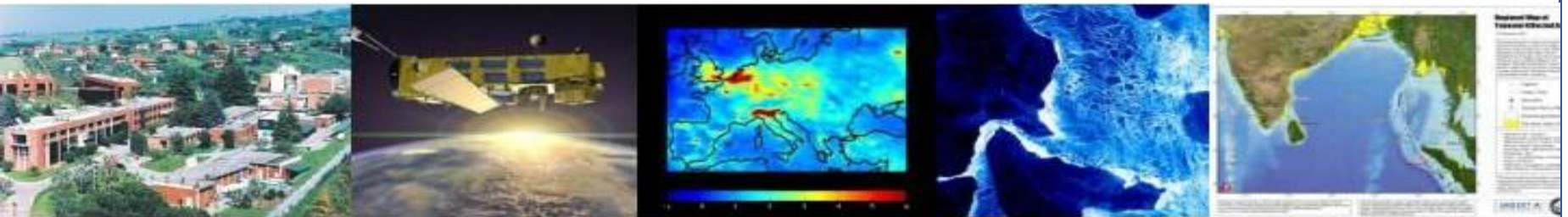


ESA's proposed Initiative on Climate Change



Volker Liebig, *Director of ESA Earth
Observation Programmes*

CEOS-SIT 21

Background/formal requirement definition

UNFCCC: *creation of Convention post-UNCED Rio 1992*

GCOS: *1992 given responsibility for defining climate observational needs*



GCOS Process (recent steps)

- **Essential Climate Variables defined (2003)**
- **Second Adequacy Report (2AP) (2003) –**
definitive document on status of data
- **Implementation plan (2004)**
- **Requirements for satellite-based products**
for Climate (2006)
(GCOS Climate Monitoring Principles)

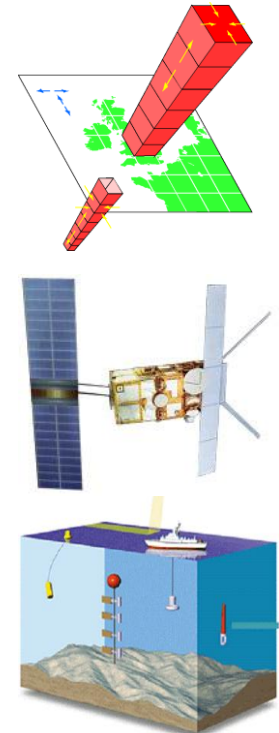
CEOS Response to GCOS: 2006+

“Coordinated Response of Space Agencies to GCOS Requirements” - presented to UNFCCC CoP 12 in 2006 (interim) & CoP 13 in 2007

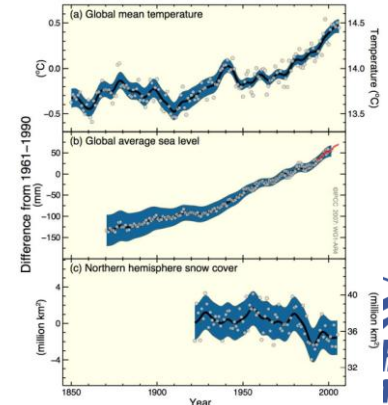


Programmatic Rationale

- Space Agencies have taken responsibility for **actions wrt UNFCCC**
 - Systematic observations / ECVs
- **No** current dedicated funded ESA programme exists
- Key **European Asset**: EO Archives (ESA & other)
- Opportunity to strengthen **European role**
 - ESA in coordination with other Space Agencies
 - International partners, Eumetsat, ESA Member States
- DUE Globxxx projects provide **precursors**
- High **communication value** for benefits of space, and for climate change itself



Changes in Temperature, Sea Level and Northern Hemisphere Snow Cover



Scope of initiative

WHAT?

To systematically **long-term archive, generate, preserve and give access** to data sets of the “Essential Climate Variables” (ECV) to meet needs of UNFCCC and IPCC

WHY?

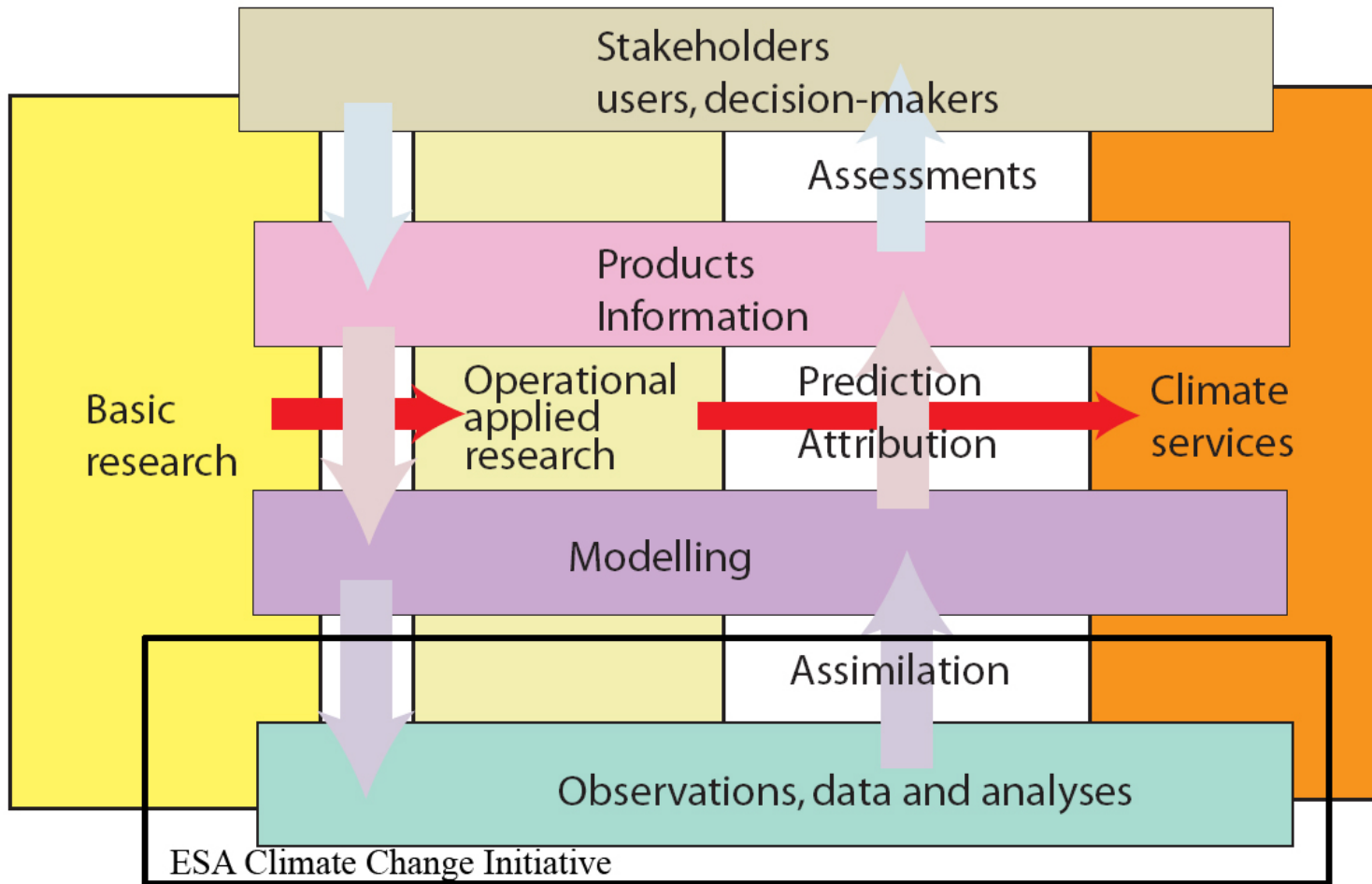
EO from **space plays a vital role** in this endeavour and **ESA** through partnership in CEOS **has committed** to deliver global observations of ECV and associated products.

OUTPUT

ECV Records: Quantifying the state of the Climate system to (I) advance our knowledge of climate change, and (II) support work of UNFCCC and IPCC for mitigation and adaptation

WHEN?

ECV are **needed up-to-date, and as soon as possible** to support climate science and policy



The climate information system

(from K. Trenberth: *Observational needs for climate prediction and adaptation*, WMO Bulletin 57(1), January 2008) and the position of the ESA climate change initiative within it.

