



## Task 1000 “User Requirements Document - Update”

NERSC together with UoH, ECMWF and LEGOS



## WP 1000 Reporting

WP1000 : Requirements Management (resp NERSC)

WP1100 : URD update & Participation to CMUG meetings (resp NERSC with UoH, ECMWF and LEGOS)

WP1200 : PSD, CECR and DARD review and update (Resp CLS)

WP1300 : Participation to CMUG meetings (Resp NERSC)



## **Task 1100: URD update (NERSC)**

The latest version is SL-URD-004 from 22 October 2014.

Maintain and update the existing SL CCI URD during Phase 2. A review and an update of the URD will take place after each Annual Review.

Establish and add a specific section for the Arctic (NERSC) and coastal (NOC) areas;

Collect requirements from other external frameworks such as CMIP5, CMIP6, OSTST, etc..

Discuss requirements with CMUG



## Task 1100: URD update (NERSC)

Variable/parameter	Requirement number	Horizontal resolution	Temporal resolution	Accuracy	Stability
Global Mean sea level	UR-SLCCI-SPC-01	Global mean	NA	2 - 4 mm over an orbital cycle	Long term drift < 0.3 mm/y Annual time scale < 0.5 mm/y over 1é months
Regional sea level	UR-SLCCI-GEN-02	25 - 50 km	week	1 cm over a grid mesh of 50 - 100 km	< 1 mm/y over a frid mesh of 50 - 100 km
Mesoscale	UR-SLCCI-GEN-03	15 km	daily	0,5 cm	No strong requirements
Time Mean (Mean Dynamic Topography)	UR-SLCCI-GEN-04	25 km	NA but covered [1993 - 1999] period	TBD	NA



**Table 2-1: GCOS Target Sea Level Measurement Requirements**

Variable/ Parameter	Horizontal Res (target)	Vertical (target)	Res	Temp Res (target)	Accuracy (target)	Stability (target)
Large-scale and global mean sea level	50 km	NA		10 days	2-4 mm (global mean)  1 cm over a grid mesh	<0.3 mm/yr (global mean)
Regional Sea Level	25km	NA		Weekly	1cm (over grid mesh of 50- 100km)	<1mm/yr (for grid mesh of 50-100km)



## GCOS Requirements + Arctic + Coastal

Variable/ Parameter	Horizontal Res (target)	Vertical (target)	Res	Temp Res (target)	Accuracy (target)	Stability (target)
Global mean sea level	50 km	NA		10 days	2-4 mm (global mean)  1 cm over a grid mesh	<0.3 mm/yr (global mean)
Regional Sea Level	25km	NA		Weekly	1cm (over grid mesh of 50- 100km)	<1mm/yr (for grid mesh of 50-100km)
Arctic Ocean sea level	25 km	NA		Monthly	1 cm (50-100 km)	< 1mm/yr (50-100 km)
Coastal	15 km	NA		Monthly	1 cm	0.5 – 1.0 mm/yr



## Task 1100: URD update (NERSC)

Spatial scales	Temporal scales	Altimetry errors	User requirements
Global MSL	Long-term evolution (> 10 years)	$< 0.5 \text{ mm year}^{-1}$	$0.3 \text{ mm year}^{-1}$
	Interannual signals (< 5 years)	$< 2 \text{ mm over 1 year}$	$0.5 \text{ mm over 1 year}$
Regional MSL	Annual signals	$< 1 \text{ mm}$	Not defined
	Long-term evolution (> 10 years)	$< 3 \text{ mm year}^{-1}$	$1 \text{ mm year}^{-1}$
	Annual signals	$< 1 \text{ cm}$	Not defined

Error budget of SL\_cci products for the main climate scales  
(from Ablain et al., 2015)



## **Task 1300: Participation to CMUG meeting**

A specific task is identified to manage the participation to the CMUG meeting. Indeed, one lesson learned from the phase I is that it is difficult to allocate the entire responsibility of the Climate Research Group (CRG) group representation to only a single partner or one person.

The attendance to the CMUG meeting will be shared among the three members of the CRG: Uoh (D. Stammer), NERSC (J. Johannessen), ECMWF (M. Balmaseda). The attendance plan is currently the following:

- CMUG 1: UoH,
- CMUG 2: NERSC,
- CMUG 3: ECMWF.

The next CMUG meeting will be at SMHI in Sweden 26-28 May 2015.

Participation to ISSI workshop in Bern, 2-6 February 2015