



CEOS OSVW Virtual Constellation Status and Next Steps

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IOVWST Meeting

Kona, HI

May 6—8, 2013



Outline

- What is CEOS and the Virtual Constellations
- Role of the IOVWST and OSVW-VC
- Next Steps/Discussion Questions

CEOS Background

- Established in 1984 under auspices of G-7 Economic Summit of Industrialized Nations
 - Focal point for international coordination of space-related Earth Observation (EO) activities
 - Optimize benefits through cooperation of members in mission planning and in development of compatible data products, formats, services, applications, and policies
- Operates through best efforts of Members and Associates via voluntary contributions
- 30 Members (Space Agencies), 22 Associates (UN Agencies, Phase A programs or supporting ground facility programs)
- As the space component of the Global Earth Observation System of Systems (GEOSS), CEOS is implementing high priority actions in support of Group on Earth Observation (GEO) Tasks

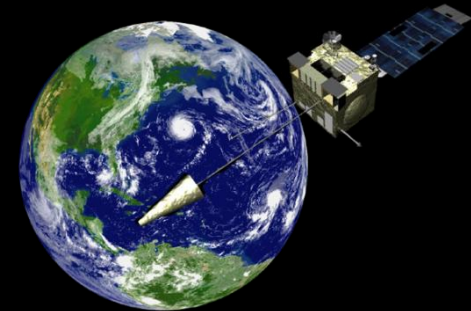
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CE  S Committee on Earth Observation Satellites



Primary Objectives of CEOS

1. To optimize benefits of space-borne Earth observations through:
 - Cooperation of its Members in mission planning
 - Development of compatible data products, formats, services, applications, and policies;
2. To serve as a focal point for international coordination of space-related Earth observation activities;
3. To exchange policy and technical information to encourage complementarity and compatibility of observation and data exchange systems.



CEOS  **Committee on Earth Observation Satellites**



Strategic Implementation Team (SIT)

- Created in 1996 to advance the involvement of CEOS in the development of the Integrated Global Observing System (IGOS)
- Plays a central role in coordination of existing and future missions of CEOS Agencies in support of GEO, GCOS, WMO, UNFCCC, etc.
- Comprised of the Principals of CEOS Member Agencies and some Associates with the authority to commit Agency support to initiatives
- SIT Chair Key Responsibilities
 - Lead CEOS interaction with GEO/GEOSS and strengthen linkages to GEO and GEOSS
 - Lead CEOS Virtual Constellation for GEO development and implementation activities
 - Assist CEOS interaction with GEO Committees

SIT Objective: To define, characterize, and develop the vision for CEOS participation in GEO and strengthen CEOS linkages to GEOSS

CE  S Committee on Earth Observation Satellites



CEOS Virtual Constellations for GEO

- CEOS Virtual Constellations for GEO demonstrate the value of collaborative partnerships in addressing key observational gaps and bridging multiple GEO Societal Benefit Areas while maintaining the independence of individual contributions
- Focus dialogue from “all topics/all agencies” to smaller, more specialized groups
- Guidance for design and development of future systems to meet the broad spectrum of EO requirements
 - Avoid duplication and overlap in EO efforts
 - Close information gaps for GEO SBAs
 - Establish and sustain global EO coverage and data availability

Atmospheric Composition Co-Leads: NASA and ESA	Land Surface Imaging (LSI) Co-Leads: USGS, ISRO, and INPE	Ocean Surface Topography Co-Leads: NASA and EUMETSAT	Precipitation Co-Leads: NASA and JAXA	Ocean Colour Radiometry Co-Leads: EC-JRC , JAXA, and NASA	Ocean Surface Vector Wind Co-Leads: NOAA, ISRO, and EUMETSAT
Sea Surface Temperature Co-Leads: ESA and NOAA					

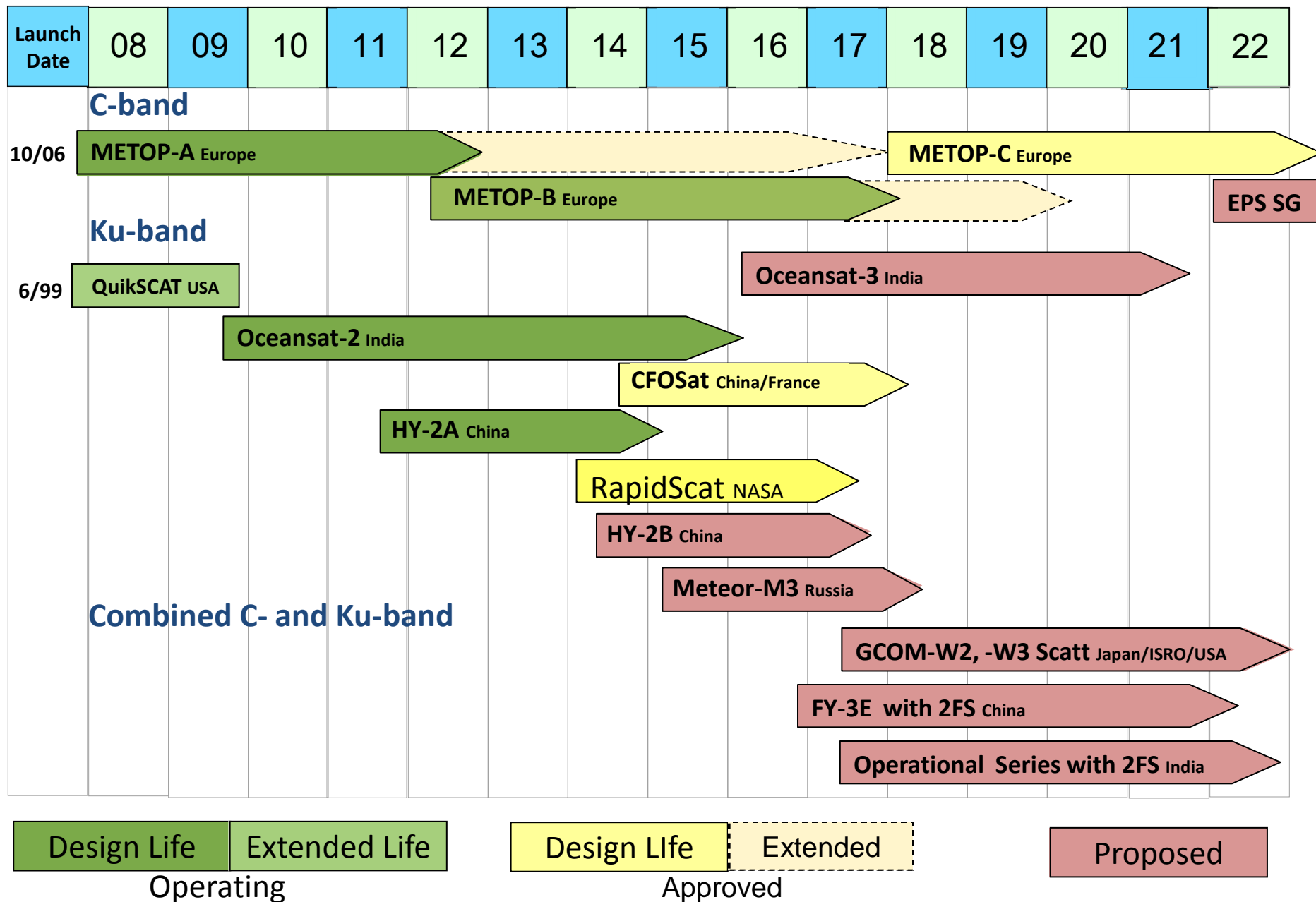
OSVW-VC Objective

- *To foster the best quality Ocean Surface Vector Wind data for applications in short, medium, and decadal time scales in the most cost effective and efficient manner through international collaboration, scientific innovation, and rigor*

OSVW-VC Update (SIT-28)

- Continue to advocate for open and timely data access (China-SOA and Russia remain unresolved issues)
- Continue to advocate for orbit optimization for the Constellation
- Capacity building and user outreach
 - 1st training course in the Use of Satellite Wind and Wave Products in Operational Marine Forecasting, Oostende, Belgium (2009).
 - 2nd training course in the Use of Satellite Wind and Wave Products in Operational Marine Forecasting, Oostende, Belgium (2011).
 - 3rd training course in the Use of Satellite Wind and Wave Products in Operational Marine Forecasting, Brazil (2012).
 - Planned - 4th training course in the Use of Satellite Wind and Wave Products in Operational Marine Forecasting, South African Weather Service, Pretoria, SA (late 2013)
 - Longer term vision – to institutionalize training and outreach

GLOBAL SCATTEROMETER MISSIONS



OSVW-VC Next Steps

- How should the OSVW-VC evolve? Still an open question
- CEOS-Self-Study (CSS) Completed
 - Key recommendations recently released indicating increased emphasis on physical deliverables in support of CEOS priorities
- Revise/Update/Restructure the OSVW-VC Implementation Plan Draft objectives (current plan out of date)
 - Participation and Data Policy
 - Calibration and Validation
 - Harmonization of Products
 - Product content and format harmonization
 - Inter-calibrated data products
 - Higher level products
 - Capability Demonstration and Capability Improvement
 - Future Requirements
 - Relation to Other Ocean Surface Variables
 - Training and Outreach

OSVW-VC Implementation Plan Expanded Outline

- Participation and Data Policy
 - Are all the agencies/organizations represented (providers and users)?
 - How can the missing be found and/or encouraged to participate?
 - Is data available in an open and timely manner?
 - What are the improvements needed and how can these be achieved?
- Calibration and Validation
 - Is calibration and validation approached consistently?
 - Should we have/define community standards?
 - If so how should this be approached?
- Harmonization of Products
 - Product content and format harmonization
 - Is there benefit in defining standard metadata? Product formats? Product content?
 - Inter-calibrated data products
 - To what extent have the different missions been cross-calibrated? Is this important and is it being addressed? Is there a standard metric that should be used?
 - Higher level products
 - Should higher level products such as fluxes, SLP, wave generation areas, multi-mission wind products, etc. be generated and provided for all missions?

OSVW-VC Implementation Plan Expanded Outline

- Capability Demonstration and Capability Improvement
 - An example: <http://www.storm-surge.info/esurge>
 - Anything that the OSVW community should rally behind to help further the cause?
- Future Requirements
 - Do we have OSVW future requirements clearly articulated? These should be general requirements versus geared toward supporting a particular mission. It might be necessary to a few different sets of requirements to address specific objectives? i.e., benefits of orbit phasing options for ASCAT-A&B
- Relation to Other Ocean Surface Variables
 - The importance of OSVW needs to be clearly linked to other variables. This will help broaden the story of why this is important. Right now OSVW tends to lie in the neutral zone between oceanography and meteorology. Where it is important to both but not always fully embraced/supported by either community to the level it should be. Should we advocate “Operational Oceanography”?
- Training and Outreach
 - There have been several training courses conducted over the past several years geared toward marine forecasters in developing countries. One of these courses also engaged the research community. Should this effort be sustained?, broadened?

Next Steps/Discussion Questions

- What relationship should exist between the IOVWST and the OSVW-VC?
 - Should/could the IOVWST adopt in some fashion the Virtual Constellation for Ocean Surface Vector Winds? (parallel GHRSSST and OSTST)
- Would this evolution of IOVWST result in better access to OSVW data and/or improved “internationalization”
 - How far do we want to take the “I” in IOVWST?
- A Motivation: Changing Environment with growing importance of “third-party” missions
 - Data access
 - Multi-mission intercomparisons
 - Ways to make recommendations to mission agencies

Continue discussion at OSVW-Virtual Constellation dinner meeting (no host) for those interested