

3- how to maximise impact on AR7

Integration - integration – Integration!

..and it is a **community** work

SIXTH ASSESSMENT REPORT
Working Group I – The Physical Science Basis

ipcc
INTERGOVERNMENTAL PANEL ON climate change

WMO UNEP

Lessons learned for AR7

- Ease of **integration** of multiple lines of evidence e.g. with **community** data standards and documentation, analysis tools, facilitated data access
- Documentation and curation of data assessed in the report for transparency and FAIR principles for open science
- Cataloguing datasets and literature assessed in the report
- Greater **integration** of data products, including links to other WGs by means of interactive tools to support user access and exploration
- Coordinated **community** support of the assessment and small author teams

Credits: A. Pirani

notes

Importance high-quality scientific publications based on CCI products that are geared towards addressing IPCC gaps

Cross-ECV activities could be an important avenue for enhancing uptake at the level of IPCC. Cross ECV could and should transcend partitions into domains as needed (go beyond oceans)

Synthesis is important

Trends are important: but equally important are confidence in trends (relevance of uncertainties).

Data could contribute to reanalyses and assimilation.

We recognized that some ECVs from CCI are not as well taken up at the level of IPCC as they might be. We need to consider how to improve that.

Example: Importance of cross-ECV + model

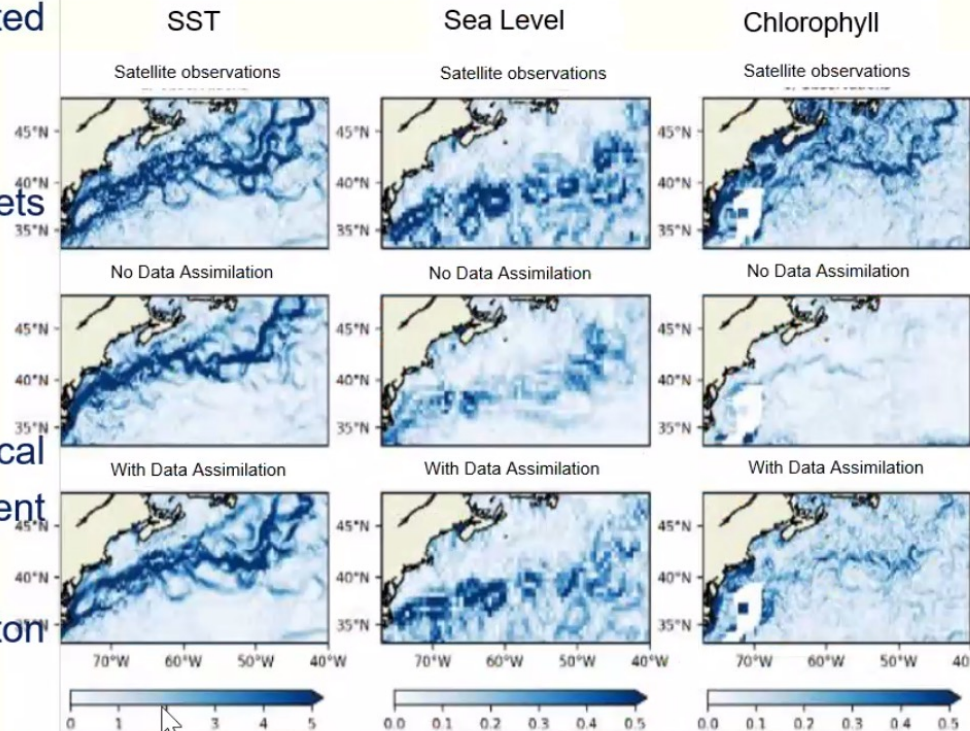
Using SST, Sea Level, Sea Ice, Ocean Colour in reanalysis with *in situ* measurements of temperature and salinity



Physical–biogeochemical ocean model assimilated different combinations of the ESA CCI ECVs

The aims of the study were to assess:

- The impact of assimilating the ESA CCI datasets on the marine carbon cycle and showed
- ESA CCI dataset consistency
- Consistency of physical–biogeochemical relationships in reanalyses assimilating different combinations of data
- strong positive correlation between phytoplankton and net air–sea heat flux
- seasonal variations in carbon-to-chlorophyll ratio



Temperature, sea level and chlorophyll in the Gulf Stream region during December 2010

Important:
Biology +
Physics

High-resolution

Credits:
R. Jones



→ THE EUROPEAN SPACE AGENCY



→ THE EUROPEAN SPACE AGENCY

Should we specifically address oceanic tipping points?



Tipping points in the oceans: In addition to coral reefs and AMOC. Coastal erosion, fisheries collapse(?), regional tipping points (?) could be as final or irreversible as global tipping points. Climate refugees: social and cultural tipping points? Ecological niches. Tipping elements in high Arctic associated with disappearing sea ice.

2- what work needs to be done in CLIMATE-SPACE

Refer to 'pillars of CLIMATE SPACE'

Investigate reasons why uptake of CCI products in climate research could be improved.
Need for community-based approaches

Focus on what can be achieved through Earth Observation, aiming towards AR7.

High-resolution turbulence (Pirani)

Further links to modelling world (Jones)

Additional information could from CCI Sea State work (currently underexploited)

Southern Ocean (role in ventilation needs to be better quantified)

Upcoming critical gap in satellite observations (SSS)

Coastal and regional enhanced observations (Pirani)

High resolution and full physics/biology gaps

Link to the main pillars