



Committee on Earth Observation Satellites

The Ocean Surface Vector Wind Constellation: Status, Health and Future?

CEOS OSVW-Virtual Constellation

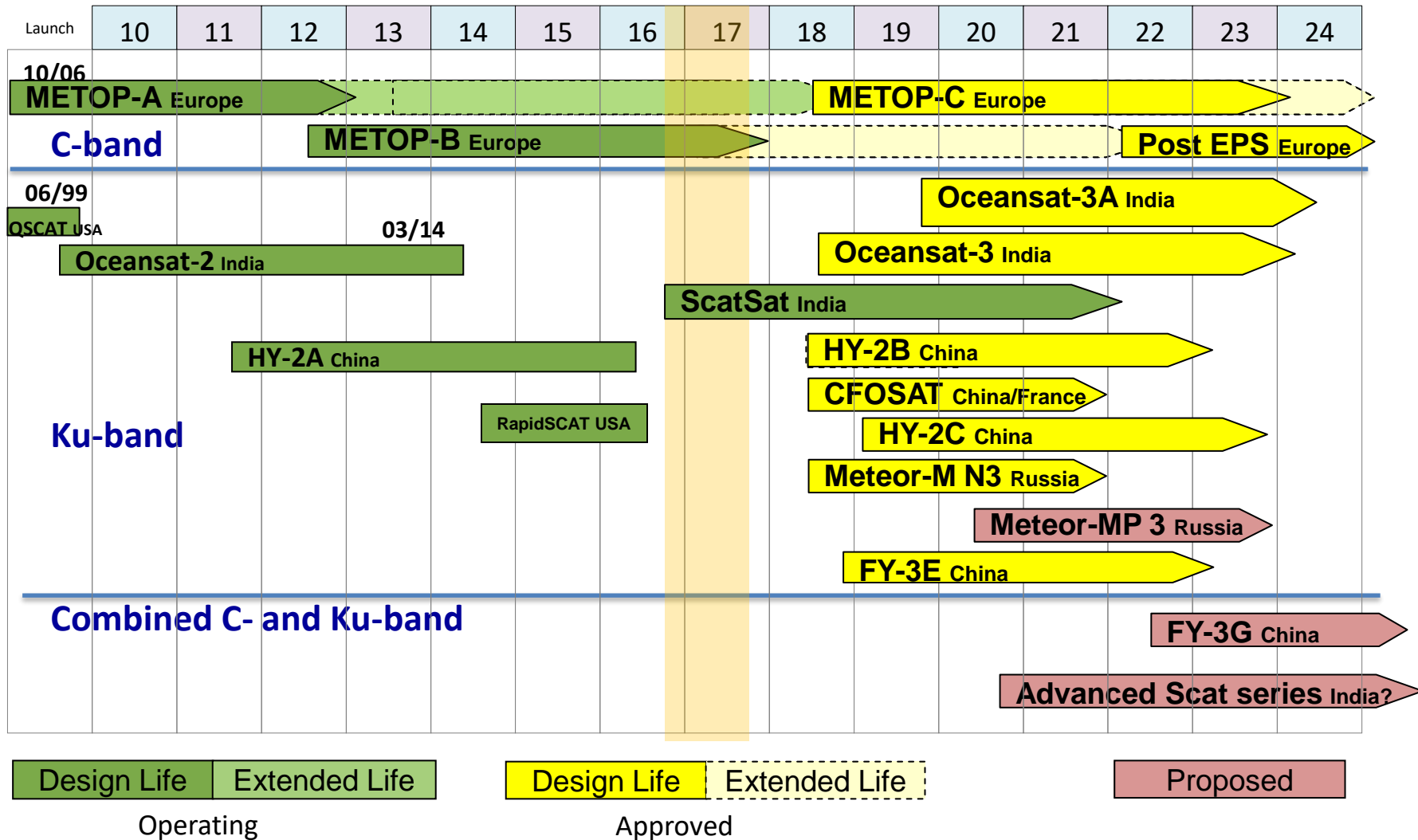
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IOVWST Meeting
April 24-26, 2018
Barcelona, Spain

OSVW Constellation Status and Health

- ASCAT (METOP-A&B)
 - Open and near real-time data access
 - ASCAT available through the EPS-SG(SCA) launch
 - METOP-C scheduled for a September 2018 launch
- SCA (ASCAT Follow-On, EPS-SG) ~2022/23
- SCATSAT September 2017 (Injected into ~9:45 am local crossing time and drifting to ~8:45 am)
 - Open and near real-time data access (April 24, 2017)
- OSCAT follow-on (OceanSat-3&3A) ~2018/2019
- CMA will be providing OSVW measurements starting with their FY-3E launch (late 2018)

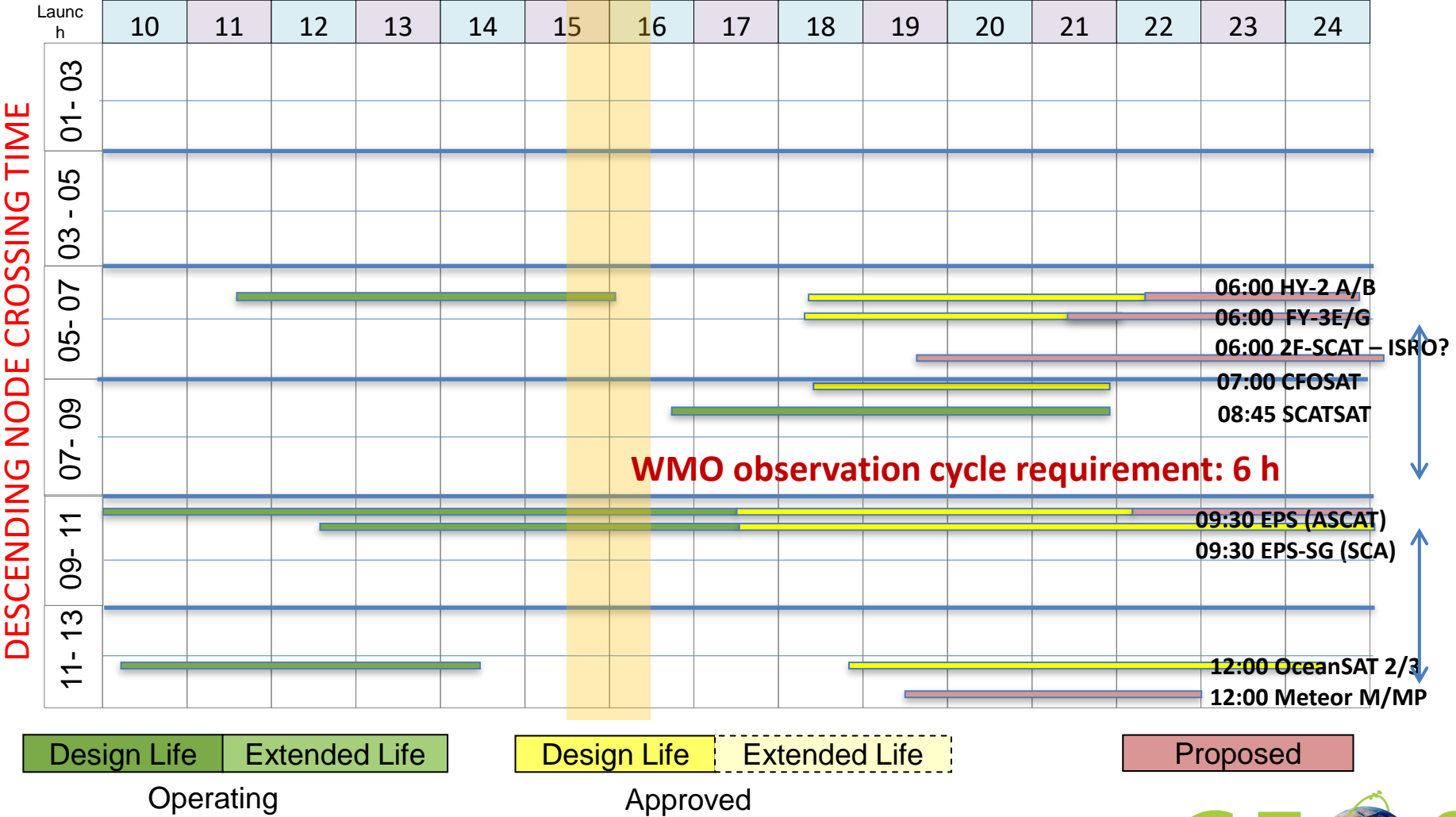
CEOS Ocean Vector Surface Winds Virtual Constellation (OSVW-VC) Current Status and Outlook



Note: Near real-time and open data access not assured for all missions listed

Ocean Vector Surface Winds Constellation

Local time coverage assessment (ground track) - NRT data access



Source: WMO OSCAR database and direct interactions with agencies

OSVW-VC Summary

- The OSVW Constellation is anchored by current and planned missions of EUMETSAT and ISRO
- The CEOS OSVW-VC advocates:
 - Open and near real-time data access
 - Coordination of orbits to optimize temporal sampling
 - Cross calibration of missions
 - Cal/val and data product standards
 - Outreach and education

Additional information including Terms of Reference can be found at <http://ceos.org/ourwork/virtual-constellations/osvw/>

- While each agency needs to work within its resource and political environment, international groups such as CEOS can help communicate objectives and recommendations of the international community directly to agencies

Optimum (minimum) OSVW constellation 2015 IOVWST meeting recommendation

- At least 3 scatterometers in orbits designed to roughly meet WMO requirements (observations every 6 hours)
- One instrument in a non-sun-synchronous orbit for sampling the diurnal cycle, better mid-latitude sampling and provide inter-calibration

A white paper describing and justifying the oceanography and climate requirements for the optimum OSVW constellation was going to be developed through the IOVWST. Is this still the case?

The OSVW Constellation Future?

Questions posed at the 2017 OSVW-VC meeting

- Is the “business” case for satellite OSVW strong enough?
- Satellite SSH, SST(IR), rain/TPW, visible/IR imagery, and microwave soundings appear to be considered core measurement capabilities, but is this the case for satellite OSVW?
- What needs to be done to improve the chances of realizing the optimum (minimum) satellite OSVW constellation?

Do We Have a Sufficient Business Case for Satellite OSVW?

Some Loosely Correlated Thoughts

- Who “owns” satellite OSVW? – Oceanography? Meteorology?
- Three use categories
 - To monitor and understand climate scale phenomenon (NWP reanalysis fields tend to be used)
 - To monitor and understand short time scale weather/phenomena (oper. weather)
 - To further our understanding of basic physical processes (scientific research)
- The constellation is relatively healthy in the short term. What happens if budgets become tight?
 - The two current anchors in the OSVW constellation are ISRO and EUMETSAT
 - EUMETSAT – operational satellite agency – justification is mainly NWP
 - ISRO – research agency with some operational components
 - CMA (operational agency) will launch its first OSVW instrument in FY-3E
- Passive microwave is in a similar predicament – touches many observing system requirements but a potential gap still looms ahead
- Is operational weather forecasting enough of a justification? If not why not?
 - Operational weather forecasting continues regardless of whether data is available or not
- Altimeter – synonymous with sea level rise but the oper. weather forecasting/monitoring value is SWH
- Vis/IR imagery – self explanatory
- SST – fisheries and climate but focus is on IR while microwave SST (all-weather) struggles
- Do we need to build a stronger business case for agencies to help justify current and future missions
 - Concern that oper. weather monitoring and forecasting may not be sufficient by itself in the future
- An agency needs to be responsive to its own political and fiscal environment, but perhaps providing supporting material of the economic and security benefits of core observing system capabilities would be helpful?