



Ocean Color Sensors and Their Data Access: *A Brief Overview*

(Version #2)

Compiled by

**Ocean Color-based Plant species identification and Carbon flux
in the Indo-Pacific oceans (OC-PC) Study Group**

Updated on December 2022

Published by the International Project Office of the Integrated Marine Biosphere Research (IMBeR) Project

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Citation: IMBeR International Project Office (2022). Ocean Color Sensors and Their Data Access: A Brief Overview (Version 2). IMBeR OC-PC Study Group. Shanghai, 9p.

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Major Ocean Color Sensors and Their Data Access

1. Terra and Aqua / Moderate Resolution Imaging Spectroradiometer (MODIS)

Institution: NASA

Time: 2000-present

Mission website: <https://modis.gsfc.nasa.gov>

Quick look website: <https://worldview.earthdata.nasa.gov>

Data user's manual: <https://oceancolor.gsfc.nasa.gov/docs/technical/#UG>

Ocean Color Reprocessing 2022.0:

<https://oceancolor.gsfc.nasa.gov/reprocessing/r2022/aqua/>

Ocean Color Data Access:

1). MODIS level 1 & level 2 ocean color data:

<https://oceancolor.gsfc.nasa.gov/cgi/browse.pl>

2). MODIS level 3 data:

<https://oceancolor.gsfc.nasa.gov/l3/>

2. Envisat / Medium Resolution Imaging Spectrometer (MERIS)

Institution: ESA

Time: 2002-2012

Mission website: <https://earth.esa.int/eogateway/instruments/meris>

Quick look website: <https://worldview.earthdata.nasa.gov>

Data user's manual: <https://earth.esa.int/eogateway/instruments/meris/description>

Ocean Color Reprocessing 2022.0:

<https://oceancolor.gsfc.nasa.gov/reprocessing/r2022/meris/>

Ocean Color Data Access:

1). MERIS level 1 & level 2 ocean color data:

From ESA: <https://eoiam-idp.eo.esa.int>

From Ocean Color website: <https://oceancolor.gsfc.nasa.gov/cgi/browse.pl>

2). MERIS level 3 data:

<https://oceancolor.gsfc.nasa.gov/l3/>

<https://oceandata.sci.gsfc.nasa.gov/directdataaccess/Level-3%20Mapped/MERIS>

3. Sentinel-3A & 3B / Ocean and Land Colour Instrument (OLCI)

Institution: ESA

Time: 2016-present

Mission website: <https://sentinels.copernicus.eu/web/sentinel/missions/sentinel-3>

Quick look website: <https://scihub.copernicus.eu/dhus/#/home>

Data user's manual: <https://sentinels.copernicus.eu/web/sentinel/user-guides/sentinel-3-olci>

Ocean Color Reprocessing 2022.0:

<https://oceancolor.gsfc.nasa.gov/reprocessing/r2022/olci/>

Ocean Color Data Access:

1). Sentinel-3/OLCI level 1B data:

From ESA: <https://scihub.copernicus.eu/dhus/#/home>

From Ocean Color website: <https://oceancolor.gsfc.nasa.gov/cgi/browse.pl>

2). Sentinel-3/OLCI level 2 water data:

From ESA: <https://coda.eumetsat.int/#/home>

From Ocean Color website: <https://oceandata.sci.gsfc.nasa.gov/directdataaccess/Level-2>

3). Sentinel-3/OLCI level 3 water data:

<https://oceancolor.gsfc.nasa.gov/l3/>

4. SNPP and NOAA-20 / Visible and Infrared Imager/Radiometer Suite (VIIRS)

Institution: NASA, NOAA

Time: 2012-present

Mission website: https://www.nasa.gov/mission_pages/NPP/mission_overview/index.html

Quick look website: <https://worldview.earthdata.nasa.gov>

Data user's manual:

https://oceancolor.gsfc.nasa.gov/docs/technical/VIIRS_Level-1_DataProductUsersGuide.pdf

Ocean Color Reprocessing 2022.0:

<https://oceancolor.gsfc.nasa.gov/reprocessing/r2022/snpp/>

<https://oceancolor.gsfc.nasa.gov/reprocessing/r2022/noaa20/>

Ocean Color Data Access:

1). VIIRS level 1 & level 2 ocean color data:

<https://oceancolor.gsfc.nasa.gov/cgi/browse.pl>

2). VIIRS level 3 data:

<https://oceancolor.gsfc.nasa.gov/l3/>

<https://oceandata.sci.gsfc.nasa.gov/directdataaccess/Level-3%20Mapped/SNPP-VIIRS>

5. HY-1C & 1D / Chinese Ocean Color and Temperature Scanner (COCTS)

Institution: NSOAS

Time: 2018-present

Mission website: <https://osdds.nsoas.org.cn/OceanColor>

Quick look website: Quick look images are provided when downloading data.

Data user's manual: https://osdds.nsoas.org.cn/HY1C_introduce

Ocean Color Data Access:

COCTS Level 2 data: <https://osdds.nsoas.org.cn>

6. COMS / Geostationary Ocean Color Imager (GOCI)

Institution: KOSC

Time: GOCI (2010-2021)

Mission website: <http://kosc.kiost.ac.kr/index.nm?menuCd=43>

Quick look website: Quick look images are provided when downloading data.

Data user's manual: <http://kosc.kiost.ac.kr/index.nm?menuCd=43&lang=en>

Ocean Color Data Access:

GOCI 1 ocean color data:

From KOSC:

<http://kosc.kiost.ac.kr/gociSearch/list.nm?menuCd=50&lang=en&url=gociSearch>

From Ocean Color website:

<https://oceandata.sci.gsfc.nasa.gov/directdataaccess/Level-2/GOCI>

7. GEO-KOMSAT-2B (GK-2B) / Geostationary Ocean Color Imager (GOCI-II)

Institution: NOSC/KHOA

Time: GOCI-II (2021-present)

Mission website: <http://www.khoa.go.kr/nosc/intro/intro.do>

Quick look website: Quick look images are provided when downloading data.

Data user's manual: Not provided

Ocean Color Data Access:

Level-1B data: <http://www.khoa.go.kr/nosc/satellite/search.do>

Level-2 data: <http://www.khoa.go.kr/nosc/satellite/searchL2.do>

8. OrbView-2 / Sea-viewing Wide Field-of-view Sensor (SeaWiFS)

Institution: NASA

Time: 1997-2010

Mission website: <https://oceancolor.gsfc.nasa.gov/data/seawifs/seastar/spacecraft>

Quick look website: <https://worldview.earthdata.nasa.gov>

Data user's manual:

https://oceancolor.gsfc.nasa.gov/docs/technical/seawifs_level-1a_data_products.pdf

Ocean Color Reprocessing 2022.0:

<https://oceancolor.gsfc.nasa.gov/reprocessing/r2022/seawifs/>

Ocean Color Data Access:

1). SeaWiFS level 1 & level 2 ocean color data:

<https://oceancolor.gsfc.nasa.gov/cgi/browse.pl>

2). SeaWiFS level 3 data:

<https://oceancolor.gsfc.nasa.gov/l3/>

9. HY-1C & 1D / Coastal Zone Imager (CZI)

Institution: NSOAS

Time: 2018-present

Mission website: https://osdds.nsoas.org.cn/HY1C_introduce

Quick look website: Quick look images are provided when downloading data.

Data user's manual: https://osdds.nsoas.org.cn/HY1C_introduce

Ocean Color Data Access:

CZI Level 2 data: <https://osdds.nsoas.org.cn>

10. Global Change Observation Mission-Climate (GCOM-C) / Second Generation GLobal Imager (SGLI)

Institution: JAXA

Time: 2018-present

Mission website: https://suzaku.eorc.jaxa.jp/GCOM_C/about/object.html

Quick look website: https://www.eorc.jaxa.jp/JASMES/SGLI_STD/daily.html

Data user's manual: https://suzaku.eorc.jaxa.jp/GCOM_C/instruments/index.html

Ocean Color Data Access:

1). SGLI level 1 & level 2 ocean color data:

<https://gportal.jaxa.jp/gpr/?lang=en>

2). SGLI level 3 data:

<https://gportal.jaxa.jp/gpr/?lang=en>

https://www.eorc.jaxa.jp/JASMES/SGLI_NRT/index.html

11. ADvanced Earth Observation Satellite-II (ADEOS-II) / GLobal Imager (SGLI)

Institution: JAXA

Time: 2003 Jan -2003 Oct

Mission website: <https://global.jaxa.jp/projects/sat/adeos2/index.html>

Quick look website: <https://suzaku.eorc.jaxa.jp/GLI/ocean/data/index.html#KandI>

Data user's manual: <https://suzaku.eorc.jaxa.jp/GLI/data/index.html>

Ocean Color Data Access:

1). GLI level 1 & level 2 ocean color data:

<https://gportal.jaxa.jp/gpr/?lang=en>

2). GLI level 3 data:

<https://gportal.jaxa.jp/gpr/?lang=en>

12. ADvanced Earth Observation Satellite (ADEOS) / Ocean Color and Temperature Scanner (OCTS)

Institution: JAXA

Time: 1996 Nov -1997 Jun

Mission website: <https://kuroshio.eorc.jaxa.jp/ADEOS/index.html>

Quick look website:

https://suzaku.eorc.jaxa.jp/GLI2/adeos/SpecialData/Global_octs.html

<https://oceancolor.gsfc.nasa.gov/cgi/browse.pl>

Data user's manual:

https://suzaku.eorc.jaxa.jp/GLI2/adeos/data_proc.html

<https://oceancolor.gsfc.nasa.gov/docs/format>

Other Useful Datasets

13. Landsat Series / Thematic Mapper (TM), Enhanced Thematic Mapper Plus (ETM+), Operational Land Imager (OLI)

Institution: NASA/USGS

Time: 1984-present

Mission website: <https://landsat.gsfc.nasa.gov>

Quick look website: Quick look images are provided when downloading data.

Data user's manual: <https://www.usgs.gov/landsat-missions/landsat-8-data-users-handbook>

Data Access:

Landsat level 1 & 2 data: <https://earthexplorer.usgs.gov>

14. Sentinel-2A & 2B / Multi-Spectral Instrument (MSI)

Institution: ESA

Time: 2015-present

Mission website: <https://sentinel.esa.int/web/sentinel/missions/sentinel-2>

Quick look website: Quick look images are provided when downloading data.

Data user's manual: <https://sentinel.esa.int/web/sentinel/user-guides/sentinel-2-msi>

Data Access:

MSI level 1 & 2 data: <https://scihub.copernicus.eu/dhus/#/home>

15. ISS / Hyperspectral Imager for the Coastal Ocean (HICO)

Institution: NASA

Time: 2009-2014

Mission website: <https://oceancolor.gsfc.nasa.gov/hico>

Quick look website: Quick look images are provided when downloading data.

Data user's manual:

<https://pdfs.semanticscholar.org/d9f6/f70879866d4c8ba8dd0099c04188ddd3dded.pdf>

The Hyperspectral Imager for the Coastal Ocean (HICO): Sensor and data processing overview

DOI: 10.23919/OCEANS.2009.5422336

Ocean Color Data Access:

HICO level 1 & 2 ocean color data:

<https://oceandata.sci.gsfc.nasa.gov/directdataaccess/Level-1B/HICO>

<https://oceandata.sci.gsfc.nasa.gov/directdataaccess/Level-2/HICO>

<https://oceancolor.gsfc.nasa.gov/cgi/browse.pl>

16. Ocean Colour- Climate Change Initiative Project products / Multi-sensor re-processing dataset

Institution: ESA

Time: 1997-present

Mission website: <https://climate.esa.int/en/projects/ocean-colour>

Quick look website: Not provided.

Data user's manual: <https://docs.pml.space/share/s/okB2fOuPT7Cj2r4C5sppDg>

Ocean Color Data Access:

<https://www.oceancolour.org>

17. GlobColour Project

Institution: ACRI/ESA

Time: 1997-present

Mission website: <https://www.globcolour.info>

Quick look website: Not provided.

Data user's manual: https://www.globcolour.info/CDR_Docs/GlobCOLOUR_PUG.pdf

Ocean Color Data Access:

<https://hermes.acri.fr>

18. Others

- <https://ioccg.org/resources/missions-instruments/historical-ocean-colour-sensors>
- <https://ioccg.org/resources/missions-instruments/current-ocean-colour-sensors>
- <https://ioccg.org/resources/missions-instruments/scheduled-ocean-colour-sensors>
- <http://www.tropomi.eu> ; <https://doi.org/10.3389/fmars.2022.787992>
- <http://dx.doi.org/10.3389/fmars.2019.00251>