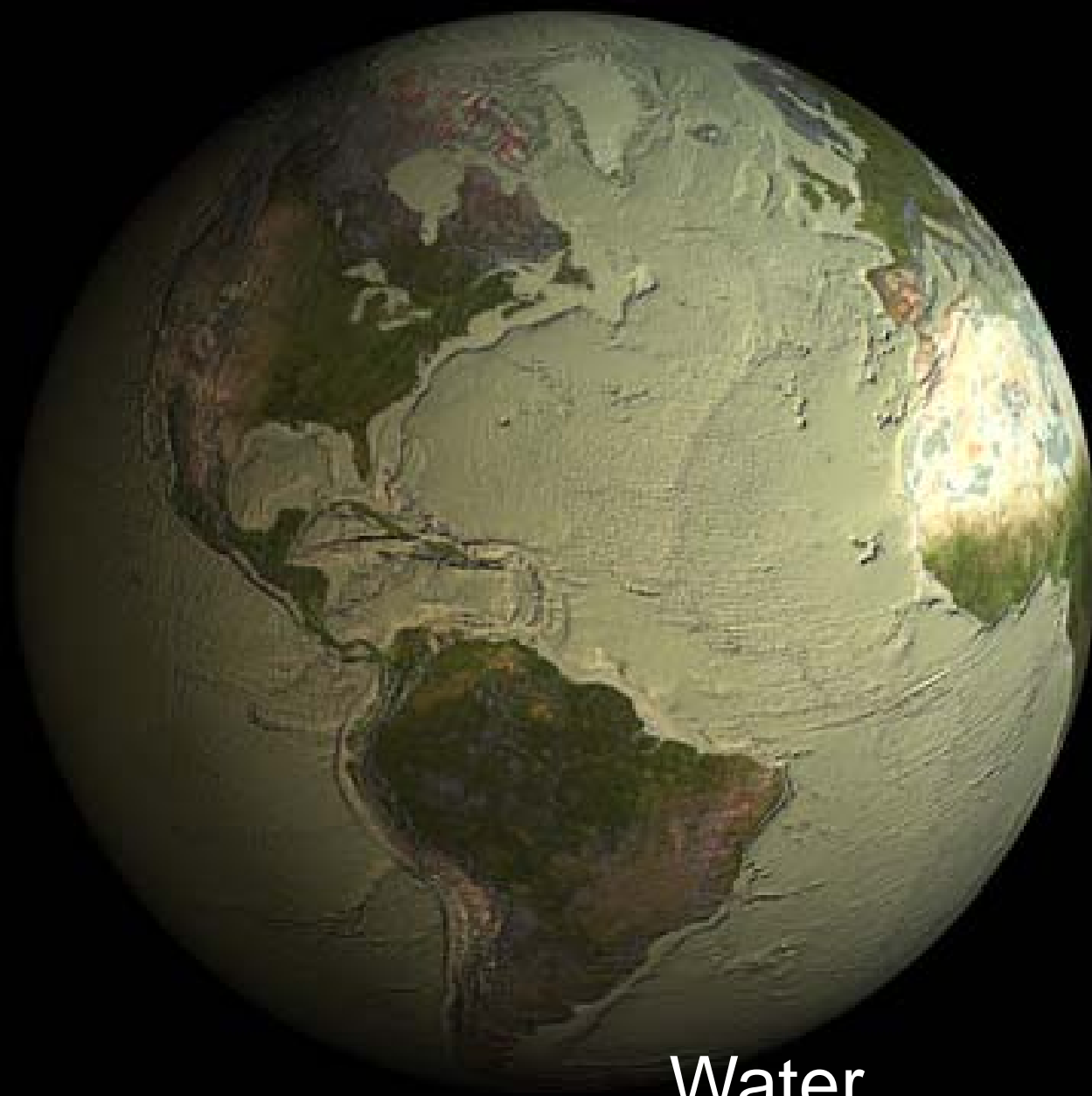
70% of Earth's surface
97% of biosphere volume
80% of species on Earth

A largely invisible world

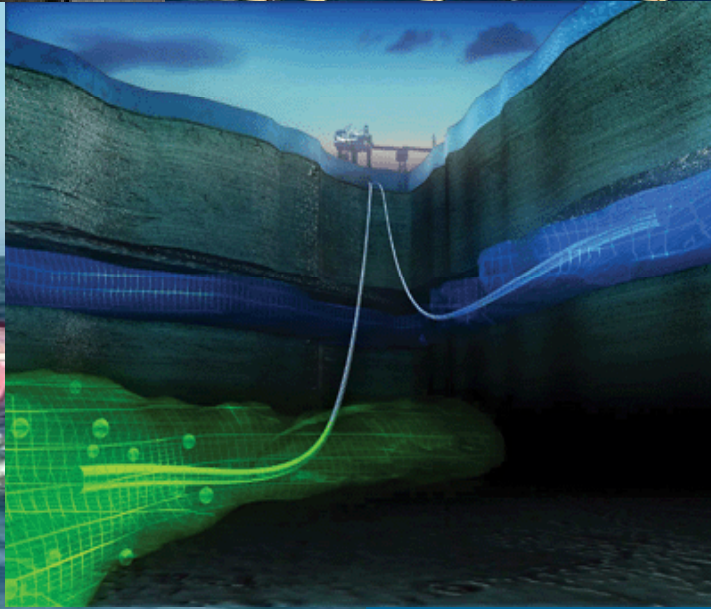
Pelagibacter unique



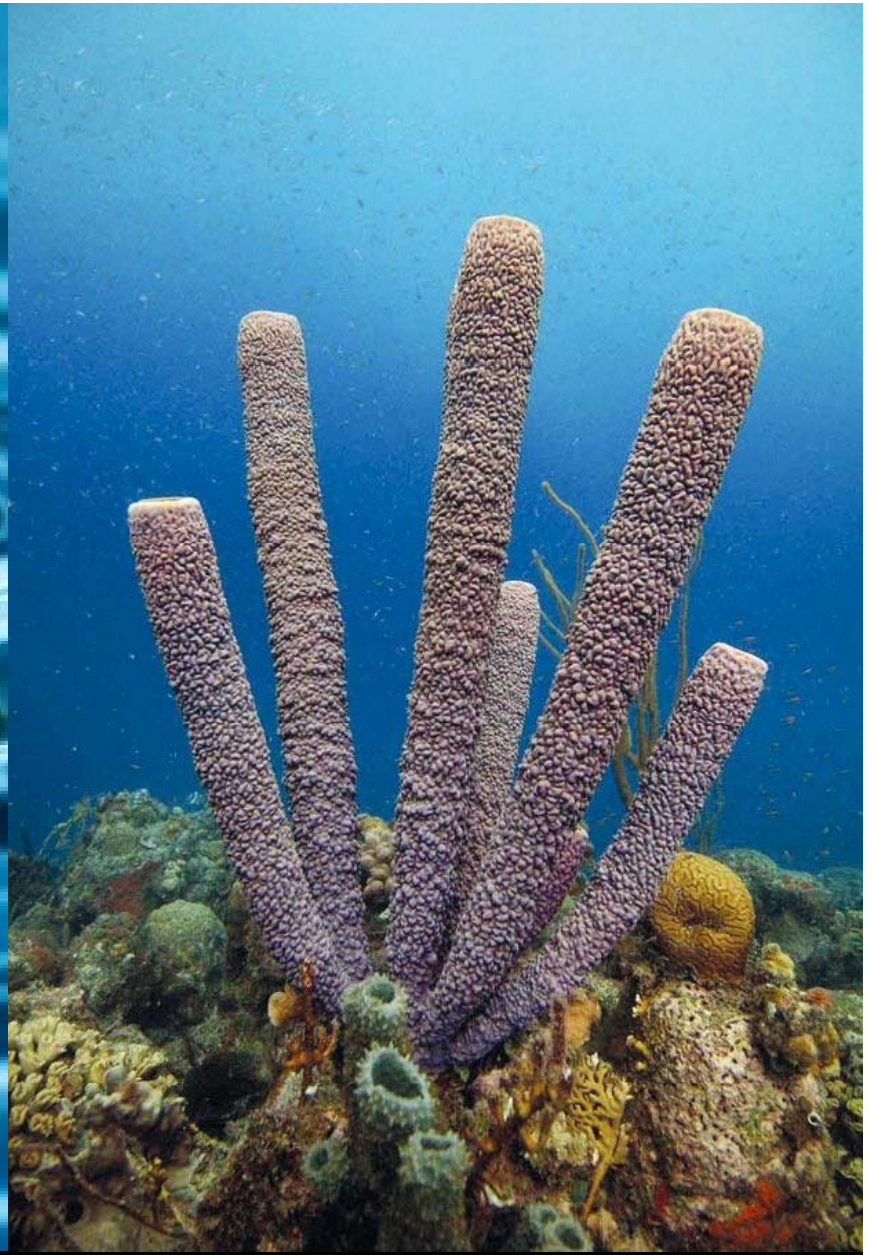
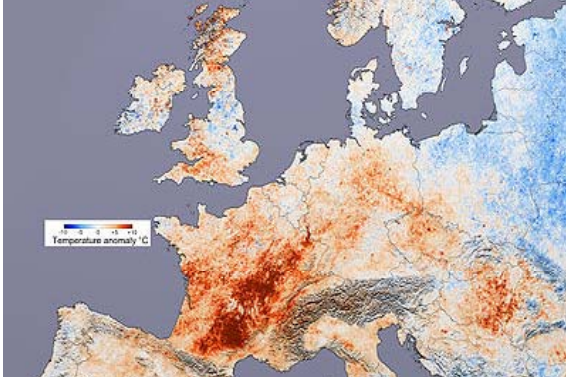
Importance of the oceans



Water



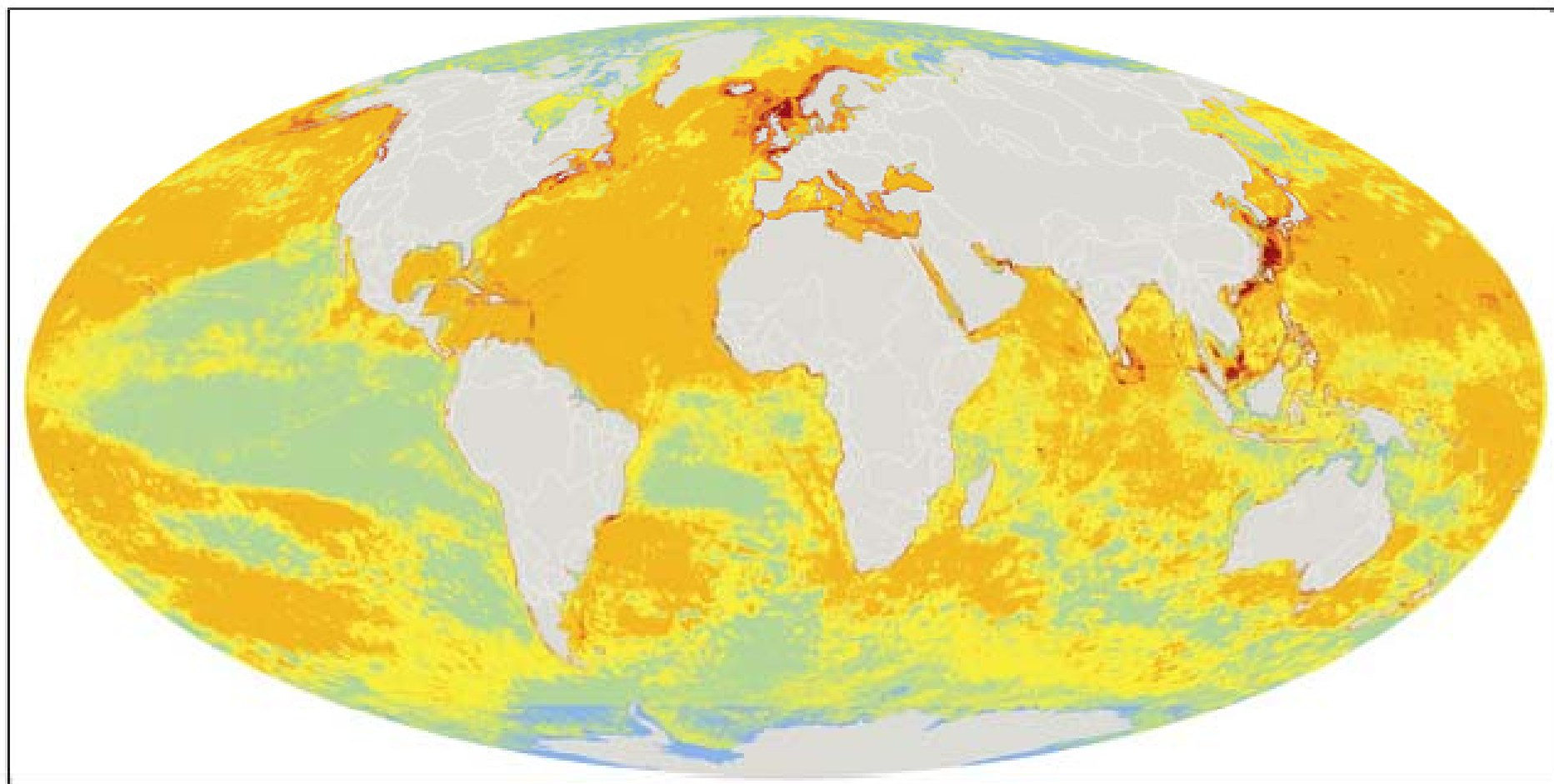
Energy



Health



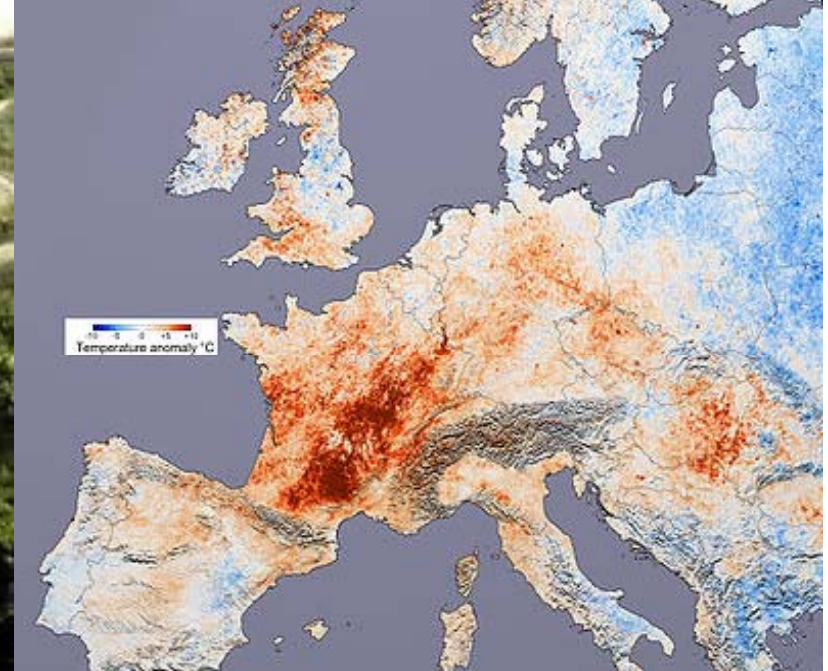
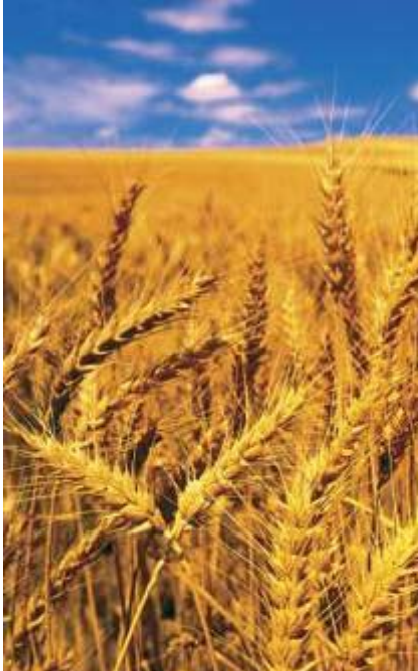
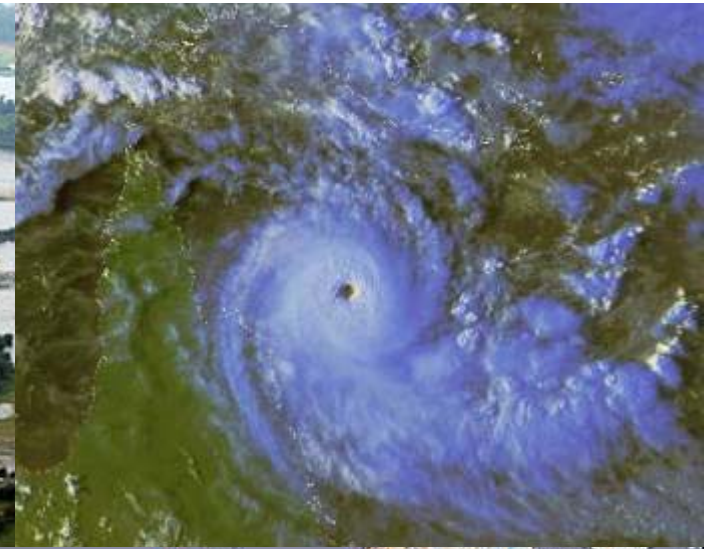
Benefits delivered by marine ecosystem services



Very Low Impact (<1.4) Medium Impact (4.95–8.47) High Impact (12–15.52)
Low Impact (1.4–4.95) Medium High Impact (8.47–12) Very High Impact (>15.52)

Science 15 Feb 2008 Halpern et al

Human impacts on the sea

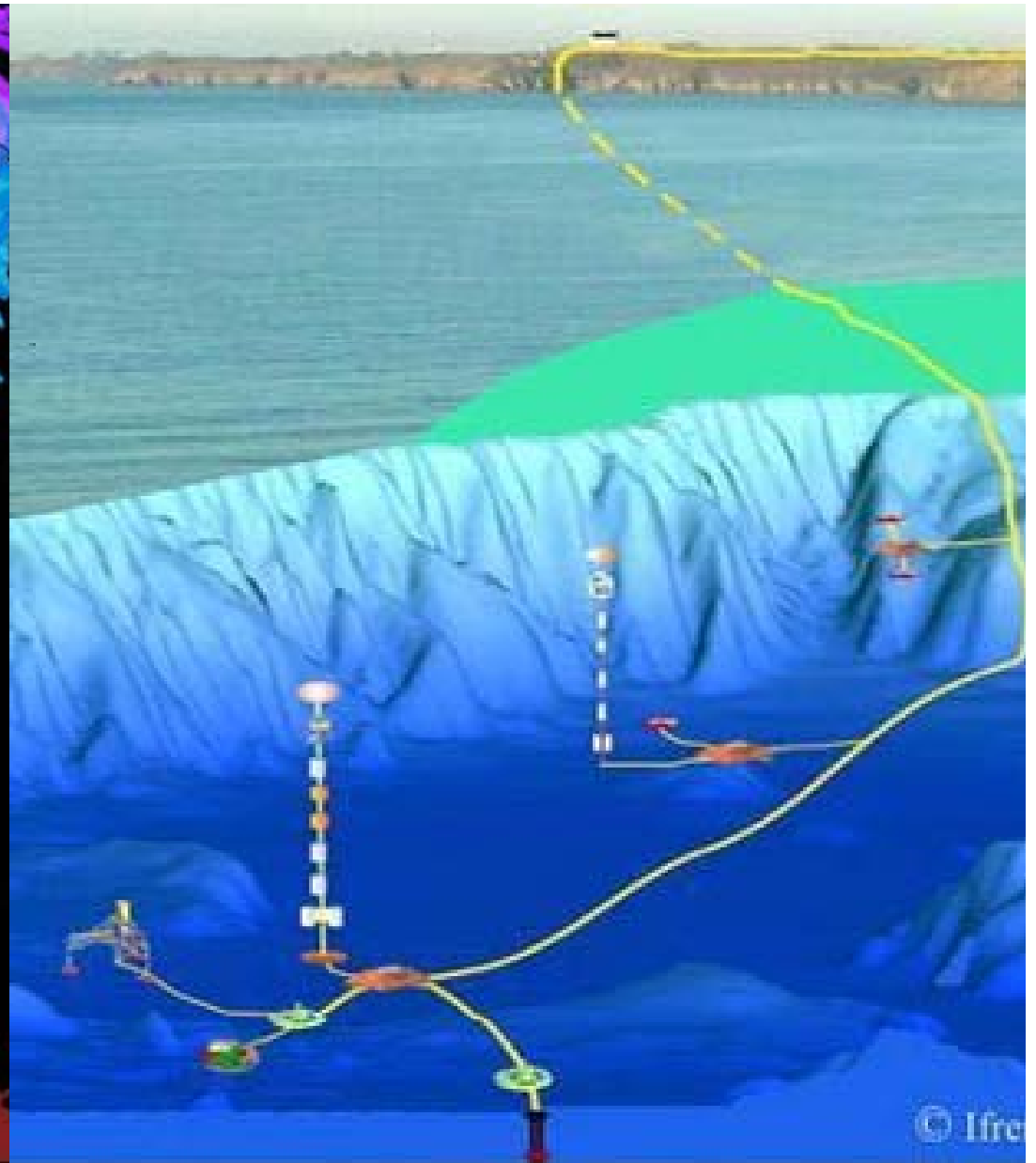
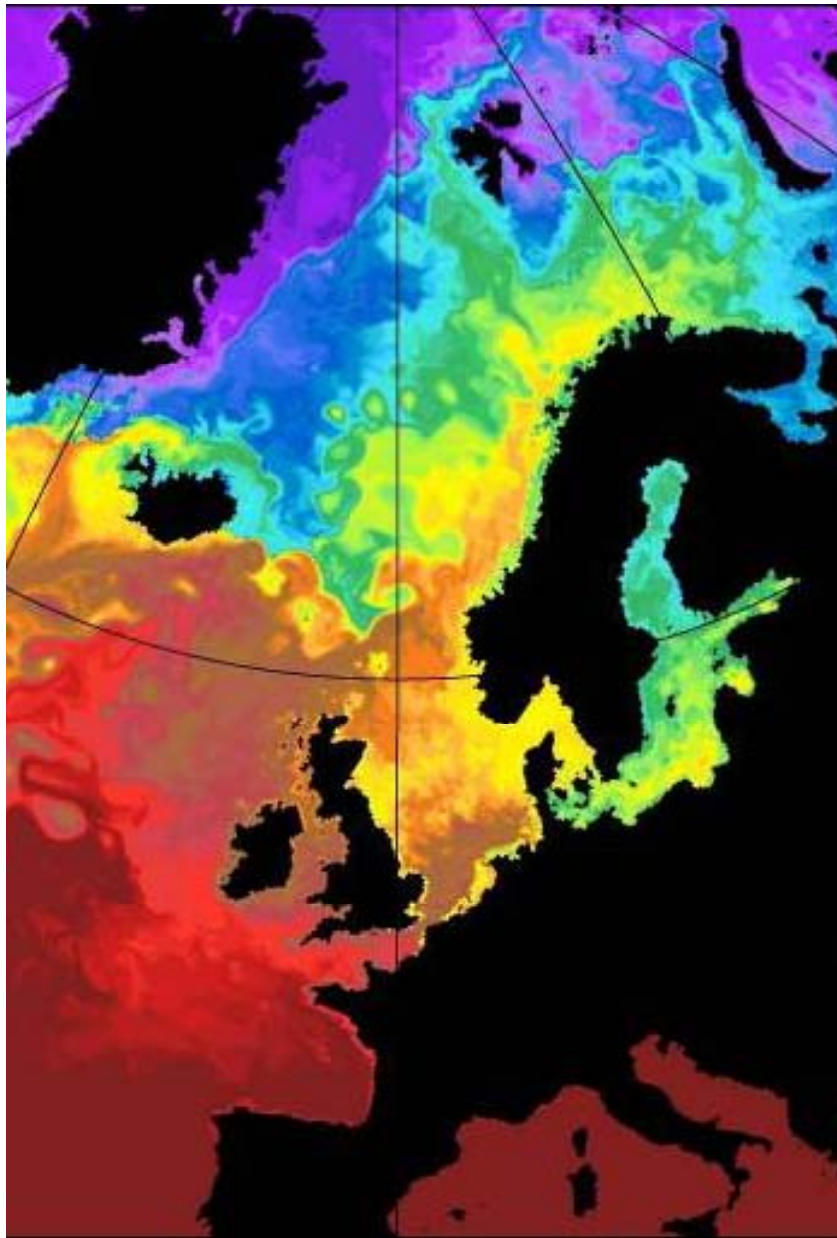


Climate change and variability – impacts far from the sea

European marine space



A resource that exceeds its land area



Sustained observations, mapping, data, models needed

Strong case for investment in European Marine science

- Platforms and observing systems
- Data infrastructure
- Research and innovation
- Skilled people



Inspiration of the oceans