



9<sup>TH</sup> EUROGOOS INTERNATIONAL CONFERENCE

**ADVANCES IN OPERATIONAL OCEANOGRAPHY:**  
EXPANDING EUROPE'S OCEAN OBSERVING AND FORECASTING CAPACITY

3 May 2021 - 5 May 2021  
Virtual

**9th EuroGOOS International Conference**

EuroGOOS European Global Ocean Observing System

Ifremer

SH M 300 ans d'hydrographie

# Building a reliable and standardized long-term data set of surface coastal ocean currents from the European HF radars

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**REAL TIME DATASETS**

SAR

COASTAL PROCESSES

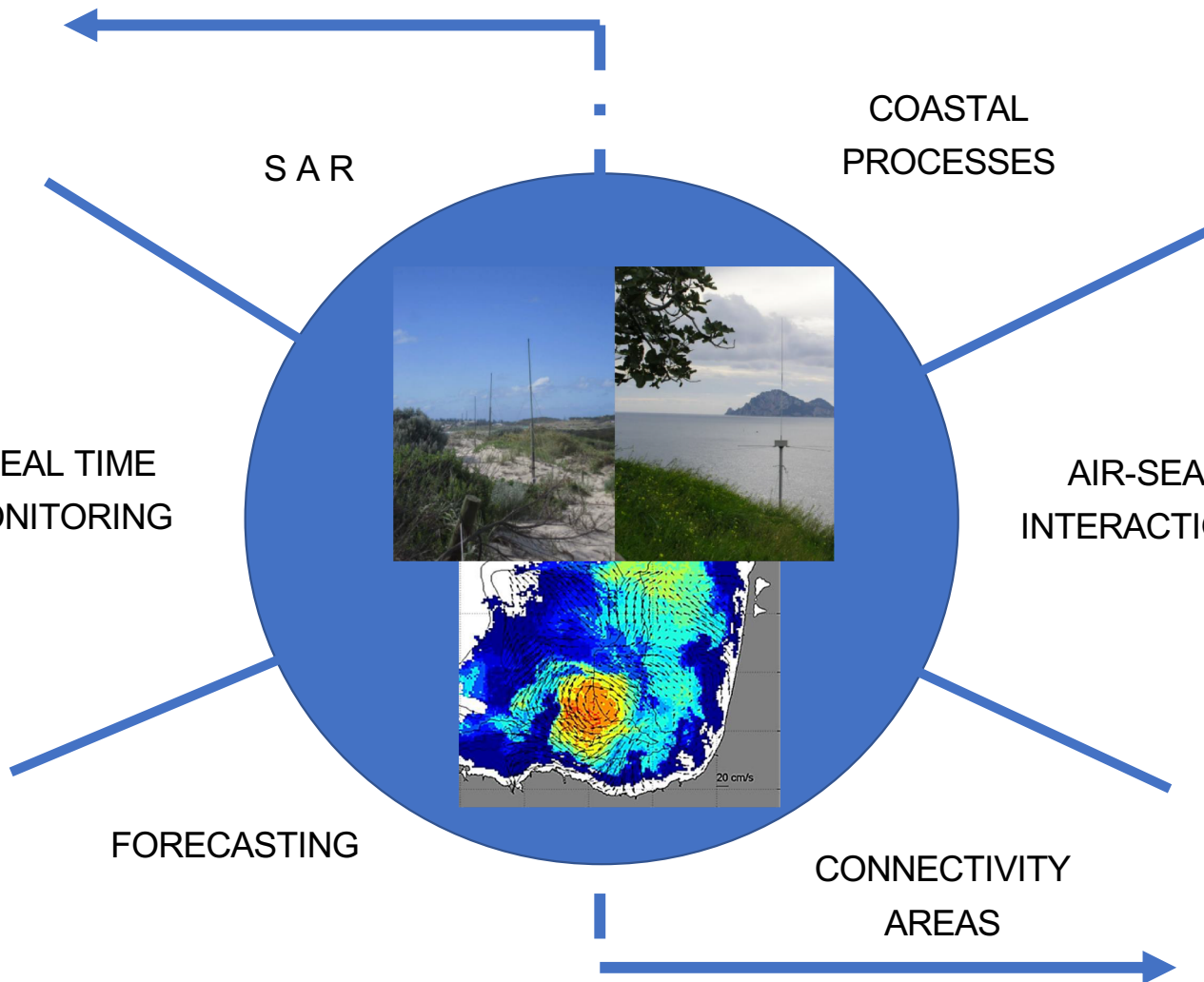
REAL TIME MONITORING

AIR-SEA INTERACTION

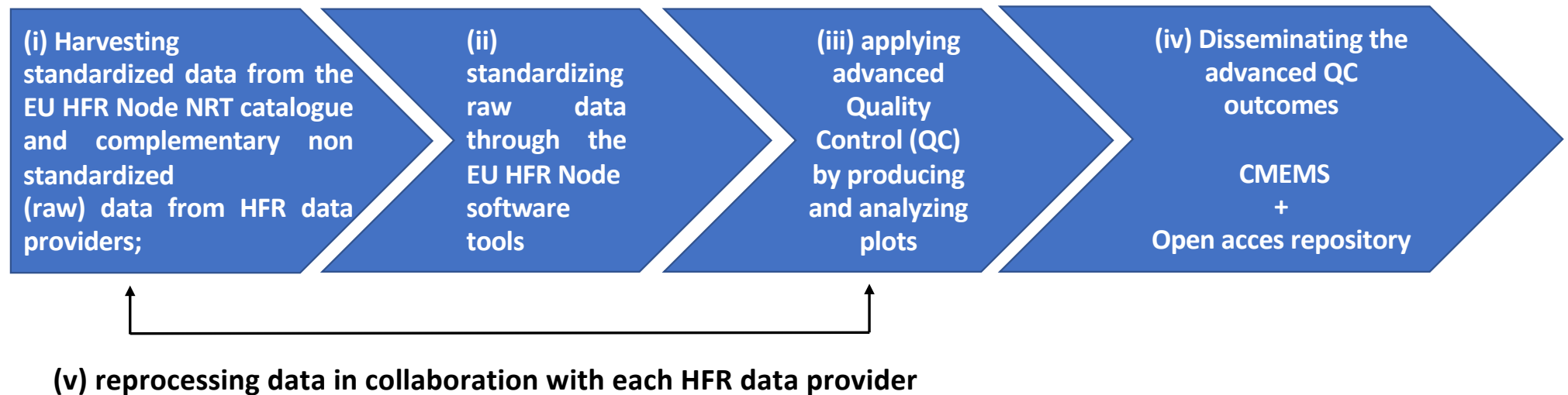
FORECASTING

CONNECTIVITY AREAS

**HISTORICAL DATASETS**



## HFR Historical (REP) data management



The **European HFR Node acts as the focal point** for the European HFR data providers and implements the HFR data stream from the data providers to the CMEMS-INSTAC Global Production Unit (PU).



# WHAT DO WE PROVIDE?

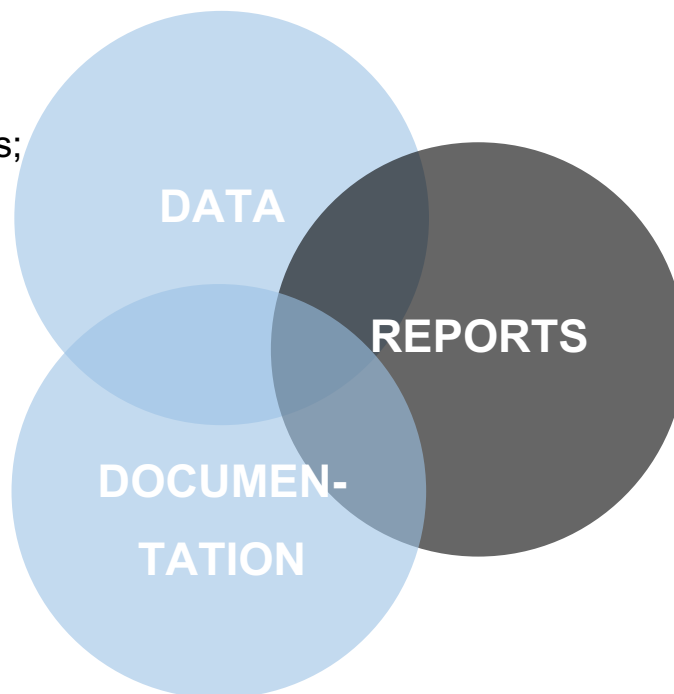
## DATA

Temporal aggregated data files;

One file/system

## DOCUMENTATION

- PUM
- QUID
- ...



## REPORTS

Information about data, dates, plots, data analysis...

(<http://dSPACE.azti.es>)



**EuroSea**

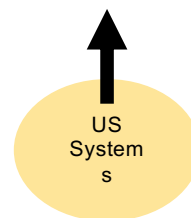
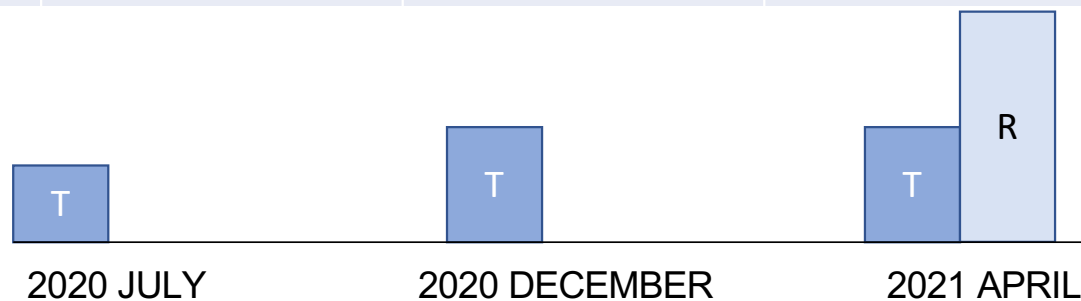
- Reports
- Improvements of historical series



# DATA:

## Data delivery: Systems added during releases

	JULY 2020	DECEMBER 2020	APRIL 2021
TOTALS	10	16	16
RADIALS			30

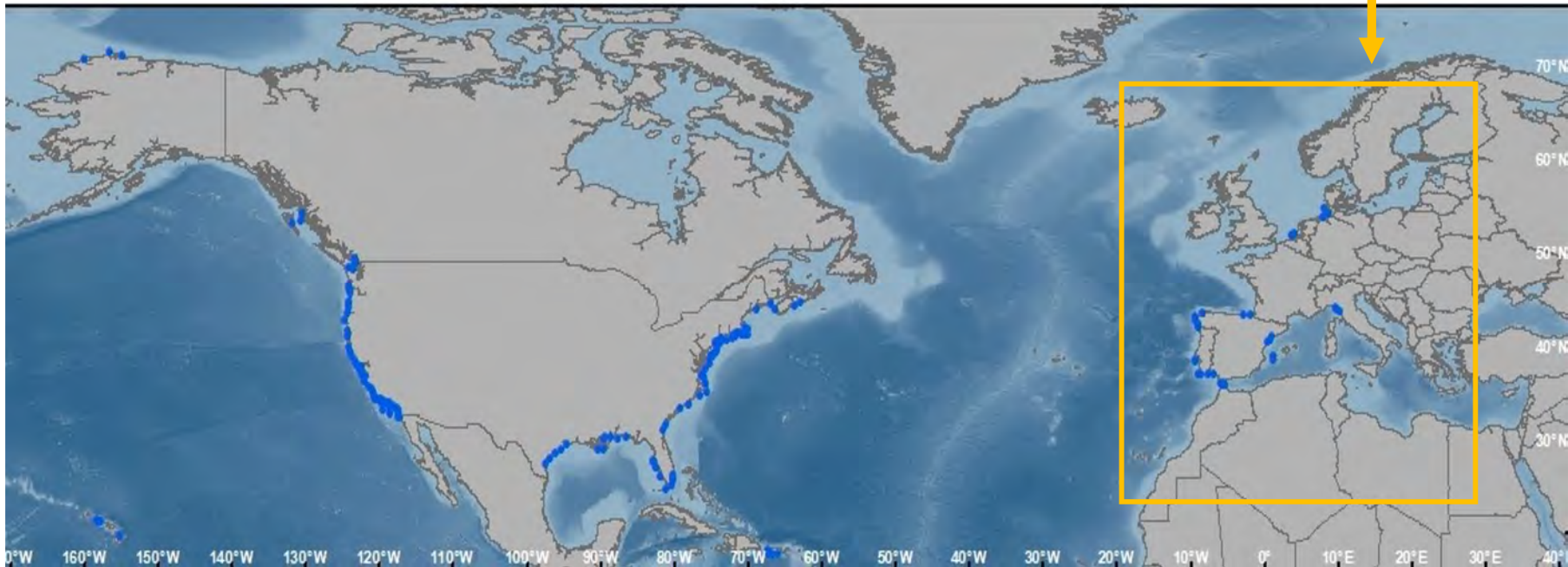


**TOTALS: 16 networks**

European + US systems already included

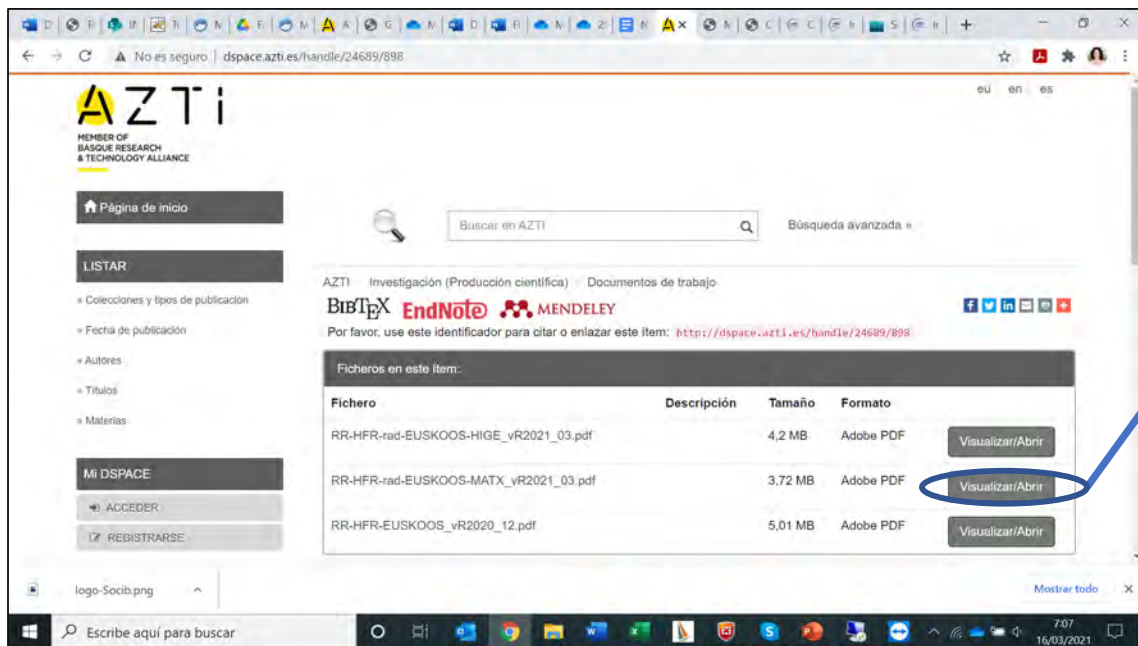
**RADIALS: 30 Stations**

European HFRs



# REPORTS CONTENTS

- <http://dspace.azti.es>



## Reports

**Report on Historical data files QA/QC**

Version of the report VR2021_04	Changes made by L. Solabarrieta & A. Rubio	Nature of changes Report generation
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System/Site: EUSKOOS/MATX  
Data set: [Totals/Radials] Radials  
Period: 01-Jan-2009 – 21-Jul-2020

**INFO ON QA/QC Settings and Calibration for info time: 01-Jan-2009 to 21-Jul-2020**

%% AVRB\_QC info:  
OceanSITES quality flagging for Average Radial Bearing QC test. Thresholds set to [140-220] deg.

%% CSPD\_QC info:  
OceanSITES quality flagging for Velocity Threshold QC test. Threshold set to 1.2 m/s.

%% DEPH\_QC info:  
OceanSITES quality flagging for depth coordinate.

%% MDFL\_QC info:  
OceanSITES quality flagging for Median Filter QC test. Threshold set to 5 km, 30 deg, 1 m/s.

%% owtr\_QC info:  
OceanSITES quality flagging for Over-water QC test.

%% POSITION\_QC info:  
OceanSITES quality flagging for position coordinates.

%% RDCT\_QC info:  
OceanSITES quality flagging for Radial Count QC test. Thresholds set to 200 vectors.

%% TIME\_QC info:  
OceanSITES quality flagging for temporal coordinate.

%% VART\_QC info:  
OceanSITES quality flagging for Variance Threshold QC test. Test not applicable to Direction Finding systems. The Temporal Derivative test is applied. Threshold set to 1 m/s.

%% Calibration info for time: 01-Jan-2009 12:00:00  
2007-02-15T00:00:00Z

%% Calibration info for time: 15-Sep-2009 12:00:00  
2009-07-06T00:00:00Z

%% Calibration info for time: 18-Oct-2011 12:00:00  
2011-10-11T00:00:00Z

%% Calibration info for time: 01-Jul-2012 12:00:00  
2007-02-15T00:00:00Z

%% Calibration info for time: 01-Aug-2012 12:00:00  
2011-10-11T00:00:00Z

# REPORTS CONTENTS

I

## SYSTEM + PROVIDER INFORMATION

System : [name of the system]  
Data set: [Totals/Radials] Total  
Period: [beginning and end dates]

INFO ON QA/QC Settings and Calibration

II

## DATA ANALYSIS RESULTS

Results of Hist data inspection  
General comments  
Periods to be reflagged  
Reasons for reflagging

Spatial Coverage vs. Temporal coverage:  
objective of USCG 80-80% data availability

III

## FIGURES

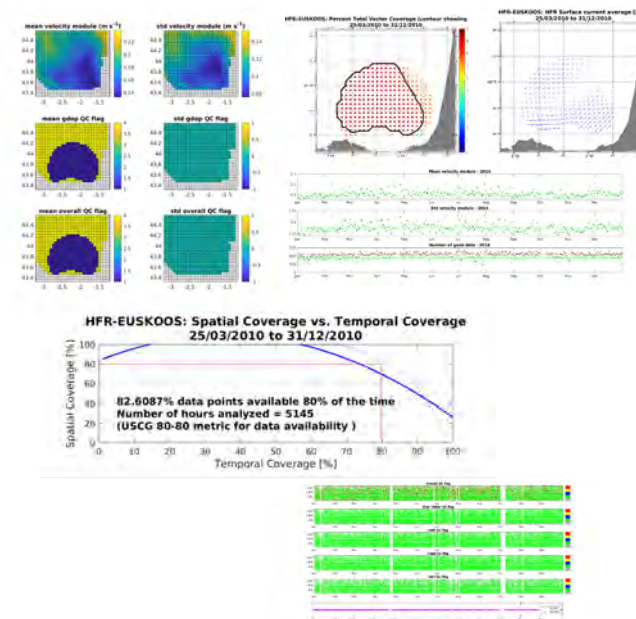




Fig A – Temporal series of the spatial average of the current velocity module (top panel), its standard deviation (middle panel) and the grid points of the total coverage (bottom panel)

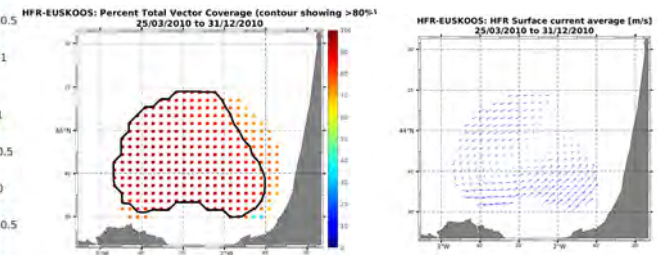
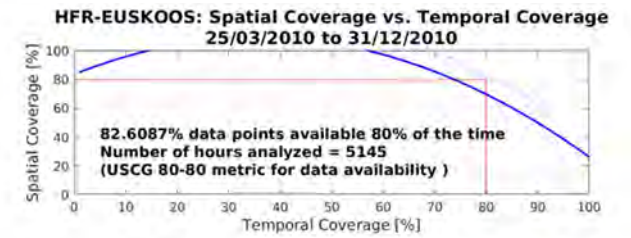
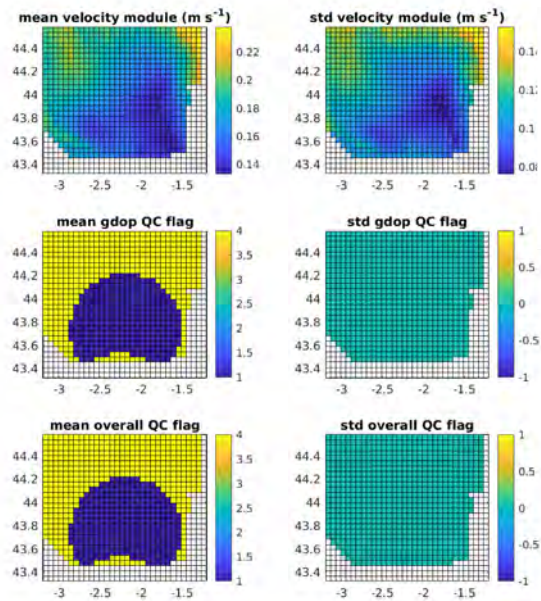
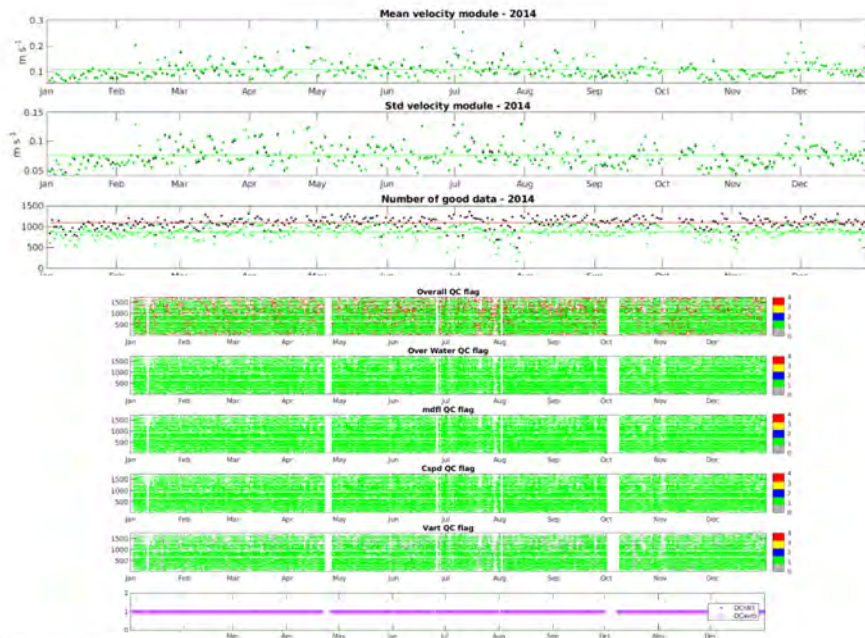
Fig B - Temporal series of the QC flags for all the grid nodes with data

Fig C - Maps of the mean velocity module and the mean value of QC flags and their standard deviations

Fig D - Spatial (x-axis) vs. temporal (y-axis) coverage 80/80 annual metric.

Fig E – Map of the % of availability of data in each grid point and contour showing the area of temporal availability >80%

Fig F- Mean surface current maps for the indicated systems and periods.



## FUTURE WORK

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Future work will consolidate these efforts by:

- optimizing the tools for advanced QC and data processing, (automatization)
- expanding the available data series
- adding new systems.

 EuroSea

A banner for the 9th EuroGOOS International Conference. The background is a dark blue image of a lighthouse on a rocky island with waves crashing against its base. The lighthouse beam is visible. The text is in white and light blue. The main title is '9th EUROGOOS INTERNATIONAL CONFERENCE' followed by 'ADVANCES IN OPERATIONAL OCEANOGRAPHY: EXPANDING EUROPE'S OCEAN OBSERVING AND FORECASTING CAPACITY'. The dates '3 May 2021 - 5 May 2021' and 'Virtual' are on the right. Logos for EuroGOOS, Ifremer, and SHOM are at the bottom.

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Thanks for your attention!