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Ocean Science Day 2019
Science for Climate Change

“to ensure a healthy ocean and a healthy planet*”

• The characteristics of good monitoring program
  • Value to stakeholders
  • Measure state and trend
  • Trigger for agreed actions

• Communication
  • Delivery
  • Better, not more
  • Education

Why monitor?

- To ensure we do not compromise the ability of future generations to meet their needs (adapted from the World Commission on Environment and Development, 1987).

- Agreed Indicators

- 4 Key Steps
  - Identify risks
  - Agree on the important environmental values that must be sustained in a ‘healthy’ ocean
  - Build an agreed list of indicators
  - Test, monitor, ACT (if required), refine.....
• Annual cycle 100%
• Medium cycle (ENSO) 12%
• Longer term trend 1 - 2%/decade

Need sufficient temporal sampling
Spatial sampling

• Example
  • Large portion of south east Australia is adequately assessed for phytoplankton biomass from one station.

• Regions with different seasonal dynamics or different communities will need some level of representation.

• Briggs 1995; Longhurst 1998; Sherman 2005; Spalding 2007

• 12 realms, 62 provinces, and 232 ecoregions
Communications

Prospect theory

• Uncertainty means people discount future gains.
• Need to help people minimize the immediate costs of reducing their carbon footprint.

Education

• Global citizens with global responsibilities
• Products for classrooms
• Rebuild trust in science

Daniel Kahneman, Nobel Prize 2002.

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Communication: examples

Connect with people:
- beach health
- surf cam
Thank you