

Ocean Teacher Global Academy (OTGA)

Ocean Color Remote Sensing - Data, Processing and Analysis

12-16 December, 2022, Hyderabad, India

Course description

Ocean colour analysis is a proven tool for determining the health of ocean using oceanic biological activity through optical means. Phytoplankton pigment, chlorophyll, are indicators of equilibrium of CO₂ concentration between atmosphere and ocean. The oceanic colour changes due to chlorophyll a provides the level of primary productivity whereas the colour change due to CDOM can be attributed to the level of pollution and higher particulate matter. The ability of optical sensors to map the spatial and temporal patterns of ocean colour over regional and global scales has provided important insights into the fundamental bio-optical properties and bio-physical processes occurring in the aquatic media. Chlorophyll, SST and PAR can be operationally scaled up to estimate primary production and estimate the fish stocks. This training focuses on the basics of marine optics, ocean colour remote sensing, and its applications such as mapping primary productivity, phytoplankton classes and algal blooms.

Learning Outcomes

- ✓ explain what Ocean Colour Remote Sensing and Marine optics are, and describe Ocean colour- sensor characteristics, data, and uncertainties.
- ✓ understand Ocean colour Algorithms, Chlorophyll, shallow water remote sensing, algal blooms
- ✓ Perform atmospheric correction of ocean colour observations.
- ✓ Describe primary production mechanisms and P-I experiments
- ✓ Perform phytoplankton classification using ocean colour data.
- ✓ Use the SeaDAS tool for processing ocean colour data (including the software and Plug-in tools for ocean data processing).
- ✓ Use different ocean colour algorithms.
- ✓ Generate and validate ocean colour remote sensing products.
- ✓ Understand ocean colour applications like PP, HABs etc.

Target Audience

Target audiences include, but are not limited to, the following:

- ❖ Ocean and coastal data managers
- ❖ Staff and researchers working on ocean colour applications.
- ❖ Scientific/Technical staff involved in policy/decision making.
- ❖ University post-graduates

NOTE: priority will be given to participants originating from the **Indian Ocean Rim** countries. UNESCO is committed to promote gender equality. Therefore, applications from women are strongly encouraged.

Pre-course Activities or Assessment

The mandatory online phase of the course takes place between 28th November – 9th December 2022 and this will be followed by the onsite course. The shortlisted candidates are expected to go through all the online course material and finish reading the material and the assignments before participating in the onsite course. The grades of the assignments will be added to the final grades.

Candidates must also familiarize themselves with the following:

1. Basic terminal commands (bash) in Linux (ubuntu) based system.
2. NetCDF files data structure
3. Understanding Satellite data levels (L0, L1, L2, L3)
4. Understanding basic concepts of ocean optics

Learner assessment

Assignment and tests will be conducted during the course while undergoing training. Pre course assignments will also be counted for final grade.

Course Information

Course dates:

12-16 December, 2022

Course Venue:

ITCOcean, INCOIS, Hyderabad, India

Lecturers:

- ❖ Aneesh Lotliker
- ❖ Alakesh Samanta
- ❖ SK Baliar Singh

Last Date to receive application :

8th October 2022

Application process:

Please fill the **Online application** form:

<https://otga.wufoo.com/forms/zdh9gry1ql5j7r/>

All information available:

<https://oceanexpert.org/event/3646>

No tuition fee applies. A limited number of fellowships is available.

Contact:

OTGA India Regional Training Centre Coordinator:

Dr TVS Udaya Bhaskar
itcoocean@incois.gov.in

Further information contact the OTGA Secretariat:

ioc.training@unesco.org

Useful sites:

- www.oceanteacher.org
- www.oceanexpert.net
- www.ioc-cd.org
- www.iode.org
- www.incois.gov.in