



Architecture for Climate Monitoring from Space

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Architecture for Monitoring Climate from Space

Background:

WCC-3 (Sept. 2009) decided to establish the Global Framework for Climate Services (GFCS) and set up a High Level Taskforce to deliver a report by end of 2010 to be considered by 16th WMO Congress for approval.

16th WMO Congress approved the report in May 2011.



Background (2)

WMO Executive Committee (June 2011) established a Task Team to develop until Sept. 2012 an implementation plan and a governance model to be discussed and approved by an Extraordinary Congress in Oct. 2012.

The GFCS is composed of 5 sub-systems:

- Observations and Monitoring (Obs.& M)
- Research and Modelling
- Climate Services Information System
- User Interface Programme
- Capacity Building



Background (2)

The Obs. & M sub-system will provide the required data sets in form of ECVs as input for the Climate Services Information System.

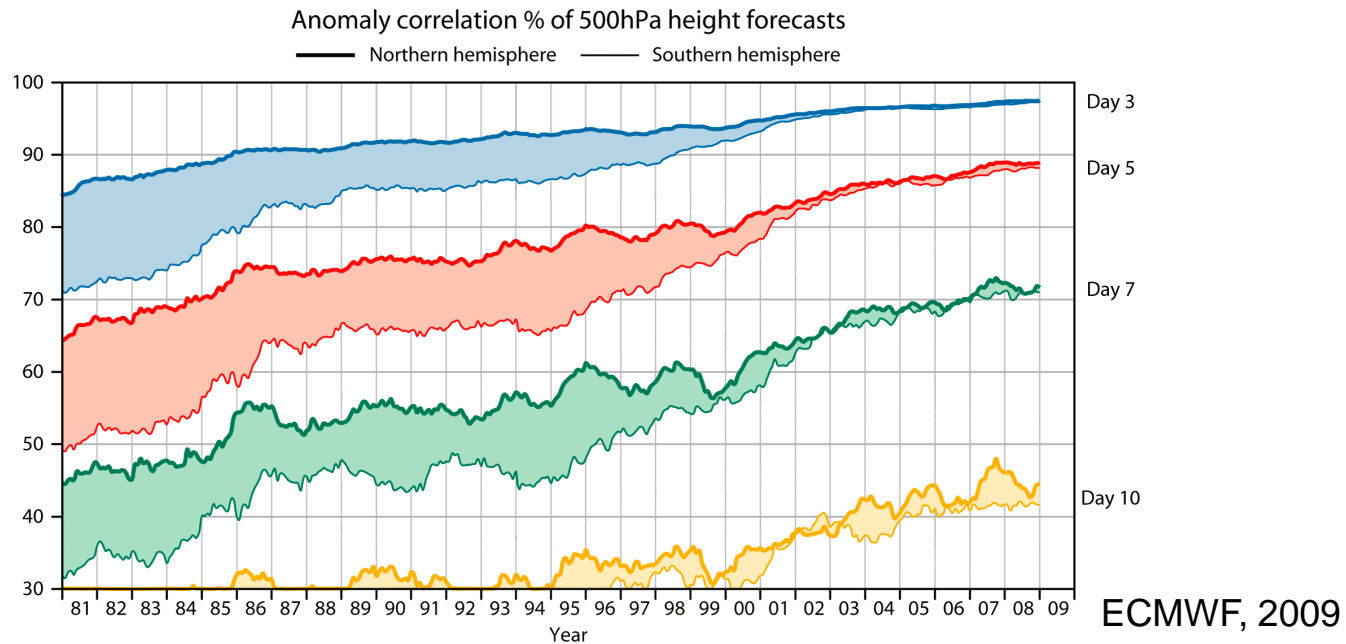
At this time 28 out of the 52 ECVs can be extracted from satellite data. There is room for technological and scientific development to increase the number of satellite derived ECVs.

However, we face a structural problem:
There is no satellite observing system in place which is designed to meet the long-term requirements for monitoring climate from space.



Background (3)

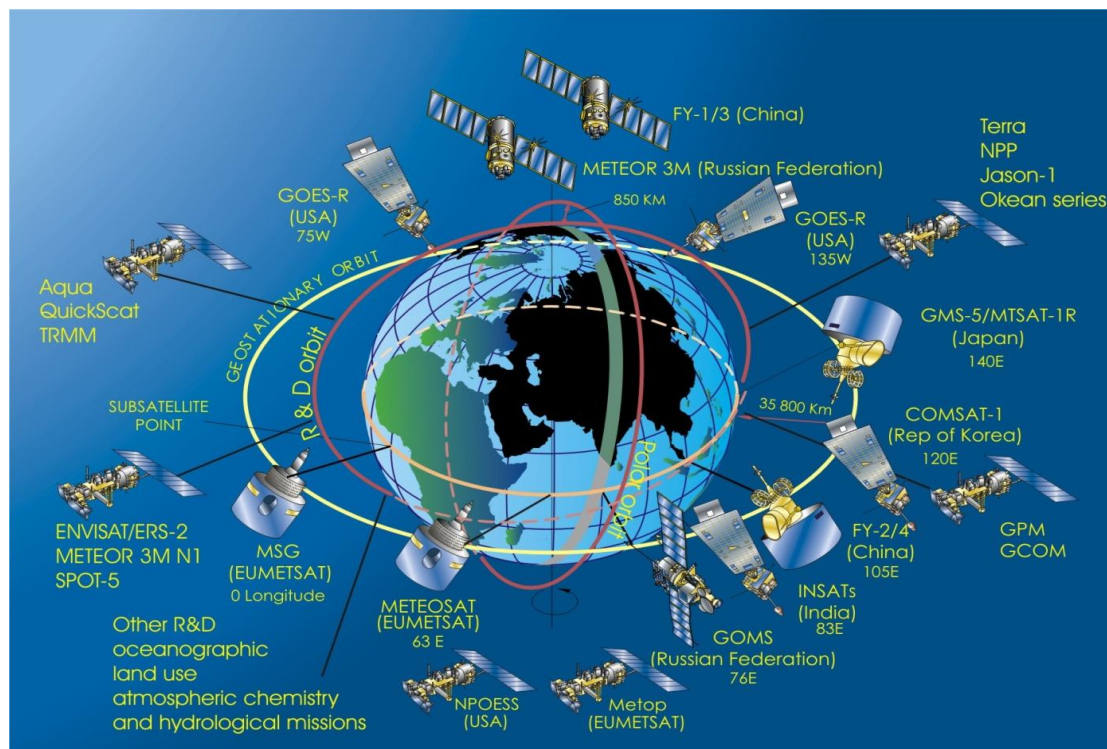
We have a situation similar to the 60s of the last century when the World Weather Watch was established. We have seen the tremendous achievements over the last 40 years in NWP.





Background (4)

The achievements are to a significant part due to the satellite component of the WMO Integrated Global Observing System (WIGOS).



2011



Architecture (1)

The satellite component of the WIGOS was designed mainly to meet the observational requirements for NWP. This success story has to be repeated for climate monitoring.

Architecture

The idea of an international architecture for climate monitoring from space has been agreed by the different satellite operators, represented in CGMS and CEOS, and WMO and GEO.



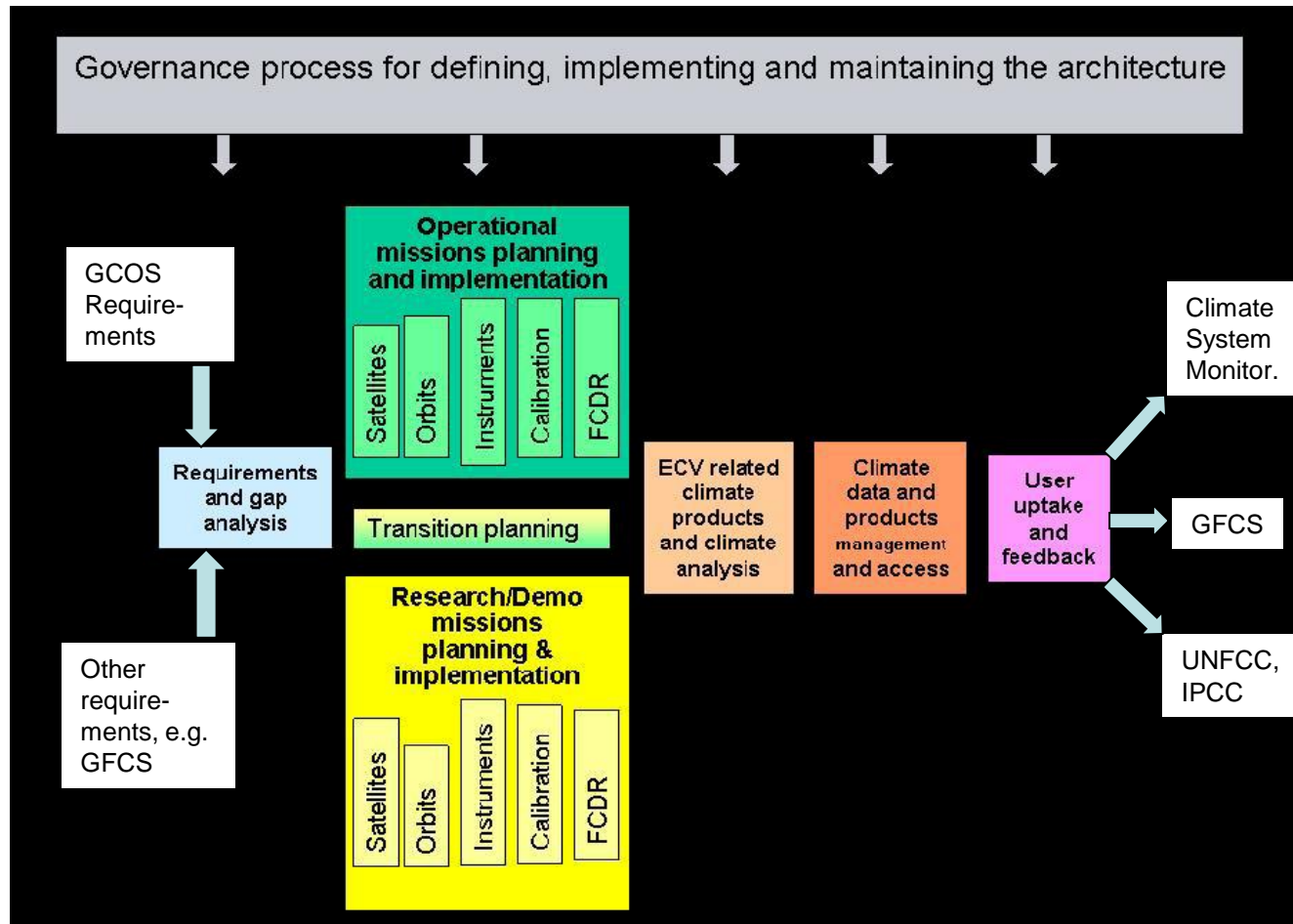
Architecture (2)

The architecture will have the following functional components:

- Analysis of user requirements
- Observing capacities
- ECV product generation
- Data management, access and dissemination
- User interface
- Coordination and governance



Architecture (3)





Architecture (4)

A writing team for developing a strategy towards an architecture for climate monitoring from space was established in Jan. 2011 and is composed of experts from CEOS, CGMS and the WMO Space Programme.

The draft was made available for review by CGMS and CEOS on 22 Sept. 2011 and provided to GCOS, WCRP and GEO for comments. The final version will be ready in Spring 2012 and will be delivered to WMO EC for discussion and approval in June 2012 and to CGMS and CEOS in Autumn 2012.



Architecture (5)

Way Forward

