



Committee on Earth Observation Satellites

Update on OCR-VC Activities & Actions

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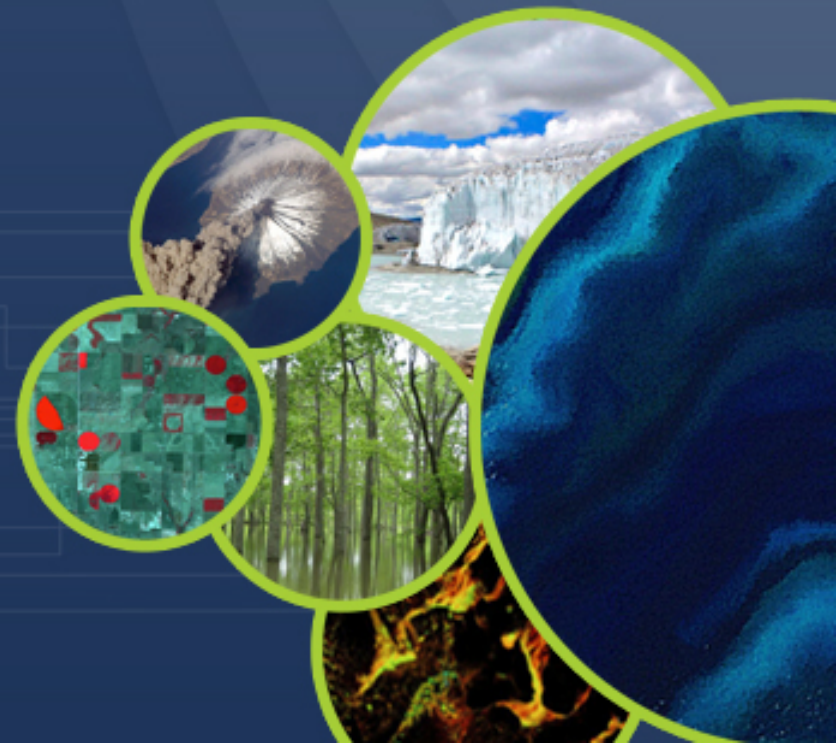
SIT Workshop Agenda Item #5

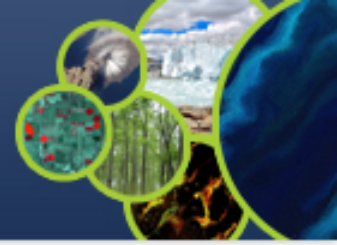
CEOS Virtual Constellations

CEOS SIT Technical Workshop

EUMETSAT, Darmstadt, Germany

17th – 18th September 2015



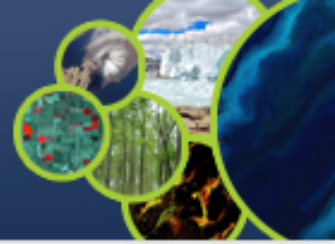


Information:

- Review progress with respect to OCR-VC action items in the Work Plan

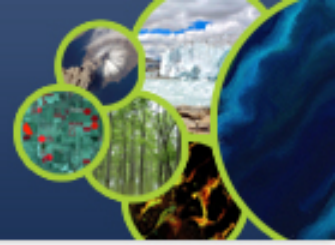
VC-7	Catalog of Cal/Val infrastructure and activities	Q2 2015
VC-8	Action Plan for GEO Blue Planet Components	Q4 2015
VC-9	Implementation of the International Network for Sensor InTercomparison and Uncertainty Assessment for Ocean Color Radiometry (INSITU-OCR)	Q1 2015
VC-10	Recommend the creation of a GEO Water Quality of Practice	Q2 2015

- VC-7 – Agency mapping exercise complete
- VC-8 – Implementation plans being formulated/executed
- VC-9 – Moving forward with modular implementation
- VC-10 – Implementation plans being formulated/executed



VC-7: Catalog of Cal/Val infrastructure and activities

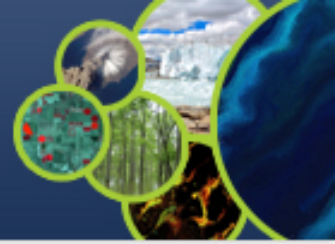
- In 2014, IOCCG undertook a relevant "agency mapping" exercise that included consideration of available, and planned, international agency assets and resources for OCR cal/val.
- As a first step towards implementation of the **International Network for Sensor Inter-comparison and Uncertainty assessment for Ocean Colour Radiometry (INSITU-OCR)** by IOCCG member agencies, the IOCCG asked that each agency indicate on the spreadsheet their potential area of contribution to INSITU-OCR implementation.
- At the 3-5 March 2015 IOCCG meeting, IOCCG asked the member agencies to provide an agency-based list of infrastructure and assets. IOCCG has collated this information. Once formatted IOCCG will submit to CEOS-SIT.
- Ewa Kwiatkowska (EUMETSAT) attended the WG-Cal/Val Meeting on behalf of the OCR-VC/IOCCG earlier this year, and will continue representing the OCR-VC in these meetings.
- At this meeting it was agreed to strengthen cooperation between OCR-VC/IOCCG and WGCV through IOCCG having a permanent seat on WGCV plenaries and through WGCV's review and endorsement of relevant IOCCG recommendations expressed in the documents such as INSITU-OCR White Paper and Report #13.



VC-8: Action Plan for GEO Blue Planet Components

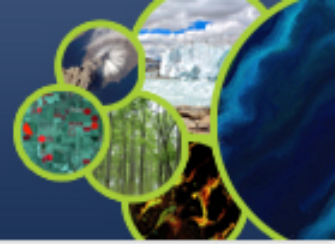
IOCCG/OCR-VC agencies are and will continue to make significant contributions to all Blue Planet components:

- C1. Developing capacity and societal awareness
- C2. Sustained ocean observations
- C3. Data access and visualization
- C4. Ocean forecasting
- C5. Healthy ecosystems and food security
- C6. Services for the coastal zone
- C7. Ocean climate and carbon
- C8. Integrated maritime services



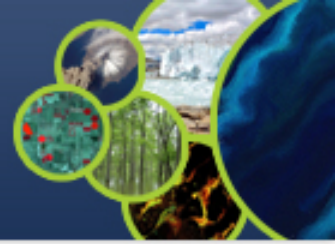
VC-8: Action Plan for GEO Blue Planet Components

- OCR-VC agencies are fully in support of the GEO Blue Planet Components, and the nature of the contributions vary according to the mission of each agency (e.g., research and development contributions from ESA, NASA; enabling applications & services from EUMETSAT, NOAA).
- OCR-VC members serve in active leadership roles for several of the above components (e.g., C4 & C6/NOAA and C7/JRC) as well as on the Blue Planet Steering Committee (CSIRO, JRC, NOAA).
- CEOS members (CSIRO, NOAA et al.) played an active role in hosting, organizing and contributing to the 2nd Blue Planet Symposium held in Cairns, Australia in May 2015, and are now working to organize the 3rd Blue Planet Symposium to be held September 2016 in Monterey, CA
- NOAA/NESDIS and CSIRO have also partnered to Co-Host the GEO Blue Planet Secretariat, which will be located in College Park, Maryland USA and Dutton Park, Queensland, Australia. This can be considered as a significant contribution by CEOS agencies to advancement of Blue Planet.



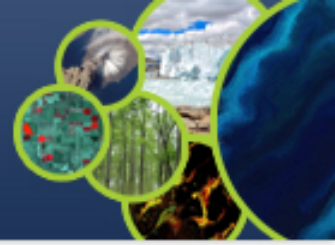
VC-9: Implementation of the International Network for Sensor InTercomparison and Uncertainty Assessment for Ocean Color Radiometry (INSITU-OCR)

- IOCCG requested that agencies identify resources to support the INSITU-OCR; IOCCG is using this information to identify gaps in infrastructure that agencies could collectively address.
- As of June 2015, agencies were requested to submit to the IOCCG Chair a short list of actual gaps in support of existing/upcoming missions, a list of priorities from their perspective, as well as areas where they need help, e.g., a need for more validation sites. Once the OCR-VC has this updated information compiled, it will be conveyed to CEOS-SIT via the OCR-VC Chairs.
- Additionally, there have been recent discussions about the format for submissions of in situ data to the agencies. For example, it would be beneficial to have an interagency standard template.
- Sustaining current operational activities and establishing new efforts (e.g., pilot investments and projects) to move the OCR-VC and INSITU-OCR forward is a very high priority. Some examples follow:
- NASA has supported three new projects in the areas of the vicarious calibration instrumentation competition for future ocean color missions, as a contribution to INSITU-OCR.



VC-9: Implementation of the International Network for Sensor InTercomparison and Uncertainty Assessment for Ocean Color Radiometry (INSITU-OCR)

- ESA is planning to release an open tender action this spring addressing the need for improved OCR in-situ instrumentation and community consensus protocols for instrument calibration and vicarious adjustments as well as establishing traceability to metrological institutes.
- NOAA continues to fund and sustain MOBY operations (including an on-going system refresh), supporting present and upcoming (operational) missions. Further, NOAA held an initial multi-agency VIIRS validation cruise last November, and it is anticipated that this will be an annual event.
- Additionally, all agencies will be asked to contribute towards the “protocols activity” (e.g., small committee to catalogue and share information regarding in situ instrumentation (for calibration and validation) protocols.
- The IOCCG will host a website to disseminate all relevant lists and information (see NASA prototype at oceancolor.gsfc.nasa.gov/cms/ioccg_proto_main).
- The ultimate goal is to enable communication about the refinement of in situ measurement protocols and to reduce redundancy in efforts, fill in gaps, and better target opportunities and key players. This is an early contribution to INSITU-OCR, and this multi-agency collaboration will advance its implementation.



VC-10: Recommend the creation of a GEO Water Quality of Practice

- A GEO Water Quality Summit was held April 2015 in Geneva at WMO. The Summit Goal was to define specific requirements of the water quality observing system components and develop a plan to implement an integrated, global end-to-end water quality monitoring and forecasting service.
- Summit Deliverables included: Development of a) Strategic implementation and b) A phased action plan including baseline service build-outs, with both a short-term (0-5 year) build-out plan for pilot/prototype regional service(s) and a long-term (6-10 year plan for a global-scale WQ Monitoring/Forecasting service).
- A GEO Water Quality (GEO-WaQ) Community of Practice has now been formally implemented, and is bringing together relevant data providers and users who will work collaboratively to implement, utilize, maintain and enhance the global water quality monitoring and forecasting service.
- The IOCCG WG on "Earth Observations in Support of Global Water Quality Monitoring" also met at this summit. They are preparing an IOCCG Report which will identify current and future user data, product and information needs and requirements, assess space-based and in situ observing capabilities and need for associated modeling and data assimilation activities, identify supporting research and development activities, and identify best practices and new & improved data streams and products.