Agenda

Friday 18 Sept 09:00-13:00, ESRIN

Project status summary (JFP)

WP-2

   Status of WP 2 (Abderrahim)

WP-3

   Progress on WP3 (Abderrahim)

   Product validation by triple collocation (Rick Danielson)

   Progress from PML – Using ocean colour and optics to evaluate ocean heat flux (Hayley)

   Progress on cages (K Von Schuckmann)

WP-4

   Status of OHF portal and tools (JFP, on behalf Antoine)
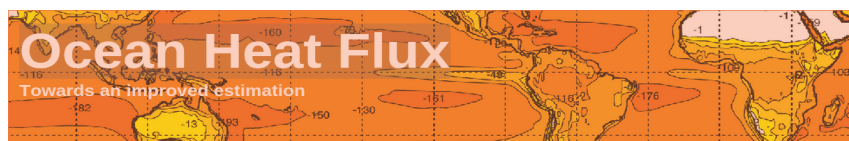
Future meetings and AOB

Review of actions

Progress summary (1)

- WP2 : reference dataset generation
  - Homogenization of all selected inputs completed (AG, AB)
  - Comparison of different resampling methods (AB+SG)
  - Generation of contraint data for cages (KVS)
  - Report on the reference dataset (product handbook)
- WP3 : Product generation, Intercomparison and uncertainty characterization
  - Sensitivity studies & algo improvement completed (3.1)
  - Best estimate ongoing (3.1)
  - PDF estimation => meeting planned next week with Sergey
  - Ensemble analysis by end of this year (3.2)
  - Product evaluation & Error characterization
    - Triple colocation => NERSC presentation
    - Revision of cage concept wrt to available data, received code on OHC calculation => update by Karina
    - Using ocean colour and optics to evaluate ocean heat flux (Hayley)
- WP4 : data portal, TEP concept
  - Implementation of software tools
  - Online crowdsourcing applications
- WP6 : scientific roadmap
  - Ongoing work on synergies with SMOS (River plumes, heat content estimation in hurricane areas) and GlobCurrent (advection)
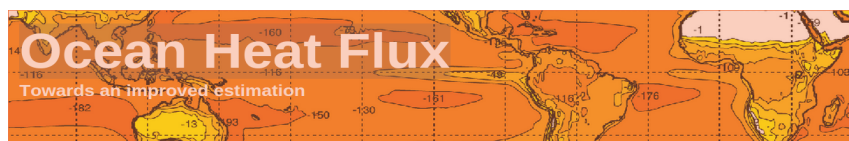
Data sets status: June 2015

	version	standardisation	Référence on web-site / catalogue	Size	provider
IFREMER (FP1)	v4	OK	OK	188Go	IFREMER
HOAPS (FP2)	v2	need to update with new version	OK	121Go	CM SAF
SEAFLUX (FP3)	Feb 2012	OK	OK	54Go	WHOI
OAFLUX (FP4)	Oct 2009	OK	OK	120Go	WHOI
CFSR (FP8)		OK	OK	514Go	NCEP NCAR UCAR
MERRA	merra300.prod.assim			-	NASA
J-OFURO (FP5)	V1.5.2	OK	OK	72Go	Univ. Tokai
ERA INTERIM (FP7)	Bentamy v0.1	OK	OK	86Go	ECMWF

Ocean Heat Flux
Towards an improved estimation

Data sets status: September 2015

	version	standardisation	Référence on web-site / catalogue	Size	provider
IFREMER (FP1)	v4	OK	OK	188Go	IFREMER
HOAPS (FP2)	v2	OK	OK	121Go	CM SAF
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MERRA	merra300.prod.assim	OK	OK	173Go	NASA
J-OFURO (FP5)	V1.5.2	OK	OK	72Go	Univ. Tokai
ERA INTERIM (FP7)	Bentamy v0.1	OK	OK	86Go	ECMWF

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Delivrables (1)

WP	Doc ref.	Description	Responsible	Due Date	Status
Scientific Requirements Consolidation					
1	D1.1	Requirement Baseline Document	A Bentamy IFREMER	KO+4	V2.1 provided
Reference Dataset Generation					
2	D2.1	Reference Dataset	A Bentamy IFREMER	KO+6	V1.0 provided
Product generation, inter-comparison and uncertainty characterisation					
3	D3.1	Flux Assessment Report	K. Von Schuckmann	KO+11 KO+24	
3	D3.2	Product Handbook	A Bentamy IFREMER	KO+10 KO+23	V1.0 provided
3	D3.3	Flux Product Dataset	A Bentamy IFREMER	KO+10 KO+21	
Data Portal Development					
4	D4.1	Data Portal initial version at KO+3 for project communication, with presentation content, deliverables,blog,… Updated regularly then.	JF Piollé IFREMER	KO+3 KO+8 KO+14 KO+18 KO+24	v1 provided

Delivrables (2)

Strategic Development					
5	D5.1	Scientific Roadmap	B Chapron IFREMER	KO+6 KO+18	
Outreach and coordination					
6	D6.1	Outreach Material	A Bentamy IFREMER	KO+11 KO+24	Published newsletter & presentations
6	D6.2	Final Workshop Report	A Bentamy IFREMER	KO+24	
6	D6.6	Biannual newsletter	R Danielson NERSC	Every 6 months	
6	D6.7	Project brochures	R Danielson NERSC	Every 6 months	
Project management					
6	D6.3	Project Management Plan (PMP)	JF Piollé IFREMER	KO+1	provided
6	D6.4	Executive Monthly Progress Report (MR)	JF Piollé IFREMER	KO+1, every month then	3-monthly
6	D6.5	Actions database (ADB)	JF Piollé IFREMER	KO+1, every month then	updated

Representation at meetings

Workshop	Attendant	Status
Challenges of the surface energy budget and proposed ways forward, K. von Schuckmann, S. Josey, S. Gulev, K. Trenberth, C.-A. Clayson, P.-P. Mathieu, M. Wild *EGU, Vienna, 12-17 April 2015*	K Von Schuckmann	Presented
The Net Energy Budget at the Surface Interface of the "Cold Tongue" Region, Abderrahim Bentamy, Rachel T. Pinker, Banglin Zhang, Anita D. Rapp and Yingtao Ma. *EGU (European General Assembly 12 – 17 April 2015, Vienna Austria)*	R. Pinker (OHF expert)	Presented
Towards Homogenization of Scatterometer Wind Retrievals, Abderrahim Bentamy, Semyon A. Grodsky, Bertrand Chapron, Anis Elyouncha IOVWST (19 - 21 May 2015 Portland USA)	A Bentamy	Presented
Session "The Earth's energy imbalance and exchanges at the atmosphere-ocean interface: from fundamental research to societal concern" *"Our common future under climate change", Paris, 7-10 July 2015,* http://www.commonfuture-paris2015.org/	K Von Schuckmann	Accepted
joint CLIVAR RF CONCEPT-HEAT/CLIVAR GSOP/COST ES1402 workshop *UK Met Office, Exeter, 28 Sept.*-02 Oct.	A Bentamy K Von Schuckmann	Accepted
SOOS - Air-Sea Fluxes for the Southern Ocean: Strategies and Requirements for Detecting Physical and Biogeochemical Exchanges, Frascati, Italy, September 21-23, 2015	A Bentamy S Gulev C A Clayson	Accepted
GEWEX (Earth Observation for Water Cycle Science 2015 20th-23rd October 2015 ESA-ESRIN, Italy)	A Bentamy	Accepted
Oceanflux GHG & Ocean Heat Flux : an open collaborative research framework for ocean fluxes , EO Science 2.0	A Grouazel	Accepted

Payment plan

Payment	Deliverables	Due date	Status
1	D4.1	10/2014	Paid
2 (CDR)	D1.1, D2.1, D5.1	03/2015	To be claimed ?
3	D4.1, D3.2, D3.3, D3.1, D6.1	07/2015	End of the year
4	D4.1, D5.1	01/2016	
Final	D3.1, D3.2, D3.3, D4.1, D6.1, D6.2	07/2016	

Progress on dataset collection and portal

Antoine Grouazel & JF Piollé

Data Portal Development

- 2 web applications :
  - Build your own flux series from bulk parameters
  - Flux budget closure (cages)
- Release of air-sea flux python packages:
  - Git repo : https://git.cersat.fr
  - Data reading and pattern classes : https://git.cersat.fr/cerbere/cerbere
  - Resampling toolbox : https://git.cersat.fr/cerbere/cerinterp
  - Flux calculation toolbox : https://git.cersat.fr/cerbere/cerform
  - Tutorials being written
  - Online documentation
  - Tool page
  - Other tools to come (PDF, OHC calculation, cages,…)
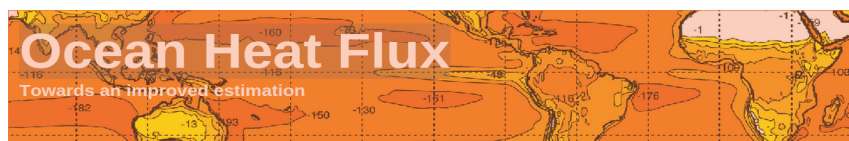 - Felyx and visualization for the end of this year

algo	Python toolbox
COARE3	ok
COARE4	ok
LKB	ongoing
Large&Pond	ongoing
Smith 88	ongoing

Ocean Heat Flux
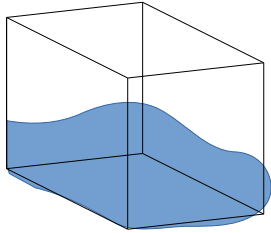Towards an improved estimation

Build your own flux time series

- Features :

  - Aim to be used for education and build upon OHF data homogenization/collection effort to assess sensitivity to different sources

  - choose from different sources for bulk parameters (Q, Qs,T, SST, Wind...) among the collected sources and reference datasets (OAFLUX, SEAFLUX, IFREMER, HOAPS,...)

  - Choose model (COARE3, COARE4, Large&pond, LKB) (available as a python package)

  - Generation of complete time series on Cersat cloud

  - Automatic comparison to buoys (PMEL)

  - Comparison to ensemble and best estimate

  - Possibilty to append the other diagnostics proposed (triple colocation, PDF analysis, ...)

Ocean Heat Flux
Towards an improved estimation

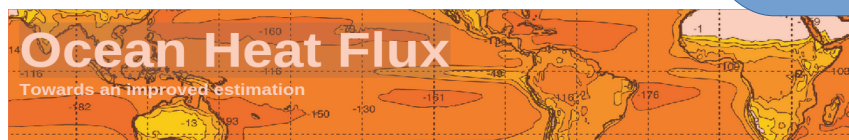**on the web the 1st of October 2015**

Heat budget calculation

$$Q_{atm} + Q_{ocean} + Q_{lateral} = 0^*$$

References Qnet datasets
Or
selection among the dataset produced with
the « flux generation app »

$\frac{dOHC}{dt}$

Argo pre computed Ocean Heat content

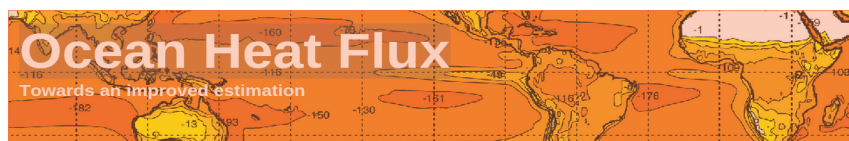NEMO MERCATOR runs Giving the total transport integrated from bottom to surface

Ocean Heat Flux
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* theoritically

Next steps

- « flux generation » online application :
    - Add and validate missing algo (Smith, LKB,...)
    - Add more choices for input data sources
    - Deployment
- « budget closure » online application :
    - get NEMO MERCATOR run to compute integrated transport
    - End to end code testing
    - Write web templates
- Communication : Antoine Grouazel → EOSCIENCE 2.0 Oct 2015

Ocean Heat Flux
Towards an improved estimation

ID	RESPONSIBLE	DESCRIPTION	OPEN	DUE DATE	STATUS	COMMENT
1	IFREMER/AB	Provide MoM from Paris meeting PM1	26/01/15		Closed	Done
2	IFREMER/JFP	Workpackage to be renamed conforming to IT ESA SoW tasks	26/01/15		Closed	Done in updated PMP
3	IFREMER/AG	Add MERRA reanalyzes to reference dataset	26/01/15		Closed	
5	IFREMER/AB	Double check the product rights and especially ERA Interim	26/01/15		Closed	
6	IFREMER/AG	Double check the version of each product and the associated DOI (if exists)	26/01/15		Closed	Done
7	IFREMER/AB	Provide the accuracy requirements for LHF and SHF. The latter would be derived from peer review publications and from scientific project reports (e.g. http://lists-ioc-goos.org/goos-strategic-mapping-graphic/)	26/01/15		Closed	Ongoing in RB
8	IFREMER/AG	Circulate the methods aiming at the homogenization of the flux products	26/01/15		Closed	ICD document has been written for format. Further discussion needed for resampling methods.
9	IFREMER/AG	Foster interaction between NERSC and IFREMER aiming at comprehensive use of data and procedures including cloud procedure, Felyx, collocation, statistics	26/01/15		Closed	Ongoing
10	IFREMER/AB	Contact Dr Lisan YU for the updated OAFlux	26/01/15		Closed	Requested but these data are still under validation and can not be distributed
11	MIO/KVS	Provide report summarizing the main tasks relied on D1.1 (services, methods, ..)	26/01/15		Closed	Ongoing in RB
12	NERSC/RD	Provide a note aiming at the clarification of work performing by NERSC in collaboration with IFREMER	26/01/15		Closed	Done in updated PMP
13	IFREMER/AG	Assessment of variable names (see CF convention)	26/01/15		Closed	
14	IFREMER/AG	Check the use of zenodo	26/01/15		Closed	
15	IORAS/SG	Provide method and algorithms for PDF flux analysis	26/01/15		Open	
16	IFREMER/AB	Contact Dr Shawn Smith from FSU for SAMOS data	26/01/15		Closed	Done
17	IFREMER/JFP	Change project acronym from TIE-OHF to OHF	26/01/15		Closed	Done in updated PMP
18	IFREMER/AB	Provide justification for flux datasets made available for OHF project	26/01/15		Closed	Ongoing in RB