MERIS, OLCI and related in-situ data policies

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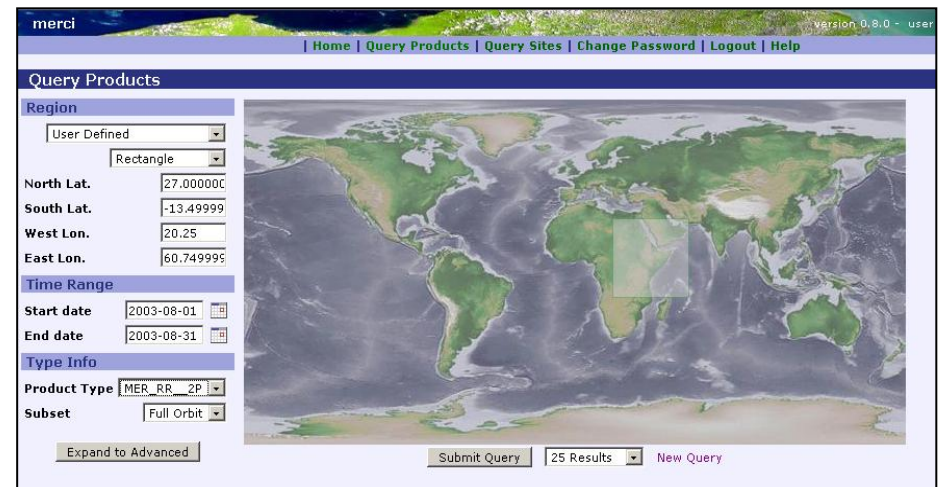
✓ **MERIS data :**

Reduced Resolution (1km), Full Resolution (300 m)
L1B products (calibrated TOA radiances, geolocated)
L2 products → *MERIS product handbook*
3rd reprocessing completed, 4th reprocessing in 2015

✓ **ESA EO data policy:**

→ nominally **open and free of charge** (after user registration)
→ in the specific case of MERIS Full Resolution, maximum quota granted following submission of user project proposal (this step will be removed once FR data are systematically processed)
→ data redistribution by collaborative organisations possible after specific agreement with ESA (user registration and reporting requested): MERIS data redistribution through NASA.

✓ **MERIS data nominal access:**

→ MERCI system for archived Reduced Resolution data access, system allows geographical extraction, time extraction, and bulk download.
→ EOLI (interface with ESA Order Desk for Full Resolution data access)

registration requested to http://eopi.esa.int

1- Development of alternative ways to provide data:

- **Processing on demand** → *G-POD*
  - user software plug-in: access to online archive

- **Processing forums** → *ODESA*
  - processing source codes L1→ L2
  - alternative processing algorithms (non-official)
  - auxiliary data files management
  - local processing

- **User toolboxes** → *BEAM*
  - image processing, analysis
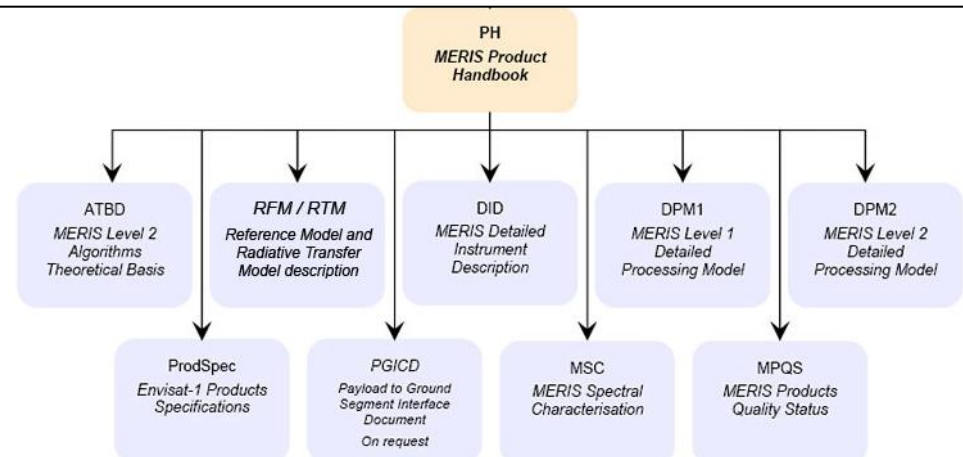
New concept:
User exploitation platforms

⇓

the data do not go to the user anymore, the users go to the data

2- Open access to MERIS data documentation:

ATBD, **DPM**, Product Spec, Reference Model, Instrument description, Validation Report…etc….

→ MERIS Product Handbook
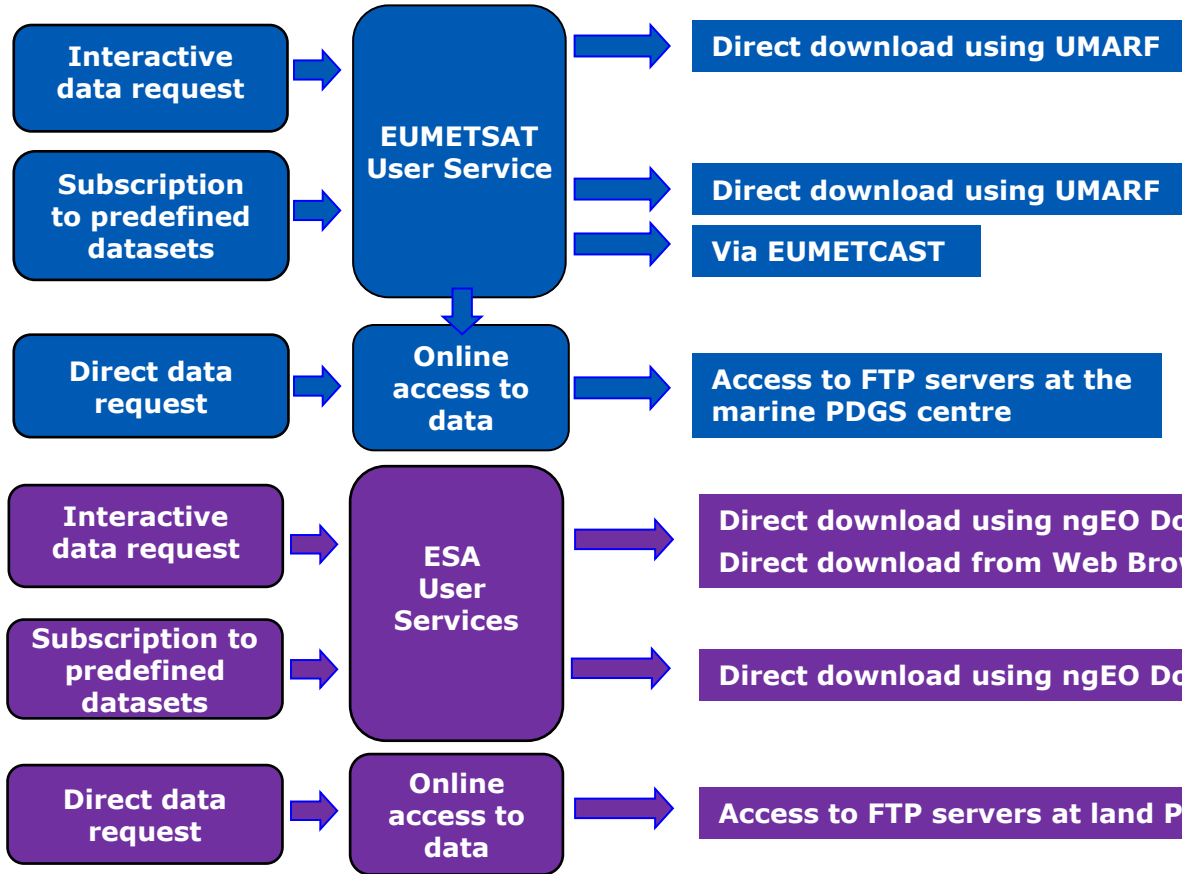

European Space Agency

✓ **Sentinel-3 OLCI data :**

→ Reduced Resolution (1km), Full Resolution (300 m)

→ L1B products (calibrated TOA radiances, geolocated)

→ L2 products → *see poster Santella et al.*

→ Systematic Processing in Real Time (<3h) and offline (after few days)

✓ **Sentinel data policy:**

Joint Principles for a GMES Sentinel data policy (2009 approved ESA document)

➢ **Anybody can access** acquired Sentinel data; in particular no difference is made between public, commercial and scientific use and in between European or Non-European users

➢ The licenses for the Sentinel data itself are **free of charge** (…)

➢ EC presently drafting a **GMES data and information policy**, based on the Joint Principles (see above) in the shape of a Delegated Regulation, to be approved in 2013.

OLCI data access (2/2)

EUMETSAT   **esa**

1- Sentinel-3 OLCI data access through the Core Ground Segment:

Interactive data request	→	EUMETSAT User Service	→	Direct download using UMARF
Subscription to predefined datasets	→		→	Direct download using UMARF / Via EUMETCAST
Direct data request	→	Online access to data	→	Access to FTP servers at the marine PDGS centre

Data volume	Level 1 GB/orbit	Level 2 Marine GB/orbit	Level 2 Land GB/orbit
OLCI	29.6	35.5	7.8
SLSTR	45.6	5.8	2.8
SYN OLCI+SLSTR			31.2

Interactive data request	→	ESA User Services	→	Direct download using ngEO Download Manager / Direct download from Web Browser
Subscription to predefined datasets	→		→	Direct download using ngEO Download Manager
Direct data request	→	Online access to data	→	Access to FTP servers at land PDGS centres

Sentinel-3 user toolbox

2- Additional access through the Collaborative Ground Segment (<u>non GSC-funded</u>) :
- a **supplementary access** to Sentinel Missions data
  e.g. either through mirror sites or specific data products ..
- the **frame for international cooperation**

In-situ data access

MERIS Optical Measurements Protocols

MERMAID provides valuable data for MERIS calibration and validation activities, and therefore is essential to understand the origin of the in-situ data, the methods by which the measurements were made and the data processing stages.

MERMAID consists of datasets from PIs using a variety of measurement systems and following different measurement protocols, including SeaPRISM CIMEL, TACCS, fixed buoys, handheld radiometers and profiling instruments.

Accompanying the database is a comprehensive document overviewing MERMAID and describing these protocols: the MERIS Optical Measurement Protocols.

MERMAID access:

http://hermes.acri.fr/mermaid/

The following table lists the matchup datasets in MERMAID, the location
of the data, the parameters available and the number of matchups

Dataset	PI	Location	Lat/Lon	In-situ parameters available	Number of matchup (MEGS 8.0)
AAOT	Giuseppe Zibordi	North Adriatic Sea	45.314N 12.508E	$\rho_{wN}(\lambda), \rho_{wN\_ISME}(\lambda)^{\cdot}, E_s(\lambda), \tau(\lambda), a, Chl^{\cdot}$	1078
Abu Al-Bukhoosh	Giuseppe Zibordi	Arabian Gulf	25.49N 53.14E	$\rho_{wN}(\lambda), \tau(\lambda), a, Chl^{\cdot}$	265
Algarve	John Icely	Sagres, Portugal	36/37N 8W	$\rho_{wN}(\lambda), \rho_{wN\_ISME}(\lambda)^{\cdot}, E_s(\lambda), Chl$	132
BioOptEuroFleets	Giuseppe Zibordi (ρ_w) Jean-Francois Berthon (IOP) Elisabetta Canuti (Chl)	Black Sea	42/45N 37/31E	$\rho_{wN}(\lambda), \rho_{wN\_ISME}(\lambda)^{\cdot}, E_s(\lambda), Chl, IOP, K_d, TSM$	33
BOUSSOLE	David Antoine	W. Mediterranean	43.367N 7.9E	$\rho_{wN}(\lambda), \rho_{wN\_ISME}(\lambda)^{\cdot}, E_s(\lambda), Chl, K_d$	853
Bristol Channel and Irish Sea	David McKee	Bristol Channel & Irish Sea	51/54N -3/-4E	$\rho_{wN}(\lambda), \rho_{wN\_ISME}(\lambda)^{\cdot}, E_s(\lambda), Chl, IOP, OSM, MSM$	43
BSHSummerSurvey	Holger Klein	North sea English Channel	49.0/62.5N -6.0/8.25E	Chl	140
CaliforniaCurrent	Mati Kahru	California	32.2/34.8N 120.3/123.8W	$\rho_{wN}(\lambda), \rho_{wN\_ISME}(\lambda)^{\cdot}, E_s(\lambda), K_d, K_{PAR}, PAR_{zy}$	16
CASES	Simon belanger Selima Ben Mustapha	Beaufort Sea	69.52/71.96N 123.22/138.93W	$\rho_{wN}(\lambda), Chl, IOP, K_d, TSM$	70

The following table lists the matchup datasets in MERMAID, the location of the data, the parameters available and the number of matchups

Name	Contact	Location	Coordinates	Parameters	Matchups
ChesapeakeBay	Michael Ondrusek	ChesapeakeBay	38.70/39.00N - 76.30/.76.50W	$\rho_{wN}(\lambda),\rho_{wN\_ISME}(\lambda)^\cdot,E_s(\lambda)$	16
CoveSEAPRISM	Greg Schuster Brent Holben	Chesapeake Lighthouse	36.90N 75.71W	$\rho_{wN}(\lambda),Chl^\cdot$	221
EastEngChannel	Hubert Loisel	Estern English channel	49.4/51.4N 0.0/3.0E	$\rho_{wN}(\lambda),Chl$	54
FrenchGuiana	Hubert Loisel	French Guiana	4.7/5.0S 51.9/52.3W	$\rho_{wN}(\lambda),Chl$	10
Gloria	Giuseppe Zibordi	Black Sea	44.60N 29.36E	$\rho_{wN}(\lambda),\tau(\lambda),a,Chl^\cdot$	24
Gustav Dalen Tower	Giuseppe Zibordi	Baltic Sea	58.59N 17.47E	$\rho_{wN}(\lambda),\rho_{wN\_ISME}(\lambda)^\cdot,E_s(\lambda),\tau(\lambda),a,Chl^\cdot$	446
Helgoland	Roland Doerffer	North Sea	54N 7.5/8.5E	$\rho_{wN}(\lambda),\rho_{wN\_ISME}(\lambda)^\cdot,E_s(\lambda)$	N/A
Helsinki Lighthouse	Giuseppe Zibordi	Baltic Sea	59.95N 24.93E	$\rho_{wN}(\lambda),\rho_{wN\_ISME}(\lambda)^\cdot,E_s(\lambda),\tau(\lambda),a,Chl^\cdot$	362
MOBY	Kenneth Voss	Lanai, Hawaii	20.822N, 157.187W	$\rho_{wN}(\lambda),\rho_{wN\_ISME}(\lambda)^\cdot,E_s(\lambda)$	992
LISCO	Sam Ahmed	Long Island	40.95N	$\rho_{wN}(\lambda),\tau(\lambda),a,Chl^\cdot$	

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LJCO	Vittorio Brando Lucinda Australia	18.52S 146.38E	$\rho_{wN}(\lambda), \tau(\lambda), a, Chl$	39
MAREL	Catherine Belin French Coast	4 buoys at : 43.32N, 4.85E 40.74N, 1.57E 47.46N, 2.57W 48.36N, 4.55W	Chl	3386
MUMMTriOS	Kevin Ruddick	European Waters 27.35N/53.83N -11.98E/12.50E	$\rho_{wN}(\lambda), \rho_{wN\_ISME}(\lambda), E_s(\lambda), Chl$	433
MVCO	Hui Feng Heidi Sosik	Massachusetts 41.30N 70.55W	$\rho_{wN}(\lambda), \tau(\lambda), a, Chl$	315
NOMAD	World wide Jeremy Werdell See list of PI below (**)	World wide	$\rho_{wN}(\lambda), \rho_{wN\_ISME}(\lambda), E_s(\lambda), Chl, IOP, K_d, K_{PAR}, PAR_{ex}$	521

NOMAD
Robert Arnone
William Balch
Ken Carder
Richard Gould
Larry Harding
Stan Hooker
Zhongping Lee
Ru Morrison
Antonio Mannino
Greg Mitchell
Frank Muller-Karger
Norman Nelson
David Siegel
Dariusz Stramski
Ajit Subramaniam
Jeremy Werdell

The following table lists the matchup datasets in MERMAID, the location of the data, the parameters available and the number of matchups

Dataset	Author	Location	Coordinates	Parameters	Matchups
N.W. Baltic Sea	Susanne Kratzer	N.W. Baltic	58N 17E	$\rho_{wN}(\lambda), \rho_{wN\_ISME}(\lambda)^{\cdot}, E_s(\lambda), Chl$	22
Pålgrunden (Lake Vänern)	Susanne Kratzer	Pålgrunden, Sweden	58.75N 13.15E	$\rho_{wN}(\lambda), \tau(\lambda), a, Chl^{\cdot}$	179
PlumesAndBlooms	David Siegel	California	34.9/34.1N 119.1/12.1W	$\rho_{wN}(\lambda), \rho_{wN\_ISME}(\lambda)^{\cdot}, E_s(\lambda), Chl, IOP$	271
PMLNorthSeaWEC	Gavin Tilstone	North sea Western English Channel	47/53N -10/3.4E	Chl, IOP, TSM	56
PortCoast	Vanda Brotas	Portuguese coast	38.08/40.69N 8.79/10.50W	Chl	198
REPHY	Catherine Belin	French Coast	41.53/51.10N 9.79/5.10W	Chl, TSM	1284
SIMBADA	Pierre-Yves Deschamps	World wide	World wide	$\rho_{wN}(\lambda), \rho_{wN\_ISME}(\lambda)^{\cdot}, E_s(\lambda)$	510
Wadden Sea	Annelies Hommersom	Wadden Sea	52-53N 4-6W	$\rho_{wN}(\lambda), Chl, IOP, TSM$	5
WaveCIS	Bill Gibson Alan Weidemann	Gulf of Mexico	28.86N 90.48W	$\rho_{wN}(\lambda), \tau(\lambda), a, Chl^{\cdot}$	34

Primary Users

MERMAID has originally been developed for supporting the MERIS Maintenance & Evolution project. Members of the MERIS Quality Working Group (QWG) have access to the database within the frame of their mandate as defined and approved by ESA. In situ data providers with successful matchups with MERIS data are also granted access to the database.

External Users

Any investigators outside the scope of the MERIS maintenance & evolution project can request access to the database by sending a short description of their project and the intended use of the MERMAID data at mermaid@acri.fr. Access is granted through a Service Level Agreement.

Acknowledgements and Proprietary Rights

When MERMAID extractions are used in publications, the Principal Investigators of in situ data (PIs) should always be contacted for approval, be offered co-authorship and acknowledged. The PIs and contact details are listed in the table below and appear in the MERIS extractions. ACRI-ST and ARGANS should always be acknowledged too, as quality control, post-processing, MERIS processing, extractions, database system and web facility are proprietary and operated on behalf of ESA.

Restrictions

Access is strictly personal through nominative login and password.
MERMAID extractions and data should only be used for the validation purpose defined when access was granted; in particular redistribution of MERMAID extractions directly or through external facilities/database is forbidden.

In-situ data policy:
How to protect PI (on top of acknowledgment)?
e.g. should we have 1 year or more exclusivity period ?