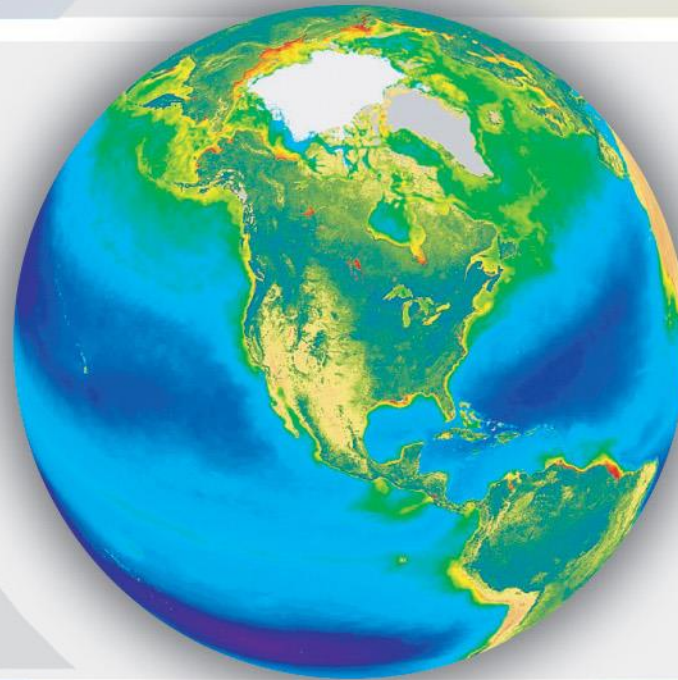


5.1 Implementation of the CEOS OCR-VC, including Terms of Reference



**Paula Bontempi (NASA), Paul DiGiacomo (NOAA), Peter
Regner (ESA)**

**IOCCG – 19 – Capetown, South Africa
29 January 2014**



Progress towards established CEOS-GEO Priorities

Ocean Colour Radiometry Virtual Constellation (OCR-VC)
Paula Bontempi, Peter Regner, and Paul DiGiacomo





Current Status: 3-year outcomes defined in course of the CSS

1. **OCR-VC development:** progress in implementation, broader agency support/engagement required.
2. **INSITU-OCR:** “International Network for Sensor Inter-comparison and Uncertainty assessment for Ocean Color Radiometry” white paper finalized, recommendations/requirements for high accuracy and consistency of ECVs from current/future satellite ocean colour missions fall into four categories:
 - Space sensor radiometric calibration, characterization and temporal stability
 - Development and assessment of satellite products
 - In situ* data generation and handling
 - Information management and support
3. **Standing ECV Working Group:** Met at IOCS Meeting May 2013 - report at next IOCCG meeting (January 2014). Working data/ECV intercomparisons – comparisons of data products. What merged product is "better"? How do we estimate uncertainties? Opportunities for further improvement? Produce a set of recommendations for improvements, CCI or NASA/OBPG could potentially implement and produce a new OCR-VC version for this WG to evaluate; this would require agency support.
4. **“Mission Requirements for Future Ocean Colour Sensors”** Report from IOCCG Working Group: now published – see forthcoming slide. Follow up activities now required.
5. **"International Ocean Colour Science Team Meeting" (IOCS):** successfully undertaken – see forthcoming slides. Follow up activities now required.



- **Current Status (continued):**
 - **Recent Actions:**
 - **Feedback on VC process paper provided, along with updated language for OCR-VC component**
 - **OCR-VC ToR V0.2 submitted**
 - **Highlights from 1st International Ocean Colour Science (IOCS) Team Meeting (May 2013) published in CEOS Newsletter (August 2013)**
 - **Main Issues/concerns**
 - **Active engagement and support of all appropriate CEOS agencies in the implementation of OCR-VC activities**
 - **Ensuring free, open & timely sharing of all current/future OCR data**
 - **Implementation of IOCCG Report on Mission Requirements and INSITU-OCR**
 - **Leadership:**
 - **Currently, OCR-VC Co-Leads are Paula Bontempi (NASA), Peter Regner (ESA) and Paul DiGiacomo (NOAA)**
 - **Co-Chair rotation for the coming year will be revisited and replacements identified as needed**



- **Recent achievements/outcomes:**

- **Publication of IOCCG Report #12:** *“Ocean-Colour Observations from a Geostationary Orbit”*
- **Publication of IOCCG Report #13:** *“Mission Requirements for Future Ocean-Colour Sensors”*





- **Recent achievements/outcomes (continued):**

- **First International Ocean Colour Science (IOCS) Meeting** : held 6-8 May 2013 in Darmstadt, Germany

- The meeting programme included eight presentations from space agency representatives, five invited keynote talks, 12 breakout splinter sessions, two poster sessions (114 posters) and open floor discussions.

- There were over 244 participants from 36 nations in attendance

- The overarching theme of the 1st IOCS meeting was “Building of Ocean Colour Climate Data Records”.



- IOCS Meeting Report available at: <http://iocs.ioccg.org/wp-content/uploads/report-iocs-2013-meeting.pdf>



- **Main 2013 achievements/outcomes (continued):**
 - **First International Ocean Colour Science (IOCS) Meeting**
 - **Splinter Sessions:**
 - 1: NASA Ocean Colour Research Team Meeting
 - 2: Advances in Atmospheric Correction of Satellite Ocean-Color Imagery
 - 3: Geostationary Ocean Colour Radiometry
 - 4: Multi-Agency Data Sharing
 - 5: Operational Ocean Colour Data in Support of Research, Applications and Services
 - 6: *In situ* Measurement Protocol Revision for Cal/Val
 - 7: International Training and Outreach
 - 8: System Vicarious Calibration
 - 9: Climate Variables and Long Term Trends
 - 10: Phytoplankton Community Structure from Ocean Colour
 - 11: Satellite Data File Formats and Tools for Easy Science Exploitation
 - 12: Satellite Instrument Pre-and Post-Launch Calibration



Near-Future Plans:

- **Facilitate agency follow up to recommendations and requirements articulated in IOCCG Report #13: “Mission Requirements for Future Ocean-Colour Sensors”**
- **IOCCG/OCR-VC Agency discussion of implementation of INSITU-OCR per recommendations of the white paper; includes proposed establishment of multi-agency project office.**
- **Identify and implement specific linkages with relevant existing and forthcoming components of the GEO Blue Planet Task, including ECVs, ChloroGIN, SAFARI, GODAE-OceanView, Coastal Services, Future Earth, et al.**



Near-Future Discussions/Plans:

- **Establishment of an OCR Calibration Task Force; specific focus and implementation mechanism to be discussed in upcoming IOCCG Executive Meeting**
- **Follow-up on recommendations from IOCS Meeting – review proposals for focused topical workshops and progress on specific technical and programmatic actions.**
- **Report of activities and actions for OCR ECV Task Force.**
- **Revise OCR-VC Terms of Reference (ToR) and update OCR-VC Implementation Plan (IP).**



Revised OCR-VC ToR accepted on 19 December 2013 - Circulated to CEOS lists with all ToRs on 20 December 2013 w/CEOS Deliverables to 2015

- **Highlights of ToR:**
 - **Mission Statement – focus on basic and applied research and management**
 - **Characterize Observations and Space Segment – did we get this right? missions focused on global climate, and missions focused on regional management**
 - **Activities/Outcomes/Deliverables:**
 - **Implementation of ocean color minimum mission requirements for global polar-orbiting sensors and data harmonization**
 - **Coordination for geostationary ocean color missions and facilitating coastal ecosystem research, applications and services using OCR data**
 - **Implementation of the INSITU-OCR**
 - **Implementation and coordination of an Ocean Color Radiometry satellite sensor calibration permanent task force**
 - **Support for implementation of the GEO Blue Planet Task**



Revised OCR-VC ToR

- Gave examples of 3-yr and 5-yr horizon deliverables for space segment, ground segment and information systems, and Products and Services that the OCR-VC would deliver
- **IMPLEMENTATION AND COORDINATION ISSUES TO BE ADDRESSED BY SIT**
 - SIT encouragement for CEOS **agency implementation of the IOCCG Report 13** will be critical to the success of the OCR-VC and future OCR continuity and user engagement.
 - SIT endorsement for the **formulation of a Water Quality Community of Practice**, and subsequent development of a pathfinder activity for a global coastal and inland water quality monitoring service, to be developed under the auspices of GEO/GEOSS.
 - SIT encouragement for CEOS agency participation and support toward **implementation of the INSITU-OCR**.
 - CEOS agency endorsement of **sensor calibration approaches** advocated by OCR-VC.
 - SIT endorsement for the OCR-VC action plan to be generated addressing the ocean color components in the updated **GEO Blue Planet Task Plan**.
 - CEOS agency adoption of **free, easy and timely access to and sharing of calibrated OCR data, as well as uncalibrated Level-0 or Level-1A data, calibration information and source/processing codes**.
 - SIT encouragement for CEOS agency participation and support for sustained projects for **calibration and validation of OCR data, and merging of OCR data across satellite sensors with determination of uncertainties/errors and SI traceability**.



Revised OCR-VC ToR

- **Schedule:**

Activity	Milestone	Target Date
Ocean color mission minimum requirements implementation and data harmonization	All CEOS agencies (as appropriate) respond to IOCCG Report #13 recommendations	May 2014
Facilitate coastal ecosystem research, applications, services using OCR data	Implementation of GEO Water Quality Community of Practice (WQ-COP)	July 2014
Facilitate OCR sensor calibration	OCR sensor calibration task force initiated	Sept 2014
Support for implementation of the components delivered	OCR-VC action plan for GEO Blue Planet GEO Blue Planet Task	Sept 2014
Implementation of the INSITU-OCR	Establish coordinating INSITU-OCR office	May 2015



New SIT Chair Team – CNES

Biannual telecon – Weds, 29 January at 1230p.

- **Three Objectives:**
 - **Introduction and quick review of the status and issues and potential resolutions that may require SIT Chair support – ongoing issues and concerns of priority to Chair**
 - **Continuity of the discussion on issues raised by you in side-meetings or previous telecons.**
 - **Preparation of SIT-29 discussions and subsequent actions**
- **Telecon Agenda**
 - **Introduction**
 - **Current status and issues, incl. long-term plans and regional aspects**
 - **Summary**