

NASA AERONET-Ocean Color International Workshop:

Overview and Future Developments

AERONET-OC, the AERONET sub-network supporting satellite ocean color applications with standardized measurements of normalized water leaving radiance and of aerosol optical properties, since its launch in 2006, has substantially increased in both number of sites, as well as individual scientific users. In addition, there has been increasing interest in the network from several Space Agencies and the VIIRS Team.

This 1st workshop will provide an avenue to bring together scientists that are 1) managing AERONET-OC sites; and 2) using the data, both for a) research and b) operations, such as for the upcoming launch of VIIRS and other ocean color satellites.

Title: AERONET-OC: 1st Workshop Overview and Future Developments

Dates: February, 23 -24, 2011

Location: JPSS Program Office (GreenTech IV), Greenbelt, Maryland (USA)

Potential participants: AERONET Personnel, AERONET-OC PIs, Current Data Users (including representatives of interested Space Agencies), Scientists supporting AERONET-OC development and expansion, and Ongoing and future ocean color satellite calibration and validation networks (see attached list).

Agenda:

February 23, 2011

8:00 Welcome and AERONET Maritime Aerosol Contributions: B. Holben, NASA
MAN as a Component of AERONET: Current Status: A. Smirnov et al.

8:30 AERONET-OC status: G. Zibordi

9:00 AERONET for VIIRS EDR Validation Activities:

- AERONET for VIIRS Aerosol EDR Validation Activities: C. Hsu and J. Huang
- Validation of Surface Reflectance for MODIS, VIIRS and AERONET: A. Lyapustin and J. Privette
- JPSS-VIIRS Plans for Ocean Env. Data Products: B. Arnone

10:00 Overview of individual AERONET-OC sites. PIs will have 10' -15' for their presentations.
Current AERONET-OC sites include:

1. Abu_Al_Bukhoosh, Persian Gulf: G. Zibordi/B.Holben
2. SeaPrism Operations at the COVE site: B.Fabbri, G. Schuster and B. Holben
3. LISCO, Long Island Sound: T. Harmel, A. Gilerson, S. Ahmed & A. Tonizzo
4. Gustav_Dalen_Tower, Baltic Proper: G.Zibordi
5. Helsinki_Lighthouse, Gulf of Finland: G.Zibordi
6. Venise, Adriatic Sea: G. Zibordi
7. Lucinda, Coral Sea: V. Brande
8. MVCO, Mid-Atlantic Bight: H. Feng, H. Sosik and T. Moore

9. Palgrunden Lake: S. Kratzer (Presented by Zibordi)
10. WaveCIS_Site, Gulf of Mexico: B. Gibson, R. Arnone and A. Weidemann
11. Plans for AERONET-OC stations in turbid waters (Argentina and Belgium): A. Dogliotti and K. Ruddick

12:40 **Lunch Break**

13:30 Additional AERONET-OC sites under construction:

11. U.S. West Coast: B. Jones, C. Davis and N. Tuffillaro
12. Gloria, Black Sea: G. Zibordi
13. Chevron gas platform, Gulf of Thailand: B. Holben

14:10 Application of Data Products: space agency prospectuses

- JPSS Program Office: Karen St. Germain's
- MERIS OC Product Validation: M. Bouvet, P. Goryl and J-P Huot
- MERMAID the MERIS Matchups In situ data: K. Barker et al.
- GOCI Cal/Val Activity: The Status of KOREA AERONET-OC System: Y. Baek Son
- China: R. Ma (Presented by M. Wang)
- Orbit Opportunities for Innovative Cross-Sensor Validation: NPP* Over-flying the A-Train: R. Murphy et al.

15:30 SeaPRISM Instrument calibration, traceability and characterization 20' each

SeaPrism Spectral Characterization: C. Johnson
AERONET Calibration Facility: M. Sorokin, A Tran & P Kenny
Measurement Protocols and Uncertainties: G. Zibordi

16:30 AERONET-OC data processing and quality assurance: I. Slutsker and G. Zibordi

16:50 AERONET-OC data handling and product distribution: D. Giles

17:10 AERONET-OC Future Plans:

- AERONET Expansion: G. Zibordi and B. Holben
- Define new site at desired locations

18:00 Adjourn

February 24, 2011

This day is entirely devoted to working groups (from 9:00 to 17:00)

Working Group I: **Application of AERONET-OC Data Products with Satellite Product Match-ups**

Chair: Bob Arnone

Topics to be covered are:

- Inter-satellite product comparison and validation
- Atmospheric and in-water validations
- Assessing “in-situ” uncertainty
- Validation of satellite ocean color primary products;
- Minimization of uncertainties and biases in satellite ocean color products;
- Regional Vicarious Calibration of satellite ocean color sensors.

Presentations planned: 20’ each

- NASA Ocean Color Calibration and Validation: B. Franz
- Spatial and Temporal Uncertainty of Satellite Ocean Color: Real Time Satellite-AERONET-OC Database: Arnone, Fargion, Weidemann et al.
- Satellite Covariance and Uncertainty Index at the AERONET-OC sites: Alvarez, Pennucci, Trees, Fargion
- Regional Application of AERONET-OC Data to Validation, Vicarious Calibration and Bias-Reduction: Zibordi
- Comparison of 3 SeaWIFS Atm. Correction Alg. for Turbid Waters Using AERONET-OC Meas.: Jamet, Goyens, Loisel, Riddick et al.
- Development of New Aerosol Models for Atm. Correction of Ocean Color Sensors Data: Z. Ahmad
- Calibration and Validation for the SWIR-based Ocean Color Data Processing: M. Wang

Working group II: *Assessments and Future Developments of the AERONET-OC sites*

Chair: Giuseppe Zibordi

Topics to be covered are:

- Revision of measurement protocols, algorithms for data analysis and processing code.
- Expansion of in situ measurement at the sites;
- Independent assessment of measurements and data products;
- Cross-comparison of instrument calibrations.

Presentation planned: -- 20’ each

- Deployment requirements for AERONET-OC instruments: G. Zibordi
- Band-shift corrections for match-up analysis: G. Zibordi
- Remove of surface reflected light: Z. Lee, Y. Ahm, C. Mobley and B. Arnone
- LISCO: Multi and Hyperspectral Above-water Measurements for Satellite Validation & Times Series Production: Ahmed, Gilerson, Harmel & Tonizzo

16:00 Closure

- Summary of recommendations from each working group
- Action plans

List of attendees:

- 1.) Ana Dogliotti
- 2.) Alan Weidemann
- 3.) Alberto Tonizzo
- 4.) Alexander Gilerson
- 5.) Alexander Smirnov
- 6.) Antonio Mannino
- 7.) Bill Gibson
- 8.) Bob Arnone
- 9.) Brent Holben
- 10.) Bryan Fabbri
- 11.) Bryan Franz
- 12.) Burt Jones
- 13.) Carol Johnson
- 14.) Cedric Jamet
- 15.) Christina Hsu
- 16.) Curtiss Davis
- 17.) David Giles
- 18.) David Lewis
- 19.) Georgiy Stenchikov
- 20.) Giulietta Fargion
- 21.) Giuseppe Zibordi
- 22.) Hui Feng
- 23.) Jeremy Werdell
- 24.) Jingfeng Huang
- 25.) Karen St. Germain
- 26.) Katheryn Barker
- 27.) Kevin Turpie
- 28.) Marc Bouvet
- 29.) Menghua Wang
- 30.) Mikhail Sorokin
- 31.) Rick Gould
- 32.) Ronghua Ma
- 33.) Samir Ahmed
- 34.) Sean Bailey
- 35.) Vittorio Brando
- 36.) Young Baek Son
- 37.) Zhongping Lee
- 38.) Ziauddin Ahmad
- 39.) Gene Carl Feldman
- 40.) Sean Bailey
- 41.) R. Murphy