Evolutions during year 2011

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(3) ESA/ESRIN Via Galileo Galilei CP 64, Frascati, Roma, 00044, Italy
Review of the matchups facility

- Main aspects
- Combined use of MERMAID+ODESA

Evolutions since last MVT in March 2011:

Available *in situ* datasets and matchups

- New datasets
- On-going processing

Data policy and condition of use

- Service Level Agreement
- Acknowledgement and citation

Management of transects in MERMAID

- Inclusion of Helgoland

In situ data processing, new measurements...→ see Kathryn Barker’s presentation
Review of the matchup facility
Match-ups platform for validation of MERIS Ocean Colour products

In-situ
PIs, labs ...

MERIS data & processings
ESA, QWG, Alg. Providers ...

Gathering, storage, processing
QC, protocols, extraction, distribution

Validation

Review of the facility
Protocol document on *in situ* data, written in collaboration with all PIs. It explains the methods, measured quantities, quality checks.

Data catalogue listing all datasets, PI, affiliation, contact. GoogleEarth map to visualise location of all matchups.

Tools to build the matchup (size, flag, outliers removal…) on user’s own criteria. MERIS extractions, stats, validation plots.
Some clarifications on the remote-sensing data and processors

ODESA = Free user interface of MEGS available at http://earth.eo.esa.int/odesa

MEGS (ACRI)
MERIS Ground Segment prototype
3rd reproc version: MEGS8.0 (includes C2R, vicarious adj…)

Configuration of auxiliary data, jobs, outputs…

IPF (ESRIN)
Instrument Processing Facility
3rd reproc version: IPF 6.03

In situ

MERMAID
MERIs MAchup In-situ Database
Nominal version in MERMAID: nominal ODESA = MEGS8.0 = IPF 6.03

In addition, users can play with ODESA to easily validate their own algorithm on MERMAID matchups – keeping control of the configuration.

Quick procedure in four steps:

1. Download the « Level1 extraction » from http://hermes.acri.fr/mermaid (csv format)

2. Process directly in ODESA, like an ENVISAT Level1b product

3. Get output « Level2 extraction » file (csv format)

4. Upload to MERMAID website for data screening and validation plot
Use of MERMAID+ODESA

Example of use: what is the impact of the NIR vicarious adjustment alone?

- In ODESA, create two configurations with different vicarious gains

<table>
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<th>Key</th>
<th>Unit</th>
<th>Value</th>
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<td>nm</td>
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<td>m-s-1</td>
</tr>
<tr>
<td></td>
<td>vicarious adjustment gains</td>
<td>R206</td>
<td>♂</td>
</tr>
</tbody>
</table>

- Launch the jobs, upload results on the website & get results

rhow(490) without NIR adjustment

rhow(490) with NIR adjustment only
Status on the datasets
28 datasets on line, including 10 new since March:
- CoveSeaPrism (G. Schuster, NASA)
- Helgoland (R. Doerffer, HZG)
- LISCO (S. Ahmed, A. Gilerson, CCNY)
- LJCO (V. Brando, CSIRO)
- MUMM (K. Ruddick, MUMM) (only reflectances)
- WaveCIS (B. Gibson, LSU)
- CASES (S. Bélanger, UQAR)

3 new datasets, currently access restricted for final check with PI:
- PortCoast (V. Brotas, Univ. Lisboa) - Chl
- MAREL (C. Belin, IFREMER) - Chl
- REPHY (C. Belin, IFREMER) – Chl

5 datasets under processing:
- NewCaledonia (C. Dupouy, IRD)
- Chesapeake Bay (M. Ondrusek, NOAA)
- Baltic Sea (H. Siegel, IOW)
- NIVATrioS (P. Jacquard, NIVA)
- SYKE FerryBox (S. Kaitala, SYKE)

** = AERONET Ocean Colour instruments
Total number of \( \approx 1300 \) radiometric matchups in MERMAID with less than 50% pixels cloud, ice_haze or high_glint (transects not considered here)

Status on the datasets

This is only a global view. In situ data are by nature heterogeneous

\[ \Rightarrow \text{users are free to select their matchups according to the protocol document and other choices (flags...) for their own validation activity} \]

Acknowledgement to
G. Zibordi (AAOT, Abu Al Bukhoosh, GustavDalenTower, HelsinkiLighthouse),
J. Icely (Algarve),
D. Antoine (BOUSSOLE),
D. McKee (BristolIrishSea),
M. Kahru (California Current),
S. Belanger (CASES),
G. Schuster & B. Holben (CoveSEAPRISM),
H. Loisel (EastEngChannel, FrenchGuyana),
S. Ahmed & A. Gilerson (LISCO),
V. Brando (LJCO), K. Voss (MOBY),
K. Ruddick (MUMMtriOS),
H. Feng & H. Sosik (MVCO),
J. Werdell & NOMAD’s PIs,
S. Kratzer (NWBalticSea, Palgrunden),
D. Siegel (PlumesAndBlooms),
P-Y Deschamps (SIMBADA),
A. Hommerson (WaddenSea),
B. Gibson & A. Weidemann (WaveCIS)
Most of the matchups in MERMAID are now near the coast.

A new information, distance to coast, will be provided soon in the extraction (1km resolution). It gives a clue for processing or not with ICOL.
Data policy and condition of use
MERMAID is a validation facility open to any users with respect of the proprietary rights & acknowledgement of all contributors:

- PIs and associated institutions which provide in situ measurements
- ACRI-ST, ARGANS and ESA (funding, development and maintenance)

Since the beginning (2007), a strong effort has been put on ensuring a perfect respect of PIs’ expectations.

When MERMAID extractions are used in publications, the PI must be contacted to

1. Give approval
2. Be offered co-authorship
3. Be acknowledged.

A Service Level Agreement must now be signed for MERMAID use in projects outside the initial QWG’s maintenance framework.
PIs’ contacts (name, affiliation, email) and an acknowledgement template are explicitly displayed before each download.

If you intend to use MERMAID extractions in a publication or a report, please:

- Consult the PI(s) via e-mail to get approval of in situ data use, inform him/her/them of his/her/their data use and offer co-authorship.
- Acknowledge the PIs and associated projects, e.g.: We thank (the Project/PI) for the (cruise/experiment) data.
- Acknowledge the MERMAID facility and services, e.g.: We thank ACRI-ST, ARGANS and ESA for access to the MERMAID system. (http://hermes.acri.fr/mermaid)

### In-situ dataset

<table>
<thead>
<tr>
<th>In-situ dataset</th>
<th>Principle Investigator</th>
<th>Affiliation</th>
<th>Contact email</th>
</tr>
</thead>
<tbody>
<tr>
<td>AAOT</td>
<td>Giuseppe Zibordi</td>
<td>JRC</td>
<td><a href="mailto:giuseppe.zibordi@jrc.it">giuseppe.zibordi@jrc.it</a></td>
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</tr>
<tr>
<td>Algavco</td>
<td></td>
<td>University of</td>
<td></td>
</tr>
</tbody>
</table>

User must accept the data policy to launch the download.

If you intend to use their data please consult with them via e-mail.

If you accept the above conditions, please check the following box.

[ ]

Go on...
Management of transects
MERMAID now deals with three *in situ* acquisition modes:

1. Fixed buoys (e.g. BOUSSOLE, AERONET-OC towers, etc.)
2. Cruises with scattered stations (e.g. NOMAD, SIMBAD, MUMMTriOS...)
3. Transects (e.g. Helgoland, NIVATriOS)
Management of transects

- Extraction of N×N pixels along the transect remains identical to buoys (text file)
- Can be processed in ODESA
- New transect plots, as function of the distance to starting point

Due to large number of pixels, transects are provided separately in extraction files

MEGS 8.0 processor

Acknowledgement to R. Doerffer (HZG)

Flags rejected as specified by the user
Management of transects

- Keep usual outputs to allow comparison with other datasets
- Level 1b RGB image
Thanks to all contributing PIs to MERMAID:

G. Zibordi (AAOT, Abu Al Bukhoosh, GustavDalenTower, HelsinkiLighthouse), J. Icely (Algarve),
D. Antoine (BOUSSOLE),
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