Joint European Research Infrastructure network for Coastal Observatories

Report after 2nd General Assembly – May 2014

Grant Agreement n° 262584

Project Acronym: JERICO

Project Title: Towards a Joint European Research Infrastructure network for Coastal Observatories

Coordination: P. Farcy, Ifremer

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Involved Institutions: Ifremer and JERICO partners

Version and Date: Version 1 – 27 Nov. 2014

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1. Document description

REFERENCES

Annex 1 to the Contract: Description of Work (DoW) version of the 22 Feb. 2011

Document information	
Document Name	Report after 2nd General assembly
Document ID	MS3
Revision	1
Revision Date	27 Nov. 2014
Author	P. Farcy, I. Puillat, N. Beaume
Security	

History			
Revision	Date (2014)	Modification	Author
0.1	19 May	first draft	N. Beaume, I. Puillat
0.2	06 June	Add ons	N. Beaume
0.3-0.5	28 Oct.	Add on, corrections	I.Puillat, P. Farcy
1.0	10 Nov	Slides inserted	N. Rossignol

Diffusion list				
Consortium beneficiaries	X			
Third parties	X			
Associated Partners	X			
other				

2. Organisation & overview of the week's agenda

The second JERICO General Assembly was organized in Oslo from May 5th to May 8th 2014.

The coordination team took the opportunity of this important meeting, where most of the partners were present, to organise other specific workshops and to discuss the making of JERICO-NEXT.

The General Assembly started on Monday afternoon and finished on Tuesday evening. Two steering committee meetings were scheduled: one before the General Assembly and one to close the General Assembly. Discussions and decisions taken during these meetings will be described in the following sections.

Considering the need to anticipate the strategy for the future of coastal observatories and the launch of a new project, it was decided to organize a dedicated workshop on Wednesday.

Agenda of the week at glance:

Dates	Meetings types	Reported in this document (Y/N)
Monday, 5th May, 13:30-14:30	Steering Committee Meeting	Y
Monday, 5th May, 14:30-18:00	General Assembly meeting	Y
Tuesday, 6th May, 9:00-17:00	General Assembly meeting	Y
Tuesday, 6th May, 17:00-18:00	Steering Committee Meeting	Y
Wednesday, 7th May, 9:00-17:00	Workshop on future coastal prospective/strategy	N
Thursday, 8th May, 9:00-12:30	Steering Committee meeting: H2020 JERICO Next	Y

A synthesis of the week discussions and conclusions is presented hereafter.

3. General Assembly meeting

3.1. Agenda for JERICO General Assembly

Time slot	Topic	Speaker	
Monday, 5th of May			
12:00-13:30	*Lunch Steering Committee*		
13:30-14:30	**Steering Committee - Preparatory meeting**		
14:30-15:00	**General Assembly – Registration, coffee and a snack**		
15:00-15:15	**General Assembly – Welcome**	K. Sorensen	
15:15-18:00	**General Assembly:** *- WP 11 (15:15-16:00): Management* *- WP 1 (16:00-16:30): A common strategy* *- WP 2 (16:30-17:00): Regional and trans-regional activities* *- WP 6 (17:00-17:30): Outreach* *- Questions & discussion (17:30-18:00)*	P. Farcy P. Morin H. Wehde Jo Foden	
End of first day GA meeting			
Tuesday, 6th of May			
08:30-09:00	*Coffee and a snack*		
09:00-12:30	**General Assembly:** *- WP 3 (09:00 – 09:30): Harmonizing technological aspects* *- WP 4 (09:30 – 10:00): Operations and maintenance methods* *- Discussion on WP 3 & 4 (10:00-10:15)*	W. Petersen M. Ntoumas	
10:15-10:45	*Coffee break with a snack*		
10:45-12:30	**General Assembly:** *- WP 5 & 7 (10:45 – 11:30): Data management / service access* *- WP 8 (11:30 – 12:30): Trans National Access*	P. Farcy S. Sparnocchia	
12:30-14:00	*Lunch*		
14:00-16:00	**General Assembly:** *- WP 9 (14:00 – 14:30): News methods to assess the impacts*	N. Pinardi G. Nolan	

	- WP 10 (14:30 – 15:30): Improved existing and emerging TECH *- Strategy with the monitoring of marine biodiversity (15:30-16:00)* *- OCEANBOARD status (16:00-16:15)* *- Conclusion (16:15-16:30)*	H. Hummel A. Giuliano	
17:00-18:00	**Steering committee – conclusions and actions**	Steering Committee	
End of GA meeting			
18:00-23:00	*Dinner and drinks*		

Attendees:

Name	Organization
Carlos Hernández	AZTI
Julien Mader	AZTI
Simon Keeble	BL
David Mills	CEFAS
Jo Foden	CEFAS
Ali Aydogdu	CMCC
Stefania Sparnocchia	CNR ISMAR
Laurent Coppola	CNRS
Pascal Morin	CNRS
Joaquín Tintoré	CSIC
Zhenwen Wan	DMI
Lauri Laakso	FMI
Vlad Radulescu	GeoEcoMar
Leonidas Perivoliotis	HCMR
Manolis Ntoumas	HCMR
Wilhelm Petersen	HZG
Malgorzata Robakiewicz	IBW PAN
Rafael Gonzalez-Quiros	IEO
Ingrid Puillat	IFREMER
Nolwenn Beaume	IFREMER
Patrick Farcy	IFREMER
Sara Almeida	IH
Henning Wehde	IMR
Nadia Pinardi	INGV
Atanas Palazov	IO-BAS
Cate Boccadoro	IRIS
Glenn Nolan	MI
Paul Gaughan	MI
Frederic Francken	MUMM
Martin Arundell	NERC
Herman Hummel	NIOZ
Andrew King	NIVA
Dominique Durand	NIVA
Emanuelle Roberto Reggiani	NIVA
Kai Sørensen	NIVA
Richard Bellerby	NIVA
Rajesh Nair	OGS
Bengt Karlson	SMHI

Patrick Gorringe	SMHI
Jukka Seppala	SYKE
Seppo Kaitala	SYKE
Timo Tamminen	SYKE
Robert Hall	UEA
Angele Giuliano	UoM
Joaquin del Rio	UPC

3.2. Minutes of the General Assembly meeting

3.2.1. WP11: Management by P. Farcy (Ifremer)

This second General Assembly was introduced by the coordinator, Patrick Farcy with main achievements of WP11 (Management of the project) and the previous key events of JERICO.

The last Consortium meeting was in June 2013 for the Mid-Term Review, in Paris. This was the first time a representative of the EC came to discuss the progress of the project.

Patrick reminded that the technical and financial reporting for M18-M36 period had to be done in the next weeks to be in line with the EC requirements.

In order to do so, the Management Team will circulate to all administrative and financial contacts an excel document (form C) where all costs and personnel efforts will have to be listed. While filling in this excel sheet, each partner will have to update the Participant portal with their Form C and leave it in a draft mode until the Coordination Team revise it and validate it.

As we would like to avoid any delays, it is remind that each partner has to send their financial templates and documents on time:

- End of May: technical report from all WP leaders
- June 10th: form C in draft mode on the portal and excel sheet to coordination
- Amendments for the first reporting at the same time (template to be provided by the coordination)

JOINT EUROPEAN RESEARCH INFRASTRUCTURE NETWORK FOR COASTAL OBSERVATORIES

2nd General Assembly – NIVA HQ

MANAGEMENT REPORTING (WP11)

Patrick FARCY I Ifremer I jerico@ifremer.fr

JERICO

A

Joint

European

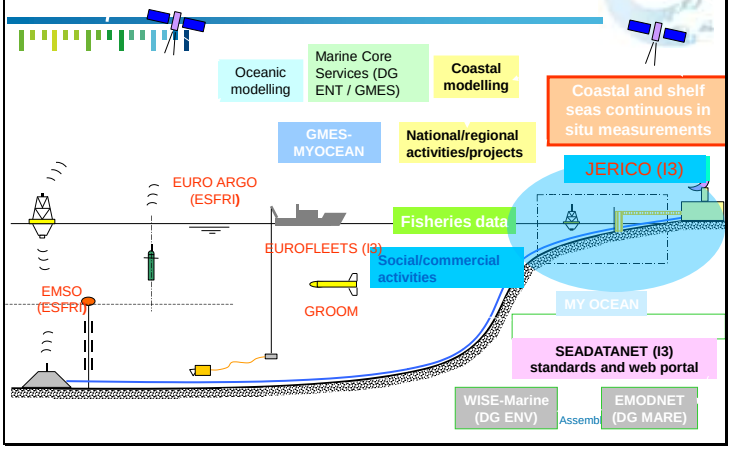
Research

Infrastructure network

for Coastal

Observatories

Towards a long-term and sustained European network of coastal observatories



MAIN OBJECTIVE

Prepare for the future European Network of operational castal observatories (OCO) through:

Better coordination

Increased harmonisation of existing infrastructures

Exchange of know-how and definition of Best Practices

Promoting coastal oceanography through TNA

Agreed deployment strategy

Why JERICO ?

- To address the challenge of observing the complexity and high variability of coastal areas at Pan-european level
  - New requirements arising from WFD and MSFD
  - Operational marine services (GMES)
- In the last decades marine observing systems have been implemented in **coastal and shelf seas** around Europe
  - They mostly answer local/regional **monitoring** and **oceanographic research demands**
- **Hetereogeneity and geographical dispersion** are often a limit
- Often driven through short-term research projects. **Sustainability is not guaranteed**

One of the main challenges for the European research community is now to **increase the consistency** and **the sustainability** of these infrastructures by addressing their future within a **shared pan-European framework.**

A VISION ?

The JERICO vision is to make a significant contribution to the harmonisation of existing European coastal observatories and to support future strategic developments.

JERICO will promote easier access to the infrastructures and data.

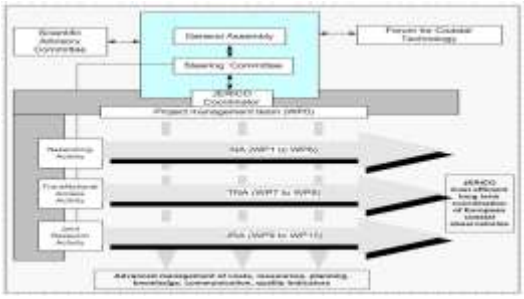
JERICO will:

- increase knowledge and understanding of marine systems, strengthen the evidence base for environmental assessments,

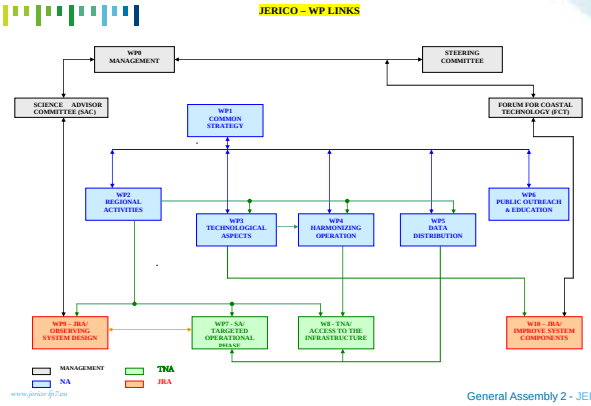
- provide data and information required to improve predictions of future human and climate-driven environmental change and the strategies to combat them.

- support developments of new tools and technologies for the monitoring of key oceanographic parameters in coastal systems.

How the project is structured ?



Work Packages links



PARTNERS

GENERAL ASSEMBLY

INFORMATION

COMMUNICATION, JERICO website

MANAGEMENT, COORDINATION (WP11)

TECHNICAL AND FINANCIAL REPORTS

FINANCIAL MANAGEMENT

WP ACTIVITIES (coordination, tasks, workshops, deliverables, milestones, ...)

APPROVALS & CONCLUSIONS

INFORMATION

October 2012: 1st general assembly - CRETE

October 2012: FCT & 1st calibration experiment – BREST (F)

April 2013: Ferrybox meeting – HELSINKY (FI)

May 2013: Steering committee n°3 – GALWAY (IR)

June 2013: Mid Term Review – PARIS (F)

October 2013: Workshop WP10 – VILLEFRANCHE (F)

Start of the 2nd calibration experiment

November 2013: WP2 meeting with EUROGOOS

February 2014: Strategy meeting – Brussels

March 2014: FCT at OI – LONDON (UK)

INFORMATION

TNA calls

2nd Call in 2012 (January to March)

3rd Call in 2012 (September to November)

TNA selection panel

Dr. Janet Newton, biological oceanographer, P.I. at the University of Washington and the Executive Director for the Northwest Association of Networked Ocean Observing Systems (NANOOS)

Dr George Zodiatis, Physical Oceanographer, University of Cyprus.

Dr. Richard Dewey, Physical Oceanographer, University of Victoria, Canada.

Dr Hans Dalhin, Director of EUROGOOS

Dr Roger Proctor, Program Leader, IMOS, University of Tasmania, Australia

Dr Franciscus Colijn, University of Kiel

Dr Laurent Mortier, GROOM coordinator, UPMC/LOCEAN laboratory

Dr Alicia Lavin IEO, Spain

INFORMATION

MID TERM REVIEW – 18/19 June 2014 *(Paris)*

The project has proven to be useful for a large community and has excellent long term perspectives if the effort can be sustained.

The project is on track; delays exist of course but do not put the project at danger if no further delays will be encountered

Good progress (the project has achieved most of its objectives and technical goals for the period with relatively minor deviations)

Overall recommendations :

Interactions between WP need to be strengthen and shown in the next reporting periods (in particular when preparing the common strategy and label definition and OSSE exercises).

INFORMATION

NEXT OFFICIAL MEETINGS

Steering committee n°4: Oslo, May 2014

Final NA workshop (WP3 & 4): TBD, end of 2014

Steering committee n°5: TDB, Jan/Feb 2015

Stakeholder meeting: TDB, 2015

Final GA: France, April 2015 → All

COMMUNICATION

COMMUNICATION - JERICO WEBSITE

www.jerico-fp7.eu

A practical link with the partners:

- *General information: next events (FCT), project news*
- *Access to deliverable*
- *Information on TNA and Data*
- *Data tool provided by WP6*
- *OCEANBOARD*

OCEANBOARD : a well adapt tool to touch the professional or non professional public.

JERICOPROF and JERICOPUB

WP11-Coordination & Management

P. Farcy, Ifremer, with N. Beaume & I. Puillat

Jerico@ifremer.fr

WP 11 - Management

Task 1: day to day management

Task 2: financial follow-up

Task 3: Technical reporting, M18, 36, 48

Task 4: Quality assurance plan (with HCMR)

Identity set (with NIVA)

Task 5: Consortium animation

Task 6: Other management related issues

Exchanges with Australia and USA

Associated partners

WP11 - MANAGEMENT

Quality assurance plan V4 – available (ask me).

Identity set : the description is on the website. To have the # items (ppt, logo, etc...) please ask to Ingrid or me.

Grant Agreement amendment 1 officially sent to the commission

→ *waiting for the signature by UE*

WP11 - MANAGEMENT

CNRS: *Article 10 for 2 CNRS/University labs (Bordeaux & Perpignan)*
Unit cost for glider infrastructure

NERC: *SA/TNA infrastructures unavailable*

CNR: *Some TNA Unit costs to modify*

HCMR: *Some TNA Unit costs to modify*

IBWPAN: *CRS infrastructure unavailable*

NIVA: *One ferrybox unavailable*
Sub contracting of NIVA for WP1 (D. Durand)

CSIC: *Increase the Unit of Access (90→ 118)*

DELIVERABLES 1st PERIOD

Del. n°	Deliverable name	Dow delivery date	Deliverable responsible	Delivery status
D11.4	First periodic report	18	Ifremer	S=Submitted
D3.2	Report on current status of gliders observatories within Europe	15	CSIC	S
D6.3	Summer school 1	15	DELTARES	S
D1.4	JERICO label definition	18	HCMR	Complete To submit

DELIVERABLES 2nd PERIOD

Del. n°	Deliverable name	Dow Delivery date	Deliverable responsible	Delivery status
D1.5	Second call for TNA proposals	M20	CNR	S
D1.6	First report of the FCT activity	M24	MI	S
D1.7	First report of the access activity	M24	CNR	S
D1.8	Second report of the FCT activity	M36	IFREMER	P=Postponed
D1.9	Proposed strategy for biodiversity	M36	NIOZ	C=complete To submit
D2.4	Demonstration of the feasibility of Joint trans-regional production	M24	SMHI	S
D3.3	Review of current marine fixed instrumentation	M21	HZG/CEFAS	S
D3.4	Report on new sensor developments	M36	HZG	On going End of May
D4.2	Report on calibration best practices	M36	HZG	On going End of May
D4.3	Report on biofouling prevention methods	M36	CNR	On going End of April

DELIVERABLES 2nd PERIOD

Del. n°	Deliverable name	Dow Delivery date	Deliverable responsible	Delivery status
D5.3	First data management report	M24	OGS	S
D5.4	Guidelines for uncertainty	M30	OGS	C To submit
D6.4	Development and implementation of suite of web-based interactive tools	M24	Cefas (+BLIT)	S
D6.5	Summer school 2	M27	DELTARES	M39
D6.6	Final version of Jerico OceanBoard	M30	Cefas (+UoM)	S
D9.4	Second scientific report	M24	CMCC	S
D9.5	Second report on OSE	M36	HCMR	P
D9.6	Second report on OSSE	M36	DMI	P
D10.1	Report on trials and deployments	M36	MI	P
D11.5	Second periodic report	M36	IFREMER	M38

MILESTONES 2nd PERIOD

Mil. n°	Milestone name	Dow Milestone date	Deliverable responsible	Milestone status
MS3	GA2 meeting	36	Ifremer	
MS9	Steering committee outputs	27	INSU/CNRS	Done
MS10	Second Forum for coastal technology	30	INSU/CNRS	Done
MS11	Steering committee outputs	36	INSU/CNRS	Done after the GA
MS15	Constitution on a permanent JERICO WG for calibration activities	30	HCMR	Done
MS20	Summer School 1	16	CEFAS	Done
MS21	Summer School 2	28	CEFAS	Postponed 40/41
MS23	Software and manuals for image analysis techniques (Task 10.1)	24	INSU/CNRS	Done Villefranche WS
MS24	Recommendation report for autonomous carbon measurements	26	MI	Done Villefranche WS
MS25	Data report on temperature and salinity measurements from XBT and ferrybox	26	MI	Not done
MS26	Report on joint workshop on best practices for coastal observatories and moored and floating profilers (???)	30	MI	Villefranche WS report to complete

3.2.2. WP1: A common strategy by P. Morin (CNRS/INSU)

Pascal Morin presented the work undergone by WP1 members since the beginning of the project and what has to be done until the end of the project.

Label

After very long discussions during the various meetings, it became obvious that the JERICO label was a difficult task to lead, since:

- Coastal observatories are complex and diverse
- Criteria and standards must be rather general
- A deadline at Month 18 was proved to be too soon as the Label needs long discussions and sole agreement between partners
- The best practice deliverables which are cornerstones of the Label are delivered towards the end of the project

However, the JERICO label (v2.0) will available very soon and was presented to partners during the General Assembly. It will be updated thanks to associated deliverables expected to be delivered in the upcoming months.

TNA Calls:

Regarding the progress of the work package and its results, the third call for TNA proposals was launched in autumn 2013 (September-November) where 6 proposals were received and 5 approved and financed.

FCT:

Moreover, the Second Forum for Coastal Technology was held in March 2014 in London and the deliverable D1.9 “Definition strategy and interfaces with the monitoring of marine biodiversity” was delivered in April 2014.

After discussions, it was underlined that the link with JPI Ocean should be strengthened because of the similar and common topics.

2nd General Assembly – NIVA HQ

WP1 A Common Strategy

P. Morin, D. Durand, P. Farcy, I. Puillat

P. Morin I CNRS/INSU I pmorin@sb-roscoff.fr

WP1: A COMMON STRATEGY

JERICO

A Joint European Research Infrastructure network for Coastal Observatories

WP1: A COMMON STRATEGY

WHY JERICO ?

- *To address the challenge of **observing** the complexity and high variability of **coastal areas at Pan-european level***
  - *New requirements arising from WFD and MSFD*
  - *Operational marine services (GMES)*
- *Often driven through short-term research projects, marine observing systems mostly answer local/regional monitoring. **Sustainability is not guaranteed***

*One of the main challenges for the European research community is now to **increase the consistency** and **the sustainability** of these dispersed infrastructures by addressing their future within a **shared pan-European framework.***

WP1: A COMMON STRATEGY

JERICO VISION

The JERICO vision is to make a significant contribution to the harmonisation of existing European coastal observatories and to support future strategic developments.

JERICO will promote easier access to the infrastructures and data.

JERICO will:

- increase knowledge and understanding of marine systems, strengthen the evidence base for environmental assessments,

- provide data and information required to improve predictions of future human and climate-driven environmental change and the strategies to combat them.

- support developments of new tools and technologies for the monitoring of key oceanographic parameters in coastal systems.

WP1: A COMMON STRATEGY

JERICO 4 MAJOR ACTIONS

Objective: ***Developing a common strategy for a pan European network of operational coastal observatories to address the challenge of observing the complexity and high variability of coastal areas***

4 major actions:

1 - Set up an European Research Infrastructure for coastal observations based on existing systems in European coastal and shelf seas.

(initial state of existing networks, gaps, running costs, policies WFD and MSFD, technological developments, gouvernance)

2 - Creating a JERICO Label: To support **standardization** of operations and activities for the **benefit of data quality and availability** and **cost efficiency.**

(harmonization operation and maintenance methods, compability and interoperability to reduce costs, set of parameters, frequency, sampling scheme, data quality, best practices,…)

WP1: A COMMON STRATEGY

JERICO 4 MAJOR ACTIONS

Objective: *Developing a common strategy for a pan European network of operational coastal observatories to address the challenge of observing the complexity and high variability of coastal areas*

4 major actions:

3 - Organizing a Forum for Coastal Technology: To stimulate the development of new automated systems for the operational monitoring of the coastal marine environment, with the focus on the biochemical compartment. (JRA)

4 - Promote access open access to JERICO network: to external users for their own experiments and testing (TNA) and access to data and services (SA)

WP1: A COMMON STRATEGY

6 TASKS

- ***Task 1.1: Set up the scene and implementation plan (M1-M24, INSU, all)***
  Rationale and definitions for a common strategy: define and give the orientations for the WPs and to prepare the roadmap for the future
- ***Task 1.2: Jerico Label (M1-M12, HCMR, PUERTO, HZG, CEFAS)***
- ***Defining a label for coastal observatories, with inputs form WP3 and WP4***
- ***Task 1.3: Forum for Coastal Technology (M6-M48, MI, Ifremer)***
- ***1rst FCT at Ifremer Brest: Organisation of an intercalibration experiment of oxygen sensors.***
- ***2nd FCT at Oceanology International 2014 London : "Dissolved Oxygen Calibration: What are the best procedures?***
- ***Task 1.4: Definition strategy and interfaces with the monitoring of marine biodiversity (M12-M42, NIOZ, all)***
- ***Potential of existing coastal observatories to develop into observatories of biodiversity with interfaces with a biodiversity network.***
- ***Delayed due to Carlo Heip death in autumn 2012.***

WP1: A COMMON STRATEGY

6 TASKS

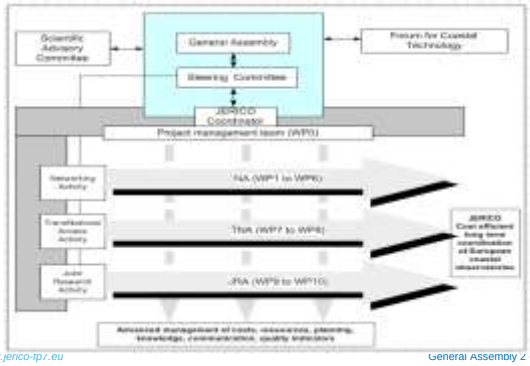
6 Tasks :

- ***Task 1.5: Roadmap for the future (M24-48, INSU, all)***
- ***Analysis and synthesis of the deliverables of all the WPs to elaborate recommendations for new implementations of coastal observatories (cost/benefit, levels of running costs, optimization of existing funding, proposing a pan European governance, …),***
- ***Task 1.6: User access for the Trans National Activities (M1-M26, CNR, all WP8 partners)***
- ***3 calls for Trans National Access to existing infrastructures***

WP1: A COMMON STRATEGY

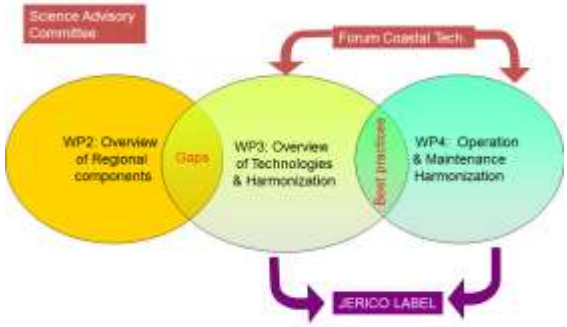
Task 1.1: Set up the scene and implementation plan

TASK LEADER: INSU
CONTRIBUTORS: ALL



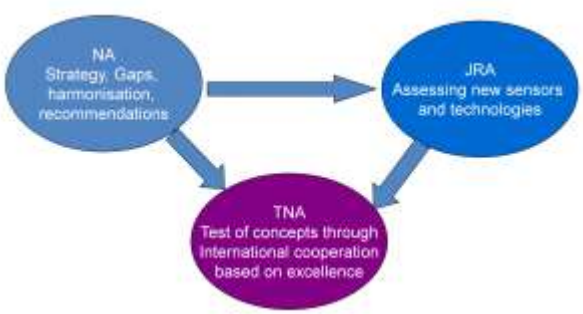
WP1: A COMMON STRATEGY

Task 1.1: Set up the scene and implementation plan



WP1: A COMMON STRATEGY

Task 1.1: Set up the scene and implementation plan



WP1: A COMMON STRATEGY

Task 1.2: Jerico Label
Defining a label for coastal observatories

TASK LEADER: HCMR
CONTRIBUTORS: PUERTO, HZG, CEFAS

The aim:

- to establish a consensus on guidelines for best practices in the design, the implementation, the maintenance, the data policy and the valorisation of operational coastal observatories;
- to get, for the partners and all new comers that comply with this label, a fair recognition of the quality of the managed observatories;
- to help stakeholders becoming aware of the European interest in the development of high quality coastal observatories;
- to foster a wider market for the industry in sensor technology and platforms based on the agreed standards.

Del. No	Title	Lead	Man months	Nature	Dissemination	Del. Date
D1.4	JERICO label definition	11	2.0	O	PU	18

WP1: A COMMON STRATEGY

Task 1.2: Jerico Label

Defining a label for coastal observatories

After very long discussions during the various meetings (GA, WS, Mid-Term Review, Dedicated Meetings) it became obvious what a difficult task it is, since:

- Coastal observatories are complex and diverse
- Criteria and standards must be rather general
- Month 18 proved too soon as the Label needs long discussions and wide agreement between partners
- The best practice deliverables which are cornerstones of the Label are delivered towards the end of the project

WP1: A COMMON STRATEGY

Task 1.2: Jerico Label

Defining a label for coastal observatories

The road map

Finally we are ready to deliver the JERICO LABEL V2.0 which will be enriched with the various related deliverables as they become available.

To define the JERICO Label the following are taken into account:

- The heterogeneity of the coastal observing systems to address the multiple space and time scales that characterize the variability of the coastal ocean;
- The compliance with other normative efforts (EU projects such as SeaDataNet & MyOcean, EU initiative EMODnet);
- The specificity of the coastal environment;
- The heterogeneity of the processes and interacting scales;
- The advancements on the observing technology and data transmission and availability; and
- The advancements on the scientific knowledge of marine ecosystem processes.

A detailed presentation on the Label will be given Wednesday

WP1: A COMMON STRATEGY

Task 1.3: Forum for Coastal Technology

TASK LEADER: MI
CONTRIBUTORS: IFREMER, ALL

Terms of reference of FCT:

- Provide a strong interface between SMEs, industry, stakeholders and science & technology by joint developments and technology transfer
- Seed an Euro-ACT in close collaboration with the US ACT organisation
- Analyse the market, forecasting scientific and societal needs for new coastal observations
- Identify upcoming standards for quality assessment and for reducing equipment and maintenance costs
- Sustain joint research and development initiatives on sensors and platforms
- Provide an unbiased third party test bed for sensors and measuring systems

WP1: A COMMON STRATEGY

Task 1.3: Forum for Coastal Technology

1st FCT at Ifremer Brest: Organisation of an intercalibration experiment of oxygen sensors.

2nd FCT at Oceanology International 2014 London (13th March): "Dissolved Oxygen Calibration: What are the best procedures?

An interactive workshop to identify the best practices about DO calibration procedure

- ***Session 1: Presentations***
- ***Scientific focus:***
  - *4 presentations (Ifremer, HZG, CNRS, Lab. Nat. Metrology et Essais (Fr)*
- ***Manufacturer focus:***
  - *4 presentations (Anderaa, Rinko, Sea-Bird, NKE)*
- ***Session 2: Facilitated discussion***
- *Adapted calibration (coastal or open sea) and the essential calibration steps (good practices)*
- *Calibration market (low cost sensors, training, certification, QC)*
- *Main field vs lab issues*

WP1: A COMMON STRATEGY

Task 1.4: Definition strategy and interfaces with the monitoring of marine biodiversity

TASK LEADER: NIOZ
CONTRIBUTORS: ALL

- Carry out a study on the state and evolution of marine biodiversity in European coastal waters in regards of national and international legislation
- Investigate the potential of existing coastal observatories to develop into observatories of biodiversity
- To define interfaces with a future marine biodiversity network

WP1: A COMMON STRATEGY

Task 1.4: Definition strategy and interfaces with the monitoring of marine biodiversity

Definition strategy and interfaces with the monitoring of marine biodiversity

JERICO deliverable D 1.9
Task 1.4 Proposed strategy for biodiversity (part of WP1)

Sander Wijnhoven
Monitor Taskforce, Royal Netherlands Institute for Sea Research (NIOZ)

April 2014

A detailed presentation on biodiversity will be given Tuesday

WP1: A COMMON STRATEGY

Task 1.4: Definition strategy and interfaces with the monitoring of marine biodiversity

Three types of potential strategies identified for JERICO :

1 - Implement one or a few specific biodiversity related sensing techniques in existing and foreseen infrastructure of platforms to describe boundaries for biodiversity

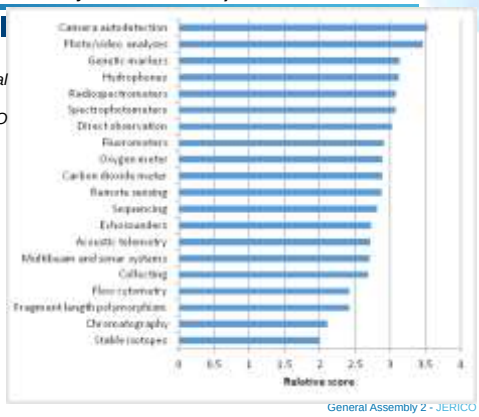
Selection by ranking and relative score of potential methodologies

WP1: A COMMON STRATEGY

Task 1.4: Definition strategy and interfaces with the monitoring of marine biodiversity

Figure 1. Ranking and relative score of potential methodologies to be integrated in the JERICO network to become an important network for biodiversity observation.

Criteria: potential indicator value, multi-platform use, frequency, spatial scale, …



WP1: A COMMON STRATEGY

Task 1.4: Definition strategy and interfaces with the monitoring of marine biodiversity

Three types of potential strategies identified for JERICO :

- Implement one or a few specific biodiversity related sensing techniques in existing and foreseen infrastructure of platforms to describe boundaries
Semi-automated imaging techniques and passive accoustics promising, genetic markers : potentials for the future
Gaps: sea floor characterization, hydrodynamics

- Link to existing or developing pan-European initiatives of biodiversity observation and tune mutual activities (space and time resolutions) or finalize cooperation
EMBOS, ICES, interests from initiatives like GEO BON, EEA and DEVOTES

- Optimize biochemical sensors already present in the network to deliver explaining – or model parameters for biodiversity
Temperature, salinity, chlorophyll a, DO, pCO2, nutrients

WP1: A COMMON STRATEGY

Task 1.5: Roadmap for the future

TASK LEADER: INSU
CONTRIBUTORS: ALL

Analysis and synthesis of the deliverables of all the WPs

- ***To draw an update of the initial GIS map of the network***
- ***To elaborate recommendations for new implementations of coastal observatories from the conclusions of WP9 on network optimization***
- ***Recommend an optimal deployment in terms of cost/benefit, levels of running costs, optimization of existing funding,***
- ***propose a pan European governance,***

Results from the workshop on future coastal prospective/strategy

WP1: A COMMON STRATEGY

Task 1.5: Roadmap for the future

The Roadmap for the future will encompass the following elements:

1) Present key-environmental parameters measured in European coastal waters (primary and secondary parameters)

2) Emerging key-environmental parameters to be measured in European coastal waters

3) Sampling requirements in space and time
- to address efficiently the needs of both the implementation of the EC Directives and the operational need of in situ data from the GMES marine services
- to describe and quantify the ecosystems for understanding the dynamics, assessing the state and predicting natural and/or human induced changes.

4) Elements of costs and efficiency of observing systems

5) Standardization, Quality standards

6) Data dissemination (technology, channel, time constraints, …)

7) Promoting the use of JERICO infrastructure

WP1: A COMMON STRATEGY

Task 1.6: User access for the Trans National Activities

TASK LEADER: CNR
CONTRIBUTORS: ALL TNA-WP8 PARTNERS

***OBJ*: *Management of the Trans-National Access to installations of the JERICO network*.**

SubTask 1.6.1 (M1 - M26): *:*
- Preparation of the call – peer review
- Setting the "Selection Panel"
- Drafting the call
- Drafting the guidelines for evaluation
- Meetings of the Panel

SubTask 1.6.2 (M11 – M47):
- Information and reporting activities
- Drafting the specifications of the web site (call section), managing its construction and implementation.
- Managing the calls (call opening, proposals reception and transmission to the targeted providers for pre-screening technical review).
- Access reporting and information.

WP1: A COMMON STRATEGY

Task 1.6: User access for the Trans National Activities

T1.6 : MAIN RESULTS

THREE CALLS FOR ACCESS TO COASTAL OBSERVATORIES LAUNCHED

	1st Call 2012	2nd Call 2013	extra 3rd Call 2013	
Opening	12 January	14 January	19 September	
Deadline	3 April	27 March	25 November	
Evaluation	April – July	April – June	December – February	
Feedback to applicants	July	June	March	
Projects implementation	October onwards	October onwards	May onwards	
Submitted proposals	13	6	6	25
Approved proposals	10	5	5	20
Scheduled projects	9	5	5	19

WP1: A COMMON STRATEGY

Task 1.6: User access for the Trans National Activities

T1.6 : MAIN RESULTS

USER PROJECTS STATUS

	1st Call 2012	2nd Call 2013	extra 3rd Call 2013
Scheduled projects	9	5	5
Completed	6	---	---
Running	3	3	---
Starting	---	2	5

INFO:

http://www.jerico-fp7.eu/tna
http://www.jerico-fp7.eu/tna/calls-and-selection/first-call/approved-projects
http://www.jerico-fp7.eu/tna/calls-and-selection/second-call/approved-projects-2nd-call
http://www.jerico-fp7.eu/tna/calls-and-selection/third-call/approved-projects-3rd-call

WP1: A COMMON STRATEGY

Task 1.6: User access for the Trans National Activities

T1.6 : MAIN RESULTS

DELIVERABLES

M20 D1.5 Second Call for TNA proposals
Delivered in January 2013 (M21)

M24 D1.7 First report of the access activity
Delivered in May 2013 (M25)

M42 D1.10 Second report of the access activity

WP1: A COMMON STRATEGY

Main Achievements

- Rationale and definitions for a common strategy: launching a European strategic view on OCO, implementation by the WPs

- First Call for TNA proposals jan-mar 2012 (13 proposals received, 11 approved, 2 rejected)
- Preparation of the call-peer review (drafting the call, guidelines for evaluation, setting the selection panel, diffusion on the website, …)

- Terms of reference for the FCT: definition of the role and objectives of FCT (exchange of information between users and providers, …)

- First FCT in Brest (october 2012), sensor intercomparison at Ifremer

- Second Call for TNA proposals jan-mar 2013 (6 proposals received, 5 approved, 1 rejected)

WP1: A COMMON STRATEGY

Main Achievements

- Third Call for TNA proposals sept-nov 2013 (6 proposals received, 5 approved, 1 rejected)

- Second Forum for Coastal Technology (London, March 2014)

-Definition strategy and interfaces with the monitoring of marine biodiversity (task 1.4, D1.9) April 2014.

WP1: A COMMON STRATEGY

Status of Deliverables

WP 1 - List of Deliverables

Deliverable Number	Deliverable Title	Delivery date	Status
D1.1	First call for TNA proposals	8	Done
D1.2	Rationale and definitions for a common strategy	9	Done
D1.3	Terms of reference of the FCT	9	Done
D1.4	JERICO Label definition	18	postponed
D1.5	Second call for TNA proposals	20	Done
D1.6	First report of the FCT activity	24	Done
D1.7	First report of the access activity	24	Done
D1.9	Proposed strategy for biodiversity	36	Done

WP1: A COMMON STRATEGY

Next Steps

- 4th and 5th Steering Committee (MS11 and MS12)
- Roadmap for the Future (MS14 and D1.11)

WP1: A COMMON STRATEGY

NEXT DELIVERABLES

WP 1 - List of Deliverables

Deliverable Number	Deliverable Title	Delivery date	Status
D1.8	Second assessment of the FCT activity	36	To be delivered
D1.9	Proposed strategy of the access activity	36	Done
D1.10	Second report of the access activity	42	
D1.11	Final Report	48	

3.2.3. WP2: Strengthening regional activities by H. Wehde (IMR)

Henning Wehde presented the work of WP2 and what has been done during the past few months, along with the next steps for the work package.

Regarding the next actions for this work package, Henning listed the following:

- Continue working on extending the Deliverable D-2.3 (**Integrated Pan European Atlas/first report on Coastal Observing systems**) with the non physical parameters towards delivery of the updated Atlas as Deliverable D-2.5
- Delivery of the D-2.3 as a web-based Atlas: this tool will be designed to improve our contribution; technical solutions will be made available to have the possibility to do what we are planning to do (work as a Geographical Information System).
- Collaborative work with WP 9
- Contribution to the main strategy for future Coastal observatories

The representation of all European coastal observatories has been discussed, while talking about the deliverable D2.3.

A partner pointed out that in D2.2, gaps were not really highlighted and that the Consortium should better contribute as it is a key document and this can lead to a problem in the external evaluation of the project. This was due to very poor feedbacks from people and that links will be made with other WPs to make it more complete.

It was stated that this deliverable has too much links with the current system (too similar to MyOcean) and should be revised.

We have to be sure that everyone are represented especially in the Mediterranean area and see what we want to include. It has been considered to develop it through a scale approach, such as large, intermediate, etc for the different platforms.

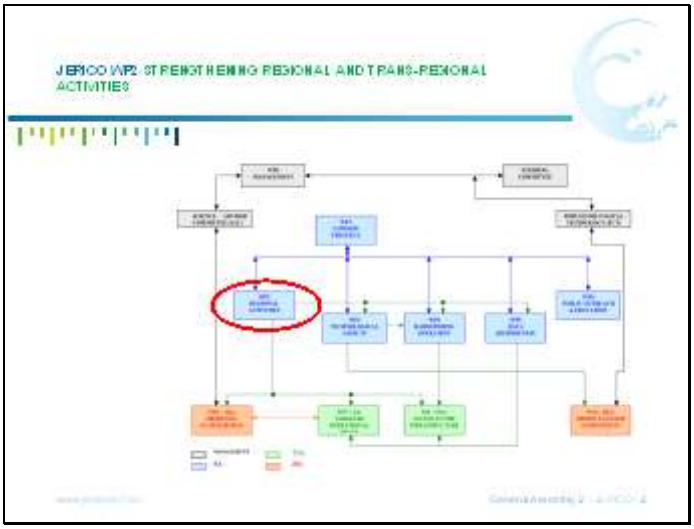
JOINT EUROPEAN RESEARCH INFRASTRUCTURE NETWORK FOR COASTAL OBSERVATORIES

2nd General Assembly – NIVA HQ

WP 2

Strengthening regional and trans-regional activities

Henning Wehde I IMR I henning.wehde@imr.no



WP 2 REGIONAL ACTIVITIES PARTNERS IN WP2

• Arctic ROOS	IMR
• BOOS	SMHI
• NOOS	Deltares and IMR
• IBI ROOS	IH and AZTI
• MONGOOS	INGV
• Black Sea	IO-BAS

WP 2 STRUCTURE

7 partners, 2 tasks, 5 deliverables

Task 2.1: State of the Art in Coastal observing systems

*Henning Wehde – **IMR**, SMHI, Deltares ,IH, AZTI, INGV, IO-BAS*

Task 2.2 Cross regional integration and demonstration

*Irene Lake - **SMHI**, IMR, Deltares ,IH, AZTI, INGV, IO-BAS*

WP 2 REGIONAL ACTIVITIES

Deliverables:

D-2.1Report on existing observation network from all ROOSs

D-2.2 Report on recommendations for future research and developments for filling gaps in the areas where observations are unattainable due to lack of best practice or technologies from all ROOSs

WP 2 REGIONAL ACTIVITIES

D-2.3 Integrated Pan European Atlas/first report on Coastal Observing systems, update at the end of the project

D-2.4 Demonstration of the feasibility of joint trans-regional product production Transports and E-HYPE

D-2.5 Integrated Pan European Atlas/second report on Coastal Observing systems, update at the end of the project

Deliverables status:

D-2.1Report on existing observation network from all ROOSs

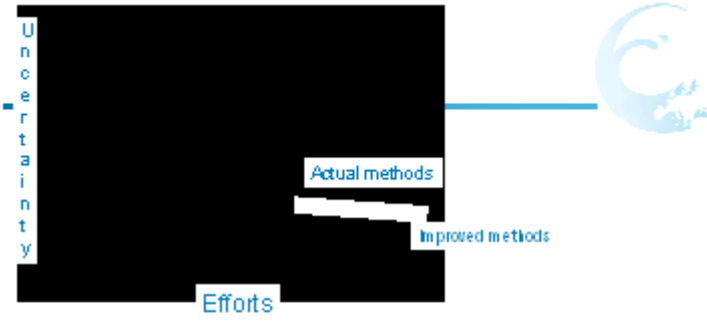
A review of the present status of the observation systems provided by the regional Alliances of the European Global Ocean observing system (EuroGOOS).

- *Arctic ROOS*
- *NOOS*
- *BOOS*
- *IBIROOS*
- *MONGOOS*
- *Black Sea GOOS*

D-2.2 Report on recommendations for future research and developments

The main aim for this report is to provide an overview of the

- *main challenges the existing observational systems are facing to provide an integrated status of the marine environment*
- *to identify knowledge gaps, that are recommended to fill within the upcoming years.*



Reducing uncertainty

A : too scarcely evolved efforts

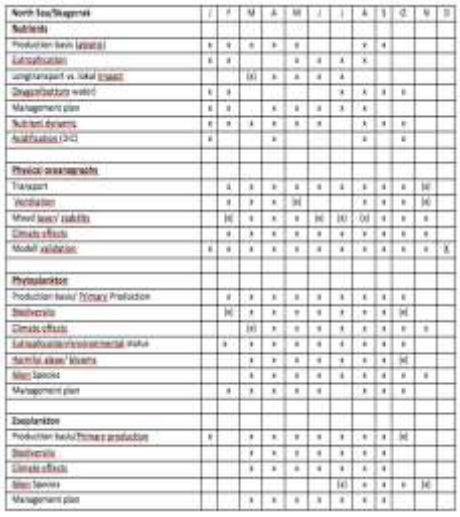
B : more frequently measurements lead to improvement

C : New methodology needed for improvement

CENTRAL CHALLENGES

Arctic ROOS	NOOS	BOOS	IBIROOS	MONGOOS	Black Sea GOOS
Climate Change	Climate Change	Climate Change	Climate Change	Climate Change	Climate Change
Water masses distribution		Water masses distribution	Water masses distribution	Water masses distribution	Water masses distribution
	Water transport	Water transport		Water transport	Water transport
	Water exchange	Water exchange		Water exchange	Water exchange
Mixed Layer	Mixed Layer	Mixed Layer	Mixed Layer	Mixed Layer	Mixed Layer
Acidification	Acidification	Acidification	Acidification	Acidification	Acidification
Model validation	Model validation	Model validation	Model validation	Model validation	Model validation
Production basis	Production basis	Production basis	Production basis	Production basis	Production basis
Biodiversity	Biodiversity	Biodiversity	Biodiversity	Biodiversity	Biodiversity
Climate effects	Climate effects	Climate effects	Climate effects	Climate effects	Climate effects
	Eutrophication	Eutrophication		Eutrophication	Eutrophication
	Harmful algae	Harmful algae	Harmful algae	Harmful algae	
Alien species	Alien species	Alien species	Alien species	Alien species	Alien species
Management plan, MSFD	Management plan, MSFD	Management plan, MSFD	Management plan, MSFD	Management plan, MSFD	Management plan, MSFD

PERIODS IMPORTANT FOR PROCESSES

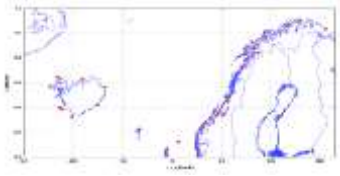


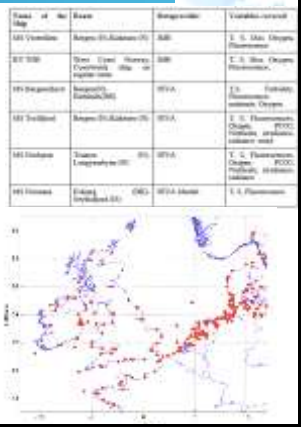
CENTRAL ISSUES

- Attention to functioning of present Arctic Ocean ecosystem and with respect to climate change and expected change in productivity, human activities (Arctic)
- Attention to fresh water inflow and validation of forecasting models; sustainability of existing observational system and development towards to eco-system approach and MSFD-indicator needs and assessments (North Sea Region).
- Attention for the monitoring the climate variability, improvement of LT stability for T&S and oxygen along the water column (Baltic Sea Region)
- Attention to growth, and impact from extraction use of natural marine resources (Atlantic front of Europe IBIROOS–region)
- Attention to lack of data from African Coast, NRT biochemical data and integration of gliders in the common vision of the Mediterranean observations (MONGOOS)
- Attention to the overall lack of monitoring programs and system behavior studies. Building and maintaining a Basin scale in situ observing system based on best practices in other Regions has key priority (Black Sea GOOS region).

D2.3 Integrated Pan European Atlas/first report on Coastal Observing systems

The main aim for this deliverable is to provide an overview over and reference to the existing European observing systems. The aim is to include all the available observing systems in the seas around Europe.





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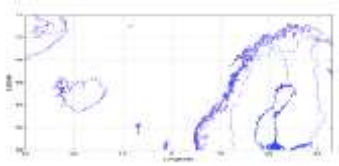
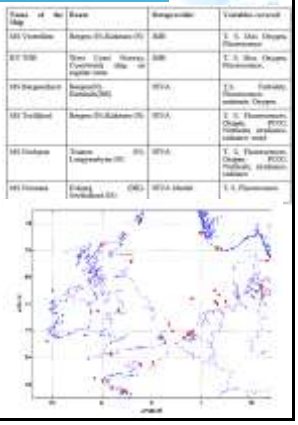




www.jerico-fp7.eu

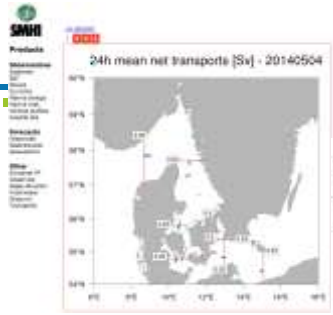
D2.4 Demonstration of the feasibility of joint trans-regional product production Transports; E-HYPE

This report focussed on:

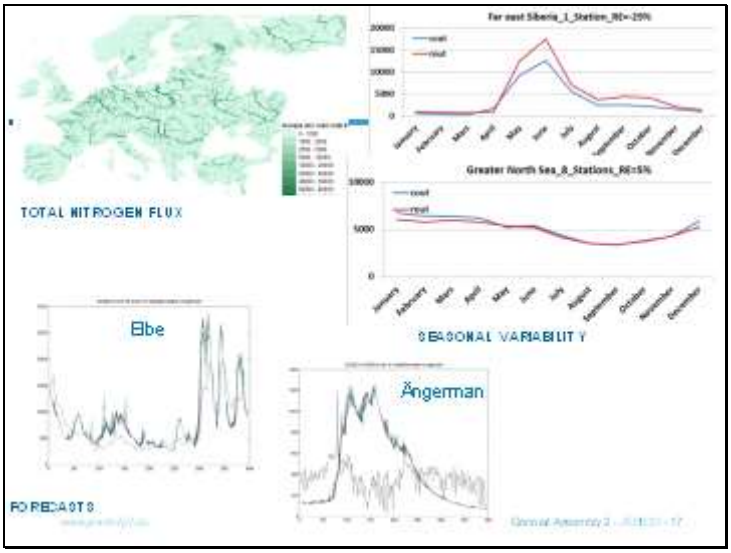
- *Development and setup of an operational hydrological forecast tool for delivering high-resolution real-time and forecast fluxes of water and nutrients to European Seas.*
- *Demonstration of an possible approach to a pan-European transport product.*

The hydrological data is intended as an improvement to the discharge climatologies and constant nutrient concentrations traditionally used by oceanographers as input to physical and biogeochemical ocean models.

The transport calculations are useful for customers interested in movement of water masses e.g. oceanographers, environmental organisations or fisheries.



Transport



D2.5 Integrated Pan European Atlas/second report on Coastal Observing systems

The main aim for this deliverable is to provide an updated overview over and reference to the existing European observing systems at the end of the project. The aim is to include all the available observing systems in the seas around Europe.

ISSUES, NEXT STEPS, AGENDA OF ACTIVITIES

- *Continue working on extending the Deliverable D-2.3 with the non physical parameters towards delivery of the updated Atlas as Deliverable D-2.5*
- *Delivery of the D-2.3 as a web based Atlas*
- *Collaborative work with WP 9*
- *Contribution to the main strategy for future Coastal observatories*

Thanks for listening

3.2.4. WP6: Outreach, by Jo Foden (CEFAS)

Jo Foden talked about WP6 and its role in communicating and promoting the project and its developments.

Regarding the JERICO User Display (JUD), there were no new developments for 12 months: some improvements are expected in the software and the process. The beta-test version of the JUD software will be made available on DropBox.

This presentation was an occasion to list possible ideas for the future of the WP and the communication within the project in general:

- It would be good to see how the software is used by partners and how outcoming results are shared. Feedback on its utilisation would help to set up a common tool and some methods to visualise their data,
-
- Some interrogations: How to implement some degree of data quality control prior to the images being display to screen? How to make the system more robust to data or system anomalies? How to produce images that can be transmitted over a coaxial cable?

One partner pointed out that we have nice communication tools but we don't know how to use them and how to promote them to the community and the public audience. We have to work on it for the rest of the project lifetime.

This work has already started with the Oceanboard, by dividing the tool according the audience (public and professional). We need to use it better to reach the right community and involve the schools and university to promote our work widely.

WP6: OUTREACH

Jo Foden (Cefas)

David Mills, Simon Keeble, Aldo Drago, Nicki Villiers, Mark Hartman, Joaquín Tintoré

WP6 TASKS

6.1 End-user products and services
(Community Hub, Datatool, public display)

6.2 Jerico OceanBoard
(prof & public and educational glider tool)

6.3 Summer schools
(Malta 2013 & The Netherlands 2014)

WP6 TASKS

List of deliverables

Deliverable Number [#]	Deliverable Title	Lead beneficiary number	Estimated indicative person-months	Nature [*]	Dissemination level [*]	Delivery date [**]
D6.1	Design and launching of JERICO OceanBoard V0	16	6.00	P	PU	6
D6.2	Jerico Community Hub	16	5.00	P	PU	12
D6.3	Summer school 1	7	4.00	R	PU	27
D6.4	Development and implementation of suite of web-based interactive tools	16	8.00	D	PU	24
D6.5	Summer school 2	10	4.00	R	PU	39
D6.6	Final version of JERICO OceanBoard	16	6.05	P	PU	30
		Total	33.05			

TASK 6.1 END-USER PRODUCTS & SERVICES

Sub-task 6.1.1 Build Community Hub
D6.2: 'Prototype' M12 completed

Sub-task 6.1.2 Development of Jerico Datatool
D6.4: 'Demonstrator' M24 completed

Sub-task 6.1.3 Jerico public display monitor

SERVICE ACCESS

10) CNR - NAMS
Data reaching Coriolis/MyOcean data flow since July 2013
11) CNR - FOS
Data will flow to Coriolis/MyOcean through HCMR
12) POSEIDON Buoy Network
8 stations
13) POSEIDON Buoy Network
3 stations
1 Ferry : Olympic Champion (call sign = SYWD)
14) POL - COBS
No Data
15) COSYNA
- FunnyGirl (call sign = DFPZ) : Data reaching Coriolis/MyOcean Database
- LysBris (call sign = LJLN3) : Data reaching Coriolis/MyOcean Database
- Wadden Sea Piles : Data integration started during summer
16) SMHI - MOS
Ferry Transpaper (call sign = SKEC) + 1 Buoy (Huvudskaer East Buoy)
17) SMHI - Laesoe => will be replaced by a new buoy in the Skagerrak
18) SmartBay Galway
19)Puertos del Estado Deep Water Network

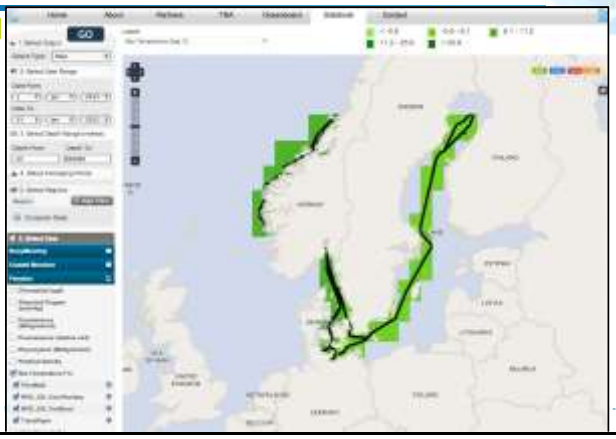
Data set circulating in NRT since the beginning of 2013
Data set not yet integrated in a NRT data stream
Data set circulating since the middle of 2013 (with feedback up to January)

TASK 6.1 END-USER PRODUCTS & SERVICES: JERICO DATATOOL

- Audience overview 1st Jan 2012 to 1st May 2014.
- Main graph shows number of session over time.
  Nearly 19,000 sessions by 11,000 users.

- Temperature records from three buoys; Coastal research station buoy, M3 and Pylos
- May to September 2013
  Average daily temperature

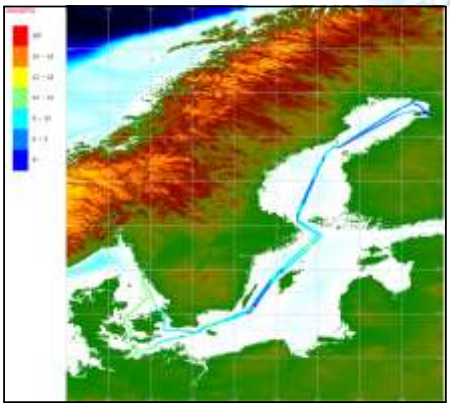
TASK 6.1 END-USER PRODUCTS & SERVICES: JERICO DATATOOL



- Sea temperature from FerryBoxes and satellite data (MyOcean)
  Month of January 2013

TASK 6.1 END-USER PRODUCTS & SERVICES: JERICO USER DISPLAY (JUD)

Sub-task 6.1.3
Jerico user display



Sub-task 6.1.3 complete.
Development of the Jerico User Display was led by Mark Hartman at NOC.

TASK 6.1 END-USER PRODUCTS & SERVICES: JERICO USER DISPLAY (JUD)

State of play

- No new developments for 12 months
- Testing by SMHI & HCMR – some improvements incorporated into the software
- DropBox for sharing:
  - Email Mark Hartman to join: mch@noc.ac.uk
  - Beta test version of software – PHP using MySQL as database.
  - Future ideas and testing could posted.

•Problem: the Pride of Bilbao ferry was discontinued at the start of the Jerico project, making it impossible for Mark to test ideas and prototypes.

•Bent at HCMI carried out beta-testing of the Jerico User Display.

•Mark will make the beta-test version of the JUD software available on DropBox. Please send email to Mark.

TASK 6.2 OCEANBOARD

Sub-task 6.2.1 Jerico PROF

Sub-task 6.2.2 Jerico PUB

D6.1: Launch OceanBoard, completed M6

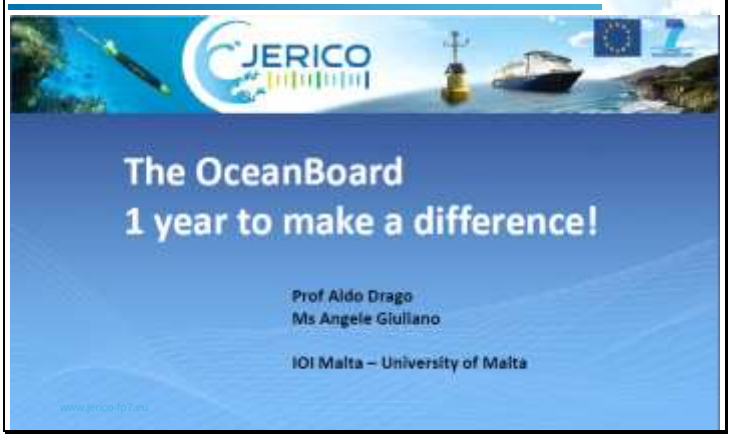
D6.6: Final version OceanBoard, completed M30

Sub-task 6.2.2 Educational tool on gliders

The OceanBoard was launched and Deliverable 6.1 was completed

The OceanBoard was finalised in M30 (Oct 2013) and Deliverable 6.6 was submitted on time.

TASK 6.2 OCEANBOARD



Where to find it?

OceanBoard in Numbers

- 2 large sections - Public and Professional
- 6 regions
- 44 articles in total
- Most have over 1000 hits with the highest having 27,500 hits

Main Targets of OceanBoard

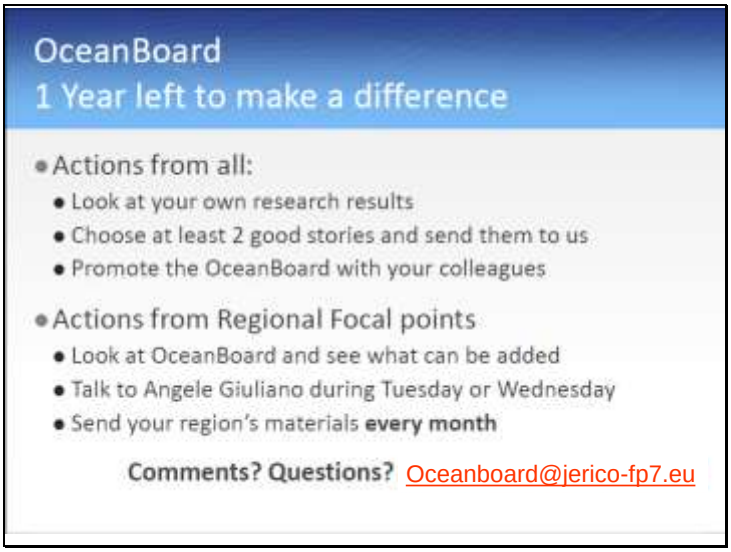
- Raising awareness on the benefits of coastal observations
- Disseminating experience, examples and best practices
- Target Groups:
  - Public – including young generation, policy makers, stakeholders
  - Professional – academia, students, professionals
- We SHOULD use the OceanBoard more – for Jerico results, deliverables, news, events
- It's an EXCEPTIONAL tool that we're **FAILING** to use properly

FAILURE

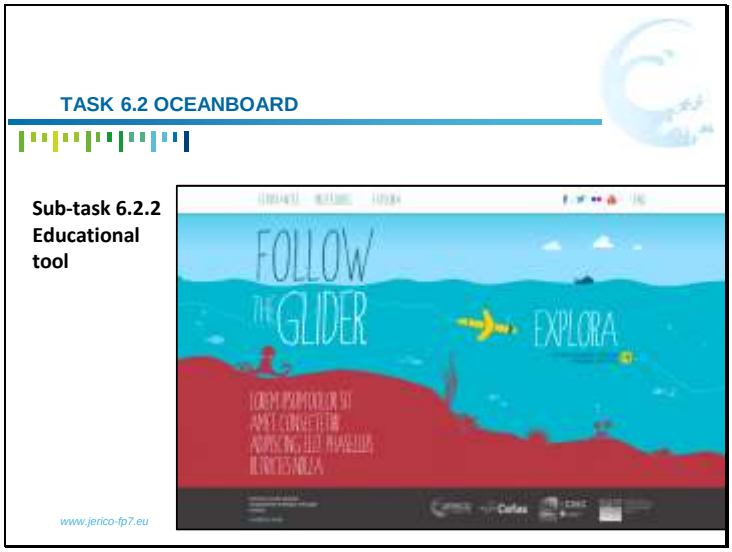
– Notice the emptiness … even after 3 years!

The OceanBoard needs your input!

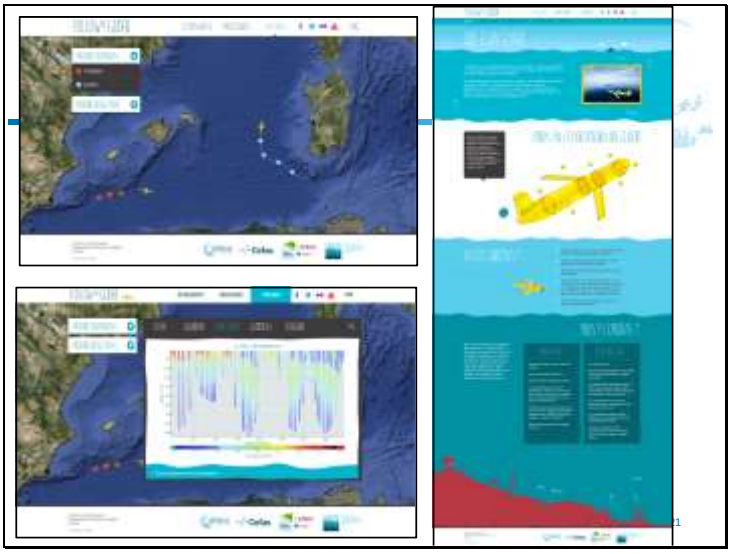
- All Jerico partners and especially Regional Focal Points
  - International - CEFAS
  - Mediterranean Sea –University of Malta
  - North Sea – DELTARES
  - Baltic Sea – SYKE
  - Iberian Area & Black Sea – IFREMER
- Email Oceanboard@jerico-fp7.eu
  - Send us short 200 word articles + image + weblink for further info
  - Our editorial team will do the rest!

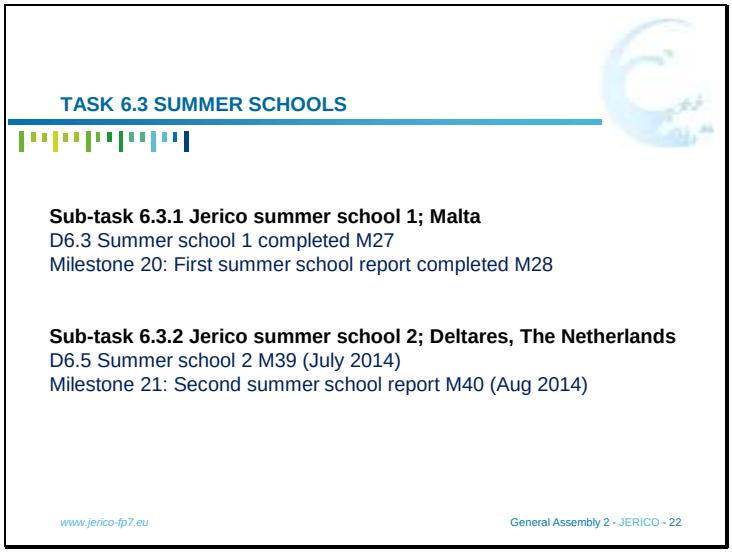


Final version of the OceanBoard was delivered on time M30 (Oct 2013)



Glider Educational Tool: Home page with an adapted design for kids and students





First summer school and associated Milestone report was delivered on time.

TASK 6.3 SUMMER SCHOOLS: MALTA

1st Summer school 8th–13th July, University of Malta

Operational Oceanography in the 21st Century – The Coastal Seas

- 84 applicants,
- 28 countries: Europe, Middle East, South America, Asia,
- 35 participants selected.

TASK 6.3 SUMMER SCHOOLS: MALTA

TASK 6.3 SUMMER SCHOOLS: MALTA

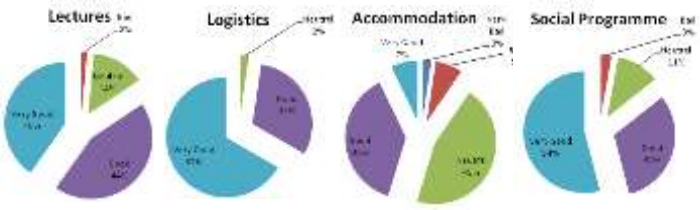
Malta summer school programme

- Overview on operational oceanography
- Coastal observatories; COSYNA, sensors & platforms, FerryBox, ROVs
- MyOcean
- Numerical modelling techniques
- Data Management; data exchange, QC, data format, climatologies, SeaDataNet
- Visualisation and analysis of time series data
- Applications; satellite data, oil spill models, Jerico Datatool
- Excursion to HF radar

TASK 6.3 SUMMER SCHOOLS: MALTA

TASK 6.3 SUMMER SCHOOLS: MALTA

Malta summer school evaluation by participants

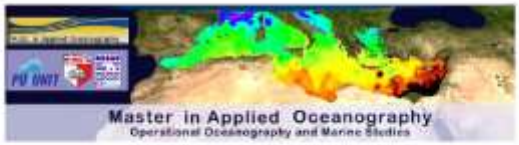


TASK 6.3 SUMMER SCHOOLS: MALTA

Malta summer school report on the Jerico community hub

University of Malta
M.Sc. In Applied Oceanography

- Scientific Baseline of Oceanography
- Practical Baseline of Oceanography
- Essentials of Operational Oceanography
- Data Resources in Oceanography
- Boot Camp - Field survey and hands-on marine data analysis
- Principles of Ocean Governance
- Applications and Services deriving from Operational Oceanography



Starts October 2014. International Expert Lecturers.
2 Available Scholarships – 16 applications already received!

Deltares summer school programme

Saturday	Arrival, icebreaker and dinner
	1 evening visit to Sand Engine coastal observatory
Sunday	Data & information for monitoring [Cefas et al., FixO3]
	• MSFD, EMECO, monitoring strategy and networks
Monday	Data interpolation
	• DIVA/DINEOF [University de Liege, Prof. J-M Beckers]
Tuesday	Data dissemination
	• [EMODnet/SDN/MyOcean/EuroGOOS, EurOBIS]
	• Co-organized with Delft Software Days (extra audience)
Wednesday	Data management and curation
	• DOI, DataCite, Versioning [3TU datacenter, OpenEarth]
Thursday	Data assimilation
	• [OpenDA]
Friday	Data processing (departure at lunch)
	• Web Processing Service [EMECO et al., OpenEarth]

TASK 6.3 SUMMER SCHOOLS: DELTARES

Applications for summer school

- Advertised at MODEG meeting, mail-list & 5 LinkedIn groups (ICES, EMODnet, Delft3D, OpenEarth, NCK Netherlands Centre for Coastal Research)
- Applicants' regional spread:
  Poland (5), Netherlands (1), Chile(1), Italy (1), Argentina (1), Russia (1, Caspian Sea), Spain (1)
- Applicants' current occupation; 7 MSc level &4 PhD
  PhD student / research assistant (8), Research fellow (1), Post-doc (1), DM Specialist (1)
- Gender: F (6), M (5)
- Still accepting late applications

3.2.5. WP3: Harmonizing Technological aspects, by W. Petersen (HZG)

Wilhelm Petersen presented the work of WP3 and the follow-up of the work undergone so far.

Most tasks are conducted on time or are already completed (no delays to be highlighted). Best practice documents together with WP4 are on line with the requirements (Ferrybox and Glider to a large extend already available). **As being very heterogeneous structures, fixed platforms need more efforts, especially in task 3.3**.

All this information should be available online. The online tool provides numerous information on the different platforms, where one can choose the criteria and the structure of interest. There were some concerns about the data availability but most of the data is linked to public funding so no rights to be claimed.

The link with EMODNET has also been raised by one of the partner. We should interact with EMODNET physics to reach out more people. We have to figure out the proper way to do it.

Two deliverables have to be delivered:

- D 3.4 (Report on new sensor developments and their suitability for different platforms), which has been postponed to June 2014
- D3.5: Conclusion report task 3.1 [postponed to M42 = Oct 2014]: "Report summing up the main conclusions from the 2nd workshop on the best practice, common procedures and agreed standards of FB systems"

During this General Assembly, several WP3 side meetings will be organized (ferrybox and fixed platforms especially) and a ferrybox workshop will be organized by the ferrybox community in September 2014 in Talinn.

STATUS of WP 3

Wilhelm Petersen, Helmholtz-Zentrum Geesthacht
Email: wilhelm.petersen@hzg.de

WP3: HARMONIZING TECHNOLOGICAL ASPECTS

General Objectives:

- *To provide a common base for the operational use of FerryBoxes, gliders, fixed platforms along European coasts*
- *To review the current status of existing systems in operational use in European seas*
- *To define the best technical practices for compatible, robust and cost-effective systems*
- *To define procedures for harmonizing and merging quality assessed FerryBox and Fixed Platform data at regional (ROOS) level*
- *To define procedures and technological solutions for integration and testing of new sensors on these systems*

WP3: CONTRIBUTIONS OF PARTNERS

Overview WP3 contributions

		IFREMER (FR)	SYKE (FI)	IBWPAN (PL)	NIVA (NO)	OGS (IT)	CNR (IT)	HCMR (GR)	NERC (UK)	HZG (DE)	MUMM (BE)	CEFAS (UK)	SMHI (SE)	CSIC (ES)	NIOZ (NL)	MI (IE)	AZTI (ES)	INSU (FR)	PUERTOS (ES)	Number of partners involved
P.-No.		1	2	3	5	8	9	11	12	14	15	16	17	18	19	20	22	23	26	17
PM		2	4	6	5	4	7	8	13	16	3	8	4	5.5	0	2	3.7	7	6.5	104.7
WP 3.1	FerryBox	o	X	?	X	?	?	X	X	X	X	X	X	?	X	?	?	?	?	9
WP 3.2	Glider	X	?	?	?	?	?	?	X	X	?	o	?	X	?	X	?	?	?	6
WP 3.3.	Fixed Platf	X	?	X	?	X	X	X	X	X	o	X	X	?	?	X	X	?	X	13

partners in total: **17**
budget: **~550 T€**
total personal month: **105**

TASK LEADERS:

Task 3.1 FerryBox: *Syke (Seppo)*

Task 3.2 Glider: *CSIC (Joaquin)*

Task 3.3. Fixed Platform: *CEFAS (Rodney)*

´Task 3.x.3 test & application of new sensors: *HZG (Willi)*

WP 3.1 FERRYBOXES TASKS:

3.1.1: *Review current status of existing FB systems (flow-through systems, sensors, quality control, data handling)*

3.1.2: *Best practice of FB systems (flow-through system, sensors, operation procedures, antifouling, control mechanisms, data handling)*

3.1.3: *Harmonization and merging quality assessed data from FB systems in ROOS regions*

3.1.4: *Test and integration of new sensors and best practices (tightly linked to WP10).*

WP 3:

STATUS TASK 3.1 FERRYBOX (FB) (responsible Seppo Kaitala):

Task 3.1 FerryBox:

- 1st **JERICO FerryBox** workshop (30-31 August 2011 at HZG)
- Report of 1st JERICO FerryBox workshop (distributed Nov. 2011)
- Best practice of FB systems (T 3.1.2) (together with WP 4):
  first discussion in 1st workshop,
  continued in joint WS (WP3 & 4) about Best Practice in Oct 2012 in Crete) -> forming of a working group, led by Kai Sorensen (NIVA)
- 2nd FerryBox workshop in April 2013 in Helsinki
- → side meeting in Oslo May 2014

- ***D 3.1. Report on current status of FerryBox (updated February 2014)***

WP3: Harmonizing technological aspects

Task 3.1. Ferryboxes

www.ferrybox.org

D 3.1 Report on current status of FerryBoxes Content:

D3. 1 CURRENT STATUS FERRYBOXES

WP 3.2 GLIDER TASKS : taskleader Joaquin (CSIC)

Tasks:

3.2.1: *Review current status of glider operation in Europe*

3.2.2: *Define the best technical practices for operation a fleet of glider*

Activities:

- *Workshop Gliders May 2012 joint meeting with GROOM* and EGO** (done)*
- *JERICO Glider Questionnaire (done)*
- *Questionnaire analysis (done)*
- *Report on current status of glider observatories within Europe Deliverable 3.2 (done)*

* GROOM: Gliders for Research, Ocean Observation and Management, Start Oct. 2011, Duration 36 months

** EGO: Everyone's Glider Observatories

Task accomplished

Deliverable 3.2: Current Status of Glider Observatories

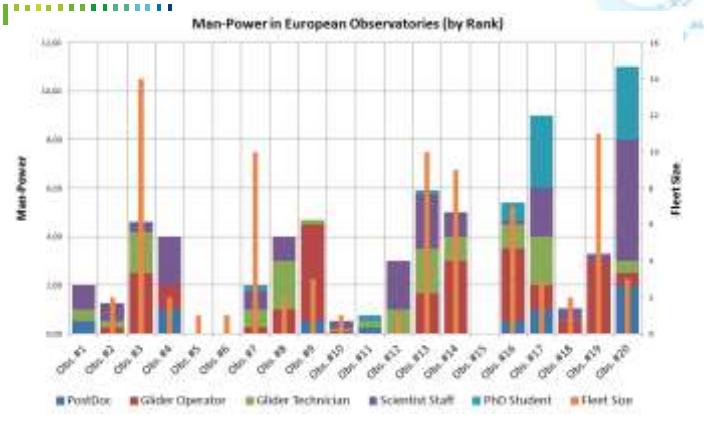
OUTLINE

DELIVERABLE 3.2: CURRENT STATUS OF GLIDER OBSERVATORIES

Distribution of European Glider Infrastructures

DELIVERABLE 3.2: CURRENT STATUS OF GLIDER OBSERVATORIES

Man-Power available to each European observatory compared to its individual fleet size



WP 3.3 FIXED PLATFORM (FP) TASKS:
Taskleader Rodney Forster

3.3.1: *Review of the current status of all existing fixed observing sites*

→ *Deliverable 3.3. (done Aug 2013)*

3.3.2: *Workshop to identify elements of fixed platform technology which clearly represent best practice (WS in Rome April 2012 and Crete 2012)*

3.3.3: *Harmonization and merging quality assessed data from fixed platform systems in ROOSes*

3.3.4: *Comparison of new sensors and assessment of their applicability for fixed stations <-> WP 10*

→ *D 3.4*

Deliverable D 3.3.: Current Status of Fixed Stations in Europe


Contents

Deliverable 3.3.
Current Status of Fixed Stations in Europe

- all data are included in a database which will be updated regularly (CEFAS)
- Over 900 different fixed platform measuring sites mapped by region (NOOS, BOOS, IBI-ROOS and MOON)
- 463 sea level measuring stations, 446 sea temperature stations and 237 wave measuring stations were recorded in this survey
- very wide variety of instruments and platform types are in use at these sites.
- observing systems are predominantly located in the shallow coastal zone where the seabed is less than 50 m deep.
- 80 identifiable marine observing systems (with on average 11 nodes or measuring stations)
- 33 of the 80 systems belong to organizations who are partners in the JERICO project (= 39%)

Deliverable D 3.3.: Current Status of Fixed Stations in Europe

Deliverable D 3.3.: Current Status of Fixed Stations in Europe

Jerico Fixed Platforms
Sea temperature

Jerico Fixed Platforms
Nutrient

D 3.4. REPORT ON NEW SENSOR DEVELOPMENTS

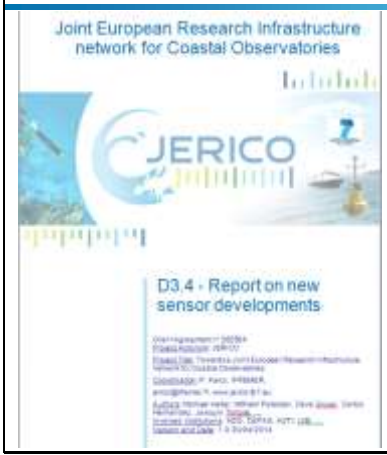


TABLE OF CONTENTS

Conclusion WP3

Tasks completed:

- Most tasks in schedule or already completed

Remaining tasks:

- Best practise for all three kinds of platforms together with WP 4 (→ D 4.4)
  - FB and GL to a large extend already .available
  - FP: very heterogeneous structures, some efforts necessary in task 3.3 (CEFAS), working group, lead: Carlos
- 3.1.3: Harmonization and merging quality assessed data from FB systems in ROOS regions (already common practice, data delivered to MyOcean)
- 3.3.3: Harmonization and merging quality assessed data from fixed platform systems in ROOS regions (NOOS, BOOS, MOON, IBI-ROOS): "This activity is cross-cutting through WP3 and will harmonize the outputs of fixed platforms with other systems such as FerryBox/ships of opportunity". Test sites: North Sea (Cefas, HZG, Ifremer) and Adriatic (CNR).
- 3.1.4 und 3.3.4: Test and integration of new sensors and best practices (tightly linked to WP10). → D 3.4.

Conclusion WP3 (cont)

Deliverables:

completed:

- D 3.1 (FerryBox)
- D 3.2 (Glider)
- D 3.3 (Fixed Platforms)

remaining:

- D 3.4 (Report on new sensor developments and their suitability for different platforms) postponed to end of May/June 2014
- D 3.5: Conclusion report task 3.1 [month 42 = Oct 2014!!] "Report summing up the main conclusions from the 2nd workshop on the best practice, common procedures and agreed standards of FB systems"

ANNOUNCEMENTS:

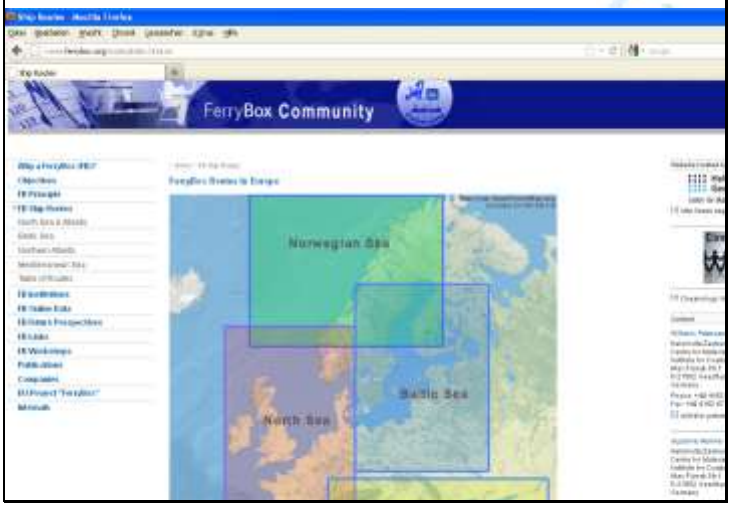
Side meetings:

Best practice:

- FerryBox: today , lunch break?
- Fixed Platforms: ???
- Gliders: not necessary

Next FerryBox workshop (FerryBox Community):
Tallin 8.-9. September 2014 (www.ferrybox.org)

www.ferrybox.org



WP3: PERSONAL MONTH PER PARTNER

Person-Months per Participant

Participant number [*]	Participant short name [**]	Person-months per participant
1	IFREMER	2.00
2	SYKE	4.00
3	IBWPAN	6.00
5	NIVA	5.00
8	OGS	4.00
9	CNR	7.00
11	HCMR	8.00
12	NERC	13.00
14	HZG	16.00
15	MUMM	3.00
16	CEFAS	8.00
17	SMHI	4.00
18	CSIC	5.50
20	MI	2.00
22	TECNALIA-AZTI	3.70
23	INSU/CNRS	7.00
26	PUERTOS	6.50
	Total	104.70

3.2.6. WP4: Harmonizing operation and maintenance methods, by M. Ntoumas (HCMR)

WP4 follow-up was introduced by Manolis Ntoumas who explained what has been done within this work package for the past few months.

Based on the experience of infrastructure operators and relevant regional activities, this WP aims to gather elements of best practice in conducting operations and maintaining coastal observatories, identify the successes in terms of systems autonomy and reliability and propose common procedures to be followed by all operators.

To do so, several deliverables have been designed:

- D4.2 “Report on calibration best practice”: the document is in final state. Marine T and C sensors require regular, often frequent, calibrations because their performances tend to vary over time and can be affected by the specific conditions of usage.
- D4.3 “Report on biofouling prevention methods”: a questionnaire was sent to the member of JERICO consortium. Answers were provided by 19 partners for 23 platforms and 54 sensors/sensors systems.
- Answers revealed that the biofouling phenomenon is not examined in depth, even though a better knowledge could help to choose a more effective antifouling approach. The Biofouling Monitoring Program carried out within JERICO can help to bring light on this point.
- D4.4 & D4.5 to be done in October 2014

One partner wondered what level of consensus is reached with this work package so far. The general questionnaire will help to do that.

WP4

HARMONIZING OPERATION AND MAINTENANCE METHODS

G. Petihakis, M. Ntoumas| HCMR| gpetihakis@hcmr.gr - mntou@hcmr.gr

WP Structure

OBJECTIVES

Based on the experience of infrastructure operators and relevant regional activities, this WP aims to:

- gather elements of best practice in conducting operations and maintaining coastal observatories
- identify the successes in terms of system autonomy and reliability
- propose common procedures to be followed by all operators

Partners: HCMR, IFREMER, SMHI, IH, OGS, CNR, HCMR, NERC, HZG, NIVA, IMEDEA, SYKE, CSIC, MI, TECHNALIA-AZTI, INSU-CNRS, POMOS

Task 4.1 Calibration
Subtask 4.1.1. Physical sensors
Subtask 4.1.2. Optical sensors
Subtask 4.1.3. Chemical sensors

Task 4.2 Biofouling prevention
Subtask 4.2.1. Physical sensors
Subtask 4.2.2. Optical sensors
Subtask 4.2.3. Chemical sensors

Task 4.3 End to end quality assurance
Subtask 4.3.1. Fixed Platforms
Subtask 4.3.2. FerryBox
Subtask 4.3.3. Gliders
Subtask 4.3.4. Running Costs

A key tool → WS & Exercises

WORKSHOPS (7)

Date	Title	Location
30-31 August 2011	1st JERICO WP3 & WP4 common workshop on FerryBox	HZG, Hamburg
9th February 2012	Calibration and biofouling prevention of optical sensors & sharing of calibration facilities	SYKE, Helsinki
29th February – 1st March 2012	2nd JERICO WP3 & WP4 common workshop on Fixed Platforms	CNR, Rome
22 – 23 May 2012	3rd JERICO WP3 & WP4 common workshop on Gliders	IMEDEA, Palma
4-5 October 2012	4th WP3 & WP4 common workshop on Best Practices	HCMR, Crete
23rd April 2013	WP3 & WP4 status workshop	SYKE, Helsinki
13th March 2014	Dissolved Oxygen calibration / What are the best procedures? An interactive workshop to identify the best practices about dissolved oxygen calibration procedure.	FCT, Oceanology 2014, London

EXERCISES (4)

Date	Title	Coordinator	Participants
9th February 2012	1st Calibration and biofouling prevention of optical sensors & sharing of calibration facilities	SYKE, Helsinki	CNR, HCMR, AZTI, NIVA, NERC, OGS, IH, HZG, SMHI, POMaritime
10th October 2012	2nd Calibration exercise (T,S,O2), sharing of calibration facilities	IFREMER, Brest	IFREMER, CNR, HCMR, AZTI, NIVA
June 2013 – up to now.	Biofouling Monitoring Program:	ISMAR-CNR	IFREMER, CEFAS, HCMR, AZTI, SMHI,SYKE
Sept-Oct 2013	Intercomparison of O2 sensors in situ and in lab	CNRS, Villefrance	IFREMER,MI, HCMR

DELIVERABLES (5)

Deliverable	Responsible	Month	Date Due	Status
D4.1 Report on Existing Calibration Facilities	HZG	18	October 2012	Done
D4.2 Report on calibration best practices	HZG	36	April 2014	Final Draft
D4.3 Report on biofouling prevention methods	CNR	36	April 2014	Final Draft
D4.4 Report on best practice in conducting operations and maintaining	HCMR	42	October 2014	To be done
D4.5 Report on running costs of observing systems	CEFAS	42	October 2014	To be done

DELIVERABLES

Deliverable	Responsible	Month	Date Due	Status
D4.1 Report on Existing Calibration Facilities	**HZG**	**18**	**October 2012**	**Done**
D4.2 Report on calibration best practices	HZG	36	April 2014	Final Draft
D4.3 Report on biofouling prevention methods	CNR	36	April 2014	Final Draft
D4.4 Report on best practice in conducting operations and maintaining	HCMR	42	October 2014	To be done
D4.5 Report on running costs of observing systems	CEFAS	42	October 2014	To be done

Objectives

- General aspects of calibration systems:
  - Budget for calibration
  - Calibration staff
  - Quality management, control charts, links and collaboration with other institutes
- Evaluation of sensor calibration specifications for:
  - Physical sensors
  - Optical sensors
  - Chemical sensors

Evaluation of overall constitution of calibration facilities through a questionnaire.

D4.1 cont....

Evaluation of sensor calibration specifications – type dependant

Physical sensors:
- Routine calibration every 6 months
- Effective traceability chain for temperature calibration
- Highest potential for improv with internal and independent audits (valid for T & C sensors

Optical sensors:
- Effective traceability chain for specified parameter (5 out of 6 in
- Most institutes perform field ca for turbidity sensors and the majo archive their calibration reports a certificates
- Calibration intervals depend st on applied sensor

>Most institutes do not perform internal and independent quality audits for optical sensors

Chemical sensors:
- Most do field calibration and maintain manuals of calibration methods and procedures
- Roughly same calibration intervals as for optical or physical sensor is applied
- Deficits lay on the realization of independent quality audits

DELIVERABLES

Deliverable	Responsible	Month	Date Due	Status
D4.1 Report on Existing Calibration Facilities	HZG	18	October 2012	Done
D4.2 Report on calibration best practices	**HZG**	**36**	**April 2014**	**Final Draft**
D4.3 Report on biofouling prevention methods	CNR	36	April 2014	Final Draft
D4.4 Report on best practice in conducting operations and maintaining	HCMR	42	October 2014	To be done
D4.5 Report on running costs of observing systems	CEFAS	42	October 2014	To be done

Objectives

Reliable calibration:
- well-established, documented procedures,
- specialized instrumentation,
- certified or recognized reference material,
- dedicated laboratory, facilities,
- trained personnel,
- proven expertise.

Different sensors → different requirements and methodologies.

Shipping sensors to manufacturers is neither convenient nor cost efficient.

Need for best practices

Documentation of best practises for sensor calibration is divided into:
- Physical sensors: Temperature and Conductivity (Salinity)
- Optical sensors: Chlorophyll and Turbidity
- Chemical sensors: Nutrients (Nitrate, Phosphate, Silicate, Ammonium)
- Oxygen sensors

D4.2 cont....

Best practises of calibration – some aspects for temperature and conductivity sensors

- Marine T and C sensors cannot be calibrated in the field; field checks serve, at best, to monitor the effective operating characteristics of the sensors.
- Marine T and C sensors require regular, often frequent, calibrations because their performances tend to vary over time and can be affected by the specific conditions of usage.
- The reference measuring systems must be maintained to within declared specifications by monitoring their performances regularly, and scheduling servicing with a manufacturer immediately when laboratory quality assurance procedures indicate a developing problem.
- The results of a calibration may or may not be accredited but they must always be accompanied by the following:
  - A declaration of the uncertainty associated with the calibration process;
  - Information evidencing traceability to reference material (certified or otherwise): ITS-90 fixed points for temperature and IAPSO Standard Seawater for conductivity.

Best Practice (some aspects) – type dependant

Optical sensors -Chl:
- Chlorophyll-a (Chla) fluc concentration for decades
- with analytical (Chla) meas
- The readings from differ comparable, and the conve the major cause for the diff variability in samples.
- Unfortunately there exis fluorometer calibration and conventions. Various soluti include:
  - factory calibrat
  - use of algae cult
  - chemical standar solvents
  - solid standards.

Chemical sensors:
- Preparing of standar
- Storage and handling
- Bottle samples and s
- Specifications of mult
  - Nitrate: UV-Var reduction capa regularly
  - Silicate: measr stability of ca regularly
  - Ammonium m alkaline metho handling of pr concentration

Oxygen sensors:
- Reference measurements

Winkler titration is recognized as the most accurate technique to determine dissolved oxygen in seawater. Over time the Winkler protocol has been largely described and improved, in several papers

- Dissolved oxygen facility aspects

At present time, no device recommendations are proposed, except that the dissolved oxygen facility must perform different DO concentrations

- Calibration protocol

The calibration must be carried out over the range of dissolved oxygen in situ (including the extreme points of the range) and at different temperatures corresponding to the range of temperature measured at sea

- Adjustment process

Performed following the publication of Uchida Hiroshi et al., 2008: In Situ Calibration of Optode-Based Oxygen Sensors. J. Atmos. Oceanic Technol., 25, 2271–2281

DELIVERABLES

Deliverable	Responsible	Month	Date Due	Status
D4.1 Report on Existing Calibration Facilities	HZG	18	October 2012	Done
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D4.4 Report on best practice in conducting operations and maintaining	HCMR	42	October 2014	To be done
D4.5 Report on running costs of observing systems	CEFAS	42	October 2014	To be done

Objectives

Biofouling Prevention

- To describe all different methods used across the network with reference to the cost (implementation, maintenance) and adaptability (different sensors and areas)
- To share best practices and methodologies
- To evaluate new methods used by the community/external to JERICO

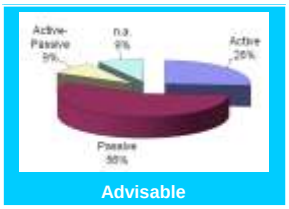
Method: the questionnaire was sent to the member of the JERICO consortium

Answers were provided by 19 partners for 23 platforms and 54 sensors/sensors systems

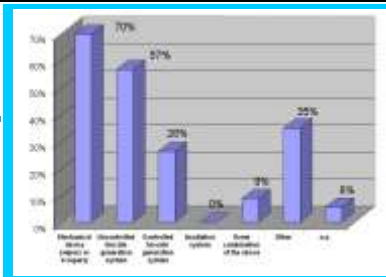
	Biofouling problem perception
100%	biofouling is a problem for observing activities
75%	biofouling influences the quality of the data
80%	take into account biofouling prevention when choosing a sensor among different providers

D4.3 cont....

67%	**Adopt antifouling measures**



Advisable



Adopted

Active: the biofouling protection is dependent on power, in most cases it can be turned on and off.
Passive: the biofouling protection doesn't need power supply.

188k€	Annual cost for antifouling system for 22 sensors or sensors systems managed by partners

D4.3 cont....

60%	evaluate in situ biofouling pressure when deploying a biofouling prevention system
65%	Are aware of differences in the extension/ distribution of biofouling related to season.
70%	**Aren't** aware of any differences in the type of biofouling **(biofilm/slime, hard-fouling, soft-fouling)** related to sensor deployment depth
74%	**Aren't** aware of any differences in the type of biofouling affecting physical, optical and chemical sensors

- It seems that this biological phenomenon is not examined in depth, even though a better knowledge could help to choose a more effective antifouling approach.
- The Biofouling Monitoring Program carried out within JERICO can help to light this point.

BIOFOULING MONITORING PROGRAM

Work in progress…

- Analysis of pictures and panels before the end of 2014

(extra activity - not planned in the DOW, voluntary participation of partners)

D4.3 CONT....

Document Structure

- **Introduction**
- **The biofouling problem and antifouling techniques**
- **Review Approaches adopted by the wide community including novel approaches Practices in JERICO**
- **Conclusion**
- **References**
- **Appendix: the Biofouling Monitoring Program**

•NOT YET READY: partners'view needed

DELIVERABLES

Deliverable	Responsible	Month	Date Due	Status
D4.1 Report on Existing Calibration Facilities	HZG	18	October 2012	Done
D4.2 Report on calibration best practices	HZG	36	April 2014	Final Draft
D4.3 Report on biofouling prevention methods	CNR	36	April 2014	Final Draft
D4.4 Report on best practice in conducting operations and maintaining	**HCMR**	**42**	**October 2014**	**To be done**
D4.5 Report on running costs of observing systems	CEFAS	42	October 2014	To be done

Objectives

- To describe best practices in all phases of the system (pre-deployment test, maintenance, calibration etc)
- To adopt common methodologies and protocols
- Move towards the harmonisation of equipment, which will help in reducing maintenance and calibration costs.

Platform Dependant:
- Fixed Platforms
- Ferryboxes
- Gliders

FIXED PLATFORMS (CARLOS HERNADEZ & TEAM)

"...the strongest asset of fixed platform observing systems is their ability to generate high quality time series data..." D3.3.1

DIFFERENT PLATFORMS, DIFFERENT PRACTICES

D4.4 FP cont....

Location

Platform

Telemetry

Power supply

Operation support means

916 FIXED STATIONS!!

D4.4 FP cont....

Document Structure

DESIGN
- Platform objectives
- Geographical location
- Facilities
- Suppliers
- Future upgrades

OPERATION
- Solutions to main operational problems
- Maintenance
- Calibration
- Data management

GLIDERS (JOAQUIN TINTORE & IMEDEA TEAM)

Document Structure

Glider Technologies
- Slocum Glider
- Seaglider
- Spray
- Others

Glider Infrastructure
- Laboratory
- Ballast tank
- Pressure chamber
- Calibration
- Storage
- Communications
- Control room
- Data Center
- Vehicles
- Vessels
- Others

Glider Platforms in the Laboratory
- Platform maintenance
- Sensor maintenance
- Sensors and instruments calibration

Glider Missions
- Planning
- Definition
- Deployment Techniques
- Recovery Techniques
- Piloting
- General safety

Glider Data Management
- Glider Data Retrieval (Real Time & Delay Mode)
- Glider Data Archiving
- Data Processing and Quality Control

Glider Data Dissemination and Outreach

Training Materials, Courses and more Information

Glider Cost Analysis

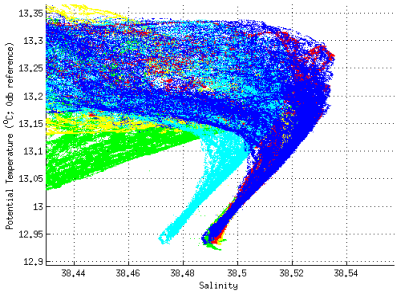
D4.4 GLIDERS cont....

Glider data calibration: advances (April 2014)

Comparison of deep water mass properties in Ibiza& Mallorca Channels:

- CTD R/V missions (09/2013 –green;12/2013-Yellow. 02/2014-red)
- Glider (02/2014-cyan&blue)

Glider before (cyan) and after (blue) calibration



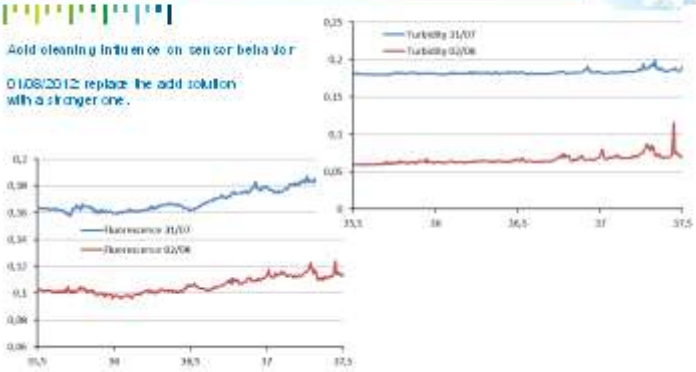
Conductivity of glider adjusted = 1.00036 * Conductivity of glider

FERRY BOXES (KAI SORENSEN & TEAM)

Document Structure

- 4.1.1 Ferrybox Technologies
  - 4.1.1.1 Commercial FB-systems
  - 4.1.1.2 Sensor available for Ferrybox installations
  - 4.1.1.3 Other instrumentation used in Ferrybox
- 4.1.2 Ferrybox Infrastructure installation and planning *(Included text from D3.1)*
- 4.1.3 Ferrybox system maintenance and calibration
- 4.1.4 Ferrybox Data Management
  - 4.1.4.1. Real Time & Delay Mode
  - 4.1.4.2. Data Archiving (National and international databases)
  - 4.1.4.3. Data Processing and Quality Control (real time and delayed)
- 4.1.5 Ferrybox Data Dissemination and Outreach
- 4.1.6 Training Materials, Courses and more Information ?????
- 4.1.7 Ferrybox Cost Analysis

D4.4 FB cont....



DELIVERABLES

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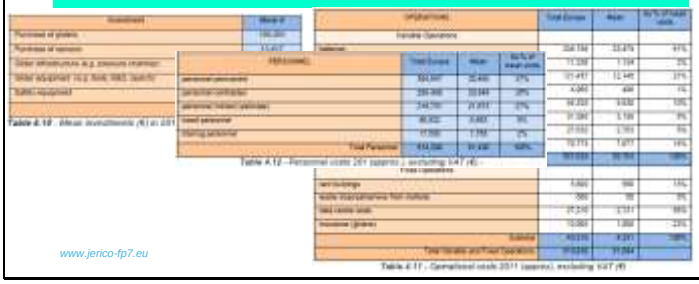
D4.5 Report on running costs of observing systems	**CEFAS**	**42**	**October 2014**	**To be done**

Gliders

- Questionnaire designed in Feb 2012 at Rome workshop and modified in discussions with GROOM participants
- Joint JERICO/GROOM – EGO Glider Workshop held 22-23 May 2012 in Mallorca
- Glider running costs reviewed within this workshop ('Report on current status of glider observatories within Europe', JERICO deliverable 3.2)



in situ platforms and ferrybox

- Questionnaire was sent to all JERICO task 4.3 participants
- Categories were grouped together to closely match those of the glider analysis
- Complexity of platforms varies between institutes (e.g. T & S, biogeochemcial sensors, CO_2) - therefore very different costs between institutes
- Level of detail provided in questionnaires depends on how institutes track costs

Summary of replies	
Number of institutes replied	13
Number of different countries	8
Number of in situ platforms	15
Number of Ferrybox platforms	7
Number of calibration labs	3

in situ platforms and ferrybox

In situ platforms (including moorings, pylons, towers)

	Average initial investment	Average routine cost	Average total cost including emergencies
Investment per platform	98000		
Operations per year - variable		53407	55952
Operations per year - fixed		10810	10807
Personnel costs		29247	30641
TOTAL		91870	97300

Ferrybox (on ships of opportunity and research vessels)

	Average initial investment	Average routine cost	Average total cost including emergencies
Investment per platform	96218		
Operations per year - variable		17077	21978
Operations per year - fixed		22740	22740
Personnel costs		51089	59930
TOTAL		92112	96653

Costs all are given per platform and per year for running costs

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3.2.7. WP5: Data management and distribution; by R. Nair (OGS)

Rajesh Nair presented the work of WP5 and what has been done since the last Consortium meeting.

In order to create suitable partnerships with ongoing European data management initiatives to meet WP5 objectives, links and activities with SeaDataNet II and MyOcean have been created to support JERICO data flow and dissemination, since most partners are already contributing to both of them or are prepared to do so.

Moreover, to avoid duplication of efforts, a strong cooperation with SeaDataNet II and MyOcean has taken place in the development and improvement of data handling methodologies and data quality assurance procedures, prioritizing JERICO specific monitoring parameters and technologies.

Regarding WP5 deliverables, D5.4 "Guidelines for Uncertainty" is ready and has been submitted to the coordinator. It describes the essential principles and concepts central to the determination of measurement uncertainty.

Another important part of WP5 is the OGC/SWE for JERICO. Sensor Web Enablement is a suite of OGC standards enabling real time integration of heterogeneous sensors into the information infrastructure. Results of this process are available on a collaborative internet tool. The requirements should be implemented in SeaDataNet SensorML editor in December 2014.

On "Delayed Mode data management", **a second version of the Delayed Mode Data Management Handbook will be made available by the end of the year**. This report will include latest developments of SeaDAtaNet together with Eurofleets and ODIP (EU, USA and Australia). The implementation will be done when data will be available in delayed mode (at the end of the project).

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WP5: DATA MANAGEMENT AND DISTRIBUTION
Review and Status

Rajesh Nair[1], Loic Petit De La Villeon[2], Gilbert Maudire[2], Caterina Fanara (cfanara@ogs.trieste.it)[1], and Alessandro Crise[1]
[1]OGS (Istituto Nazionale di Oceanografia e di Geofisica Sperimentale), Italy
[2] IFREMER, France

WP5: THE OPERATING STRATEGY

Create suitable partnerships with ongoing European data management initiatives to meet objectives ? formalize links and actively engage with SeaDataNet-II (SDN-II) & MyOcean (MyO) to support JERICO data flow and dissemination.

Use what exists ? SDN-II for Delayed-mode (DM) data & MyO for (near) Real-time (nRT) data.

Avoid duplication of efforts ? cooperate with SDN-II & MyO in the development/improvement of data handling methodologies and data quality assurance procedures, prioritizing JERICO-specific monitoring parameters/technologies.

WP5: WHY THIS OPERATING STRATEGY?

Create suitable partnerships with ongoing European data management initiatives to meet objectives ? supports the "open & free" data policy paradigm; will aid in ensuring compatibilty, interoperability, and the implementation of communal data handling practices.

Use what exists ? Many JERICO partners are already contributing to (or are prepared to contribute to) SDN-II/MyO.

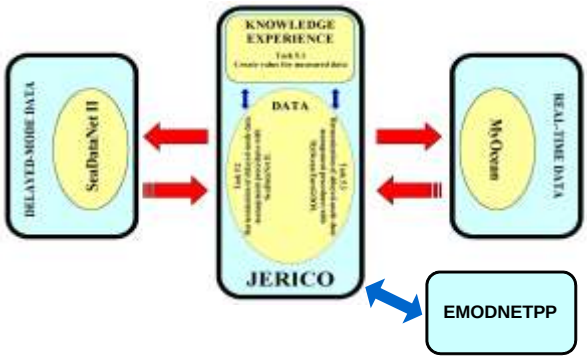
Avoid duplication of efforts ? cooperating with SDN-II/MyO will allow JERICO to participate in establishing Europe's database and management infrastructure for coastal marine data.

WP5: THE OPERATING STRUCTURE

JERICO has an «open access» data policy. The flow of data from JERICO partners to the community of users is driven by the synergic action of three WPs.

WP5 defines the rules for data management and distribution.
WP7 is collecting data from partners.
WP6 provides the platform for distribution of data and tools.

WP5: A FUNCTIONAL DESCRIPTION



WP5: OVERVIEW OF TASKS

5.1 Create value for measured data (Task Leader: OGS; other partner involved: HCMR)
Activity description: development of common procedures for assigning uncertainties to measured parameters.

5.2 Harmonization of delayed-mode data management procedures with SeaDataNet (Task Leader: IFREMER; other partners involved: HCMR, MUMM, OGS**)**
Activity description: development of the JERICO data management framework for delayed-mode data.

5.3 Harmonization of real-time data management procedures with MyOcean/EuroGOOS (Task leader: IFREMER; other partners involved: CNR, NIVA, IMR, HCMR, PUERTO, SMHI**)**
Activity description: development of the JERICO data management framework for dealing with real-time data.

WP5: CREATING VALUE FOR MEASURED DATA

Guidelines for Uncertainty

Activity partners: OGS / HCMR

Rajesh Nair (rnair@ogs.trieste.it)
Nevio Medeot (nmedeot@ogs.trieste.it)
George Petihakis (gpetihakis@hcmr.gr)
Manolis Ntoumas (mntou@hcmr.gr)

WP5: CREATING VALUE FOR MEASURED DATA

Guidelines for Uncertainty

- The deliverable, D5.4, the document "Guidelines for Uncertainty" was prepared, and has been submitted to the Coordinator.
- D5.4:
  - presents the essential principles and concepts central to the determination of measurement uncertainty;
  - describes the different steps involved in an uncertainty calculation, and introduces reporting conventions;
  - Provides guidance on the proper preparation of relevant documentation;
  - outlines the importance of uncertainty determinations in the context of coastal marine observing activity.

WP5: CREATING VALUE FOR MEASURED DATA

D5.4: contents

WP5: HARMONIZATION

Towards real-time integration of the heterogeneous, distributed JERICO sensor network into mainstream European information infrastructures

Activity partners: IFREMER / MARUM

Loïc Petit De la Villeon (Loic.Petit.De.La.Villeon@ifremer.fr)
Thomas Loubrieu (tloubrie@ifremer.fr)
Andree Behnken (abehnken@marum.de)

WP5: HARMONIZATION

OGC/SWE for JERICO: SensorML templates

- **Sensor Web Enablement** is a suite of OGC standards enabling real time integration of heterogeneous sensors into the information infrastructure.
- These standards cover: **platform/sensor and process descriptions** (sensorML, TML), the **observation data flow from sensors (O&M)** and the **management of sensor requests, planning and alerts** (SOS, SPS, SAS, WNS).
- **SensorML** is the XML format dedicated to sensor system descriptions: it describes hierarchically sensor and observation networks. As such, it can be used to implement valuable platform catalogues.
- **Synergies** with earlier studies in ESONET and OceanSites, and current work within SeaDataNet and ODIP, have been considered.

WP5: HARMONIZATION

A sensorML description of HCMR's Poseidon - Pylos Platform

- **Mooring with 14 sensors (atmospheric, sea-surface and water-column)**

WP5: HARMONIZATION

Results

(available on an alfresco collaborative basis)

- Demonstration description in XML.
- Report on description from MARUM.
- IFREMER feedback.

Perspectives

- MARUM is considering feedback (to be sent).
- Implementation of requirements in SeaDataNet SensorML editor (12/2014).

WP5: HARMONIZATION

Delayed Mode data management

Activity partners: IFREMER / MARIS

Loïc Petit De la Villeon (Loic.Petit.De.La.Villeon@ifremer.fr)
Dick Schaap (dick@maris.nl)

WP5: HARMONIZATION

Results

(available as deliverable D5.1)

- End of last year: release of the second version of the "Delayed Mode Data Management Handbook";
- Includes latest developments of SeaDataNet together with Eurofleets and ODIP (EU - USA - Australia);
- IFREMER feedback transmitted.

Perspectives

- Implementation when data will be available in Delayed Mode (at the end of the JERICO project).

WP5: LINK TO WP7 (SERVICE & DATA ACCESS)

Platforms and status of data flow

(as at the end of 2013)

WP5: DELIVERABLES

Rendered deliverables

- D5.1: "DM data management handbook, V1"
- D5.2: "RT data management handbook, V1"
- D5.3: "First data management report"
- D5.4: "Guidelines for uncertainty"

WP5: DELIVERABLES

Progressing deliverables

- D5.5: "Report on uncertainty for selected key parameters: temperature, salinity and chlorophyll-a"
- D5.6: "DM data management handbook, V2"
- D5.7: "Second data management report"
- D5.8: "RT data management handbook, V2"

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Thank You

DATA: SOME FOOD FOR THOUGHT

CCQM Electrochemical Analysis Working Group
CCQM Inorganic Analysis Working Group

Final report of CCQM-P111 study on

Traceable determination of practical salinity and mass fraction of major seawater components

In cooperation with SCOR/IAPSO WG 127
on Thermodynamics and Equation of State of Seawater

DATA: SOME FOOD FOR THOUGHT

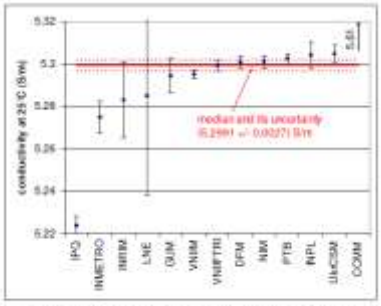

Figure 2 Reported results of conductivity measurements traceable to the SI at 25°C (ITS-90). The bars indicate the reported expanded uncertainties (coverage factor 2).

DATA: SOME FOOD FOR THOUGHT

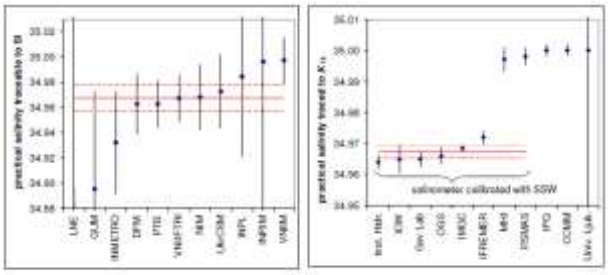

Figure 4 Practical salinity results. For details refer to the text.

3.2.8. WP7: Service and data access, by P. Farcy (Ifremer)

Loic Petit de la Villéon couldn't attend the General Assembly, so Patrick Farcy presented WP7 work and advancement instead.

JERICO WP7 provides service and data access from 12 of its partners. The data collected is been promoted through an online portal and is flagged "JERICO" to increase the project implication and outreach.

These data are accessible through the JERICO website but not only. They are also integrated in the MyOcean and Coriolis platform, with the JERICO tag. They are also uploaded in the SeaDataNet portal, through the work of WP5.

19 infrastructures are taking part in this work package. Below is their status:

- 13 have their data set circulating in NRT since the beginning of 2013
- 5 have their data set circulating since the middle of 2013, with feedback up to January
- 1 will have its data integrated in a NRT data stream soon

Regarding TOP 1 "JERICO data tools based on EMECO DATA TOOLS", this will provide assessment maps and especially the "OSPAR greater North Sea".

The tools will be accessible to the partners to withdraw monthly multi-parameters maps.

JOINT EUROPEAN RESEARCH INFRASTRUCTURE NETWORK FOR COASTAL OBSERVATORIES

2nd General Assembly – NIVA HQ

WP7 – SERVICE ACCESS

Loic Petit de la Villeon I Ifremer I Loic.Petit.De.La.Villeon@ifremer.fr

SERVICE ACCESS

WP7 provide access from 12 partners

DATA will be flagged JERICO

We can order jerico data through Jerico website but not only

Some data are yet integered in MyOcean/Coriolis : they are flagged as Jerico data

Data are uploaded in SeaDataNet (WP5)

SERVICE ACCESS

1) MOLIT & Mesurho buoys
2) RECOPESCA (158 vessels)
3) Alg@line
3 Ferrys :
- Finnmaid (call sign = OJM) : data reaching the Coriolis/MyOcean data flow
- Silja Serenade (call sign = OJCS) and Kristina Brahe (call sign = OJEC) :
4) CRS - Coastal Research Station
- 1 coastal station (platform code = 60001)
- 1 mooring (platform code = 60078)
5) NorFerry - Norwegian Ferrybox network
3 Ferrys :
- Norbjorn (call sign = LAKM)
- Trolfjord (call sign = LLVI)
- Bergensfjord (call sign = CLID2)
6) NorFerry - ColorFantasy
Color Fantasy (call sign = LMSJ)
7) IMR - Coast observatories
Data are reaching the Coriolis/MyOcean data flow
8) OGS-NAOOs - FVG-MMS
Data are reaching the Coriolis/MyOcean data flow
9) OGS-NAOOs - MAMBO
Data reaching Coriolis/MyOcean data flow since June 2013

Data set circulating in NRT since the beginning of 2013
Data set not yet integrated in a NRT data stream
Data set circulating since the middle of 2013 (with feedback up to January)

SERVICE ACCESS

10) CNR - NAMS
Data reaching Coriolis/MyOcean data flow since July 2013
11) CNR - FOS
Data will flow to Coriolis/MyOcean through HCMR
12) POSEIDON Buoy Network
8 stations
13) POSEIDON Buoy Network
3 stations
1 Ferry : Olympic Champion (call sign = SYWD)
14) POL - COBS
No Data
15) COSYNA
- FunnyGirl (call sign = DFPZ) : Data reaching Coriolis/MyOcean Database
- LysBris (call sign = LJLN3) : Data reaching Coriolis/MyOcean Database
- Wadden Sea Piles : Data integration started during summer
16) SMHI - MOS
Ferry Transpaper (call sign = SKEC) + 1 Buoy (Huvudskaer East Buoy)
17) SMHI - Laesoe => will be replaced by a new buoy in the Skagerrak
18) SmartBay Galway
19)Puertos del Estado Deep Water Network

Data set circulating in NRT since the beginning of 2013
Data set not yet integrated in a NRT data stream
Data set circulating since the middle of 2013 (with feedback up to January)

TOPS

TOPS LAST ALL THE 2014 YEAR

Top 1 : JERICO data tools based on EMECO DATA TOOLS

Will provide assessment maps, basically the "OSPAR greater North Sea" like for other basins : Baltic sea, IBI; Med sea, on a monthly basis.

The tools will be accessible to the partners to withdraw monthly multi-parameters maps.

TOPS

Top 2 : Data and demonstrative products, on a monthly basis, collected from fishing boats

Irish Sea (Ifremer and MI) and Adriatic (CNR). Data sets will be available through the Jerico Website (and stored at Ifremer).

Top 3 : Data from ferrybox and collocated buoys

South Agean Sea (HCMR) and Kattegat (NIVA & SMHI). Data sets will be available through the Jerico Website (and stored at Ifremer).

TOP period is one year

3.2.9. WP8: TNA to coastal observatories, by S. Sparnoccia (CNR)

TNA access and WP8 work have been presented by Stefania Sparnocchia.

The overall objective of this work package is to open the JERICO network of coastal observatories to transnational users by providing free-of-charge access to facilities for R&D experiments and in situ testing.

Since the Mid-Term Review, a synthesis of TNA calls has been made:

- 9 approved projects for the 1st call, 9 approved projects including 6 projects concluded
- 5 approved projects for the 2nd call, 5 approved projects including 4 which have already started and should end at the end of 2014
- 12 facilities were listed for the 3rd call, 5 submitted proposals which were all approved and scheduled
- For these three calls, fixed platforms have been the most asked for (7 times out of 19)

Regarding the budget, 2445 days have been delivered instead of the 1513 primary established in the DoW. An extra budget will be allocated to comply with the requirements.

As asked by some partners involved in TNA, real unit costs should be calculated and certified by beneficiaries at the final financial statement and real access cost should be also claimed (real unit cost x number of units of access delivered).

Please remember that if the PI is a JERICO partner, travel costs and subsistence have to be put in the form C, not to be paid by TNA.

One partner proposed to make a special issue on TNA access and the projects funded. This special issue could also have general papers on the different work packages and the developments made.

We have reports about the TNA projects but we should think of a way to involve them in the communication and outreach of the project by asking them to publish at least one paper about their TNA experience.

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WP8 – TRANSNATIONAL ACCESS TO COASTAL OBSERVATORIES
Review and status

Stefania Sparnocchia I CNR I stefania.sparnocchia@ismar.cnr.it

WP8 OBJECTIVES

To open the JERICO network of coastal observatories to transnational users by providing free-of-charge access to facilities for R&D experiments and in situ testing in order to

- establish a long-term alliance between users and JERICO partners, facilitating staff exchange and mutual scientific collaboration – collaboration in future research projects.
- build an European facility for Science dedicated to innovation (new sensors, new automated platforms) – collaboration with industry.
- promote the cost-effective use of JERICO infrastructure.
- promote the infrastructure by transferring know-how from partners to users, with a view to future expansion that will include new partners (possibly also from non-EU countries).

CALL PROGRAM

	1st Call 2012	2nd Call 2013	extra 3rd Call 2013
Opening	12 January	14 January	19 September
Deadline	3 April	27 March	25 November
Evaluation	April – July	April – June	December – February
Feedback to applicants	July	June	March
Projects implementation	October onwards	October onwards	May onwards

SELECTION PROCEDURE

1. Validation by facility operators
2. Evaluation by the Selection Panel (SP)

Evaluation criteria, **Threshold score > 60**

1.Fundamental, scientific and technical value	- max 30
2.Quality of the work program	- max 25
3.Evaluation of risks and payoff	- max 15
4.Potential of seeding links with industry	- max 10
5.Quality of users groups	- max 10
6.European relevance	- max 10

3. Final assessments by the SP
4. Signature of agreements between End users, facility operators and project coordinator
5. Implementation of projects

Selection Panel
1.Janet Newton, SAC
2.George Zodiatis, SAC
3.Richard Dewey, SAC
4.Hans Dahlin, SAC
5.Roger Proctor, SAC
6.Franciscus Colijn, FCT
7.Laurent Mortier, FCT
8.Alicia Lavin, FCT,

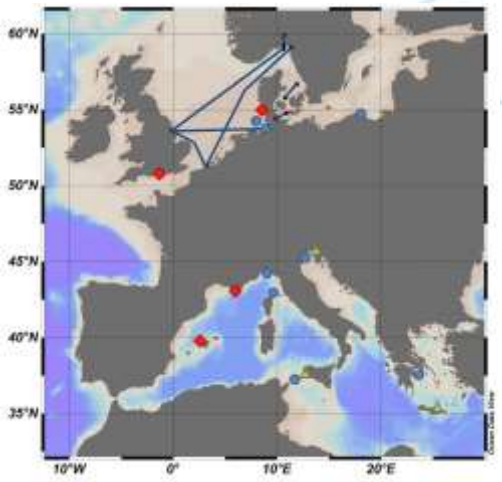
TNA management team
1.Stefania Sparnocchia
2.Patrick Farcy
3.Ingrid Puillat
4.Pascal Morin
5.Dominique Durand

Modified after the first Call

CALLS RESULTS

	1st Call	2nd Call	3rd Call	TOTAL
Submitted proposals	13	6	5	24
Approved proposals	10	5	5	20
Scheduled projects	9	5	5	19
Concluded	6	---	---	6
Ongoing	3	4	---	7
	18 facilities in the list	12 facilities in the list	12 facilities in the list	

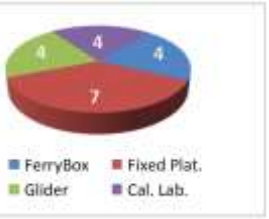
Facilities in the list



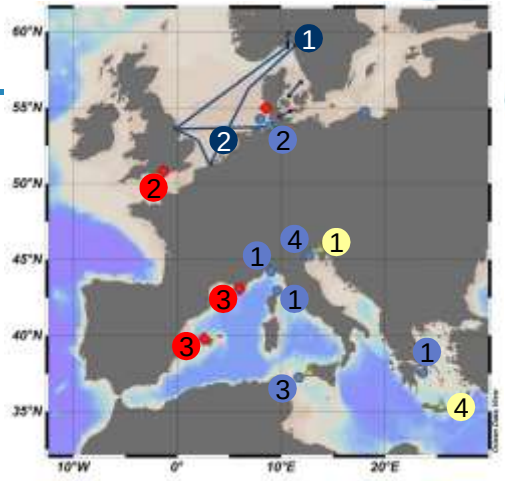
http://www.jerico-fp7.eu/tna/accessible-facilities

NUMBER OF ITEMS OFFERED PER PARTNER

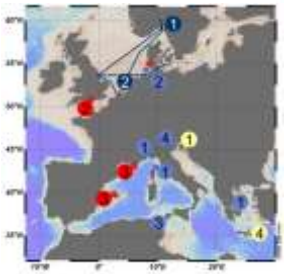
Partner	FB	FP	GL	CAL
CNR (IT)		4		2
CSIC (ES)			1	
HCMR (GR)		1		1
HZG (DE)	3	1	1	
IBWPAN (PL)		1		
INSU/CNRS (FR)			1	
NERC (UK)			1	
NIVA (NO)	1			
OGS (IT)				1

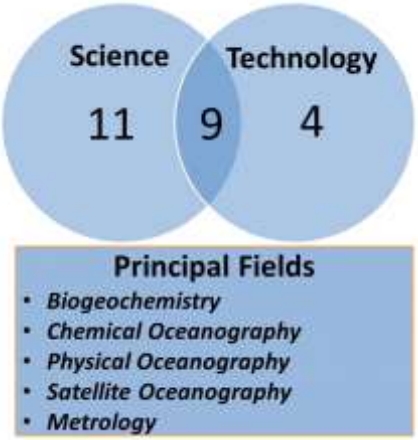


DEMAND VS FACILITY



BREAKDOWN BY SECTOR





OFFERED AND DELIVERED QUANTITY OF ACCESS TIME

Partner	Type	Access offered (days)	Access delivered/scheduled
CNR (IT)	FP	590	1632
CNR (IT)	CAL	20	0
CSIC (ES)	GL	90	152
HCMR (GR)	FP	180	240
HCMR (GR)	CAL	15	25
HZG (DE)	FB	40	90
HZG (DE)	FP	60	101
HZG (DE)	GL	80	0
IBWPAN (PL)	FP	108	0
INSU/CNRS (FR)	GL	120	109
NERC (UK)	GL	30	42
NERC (UK)	FB + FP	70	0
NIVA (NO)	FB	60	49
OGS (IT)	CAL	50	5
Extra budget required 78339 €		**1513 days/ 471820 €**	**2445 days / 550098 €**

Calculated using estimated unit cost. Estimated aggiustment for CNRS/INSU only

REAL UNIT COST AND REAL ACCESS COSTS

Real unit cost should be calculated and certified by beneficiaries (CNR, CSIC, HCMR, HZG, INSU/CNRS, NERC, NIVA, OGS) at the final financial report, and real access costs claimed (real access costs = real unit cost x number of units of access delivered)

*Refer to «***Reporting transnational access and service activity costs, May 2011***»*

ftp://ftp.cordis.europa.eu/pub/fp7/capacities/docs/reporting-v7_en.pdf

GRANTS ASSIGNED TO TNA PROJECTS

1st Call	
CIEBIO	2880
GABS	3500
GESEBB	4500
GLISS	1500
MEDACID	6100
o-DGTSPOCME	7200
OXY-COR	3600
RTC	3200
SESAM	3500
TOT	**35980**

2nd Call	
ECCECs	5750
FITO MicroLFA	3200
METRO	6300
MOSC	4000
RAD	6812
TOT	**26062**

3rd Call	
ABACUS	4200
FRIPP	4200
MAPOM	6100
MUSICS	5240
TOFU	4200
TOT	**23940**

Total 85982 €

TNA: Projects approved in the 2nd and 3rd CALLS

http://www.jerico-fp7.eu/tna/calls-and-selection/first-call/approved-projects
http://www.jerico-fp7.eu/tna/calls-and-selection/third-call/approved-projects-3rd-call

2nd Call

ECCECs - Emerging Chemical Contaminants in European Coasts.
J. Klanova, Masaryk University @ Masaryk University

FITO MicroLFA - Field Test Of MicroLFA nutrients monitoring device for Ferrybox systems.
L. Sanfilippo, SYSTEA S.p.A @ COSYNA (HZG)

METRO - MEditerranean sediment TRap Observatory.
Sanchez Vidal, Universitat de Barcelona @ Sicily Channel mooring (CNR)

MOSC - Monitoring oxygen in the Sicily Channel.
D. Lefevre, MIO & S. Ben Ismail, INSTM @ Sicily Channel mooring (CNR)

RAD - Radiometry Assessment of optical Data for ocean color applications.
K. Soerensen, NIVA @ Acqua Alta tower (CNR)

3rd Call

ABACUS - Algerian BAsin Circulation Unmanned Survey.
G. Budillon, Univ. Parthenope & N. Ait-Ameur, ENSSMAL @ CSIC glider

FRIPP - FRontal dynamics Influencing Phytoplankton Production and distribution during DCM period.
A. Olita, CNR – IAMC @ CSIC glider

MAPOM -Marine Aerosols Properties Over the Mediterranean.
J. Piazzola, MIO @ Acqua Alta tower (CNR)

MUSICS - Multi Sensor Investigation in the Channel of Sardinia.
D. Iudicone, SZN & S. Gana, SAROST @ French CETSM glider

TOFU - New Tools for Oxygen, Fluorescence and tUrbidity sensors testing and intercomparison.
R. Bozzano, CNR - ISSIA @ POSEIDON CAL LAB (HCMR).

STATUS OF PROJECTS

FIRST CALL, *9 approved projects:*
- 6 have been concluded (info *http://www.jerico-fp7.eu/tna/calls-and-selection/first-call/project-reports-and-publications*);
- 1 is planned to end in May 2014;
- 2 requested for extension and will finish in October and November 2014.

SECOND CALL, *5 approved projects:*
- 4 started and will end in October/November 2014;
- 1 will start in few days and will end before Autumn.

THIRD CALL, *5 approved projects:*
To be implemented asap and concluded in Autumn 2014.

TNA INFORMATION

www.jerico-fp7.eu/TNA

TNA RELATED DELIVERABLES & MILESTONES (OVERVIEW)

M8	D1.1 First Call for TNA proposals	Delivered in January 2012 (M9), updated with an Addendum in May 2013 (application form, description of facilities)
M11	MS6 Infrastructure available for users	
M20	D1.5 Second Call for TNA proposals	Delivered in January 2013 (M21)
M24	D1.7 First report of the access activity	Delivered in May 2013 (M25)
M42	**D1.10 Second report of the access activity**	**(due in October 2014)**
M48	**D8.1 Trans National Access Provision**	**(due in April 2015) (Summary of Access provided under JERICO)**

JOINT EUROPEAN RESEARCH INFRASTRUCTURE NETWORK FOR COASTAL OBSERVATORIES

2nd General Assembly – NIVA HQ

WP8 – Transnational Access to Coastal Observatories

Preliminary results from the TNA projects of the First Call

Stefania Sparnocchia| CNR | stefania.sparnocchia@ts.ismar.cnr.it

INTRODUCTION
1ST CALL
TARGETED FACILITIES & APPROVED ACCESS PROJECTS

Discipline	Project	N.of users	Country
Marine Chemistry	GLISS	2	NO, CZ
	MEDAC ID	2	ES
	e-DGTS ROC ME	3	UK, Cina
Material Science	SESAM	3	ES, FR, IT
Metrology	CIEB D	2	IT
	RTC	3	GR
Oceanography	GABS	4	IT
	GESEBB	4	ES
	OXY-COR	2	FR

GLISS : GLIDER-PASSIVE SAMPLER TRIAL

IAN ALLAN – NIVA, NO
DAVID WHITE, LAVINIA SUBERG – NOC, UK
BRANISLAV VRANA – MASARYK UNIVERSITY, CZ

JERICO END User Agreement Nº 12/1210203

Start: *September 2, 2013* ***End:*** *October 21, 2013*

Host Research Infrastructure: NOC MARS GLIDER
http://www.jerico-fp7.eu/images/tna/gliders/gliders_mars_nerc.pdf

OBJECTIVES

The proposal is a pilot test aiming to assess the suitability of using gliders as a mode of exposure of passive sampling devices for the measurement of trace level of nonpolar organic substances such as polycyclic aromatic hydrocarbons (PAHs) and polychlorinated biphenyls (PCBs). The main objectives follow:

1) Evaluate the feasibility of combining glider technology and passive sampling technique to measure chemical contaminant concentrations at sites that are generally difficult to sample
2) Estimate persistent organic pollutant concentrations in waters of the Celtic Sea based sampler glider exposures
3) Assess the representativeness of the data obtained through glider exposure of the passive samplers

The deployment– September 2013

JERICO GLISS

- Passive samplers (silicone sheets) successfully deployed using the glider
- Sampling across a tidal mixing front near the Isles of Scilly
- Deployment: 12.09.2013-13.11.2013
- Mean dive depth = 40 m
- Number of dives > 2800

Passive sampling:

- Samplers showed very little biofouling after exposure
- Samplers extracted and analysed by GC/MS for polycyclic aromatic hydrocarbons (PAHs) and polychlorinated biphenyls (PCBs)
- Detection and quantification of PAHs and PCBs at the pg to ng per litre level
- Sampling rates of the devices (equivalent amount of water sampled per unit of time; L/d) in the range 3-7 L/d

Comparison of sampling rates with other modes of deployment

JERICO GLISS

Deployment mode	Sampling rate ($L\ d^{-1}$)[a]	Exposure time	Limits of detection ($pg\ L^{-1}$)[b]	Reference
Static	1-20	0.5-3 months	0.3-30	(Vrana and Schuurmann 2002; Allan et al. 2010; Prokes et al. 2012; Allan et al. 2013)
Mobile[c]	18-27	4-6 days	3.0-7.0	(Booij et al. 2007)
Mobile[d]	70-200	5 and 48 hours	1.0-30	(Allan and Harman 2011; Allan et al. 2011; Lohmann et al. 2012)
Calibration[e]	60-200	15 days	0.2-0.6	(Booij et al. 2003)
Glider[f]	3-7[g]	39 days	2.0-4.0	Present study

[a]for a sampling surface area of 460 cm^2
[b]Limits of detection in water for PAHs/PCBs in the linear phase of uptake ($C_{w,lin} = m_{lin}/[R_s t]$) with a arbitrarily set m_{lin} of 0.5 ng per sample
[c]Ship-based measurement using the ship's continuous water supply (water velocity in the pipe of 15 cm s^{-1})
[d]samplers towed behind a benthic trawl net (1.2-1.4 knot); towed behind a research vessel
[e]During sampler calibration with water velocity of 90 cm s^{-1} and water temperature of 30 °C
[f]Average glider velocity through water of 20-40 cm s^{-1} (horizontal velocity)
[g]Sampling rates corrected to a surface area of 460 cm^2

Conclusions

JERICO GLISS

- Passive sampling devices and glider technology can be combined!
- Sampling rates of the silicone sheets were in the range of 3-7 L of water extracted per day of exposure
- We successfully measured freely dissolved PAHs and PCBs
- A reference static site in the vicinity of the sampling area would have been good for comparison with the glider data

Challenges

- Research vessels can be a significant source of contaminants when working with trace levels
- Possible effects of photodegradation of passive sampler-absorbed photo-sensitive compounds when the glider surfaces
- Glider based passive sampling can allow sampling of sites inaccessible by other modes of sampling
- Such passive sampling can be undertaken for organic and inorganic compounds

Project report : http://www.jerico-fp7.eu/attachments/article/230/Call_1_13_Project_report.pdf

GABS: DEEP GLIDER ACQUISITIONS BETWEEN BALEARS AND SARDINIA

ALBERTO RIBOTTI, ANTONIO OLITA – CNR, ORISTANO IT
SIMON RUIZ, JOAQUIN TINTORE, ET AL. - CSIC IMEDEA & UIB, ES

JERICO END User Agreement Nº 12/1210183

Start: *October 23, 2012* ***End:*** *November 21, 2013*

Host Research Infrastructure: CSIC glider

http://www.jericofp7.eu/images/tna/gliders/CSIC_JERICO_gliders_2013_new_mission_final.pdf

OBJECTIVES

to identify the physical properties of the surface and intermediate water masses between the Balearic Islands and Sardinia. Objectives are, updated from the original proposal:

i) study the seasonal variability of the physical properties of surface and intermediate water masses between the Algerian and the Provencal sub-basins;

ii) assess the transport of water, salt and heat through the section;

iii) validate the operational hydrodynamic numerical model of the western Mediterranean implemented at CNR in Oristano through the use of in-situ and satellite data (http://www.seaforecast.cnr.it/en/fl/wmed.php);

iv) investigate mechanisms of spring bloom triggering over a frontal area.

CSIC

JERICO GABS

AVAILABLE INFRASTRUCTURE

A deep glider able to get up to 1000 m depth, for two experiments initially planned at the end of 2012 and at mid-2013.

ACCESS ACTIVITY

Glider pre-mission: 28-30/10/2012
- 1st leg (glider mission): 31/01 – 16/03 2013
- 2nd leg (glider mission): 15/10/ - 29/11 2013

Then a user group meeting was held at the facility in Mallorca 18 -22/08 2013

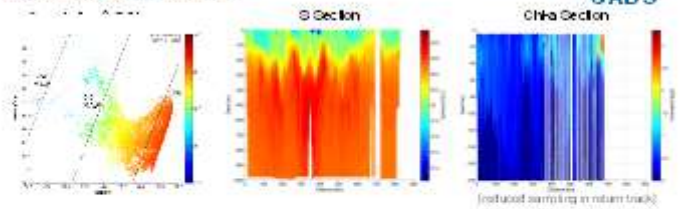
The glider has measured water temperature, conductivity and pressure up to 1000 m, then fluorescence, turbidity and dissolved oxygen up to 800 m in the transect Menorca - Oristano and return along the latitude 39 49.457' N in about 49 days.

CSIC

JERICO GABS

DATA AND PRELIMINARY RESULTS

Data from 1st leg 31/01 – 16/03 2013



(reduced sampling in return track)

Data collected in the two legs are available at the SOCIB-IMEDEA gliders database at NODC in Spain.

Their analysis is ongoing supported with modelled and satellite datasets.

A first outcome is a study of phytoplankton spring bloom onset by a density front in the NW Mediterranean.

The following scientific paper was published:

Olita A., S. Sparnocchia, S. Cusi, L. Fazioli, R. Sorgente, I. Tirelani, A. Ribotti, (2013), Observations of phytoplankton spring bloom onset triggered by a density front in NW Mediterranean, Ocean Sci. Discuss., 10, 5, 2559-2580 (under review for Ocean Science)

Project report :
http://www.jerico-fp7.eu/attachments/article/230/Call_1_8_Project_Report.pdf.pdf

GESSEB : GLIDER CAMPAIGN TO ESTIMATE THE 3D STRUCTURE OF AN EDDY IN THE SOUTH-EASTERN BAY OF BISCAY

AZTI TEAM: AINHOA CABALLERO, ANNA RUBIO, JULIEN MADER & CARLOS HERNÁNDEZ
MISSION SCIENTIFIC SUPERVISOR: PIERRE TESTOR (LOCEAN-IPSL)
PILOT: LAURENT BEGUERY (INSU-CNRS)

JERICO END User Agreement Nº 12/1210204

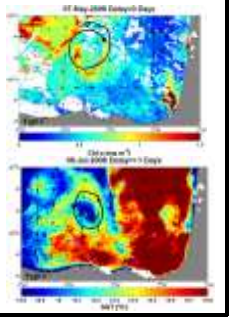
Start: *July 23, 2013* ***End:*** *September 24, 2013*

Host Research Infrastructure: French National Glider facility (CETSM)

http://www.jerico-fp7.eu/images/tna/gliders/gliders_cetsm_insu.pdf

OBJECTIVES

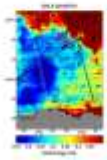
- *Analyzing 3D characteristics of a mesoscale eddy.*
  - *To know in detail the vertical structure of the eddy and its evolution during the two months of the campaign.*
  - *The so-called 4°W is a stationary eddy (Pingree and Le Cann, 1992) that appears in the southeastern Bay of Biscay during winter and in certain years (see below some figures of this structure of February and July 2008 (From Caballero et al., 2013)).*
- *If the stationary eddy is not sampled (not been developed or not able to see it in remote sensing maps), the campaign will permit:*
  - *to sample in detail the vertical structures of the water column (stratification, thermocline…) over the shelf-slope area in a period which is especially interesting regarding the biological cycle of some of the key species for the fishery activity.*



JERICO GESEBB

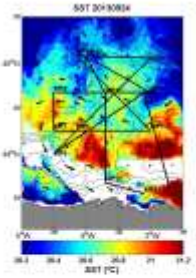
CAMPAIGN DESCRIPTION

- Unit access: 2 months (23 July-23 September 2013)
- Facility: - Slocum-1000 type glider (Name: Campe)
  - Equipped with CTD, dissolved oxygen and fluorescence-turbidity sensors
- Facility provider: INSU-CNRS (France)
- Deployment position: 43.64°N 2.69°W (Matxitxako Cape)
- Covered area: Southeastern Bay of Biscay (43.64°N- 44.2°W & 2.5°W-4.5°W)
- Auxiliary equipment and data: - 2 Ocean drifter Iridium (Albatros) drifters with a holey sock drogue centred at 50 m depth.
  - SST, Chlorophyll-a concentration and altimetry images/data.

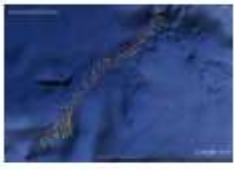


JERICO GESEBB

DATA AND PRELIMINARY RESULTS



Sea surface temperature map of the study area on 24 September 2013, with geostrophic current (black arrows) and the waypoints and transects of the mission (black lines).



Integrated velocity vectors along transect 3 (from WP2 to WP3) allow to locate the cyclonic and anticyclonic eddies. The vertical structures of these structures were typical of SWODDIES: a doming/sinking of the seasonal thermocline and the sinking/doming of the general thermocline in the case of the anticyclones/cyclones.

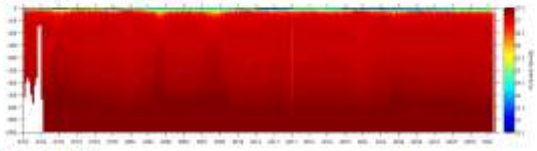
The general characteristics of the water column observed during the mission are listed in the following table:

	July	August	September
θ (°C)	9.6÷24.47	9.61-23.8	9.61-23.8
S	34.09-36.01	33.86-36.11	34.45-36.21
DO (µmol/kg)	119.91-217.94	121.02-227.54	121.02-227.54

Data from the GESEBB campaign are available in the CORIOLIS database.

MAIN ACHIEVEMENTS

- After a first abort, the mission was successfully concluded in the second attempt.
- The glider crossed cyclonic and anticyclonic eddies several times.
- In the centre and surface (0 to 100 m depth) of the crossed cyclones the isopicnals go up, whilst from 500 to 1000 m depth the isopicnals go down. The inverse pattern occurred in anticyclones (see the figure below).
- The eddies not only modify the horizontal distribution of chlorophyll but also in the vertical.
- The seasonal thermocline during the study period was located around 50 m depth, where the fluorescence was maximum.
- At this same depth (50 m), there was also a relative maximum in the dissolved oxygen concentration, below which the concentration decreased significantly.
- The drifters followed the anticyclone for several days, but in some point they left the structure and follow a possible cyclone.



Project report :
http://www.jerico-fp7.eu/attachments/article/230/Call201_7_Projectreport.pdf

Data: http://www.jerico-fp7.eu/attachments/article/230/Call_1_7_campe_cotolis_monthly.xls

RTC: REFERENCE TEMPERATURE CALIBRATION

GEORGE PETHIAKIS, MANOLIS NTOUMAS, FOTIS PANTAZOGLOU – HCMR
RAJESH NAIR, NEVIO MEDEOT – OGS

JERICO END User Agreement Nº 12/1210181

Start: *February 25, 2013* ***End:*** *March 1, 2013*
extended to November 2014

Host Research Infrastructure: OGS-Oceanographic Calibration Centre (OGS-CTO)
http://www.jerico-fp7.eu/images/tna/calibration/Calibration laboratories_OGS_CTO_OGS_august_2013.pdf

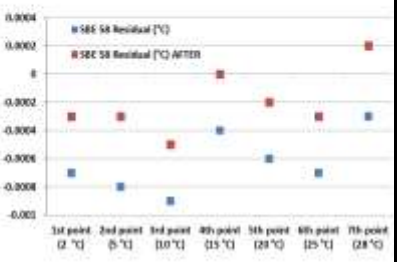
OBJECTIVES

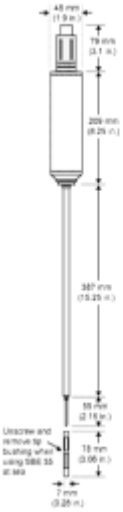
- The purpose of the experiment was to acquire expertise, receive guidance, and gain "hands-on" experience in applying the procedures and Best Practice conventions for the calibration of oceanographic temperature sensors using primary reference standards.
- The long-term goal is for HCMR to be able to perform such calibrations on its own premises.

METHOD

The sensors under calibration were two SBE 35 Deep Ocean Standards Thermometers manufactured by Seabird Electronics, Inc.

- Both sensors were tested for linearization at seven calibration set-points (28 ° C to 2 ° C).
- Slope and offset terms were evaluated one at a time at the Triple Point of Water (TPW) and the Melting Point of Gallium (MPGa) using appropriate, certified ITS-90 fixed point cells.





MAIN ACHIEVEMENTS

Both of the calibrated SBE 35 units are now used as reference sensors for temperature in the calibration laboratory of the HCMR servicing the needs for in-house validation&calibration experiments in order to ensure the quality of the data collected by the POSEIDON network and field surveys performed by HCMR.

Project report:
http://www.jerico-fp7.eu/attachments/article/230/Call_1_5_Project_Report.pdf

Data:
http://www.jerico-fp7.eu/attachments/article/230/CALL_1_5_Data.xls

CIEBIO: CALIBRATION AND INTER-CALIBRATION EXERCISE OF BIO-GEOCHEMICAL SENSORS

ROBERTO BOZZANO, SARA PENSIERI - CNR
GEORGE PETHIAKIS, TATIANA TSAGARAKI, MANOLIS NTOUMAS, DIMITRIS PODARAS – HCMR

JERICO END User Agreement Nº 12/1210185

Start: *November 26, 2012* ***End:*** *November 30, 2012*
extended to November 2014

Host Research Infrastructure: POSEIDON Calibration Laboratory (POSEIDON CAL)
http://jerico-fp7.eu/images/tna/calibration/calibration_laboratories_poseidon_cal_hcmr.pdf

OBJECTIVE

Perform a calibration and inter-calibration exercise of bio-geochemical sensors to be operationally and routinely deployed on off-shore marine observatories making part on a continuous basis of the marine monitoring network of the Mediterranean Sea.

.

Scientific issues:

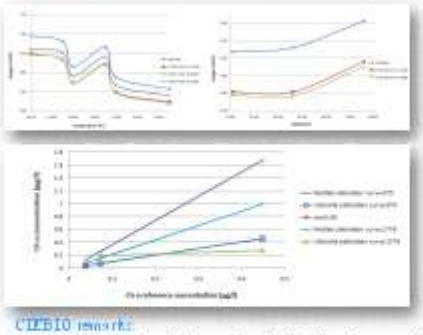
- **Enhance the accuracy** on a long-term perspective of in-situ measurements of dissolved oxygen, chlorophyll-a and turbidity in the Ligurian basin.
- **Improve the knowledge** about the biogeochemical processes in the upper thermocline.
- **Support the developing of bio-geochemical forecast models** with real-time quality controlled observations for both the of assimilation and calibration/validation phases.

Achievements:

Laboratory and at sea intercomparison/calibration of dissolved oxygen and fluorescence sensors.

- **Laboratory dissolved oxygen calibration:**
  - tank (800x500x500 mm) furnished by an Haake N2 immersion circulator and two aerators.
  - 2 SBE43 tested together and Winkler chemical titration served as the reference.
  - 5 calibration points (at 14 C – 17.7 C – 20.2 C)
  - 3 samples for each point used for Winkler.
- **Laboratory chl-a calibration:**
  - 2 reference of chlorella cultures.
  - 8 concentration points of uranine solution.
- **Field test :**
  - 1 day cruise onboard the R/V Phulia.
  - 3 water samples acquired for the determination of dissolved oxygen and chl-a content.

Results



- **Laboratory dissolved oxygen calibration:** overestimation of Winkler titration method with respect to laboratory tank and in-situ samples.
- **Laboratory chl-a calibration:** new calibration curve and new scale factor 3 or 5 times lower than datasheet. New curves were validated by a direct comparison with the in-situ data.

CIEBIO remarks:

- The need of very steady temperature for dissolved oxygen calibration and of accurate reference concentration for chl-a tank extended the schedule of the experiment and didn't allow the calibration of turbidity sensor.
- During the one-day cruise on board R/V Phulia water flowed inside one of the Eco-FLNTUS sensor used for the laboratory calibration causing irreparable damage to the electronics.

Project report : *http://www.jerico-fp7.eu/attachments/article/230/Call_1_11_Project_Report.pdf*
Data : *http://www.jerico-fp7.eu/attachments/article/230/Call_1_11_Data.xls*

OXY-COR : INTEGRATION OF DISSOLVED OXYGEN CONCENTRATION MEASUREMENTS IN THE LONG TERM TIME SERIES DATA IN THE CORSICA CHANNEL

CNRS-INSU: L. COPPOLA, D. LEFEVRE
CNR-ISMAR: K. SCHROEDER, M. BORGHINI, & S PARNOCCHIA

JERICO END User Agreement N° 12/1230184

Start: November 20, 2012 *End: originally scheduled November 2013 extended to November 2014*

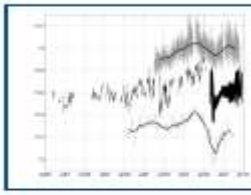
Host Research Infrastructure : CNR MPLC (Corsica Channel mooring)
http://www.jerico-fp7.eu/images/stories/Fixed-platforms/Fixed_Platforms_MPLC_CNR_august_2013.pdf

GENERAL OBJECTIVE

Integration of the dissolved oxygen concentration in the long term time series data in the Ligurian basin to track the water mass variability, the impact of the water mass change on the oxygen content and to estimate the time lag between the eastern (Corsica Channel) and the western (Dyfamed) part of the Ligurian Sea.

MOTIVATION AND SCIENTIFIC GOALS

Regular O2 acquisitions are done in the NW MED SEA through gliders, Argo profiles, annual cruises but few moorings are capable to measure continuously the O2 variabilities

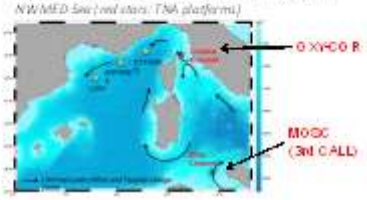


Potential temperature evolution at 400m depth (LIW) in the Sicily Channel (above), the Corsica Channel (middle) and DYFAMED (below) from Schroeder et al. 2013

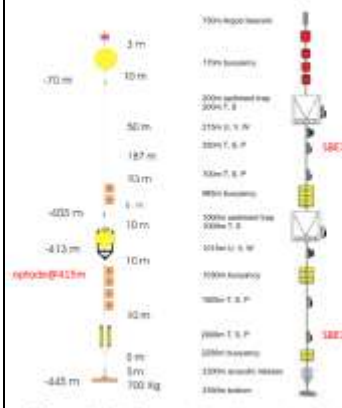
- Track the LIW variability in the NW MED Sea: from the Sicily Channel to the Ligure-Provencal basin
- Estimation of the time lag between the eastern (Corsica Channel) and the western part of the Ligurian Sea (Dyfamed)

- Oxygen is a sensitive proxy for water property Sea variability
- LIW (400m) : minimum oxygen layer sensitive to mixing process
- LIW history key points: CorsicaChannel (CC) and Sicily Channel (SC)
- Issues:
- Continuous oxygen measurements in key areas are scarce and not sufficient ?Integration of the dissolved oxygen measurements in the CC and SC moorings is necessary !

Implementation of O2 measurements on moorings in the NW MED Sea (red stars: TNA platforms)



FIELD EXPERIMENT: track O2 in the core of the LIW depth (~ 350-400m)



CC mooring design *DYFAMED mooring design*

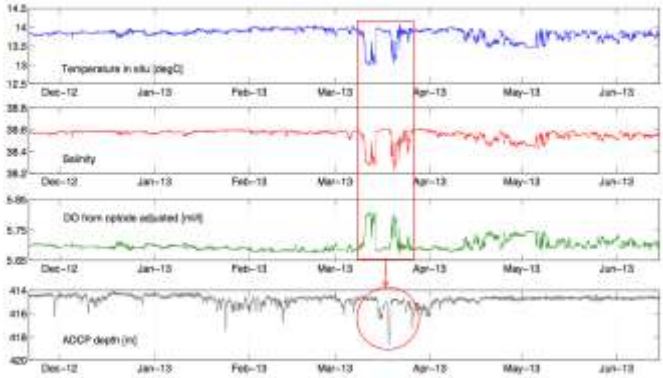
CC mooring:

- Installation of optode 3975 on SBE16 since Nov 2012 @415m (time acq. 30min)
- Installation of new optode 4330 since May 2013 @415m

DYF mooring:

- Installation of optode 4330 in 2012 did not work
- Installation of new SBE37-ODO planned in July 2014 (LIW = 350m and WMDW = 2000m)

PRELIMINARY RESULTS
CC mooring time series from Nov12-May13



- O2 average on CC mooring @ 415m = 189 µmol/kg consistent with O2 DYF monthly sampling
- O2 mixing visible in Feb 2013 consistent with T and S variabilities

FUTURE PLANS

OXY-COR

- Missing continuous O2 measurements at DYFAMED (only monthly profiles)
- TNA project originally plan to finish in November 2013
- Extend for 1 year (until November 2014) in order to cover a complete seasonal variability with oxygen data in both moorings (DYFAMED and CC).
- The 6 months maintenance has been done recently in April 2014 (R/V Urania): data collection and sensors calibration
- 1.5 yrs O2 measurements at the CC mooring:
- T, S and O2 data seems to be consistent with DYF monitoring
- O2 data from optode are robust : < 4 µmol/kg compare to O2 Winkler

More info:
http://www.jerico-fp7.eu/news-rss/159-jerico-ins-dissolved-oxygen-measurements-in-the-corsica-channel

SESAM: STANDARDISED ELECTROCHEMICAL IN SITU ASSESSMENT OF METAL COATINGS

EDITH JOSEPH - UNIVERSITÉ DE NEUCHÂTEL, SWITZERLAND
EMILIO CANO DIAZ - CENIM-CSIC, SPAIN
PAOLA LETARDI, PIERLUIGI TRAVERSO – CNR, ITALY

CENIM

JERICO END User Agreement N°213/2010/B/F

Start: November 5, 2013 *End: originally scheduled April 2014 (180 days)*
extended to November 2014 (1 year)

Host Research Infrastructure: CNR IMPL Genoa
http://www.jerico-fp7.eu/images/stories/Fixed-platforms/Fixed_Platforms_IMPL_Genoa_CNR_augusti2013.pdf

OBJECTIVE

Define advantages and limits of innovative protective treatments of metallic artefacts exposed in an urban-marine environment and to standardize a specially adapted electrochemical methodology for assessing their effectiveness in comparison with treatments nowadays used.

The following aspects will be investigated:

- Correlation of patina development to meteorological data,
- Comparison upon ageing of different treatments on standards corpora,
- Standardization of an electrochemical methodology for in situ assessment.

ACHIEVEMENTS

Task 1: To obtain samples naturally aged

JERICO SESAME

4 alloys – set of 16 samples

Exposure start: 5th November 2013

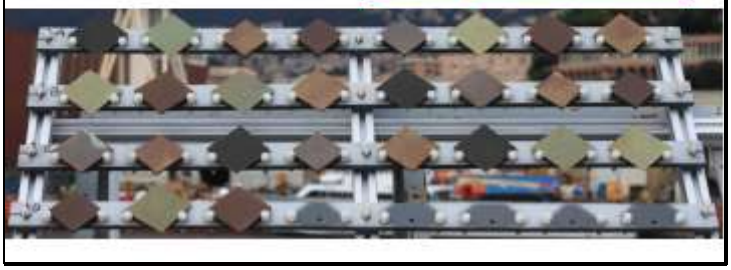
ACHIEVEMENTS

Task 2: To evaluate treatments' performances

JERICO SESAME

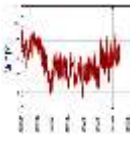
3 aged alloys – set of 8/11 samples

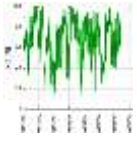
Exposure start: 1st October 2013

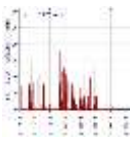


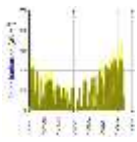
ACHIEVEMENTS

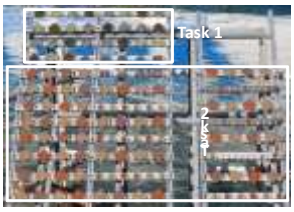
3 & 6 months exposure monitoring
meteorological data collected
physical & chemical characterization











Color measurements

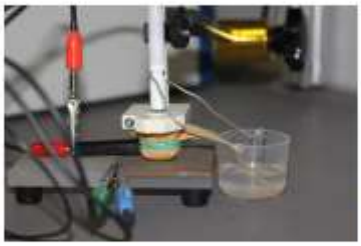
Electrochemical Impedance Spectroscopy

SESAM| Standardised Electrochemical in Situ Assessment of Metal Coatings

ACHIEVEMENTS

Task 3
To standardize electrochemical measurements

JERICO SESAME



alloy	Cupronickel alloy
contact probes	ST15 / agar
electrolytes	artificial rain / mineral water

More info:
http://www.jerico-fp7.eu/attachments/article/150/News_TNA_SESAM_rolling-up%-and-first-experiments.pdf

O-DGTSPOCME: ORGANIC – DIFFUSIVE GRADIENT IN THIN-FILM FOR SAMPLING POLAR ORGANIC CHEMICALS IN MARINE ENVIRONMENT

KEVIN C. JONES, CHEN, CHANG'ER ET AL. – LANCASTER UNIVERSITY, UK
KAY SORENSEN - NIVA, NORWAY & WILLY PETERSEN - HZG, GERMANY

JERICO END User Agreement Nº 12/1210203

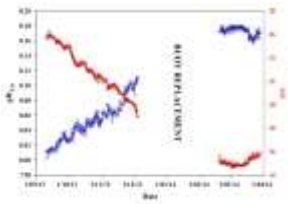
Start: September 11, 2013 **End:** November 13, 2013

Host Research Infrastructures: NIVA Color Fantasy FB & HZG in Cuxhaven

More info:
http://www.jerico-fp7.eu/news-rss/226-jerico-tna-sampling-polar-organic-chemicals-in-marine-water-with-organic-diffusive-gradient-in-thin-film-o-dgt

MEDACID: MEDITERRANEAN SEA OCEAN ACIDIFICATION TIME SERIES EXPERIMENT

MELCHOR GONZALES –DAVILA ET AL. – UNIVERSIDAD DE LAS PALMAS DE GRAN CANARIA, ES
GEORGE PETHIAKIS ET AL. – HCMR, GR



JERICO END User Agreement Nº 12/12/1210180/B

Start: September 1, 2013

End: Scheduled May/September 2014?

Host Research Infrastructures:
HCMR POSEIDON SARONICO BUOY & CAL LAB

NEXT STEPS

- CONCLUSION OF TNA PROJECTS (ALL CALLS) + PROJECT REPORTS WITHIN THE END OF 2014.
- EMPHASIZING TNA PROJECT RESULTS:
  USERS are solicited to present the results of their access to JERICO facilities to international conferences and to produce peer-reviewed publications.
  The latter is one of the information collected by the Commission in the MS Access Database of JERICO, provided they properly acknowledge the support of the European Community - Research Infrastructure Action under the FP7 "Capacities" Specific Programme and JERICO G.A. N. 262584.
- FINAL JERICO SCIENTIFIC RESULTS WORKSHOP
  TNA USERS, signing the END USER Agreement, are committed to participate in the Final JERICO scientific results workshop to be held in 2015, concurrent with the final GA Meeting.
  The workshop is intended as a showcase to present all scientific results gained through the JERICO project to a wider audience including the European Commission.

3.2.10. WP9: New methods to assess the impact of coastal observing systems, by N. Pinardi (INGV)

Nadia Pinardi presented the work of WP9 and their progress towards objectives.

WP9 is working to apply sophisticated data assimilative models and statistical methods to demonstrate the impact of coastal observations in analysis and forecasts.

Any sustainable coastal monitoring system should show its impact on the quality of model analyses for forecasting and reconstructions.

OSSE offers the only objective way to assess the impact of new technologies on model analyses. OSSE regions of work are divided as follows: Adriatic (CMCC), Bay of Biscay (CNRS, IFREMER), North Sea (HZG, RBINS), Baltic (DMI).

OSE will help to define the minimum observing system requirements and the possible gaps of selected technologies. Integration of observations and models gives the state-of-the-art of data sets for MSFD assessments. OSE regions of work are divided as follows: Adriatic (CMCC), Aegean (HCMR), North Sea (DELTARES, HZG, RBINS), Baltic (DMI).

There were some deviations from the project work programme and the coordination agreed on extending WP9 duration to the end of the project. The preparation of deliverables D9.5 and D9.6 has been delayed and is postponed to November 2014.

A side meeting will be organized in late October 2014 during the EuroGOOS conference in Lisbon.

2nd General Assembly

WP9- NEW METHODS TO ASSESS THE IMPACT OF COASTAL OBSERVING SYSTEMS

Nadia Pinardi| CMCC| Via A.Moro 44, Bologna

OUTLINE

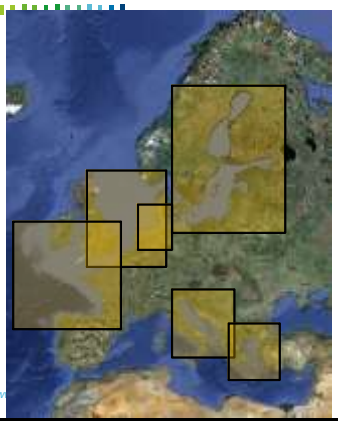
Main WP9 Objectives and partnership
WP9 Plan of work
WP9 impacts
Progress toward objectives
Deviations from project work programme and actions taken

WP9 MAIN OBJECTIVES

WP9 should apply sophisticated data assimilative models and statistical methods to demonstrate the impact of coastal observations in analyses and forecasts

Two types of experiments are carried out:
1.Impact of existing observational platforms (OSE)
2.Impact of future observational platforms (OSSE)

PARTNERS



- *CMCC*
- *IFREMER*
- *CNRS*
- *DMI*
- *DELTARES*
- *HCMR*
- *HZG*
- *RBINS-OD*

WP9 IMPACTS

ANY SUSTAINABLE COASTAL MONITORING SYSTEM SHOULD SHOW ITS IMPACT ON THE QUALITY OF MODEL ANALYSES FOR FORECASTING AND RECONSTRUCTIONS (RE-ANALYSIS) --- see major international groups like GODAE OCEANVIEW OSE-OSSE

OSSE OFFERS THE ONLY OBJECTIVE WAY TO ASSESS THE IMPACT OF NEW TECHNOLOGIES ON MODEL ANALYSES

OSE WILL HELP TO DEFINE THE MINIMUM OBSERVING SYSTEM REQUIREMENTS AND THE POSSIBLE GAPS OF SELECTED TECHNOLOGIES

INTEGRATION OF OBSERVATIONS AND MODELS GIVES THE STATE-OF-THE-ART DATA SETS FOR MSFD ASSESSMENTS

WP9 REGIONS OF WORK

	ADRIATIC	AEGEAN	BAY OF BISCAY	NORTH SEA	BALTIC
OSE	CMCC	HCMR		DELTARES HZG RBINS-OD	DMI
OSSE	CMCC		CNRS-IFREMER	HZG RBINS-OD	DMI

WP9 FOCUS OBSERVATIONS

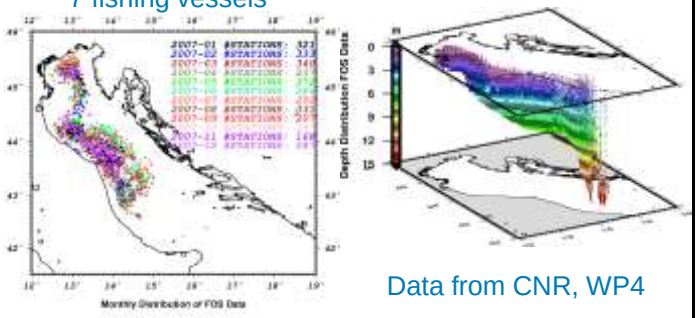
	ADRIATIC	AEGEAN	BAY OF BISCAY	NORTH SEA	BALTIC
OSE	FISHERY OBSERVING SYSTEM TEMP.	HF RADAR & FERRYBO X SST		TIDE GAUGES & HF RADAR & BUOY STATIONS	SATELLITE SST
OSSE	FISHERY OBSERVING SYSTEM TEMP. & SAL.		FIXED STATION & GLIDERS & FERRY BOX	HF RADAR & BUOY STATIONS	XBT PROFILES AND MOORED STATIONS

WP9 ASSIMILATIVE TOOLS AND DYNAMICAL MODELS

ADRIATIC	AEGEAN	BAY OF BISCAY	NORTH SEA	BALTIC
1/48 deg model & 3DVAR	1/48 deg model & SEEK Filter	1/50 deg model & Matrix representer	1 to 5 km models & Kalman filter, Observational sensitivity analysis	2 km model & 3DVAR

ADRIATIC SEA: OSE FOR FISHERY OBSERVING SYSTEM DATA (CMCC)

7 fishing vessels



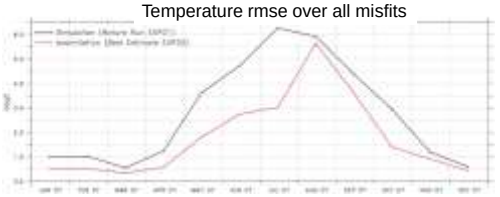
Data from CNR, WP4

ADRIATIC SEA: OSE FOR FISHERY OBSERVING SYSTEM DATA (CMCC)

EXPNAME	EXPNO	Data ASSIM	Start DATE
SIM	EXP01	NO	Dec.31,2006
ASSIM	EXP02	All FOS data	Dec.31,2006
OSE1	EXP20	Selective Assim. of FOS (4Vessels)	Dec.31,2006
OSE2	EXP21	Selective Assim. of FOS (W/O Ancona)	Dec.31,2006
SIM	EXP30	NO	*PerturbedIC** Dec.31,2006
OSSE1	EXP31	All Synthetic FOS#1	*PerturbedIC** Dec.31,2006

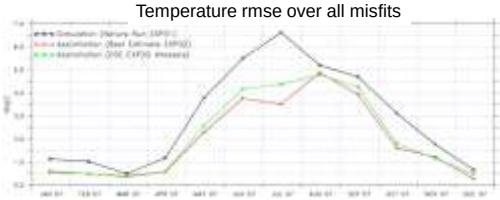
ADRIATIC SEA: OSE FOR FISHERY OBSERVING SYSTEM DATA (CMCC)

Temperature rmse over all misfits



Improvement due to full FOS data assimilation

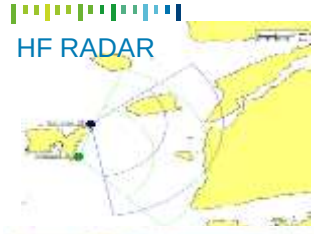
Temperature rmse over all misfits

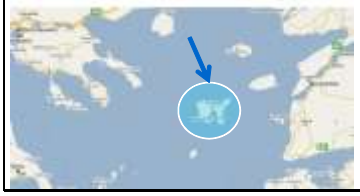


Improvement due to HALF FOS data

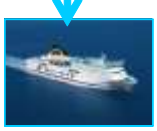
AEGEAN SEA: OSE FOR HF RADAR and FERRY BOX (HCMR)

HF RADAR



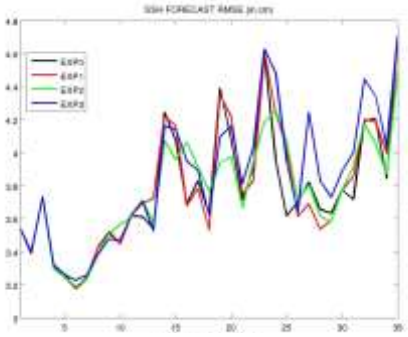


FERRYBOX



AEGEAN SEA: OSE FOR HF RADAR (HCMR)

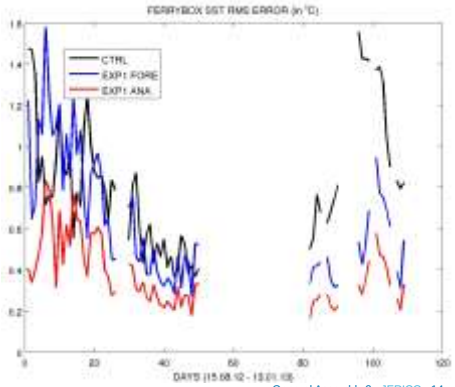
Black: EXP0 (weekly assimilation of SSH,SST & T/S Argo profiles)
Red: EXP1 (additional assimilation of surface currents)
Green: EXP2 (additional assimilation of u-component of surface currents)
Blue: EXP3 (additional assimilation of v-component of surface currents)



WEEKS (MAY-DEC 2010)

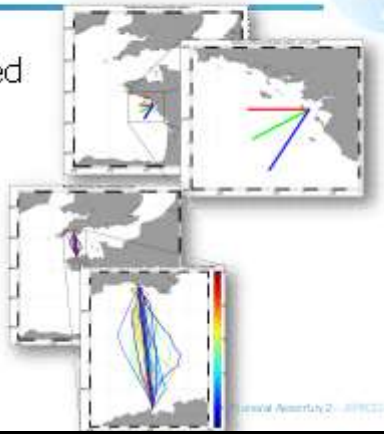
AEGEAN SEA: OSE FOR FERRY BOX SST data (HCMR)

Control experiment: Weekly assimilation of satellite SSH & SST and T/S Argo profiles
EXP1: Additionally, daily assimilation of SST FerryBox data along the route from Heraklion to Piraeus

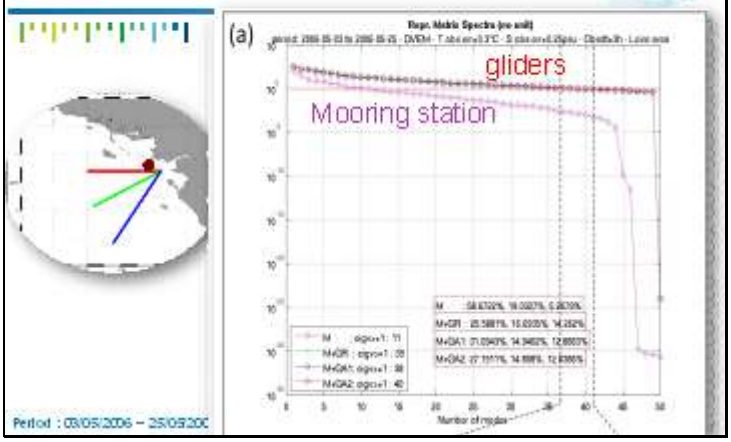


BAY OF BISCAY AND THE ENGLISH CHANNEL: OSSE on Ferrybox, gliders and fixed stations (IFREMER, CNRS)

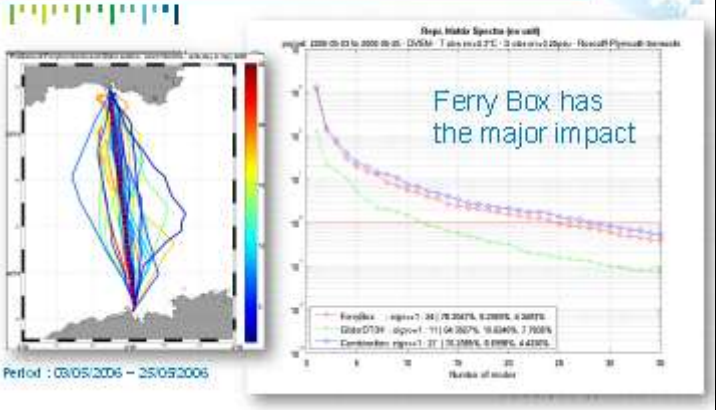
- Loire river: fixed station+ glider section
- Western English Channel : Ferrybox + Glider section



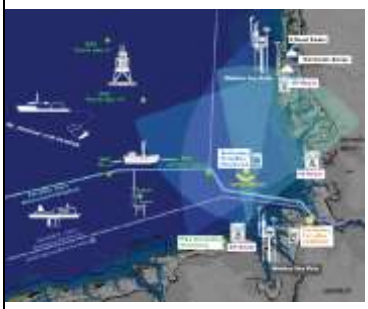
BAY OF BISCAY: larger number of modes greater than 1 means better network (IFREMER, CNRS)

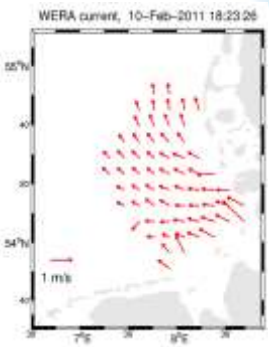


ENGLISH CHANNEL: larger number of modes greater than 1 means better network (IFREMER, CNRS)

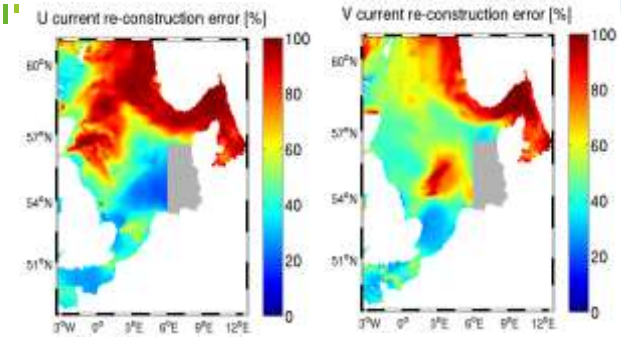


NORTH SEA-GERMAN BIGHT: OSE FOR HF RADAR (HZG)



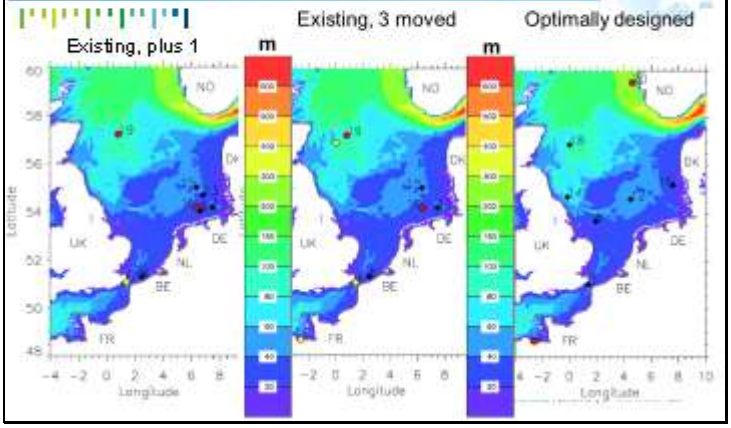


NORTH SEA-GERMAN BIGHT: OSE for HF RADAR (HZG)

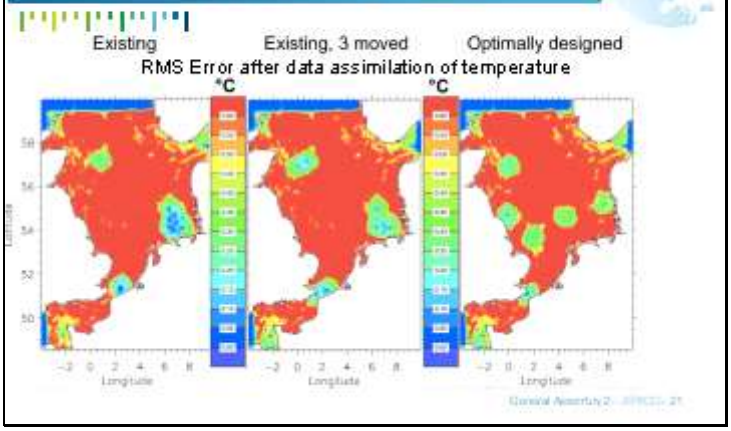


Relative Re-construction errors for surface currents in the North Sea assuming that we have observations in the German Bight

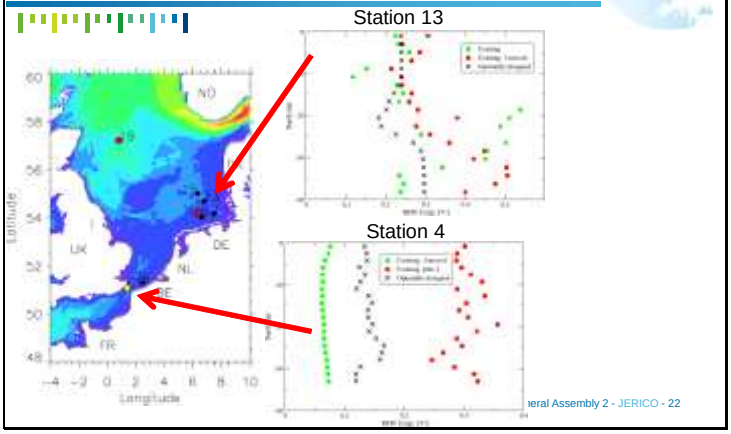
NORTH SEA: OSE FOR PROFILING MOORED BUOY STATIONS (RBINS-OD)



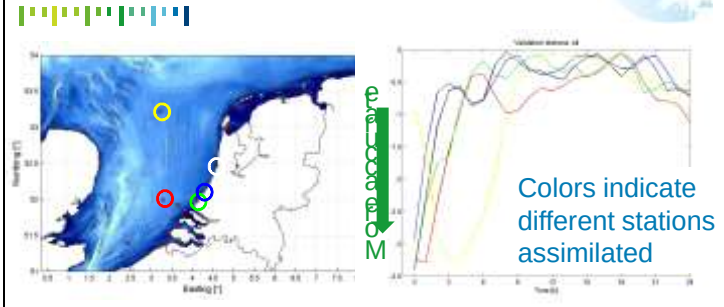
NORTH SEA: OSE FOR PROFILING MOORED BUOY STATIONS (RBINS-OD)



NORTH SEA: OSE FOR PROFILING MOORED BUOY STATIONS (RBINS-OD)

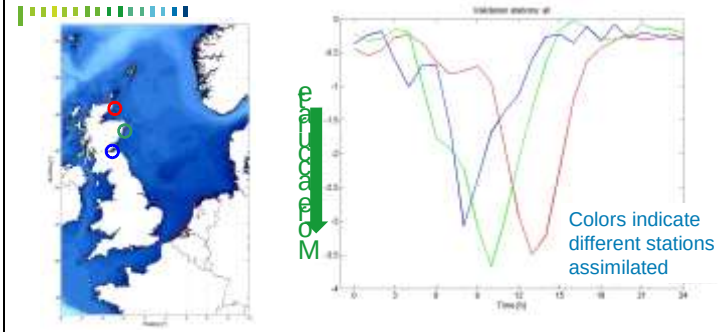


NORTH-SEA: OSE ON TIDE GAUGES (DELTARES)



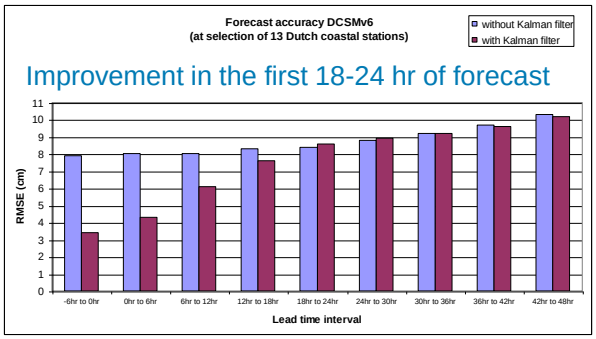
Assimilating nearby stations gives immediate impact on the forecast accuracy at Dutch stations

NORTH SEA: OSE ON TIDE GAUGES (DELTARES)

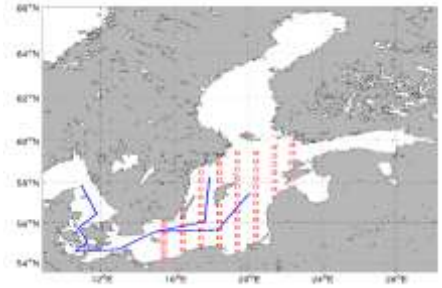


Assimilating upstream stations improves the accuracy at longer forecast lead times.

NORTH SEA: OSE ON TIDE GAUGES (DELTARES)

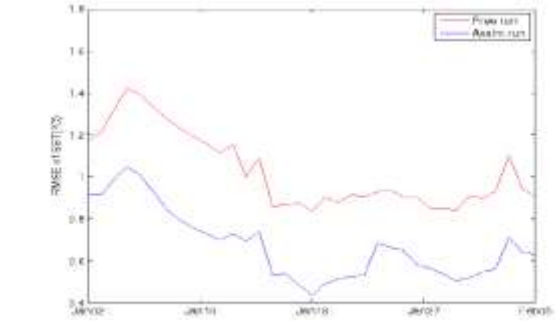


BALTIC SEA: OSSE ON XBT LINES AND MOORED STATIONS (DMI)



The OSSE experiments in the Baltic Sea assimilate the T/S profiles from XBT and moored buoy.

BALTIC SEA: OSE ON SATELLITE SST (DMI)



the Root mean square errors calculated against the satellite SST for the North-Baltic Sea

DEVIATIONS FROM PROJECT WORK PROGRAMME AND ACTIONS TAKEN

DEVIATION from PROGRAM	ACTION REQUESTED
D9.5 LATE	DELAY TO NOV. 2014
D9.6 LATE	DELAY TO NOV. 2014
Recommended meeting with other WPs not done	EXTEND WP9 duration to end of project (6 mnts extension) and organize the meeting in November 2014
Recommended meeting with other WPs not done	Start a special issue with Jerico OSE & OSSE results

PROBLEM TO SOLVE: MEANING OF MILESTONES IN DOW

Deliverable Number [n]	Deliverable Title	Lead beneficiary number	Estimated indicative person-months	Nature [R]	Dissemination level [PU]	Delivery date [M]
D9.1	First scientific report	27	10.00	R	PU	12
D9.2	First report on OSE	11	10.00	R	PU	18
D9.3	First report on OSSE	4	10.00	R	PU	18
D9.4	Second scientific report	27	7.50	R	PU	24
D9.5	Second report OSE	11	10.00	R	PU	36
D9.6	Second report on OSSE	4	10.00	R	PU	36

Milestone number [M]	Milestone name	Lead beneficiary number	Delivery date from Annex I [M]	Comments
MS29	Final Report OSE	11	42	For final report WP1
MS30	Final Report OSE	4	42	For final report WP1

3.2.11. WP10: Improved existing and emerging technologies, by G. Nolan (MI)

The work done by WP10 for the past few months has been presented by Glenn Nolan.

Since the Mid-Term Review, a workshop was organized in Villefranche /mer (France) from October 16th to 18th 2013 to outline progress on emerging technologies within the JERICO project.

A particular focus of the workshop was to invite researchers outside the project consortium to learn of technology developments within the project and present results of their own experiments.

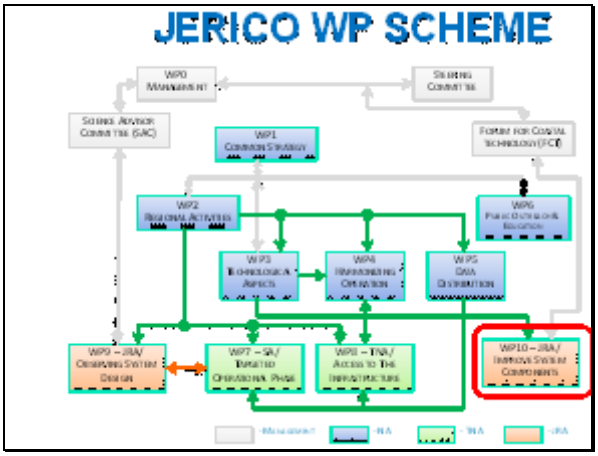
The JERICO consortium needs to make some recommendations on terms of the state of the art of key future technologies, mainly focused on biological compartments. To that end, JERICO needs to compile a list of the technologies presented at the workshop and to consider the suitability and operational readiness of the technology to particular applications.

Regarding the Biological Compartments (Task 10.1) and the promotion of the techniques developed, a follow up on demonstration survey should be organized. The future of the software depends on the interaction between users and developers. There is also a need to standardize data formats.

On the profiling systems topic, solid progress is reported for the EOL buoy experiment in the Ligurian Sea. The MAMBO/ARVOR-C inter-comparison in the Adriatic Sea is now underway with results expected in late 2014. Early results suggest this is very challenging.

An open ocean profiler experiment is in the DoW but it seems like no resources is allocated to conduct the experiment (Atlantic/Celtic Seas).

Considerable progress was reported for the Italian Fisheries Operational Oceanographic System (FOOS) where equipping fishing vessels with sensors (eg. temperature, salinity, catch weight and net drum rotations) is becoming a mature and well understood technology. The focus is shifting towards making useful products for fishermen from the data collected from sensors on board fishing vessels.



WORKSHOP PARTCIPANTS

VILLEFRANCHE WORKSHOP

A workshop was held on October 16th to 18th 2013 at the Villefranche observatory to outline progress on emerging technologies within the JERICO FP7 project (Work-package 10). A particular focus of the workshop was to ***invite researchers outside the project consortium to:***

Learn of technology developments within JERICO *and*

Present results of their own experiments *and technology development*

The workshop was a mixture of invited talks and practical demonstrations of some of the technologies involved. There were a total of ***24 invited talks*** *and* ***2 additional practical demonstrations.***

The talks focused on 5 key tasks within the emerging technologies area:

10.1 Biological compartments
10.2 Contaminants
10.3 Profiling technologies
10.4 Ships/vessels of opportunity
10.5 Ferrybox Quality Control algorithm development

WORKSHOP: GENERAL REMARKS AND CONCLUSIONS

A comprehensive array of new research was presented during this workshop. The research presented comes from within the JERICO consortium and from many contributors outside the JERICO project who were interested in disseminating their work to the wider community. The JERICO consortium will need to make some recommendations on terms of the state of the art of key future technologies, many focused on biological compartments. To that end, ***JERICO needs to compile a list of the technologies presented at the workshop and to consider the following key aspects:***

- *Suitability of the technology to particular applications*
- *The most appropriate platform to deploy the technology from*
- *Operational readiness of the technology*
- *Research and development opportunities (highlighting current gaps)*

The workshop also broadened the connections of the JERICO community to a variety of other researchers

TASK 10.1: BIOLOGICAL COMPARTMENTS

Four principal techniques are developed in this task:

1st development is on in situ video images of the sediment interface acquired using ROV or other mobile systems

2nd development is on in situ sediment profiler camera

3rd development: video sequences, obtained with fixed platform

4th development: dealing with pelagic ecosystems analysis of images obtained with Flowcam, Cytoflow and Zooscan systems.

In order to promote these techniques and to get user feedback,

a follow on demonstration survey should be organised.

The future of the software depends on the interaction between users and developers.

There is also a need to standardize data formats

MAIN ACHIEVEMENTS OF WP10.1: BENTHIC MODULES

Objectives

- *Create three image analysis software and corresponding user guides for: SPI, mobile and fixed image acquisition carriers*

Current status

- *SPI module: finished*
- *Mobile module: almost finished*
- *Fixed module: finished*
- *Embedding in a single package: in process*
- *Redaction of a user guide: in process*

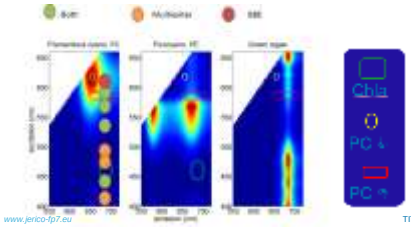
TITLE - JERICO - 8

Example of a page of the User guide

WP 10, TASK 10.2.2:
DEVELOPMENT AND IMPLEMENTATION OF SENSORS FOR THE ALGAL PIGMENTS ON SHIPS
ACTIVITIES BY SYKE

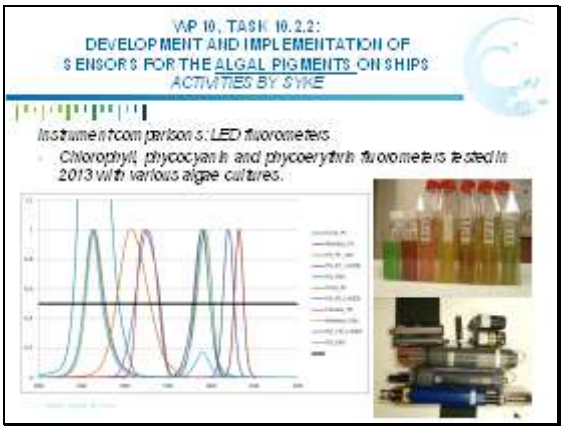
Review of instruments: LED fluorometers

- *E.g. how the wavelength settings of commercial devices are suited for detection of different algal pigment groups*

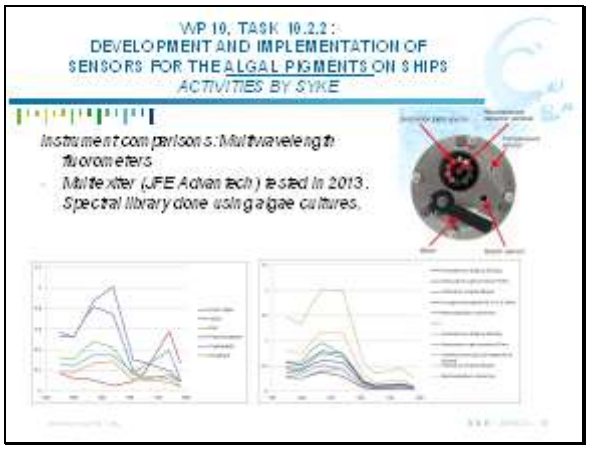


TITLE - JERICO - 11

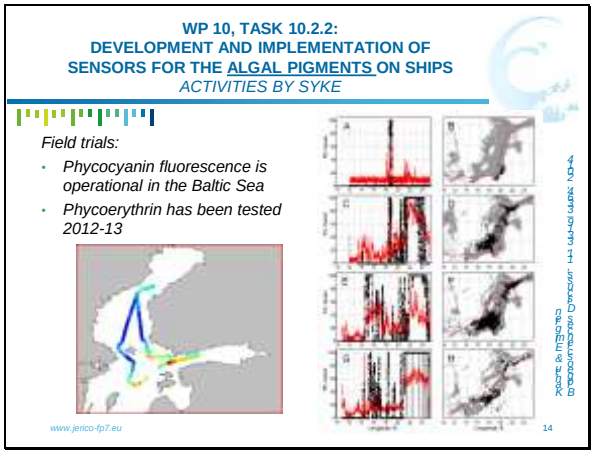
Pooling the knowledge on the wavelength settings of various instruments (circles in the image) and spectral fluorescence responses of various target pigments (coloured countour plot) allow us to make first hand estimate how well different instruments are suited to detect certain phytoplankton groups.



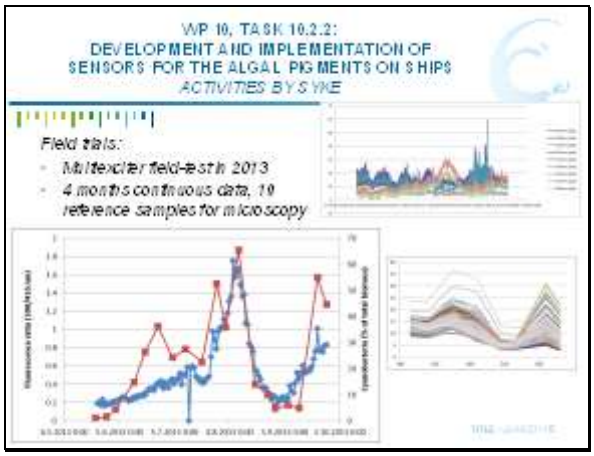
Fluorometers from various manufacturers, including several models from some, were tested in 2013. Test included fluorometers for Chlorophyll a (3 models), phycocyanin (4) and phycoeryhtrin (3) and seven differently pigmented algae cultures were used. Results will highlight that using non-optimal wavelengths (as is the case with some instruments), will affect especially the success of the detection of cyanobacteria.



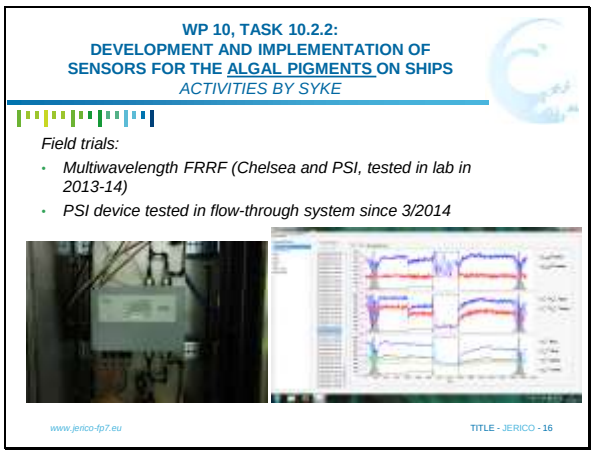
Instruments having several excitation channels are available from 2 manufacturers. By measuring spectral fluorescence, information on taxonomic structure of phytoplankton community may be derived. We tested Multiexciter from JFE Advantech (Japan) with different algae cultures, acclimated in various light conditions. Although on average the spectral groups separated nicely (left, spectra show fluorescence per 1 µg Chla), inside each group large variability was noted (right, green algae response; fluorescence per 1 µg Chla). Such results indicate that data analysis should be carried out using spectra of local species, preferably cultivated in close-to-natural conditions.



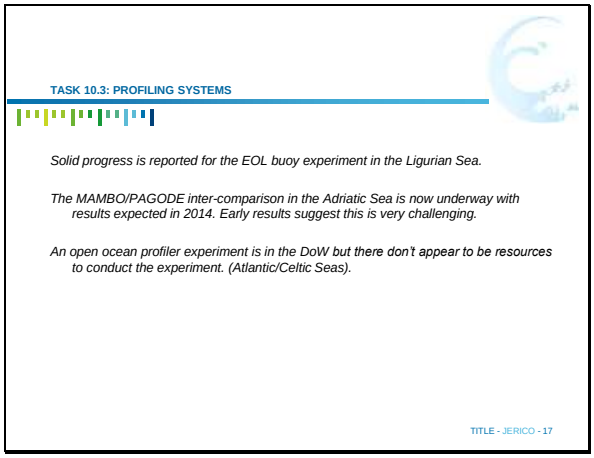
Phycocyanin is used in detection of filamentous cyanobacteria in the Baltic Sea. The method is operational, and recent evidence (paper by Kahru and Elmgren, using SYKE phycocyanin data) illustrate match-up with high phycocyanin fluorescence and surface accumulation of cyanobacteria (as derived from satellite images). Phycoerythrin as indicator of picocyanobacteria has been tested. Partly results will be affected by other species containing phycoerythrin.

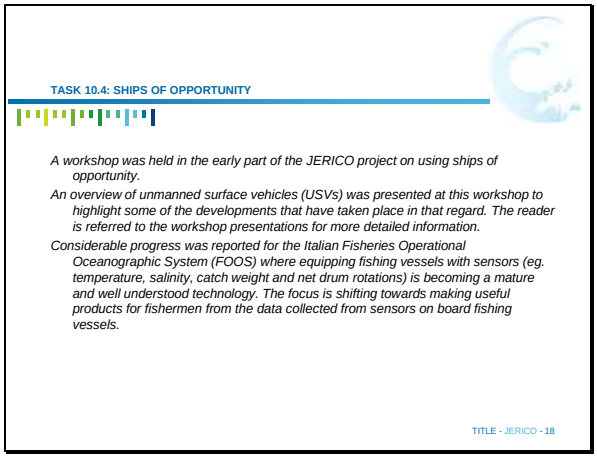


Multiexciter from JFE Advantech (Japan) was deployd in 2013 (in a lake …!). Data from different wavebands is shown on the top. Bottom (right) figure shows variations in spectra during the whole season. Preliminary look at the data indicate that the device was able to detect cyanobacteria blooms, at least, as shown by good match between phycobilin/chlorophyll fluorescence ratio and proportion of cyanobacteria from total phytoplankton biomass. More sophisticated analysis will be caried out using both spectral library created for the instrument and using statistical approach.



Two new multiwavelength instruments measuring photosynthetic efficiency have been tested. Both are able to measure rapid light curves, a method that is required for unattended estimation of in situ photosynthetic rates. The absolute calibration of instruments, as recently published in L&O Methods, might be more difficult than expected e.g. due to spectral shifts of LEDs. Operationality of PSI fluorometer is currently tested in a ferry between Finland and Germany. Hardware and data collection seem to work fine. Coupling the instrument directly with refridgerated sampler is still work in progress, thus samples for reference measurements have not yet been obtained.



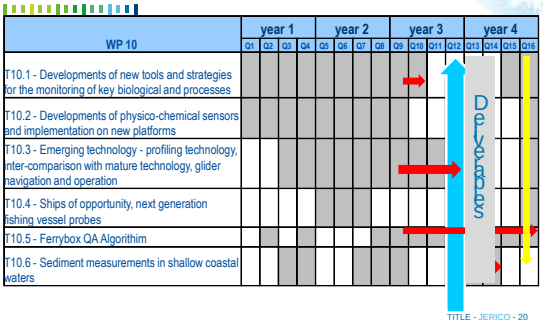


DELIVERABLES: WP10

Deliverable Number	Deliverable title	Lead Beneficiary	Estimated indicative person months	Nature	Dissemination level	Delivery date
D10.1	Report on trials and deployment	20	20	R	PU	36
D10.2	Set of software	23	60	R	PU	42
D10.3	Report on data analysis	14	32.5	R	PU	42
D10.4	Report on potential new sensors	1	30	D	PU	42
Total			*142.5*			

TITLE - JERICO - 19

PROGRESS TO DATE (MID TERM REVIEW)



TITLE - JERICO - 20

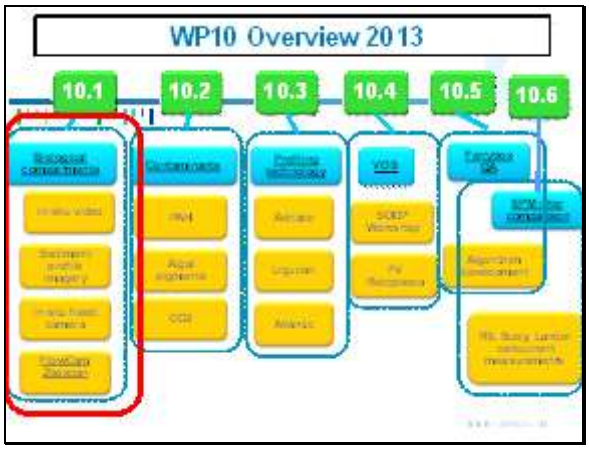
WP10: NEXT STEPS

- Major focus on deliverables over the next 6 months (May to October 2014)
- Paul Gaughan (MI) to help in these tasks.
- Adriatic profiler experiment (continues)
- 10.5 and 10.6:

Ongoing

THANK YOU

TITLE - JERICO - 22



1. Project Management: This WP concerns the overall management of the project and the organisation, administration and progressing of all tasks associated with the running of the project.

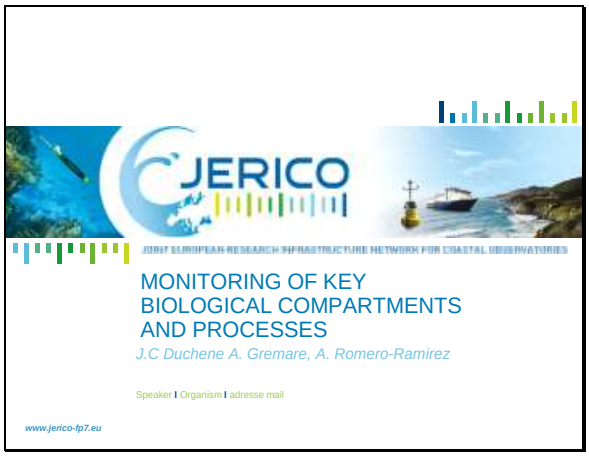
2. Reanalysis and Training: Initial assignment of key areas and species for study, collate marine core service data and satellite data , develop model to run hindcast simulation, validate and fine tune model runs.

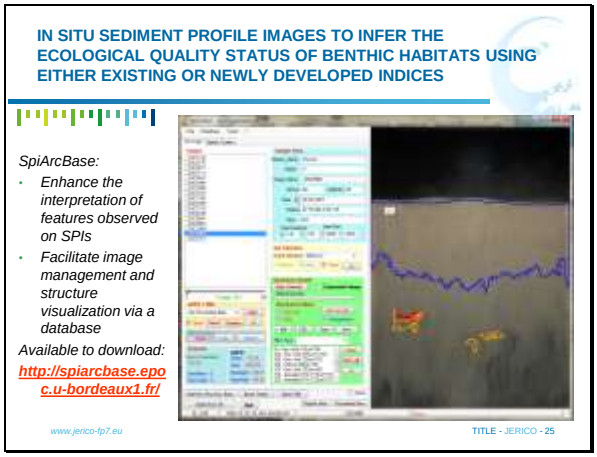
3. Nowcast / Forecast: Design of Regional VØ Model System running for specific species and location, Develop transport pathways and acquire remote and in-situ measured data which will all feed into HAB-DDSS

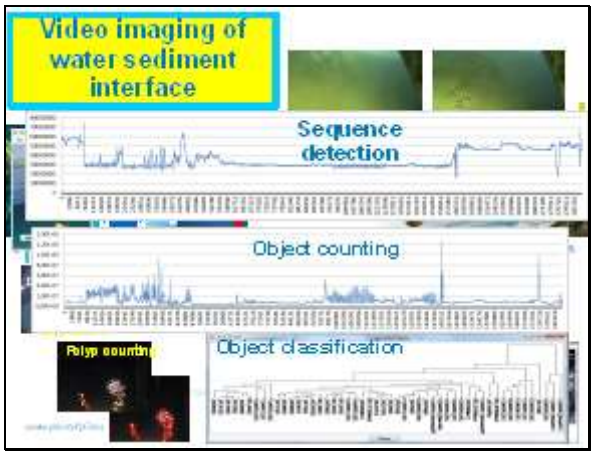
4. Alert System: Design and develop HAB-DDSS system, User acceptance testing, design of web portal to HAB-DDSS, Expert interpretation of the regional information assembled within HAB-DDSS

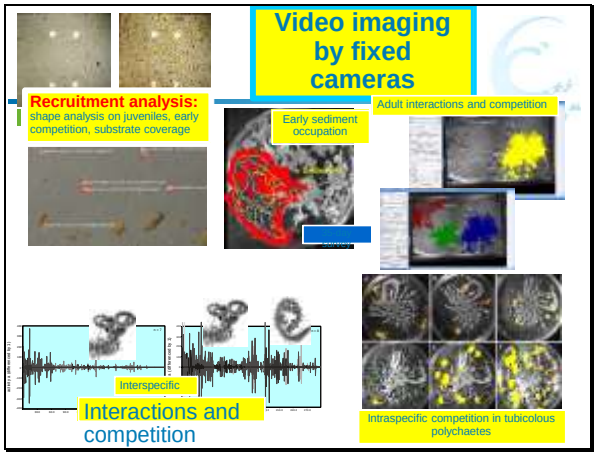
5. User Acceptance and Sustained Production: User requirement workshop, economic assessment to assess improved ability to mitigate risk and increase productivity, develop business model for project sustainability. Successful integration of system into current user practices and their working environment

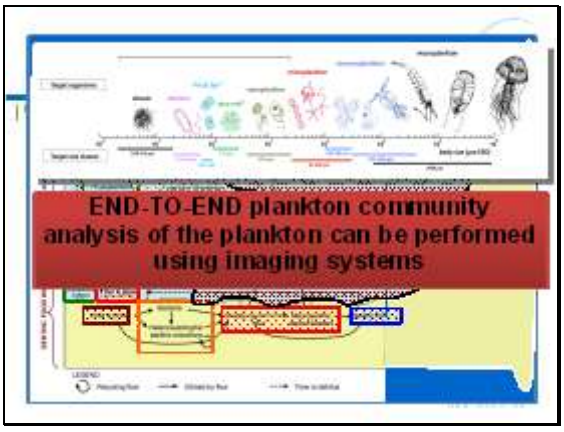
6. Dissemination and Exploitation: Develop project Website and bulletin board, assign publicity of project and present at workshops and conferences, develop warning system and circulate industry guidelines


JERICO
JOINT EUROPEAN RESEARCH INFRASTRUCTURE NETWORK FOR COASTAL OBSERVATORIES
MONITORING OF KEY BIOLOGICAL COMPARTMENTS AND PROCESSES
J.C Duchene A. Gremare, A. Romero-Ramirez
Speaker I Organism I adresse mail
www.jerico-fp7.eu

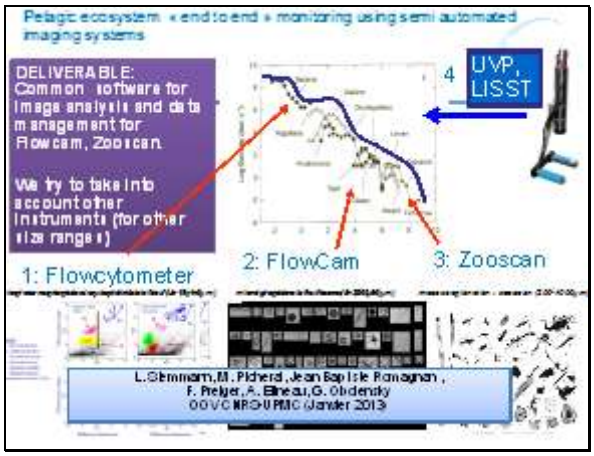

IN SITU SEDIMENT PROFILE IMAGES TO INFER THE ECOLOGICAL QUALITY STATUS OF BENTHIC HABITATS USING EITHER EXISTING OR NEWLY DEVELOPED INDICES
SpiArcBase:
Enhance the interpretation of features observed on SPIs
Facilitate image management and structure visualization via a database
Available to download:
http://spiarcbase.epoc.u-bordeaux1.fr/
www.jerico-fp7.eu
TITLE - JERICO - 25

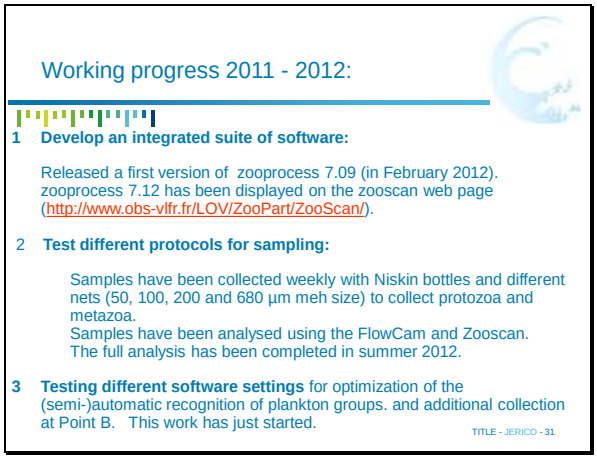

Video imaging of water sediment interface
Sequence detection
Object counting
Polyp counting
Object classification

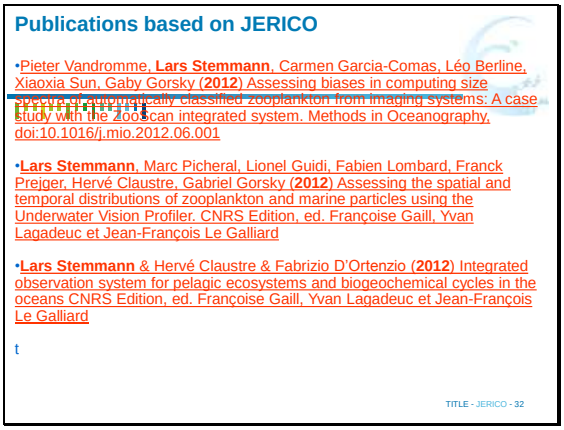

Video imaging by fixed cameras
Recruitment analysis:
shape analysis on juveniles, early competition, substrate coverage
Early sediment occupation
Adult interactions and competition
Interspecific
Interactions and competition
Intraspecific competition in tubicolous polychaetes

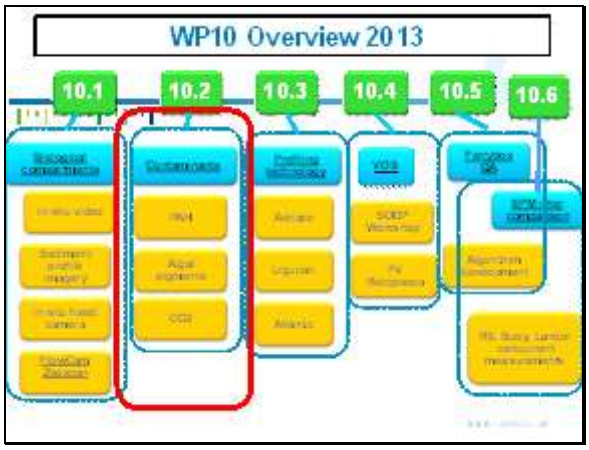

END-TO-END plankton community analysis of the plankton can be performed using imaging systems


We try to take into account future development of in situ systems (cytometer, flowcam and UVP)
>100 µm
1-10µm
10-100µm









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TASK 10.2:

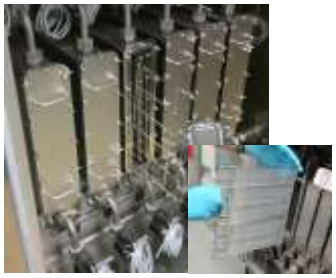
DEVELOPMENTS OF PHYSICO-CHEMICAL SENSORS AND IMPLEMENTATION ON NEW PLATFORMS

Subtask 10.2.1. Contaminants

Subtask 10.2.2. Algal pigments

Subtask 10.2.3. Carbonate system

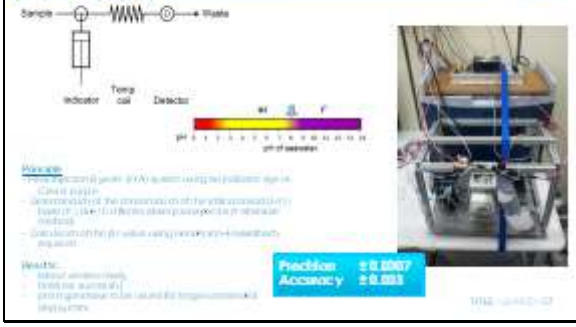
PROTYPE TESTING - «CHEMICAL EXTRACTOR»
CHEM. MARINER PROJECT – TEST OSLO-KIEL



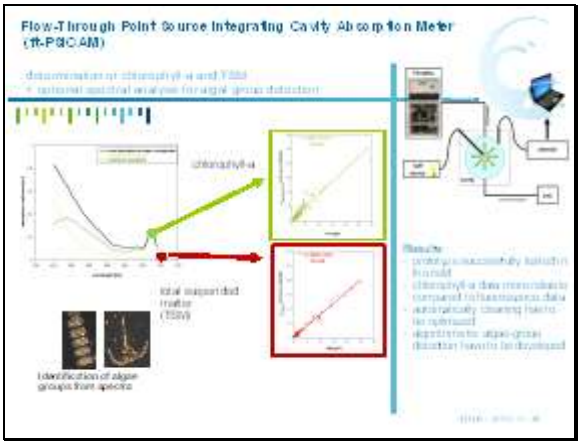
Polyetylene membranes and triolin

Membranes brought to laboratory for analysing of PAH, PCB and some pesticider.

New Spectrophotometric pH – Sensor for Underway Systems



Flow-Through Point Source Integrating Cavity Absorption Meter (ft-PSICAM)



WP 10, TASK 10.2.2
DEVELOPMENT AND IMPLEMENTATION OF SENSORS FOR THE ALGAL PIGMENTS ON SHIPS (SYKE, SMHI, NIVA)

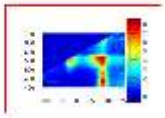
(1) Spectral datasets (fluorescence / absorption / reflectance) will be analysed for the detection of phytoplankton pigments (algal groups)

Review existing instruments for spectral measurements

- Multichannel fluorometers, absorption/attenuation meters, spectroradiometers (2013- 14)

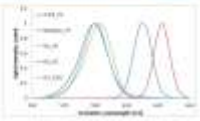
Multivariate analysis of spectral data sets to detect spectrally distinct phytoplankton groups.

- Main techniques: Principal Component Analysis, Partial Least Squares (2013-14)
- Using existing field data



WP 10, TASK 10.2.2
DEVELOPMENT AND IMPLEMENTATION OF SENSORS FOR THE ALGAL PIGMENTS ON SHIPS (SYKE, SMHI, NIVA)

(2) Commercially available single-wavelength fluorometers for accessory pigments (e.g. phycoerythrin) will be tested



Review existing fluorometers

- Lab tests with various instruments (2013)
- Survey on phycobilin fluorometer specifications (2013)

Testing fluorometers for phycoerythrin detection.

- Tests during research cruise (2012)
- Ferrybox measurements (2013)
- Lab measurements to support data (2013)

WP 10, TASK 10.2.2
DEVELOPMENT AND IMPLEMENTATION OF SENSORS FOR THE ALGAL PIGMENTS ON SHIPS (SYKE, SMHI, NIVA)

(3) Instruments measuring phytoplankton variable fluorescence will be tested and measurement protocols will be optimized for transect studies.

Review existing instruments and measuring techniques suitable for FerryBox applications

- Survey on instrument specifications, their suitability for flow-through measurements (2012-13)

Testing instruments including optimization of measuring protocols and technical installations.

- Two instruments (Chelsea & PSI), will be tested and measurement protocols examined and optimized (2012- 14)

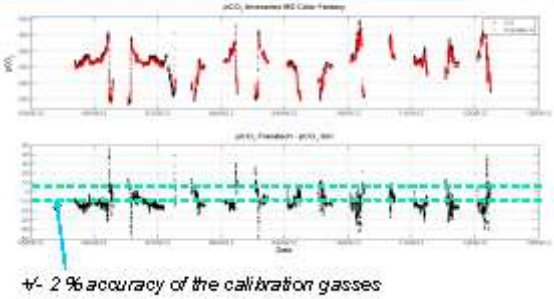
NORWEGIAN FERRYBOX NETWORK

FRANATECH PCO2 SYSTEMS FOR FERRYBOX INSTALLATIONS

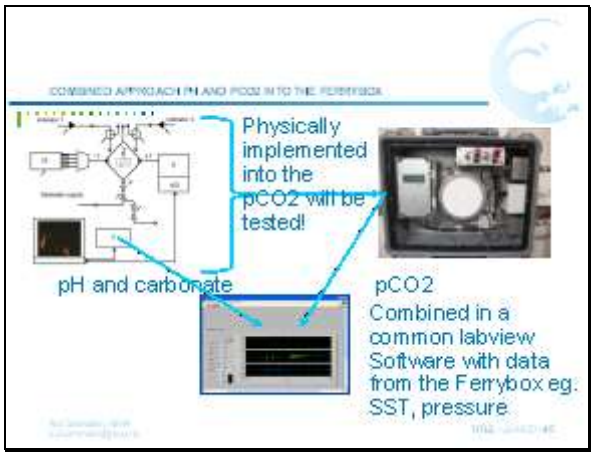
Flow through system
Uses external pump (Ferrybox)
Water leakage detector
Internal logging and on-line SW
Communication with Ferrybox

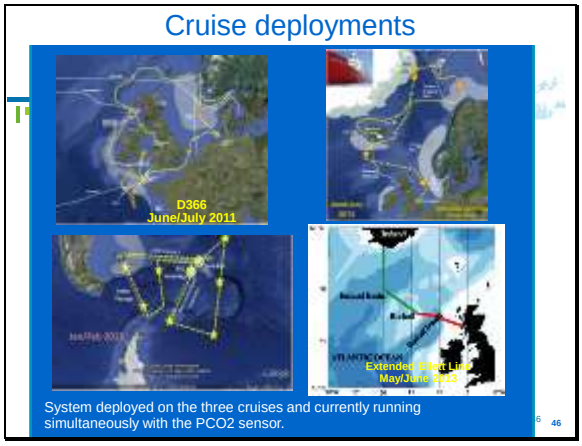
Kai Sørensen, NIVA
kai.sorensen@niva.no

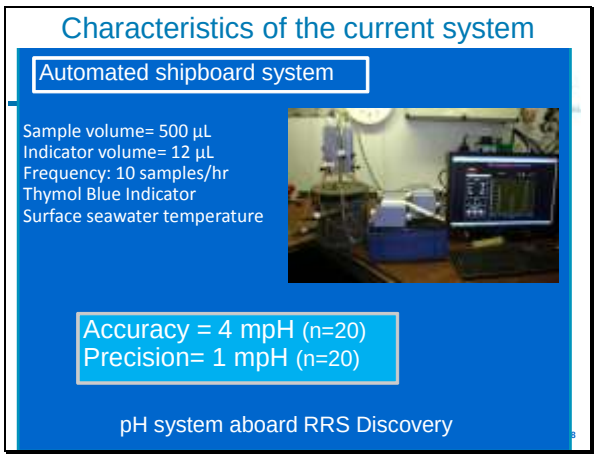
FELDTESTS BETWEEN CO2 AND FRANATECH

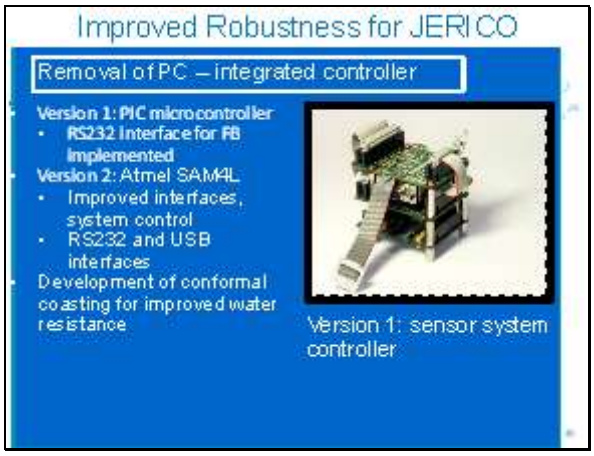


+/- 2 % accuracy of the calibration gasses









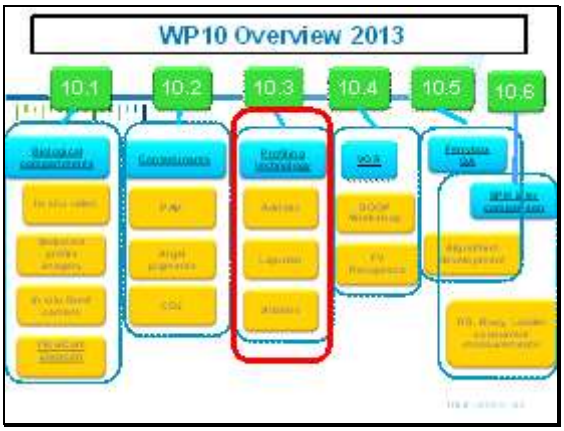
For ferry box applications, and particularly when running on vessels with low infrastructure we need to make the system more robust. One element of this is the electronics – a PC is not a good long term solution. Therefore we have designed and manufactured bespoke electronics that can run the systems directly. The electronics (V1) are working well and V2 are in development. We are still working on trying to integrate these with the ferry box version of the pH sensor, and to demo this.

The Syringe pumps (Harvard, USA) that we have previously used use are not very reliable – most of the problems are in control, they are really designed to be operated manually in the lab. We have therefore investigated a number of alternative pumps including solenoid diaphragm pumps (lee co and biochem) and syringe pumps (lee co). We have also developed our own bespoke syringe pump. This is an adaptation of a submersible system (and is hence robust). However at time of writing we have a problem with wear in the seals which we are still working on. The maximum life we have achieved is 10000 measurements. Periodically we get worse life, and wear results in particles entering the system which degrades performance. Hence we are working to eliminate this wear problem through design.

Kai Sørensen, NIVA
kai.sorensen@niva.no

FUTURE WORK

- *Combine pH and pCO2 into one system*
- *Deployment for long term tests on three ship routes (seasons, years)*
  - *Kattegat/Skagerrak (low saline water, high Chl-a)*
  - *Coastal areas (Fjords, Rivers mouth)*
  - *Barents Sea (cold waters/Arctic)*
- *Long term technical experience*
- *Long term calibrations experience (NOAA-gas)*
- *Establish the overall precision and accuracy*
  - *Comparison and implementation in the monitoring program*
  - *Hopefully implementation into the monitoring programs?*
- *Comparisons with other systems (Jerico-activity?)*
  - *GO-System, other membrane systems and other detectors*



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JERICO
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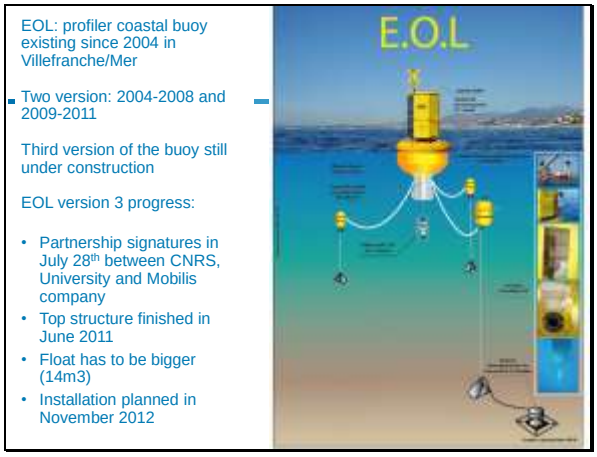
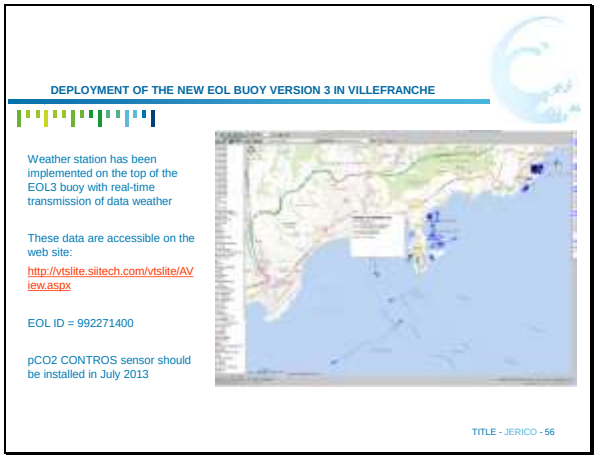
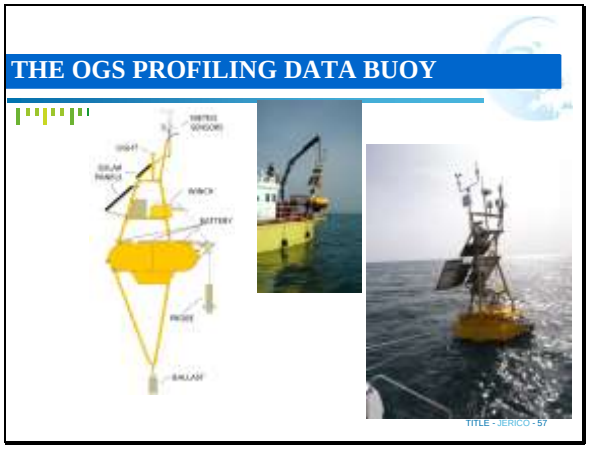
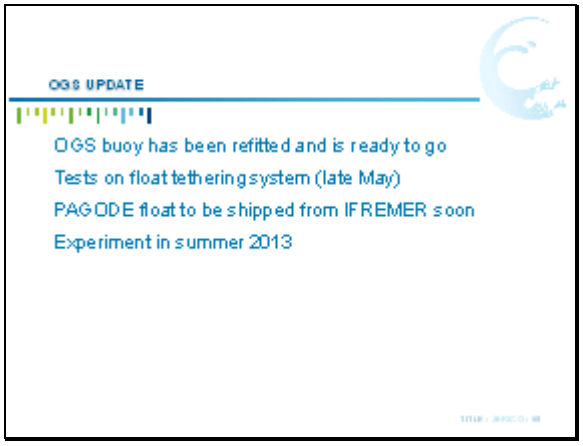
JERICO WP10: JRA
10.2 EMERGING TECHNOLOGY - PROFILING TECHNOLOGY, INTER-COMPARISON WITH MATURE TECHNOLOGY
L.Coppola CNRS-INSU coppola@obs-vlfr.fr
Speaker I Organism I adresse mail
www.jerico-fp7.eu
Date I City I Land

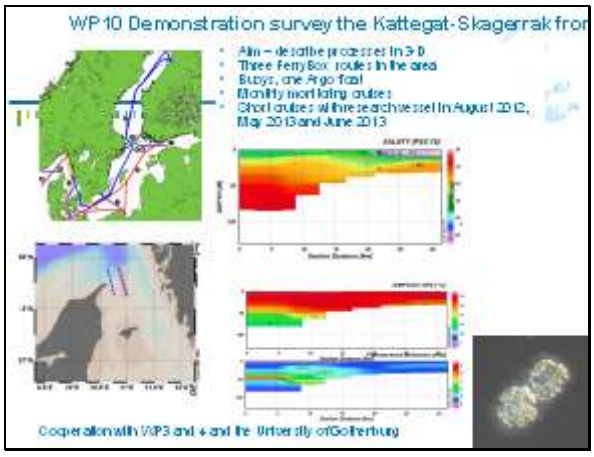

EOL: profiler coastal buoy existing since 2004 in Villefranche/Mer
Two version: 2004-2008 and 2009-2011
Third version of the buoy still under construction
EOL version 3 progress:
Partnership signatures in July 28th between CNRS, University and Mobilis company
Top structure finished in June 2011
Float has to be bigger (14m3)
Installation planned in November 2012
E.O.L

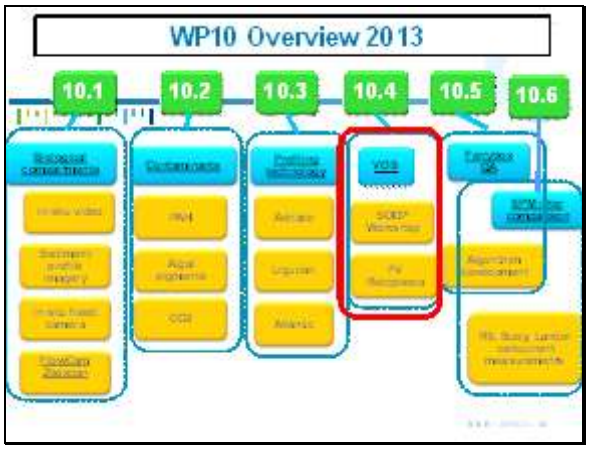

INSERT TEXT
The new EOL buoy version 3 has been deployed in March 29th 2013 in the Villefranche bay.
The new version is larger and bigger than the previous one: 4 tons & 8m height & 3.6 diameter
The CTD profiler has been re-integrated in the buoy which provide one T&S profile every day (0-100m)
Additionally a cytometer has been also integrated for picoplankton & bacteria analysis
TITLE - JERICO - 55


DEPLOYMENT OF THE NEW EOL BUOY VERSION 3 IN VILLEFRANCHE
Weather station has been implemented on the top of the EOL3 buoy with real-time transmission of data weather
These data are accessible on the web site:
http://vtslite.siitech.com/vtslite/AView.aspx
EOL ID = 992271400
pCO2 CONTROS sensor should be installed in July 2013
TITLE - JERICO - 56









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JERICO
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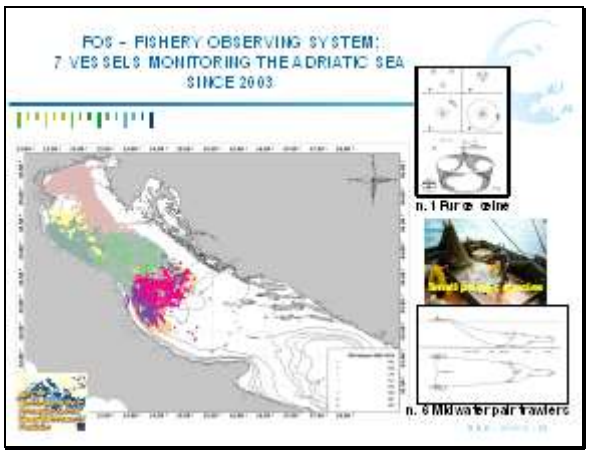
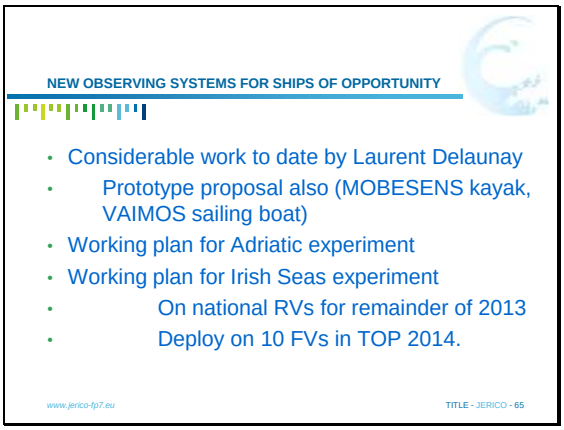
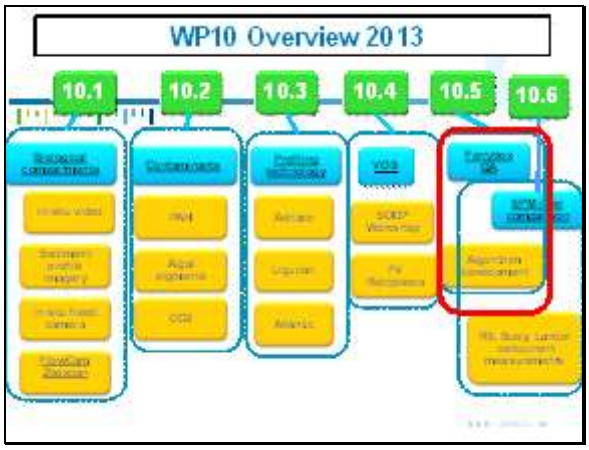
JERICO WP10: JRA
TASK 10.4 VESSELS OF
OPPORTUNITY
Laurent Delaunay, IFREMER
Michela Martinelli, CNR-ISMAR
Speaker | Organism | adresse mail
www.jerico-fp7.eu
Date | City | Land


NEW OBSERVING SYSTEMS FOR SHIPS OF OPPORTUNITY
Ifremer – June 2012 – Workshop on Autonomous Surface vehicles
TITLE - JERICO - 62


FOS - FISHERY OBSERVING SYSTEM:
7 VESSELS MONITORING THE ADRIATIC SEA
SINCE 2003
n. 1 Rapido coline
n. 6 Midwater pair trawlers


SSD-Pesca Project
Future Upgrade of the FOS to
FOOS: Fishery & Oceanography
Observing System
The e-logbook allows the control center to download the collected data and send back other info to the fisherman daily via GPRS or satellite
1 Bottom trawler already implemented
More vessels by the end of 2013
Collected data:


NEW OBSERVING SYSTEMS FOR SHIPS OF OPPORTUNITY
Considerable work to date by Laurent Delaunay
Prototype proposal also (MOBESENS kayak, VAIMOS sailing boat)
Working plan for Adriatic experiment
Working plan for Irish Seas experiment
On national RVs for remainder of 2013
Deploy on 10 FVs in TOP 2014.
www.jerico-fp7.eu
TITLE - JERICO - 65



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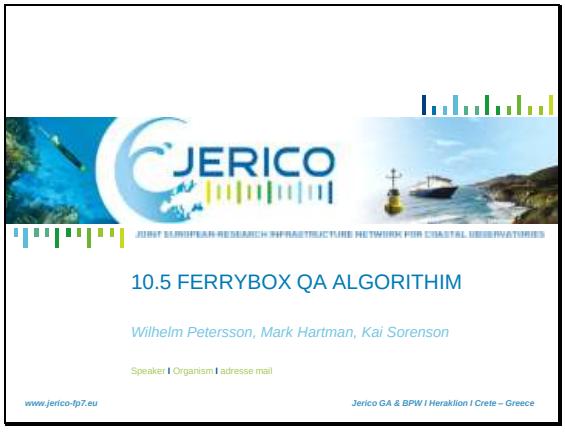

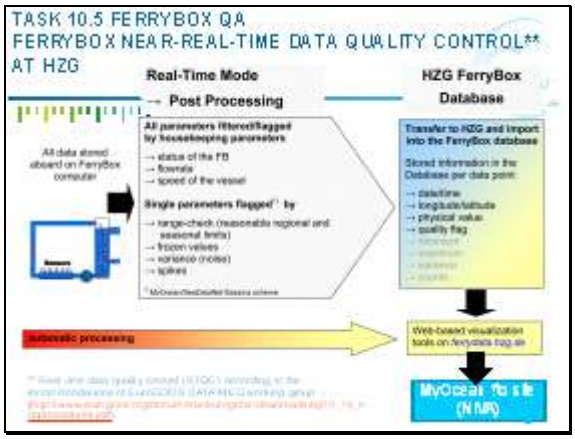

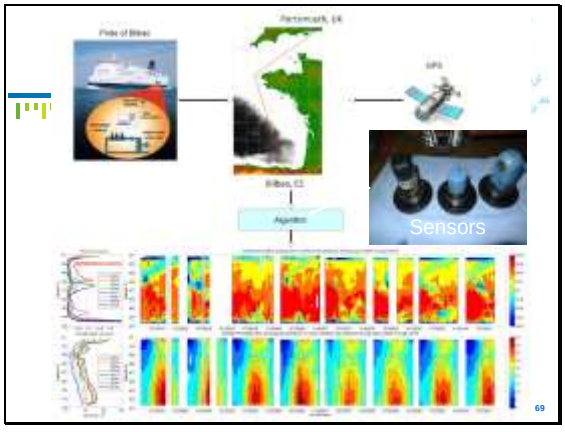

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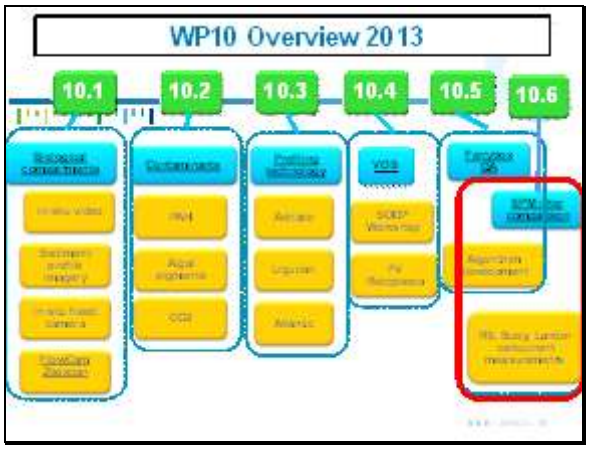

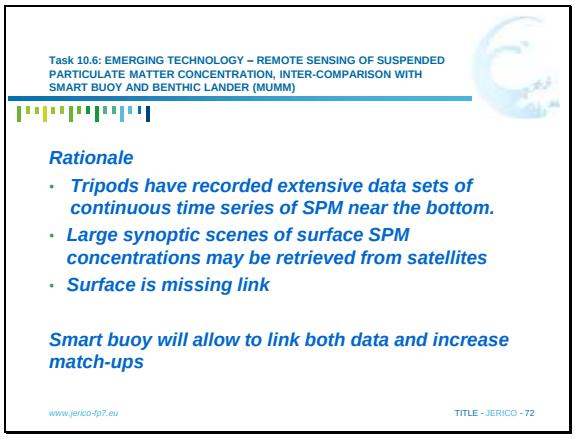

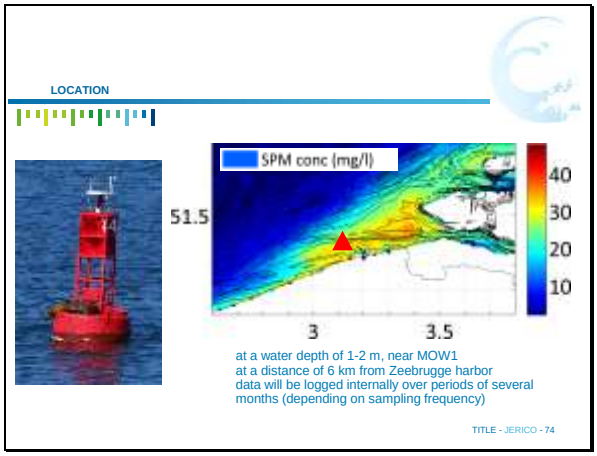


OBSERVING THE COASTAL OCEAN
COURTESY: EUGENE MC KEOWN, BIOSPHERICS LTD
www.jerico-fp7.eu
TITLE - JERICO - 75

3.3. Statement of decisions after the GA, by P. Farcy (Ifremer)

WP#	Decisions / Recommendations
WP1	*The JERICO label deliverable has been postponed and will be delivered very soon. It was more difficult to establish as initially planned, especially since inputs from best practice were needed.*
WP2	*Deadlines for deliverables have been extended.* *A meeting will be organized in Autumn to solve the gaps with the observing systems.*
WP3	*A final workshop (probably on fixed platforms) will be organized.*
WP4	*A workshop will be organized to define the structure of the deliverables which are ongoing and will define best practice.*
WP5/WP7	*Problems from WP7 with data transfer to deliver it to SeaDataNet has to be solved.* *Access to data from MyOcean has also to be fixed.*
WP6	*Promotion for the DELTARES summer school has to be improved, especially from partner' side.* *Inputs for OceanBoard are requested from partners.*
WP8	*The time that users have to conclude their experiment and produce scientific results is very short and is incompatible with the JERICO timeline (something that we should consider for JERICO 2).* *For the next calls, it might be interesting to ask the users for at least one publication.*
WP9	*Due to WP9 internal changes, the deliverables that were expected have been postponed in order to deliver them in good quality.*

4. Steering Committee

4.1. Objectives of the steering committee

This Steering Committee was the first one after the mid-term review of last year. This meeting was crucial for the end of the project and its next phase.

The main focus of the talks was the JERICO 2 proposal and the potential involvement of each partners and new comers.

4.2. Steering Committee Agenda

Monday, 5th of May	
12:00-13:30	Lunch Steering Committee
13:30-14:30	**Steering Committee - Preparatory meeting**
Tuesday, 6th of May	
17:00-18:00	**Steering committee - conclusions and actions**

4.3. List of participants

Name	Organization
David Mills	CEFAS
Stefania Sparnocchia	CNR ISMAR
Pascal Morin	CNRS
Joaquín Tintoré	CSIC
Manolis Ntoumas	HCMR
Wilhelm Petersen	HZG
Ingrid Puillat	IFREMER
Nolwenn Beaume	IFREMER
Patrick Farcy	IFREMER
Henning Wehde	IMR
Nadia Pinardi	INGV
Glenn Nolan	MI
Dominique Durand	NIVA
Kai Sørensen	NIVA
Rajesh Nair	OGS
Patrick Gorringe	SMHI

4.4. Reminder of statement of decisions taken in SC meeting #3

Decision SC3#	***Content***	***Action done/failed***
1	Initiate the content of the MOU with MyOcean, SEADATANET & EUROGOOS	*We decide to not go further on the MOU. It is not necessary at 1 year of the end of the project*
2	Dedicated meeting of WP2 during next EUROGOOS annual meeting.	*WP2,Done. Henning Wehde, November 2013*
3	Preparation of the WP10 scientific meeting in October	*Done*
4		*Coordinator and Steering committee,Done*
5		*Georges Petihakis. Label task force completed mid 2014. Done*
6	Invitation to a preparatory meeting on the future strategy in Paris in June the 18th	*Coordinator, before end of May. Done*
7	The task 10.3 meeting is postponed in October in Nice	*WP10, Glenn Nolan -Done*
8	Completion of the waited Deliverables before end of May	*Partially done in May. Last deliverables in 2014*
9	A new call for TNA to be launched in September or October 2013	*WP8, Stefania Sparnocchia – Done*
10	WP9 meeting (common with WP2 one) during next EUROGOOS annual meeting	*WP9, Srdjan Dobricic. To organise in 2014*
11	1st period activity report addendum for to be sent to the coordinator	*Before May the 24th,* WP1, 2, 3, 9, 10 leaders - Done
12	NERC to provide new WP7 and WP8 unit of access cost calculation and WP10 new objectives and men months	*Richard Lampitt – Done but not satisfying*
13	4 news associate partners are accepted except for the WP8 activities.	*Coordinator, Agreements to be provided, end of September. Done for 3 –but the fourth one doesn't go further*
14	Next Steering committee to plan : when and where	*Coordinator, mid-September. Done*

4.5. Session 1: Preparatory meeting

To start these steering committee meetings, a roundtable occurred to see the progress of each work package and the problems/remarks that work package leaders had to highlight.

The table below summarizes the discussion of this preparatory meeting:

WP	Contact Person	Comments
1	Pascal Morin (CNRS)	*Everything is going as planned, except for the label.* *The deliverable has been postponed because it was more difficult to establish than initially planned.* *A dedicated talk is scheduled during the workshop to discuss the label (and its definition) and to get some feedback and inputs, especially from best practice.*
2	Henning Wehde (IMR)	*The deadlines of some deliverables have been extended.* *Ongoing tasks and tests are occurring but gaps have been highlighted from the observing systems.* *A meeting with WP9 will be organized, probably in Autumn.*
3	Wilhelm Petersen (HZG)	*Most of the deliverables have been submitted.* *The task 4.4 is ongoing, best practice with WP4 to be concluded.* *A final workshop has to be scheduled which might be dealing with fixed platforms.*
4	Manolis Ntoumas (HCMR)	*2 deliverables are due for the end of this month, a final draft will soon be sent for comments and inputs.* *A workshop will be organized to define the structure of the deliverable and to discuss the best practice.* *Some comments have been raised regarding the questionnaire. In order to improve the process, users should add notes to help interpreting the answers.*
5	Rajesh Nair (OGS)	*All current deliverables have been submitted, the next ones will be in Month 42 and 48.* *Some problems with WP7 have occurred, especially with the transfer of data and its delivery to SeaDataNet.* *There are also problems with MyOcean, regarding the access to data and its integration, due to format incompatibility and an issue with the conversion.*
6	Jo Foden (CEFAS)	*WP6 is on target with its deliverables: the first summer school was launched in Malta last year and the online tool is working.* *WP6 members ask all partners to be more involved in the OCeanBoard tool and to make some contributions.* *The next summer school will be held in Deltares premises (Netherlands): 11 applications received so far but we need to promote this summer school in order to get more applications.*
7	Patrick Farcy (IFREMER)	*The JERICO data tool (TOP) will be presented to partners during the General Assembly.* *Regarding the JERICO website, the webpage describing WP7 work has to be developed.*
8	Stefania Sparnocchia (CNR)	*The work undergone is in line with its timetable: 4 deliverables to deliver but 3 of them are in WP1.*

		3 calls for TNA have been launched which represents 25 request of access, 19 projects funded, 6 concluded and 9 that are ongoing. *One small problem has been raised: The time that users had to conclude their experiment and produce scientific results is too short and incompatible with the JERICO lifetime.*
9	Nadia Pinardi (INGV)	*The WP leader is now Simona Masina. A meeting through WebEx will be organized with WP9 members to check the work that needs to be done.* *It was asked to delay 2 deliverables in order to deliver them in good quality.* *WP9 should end in October but WP9 members asked to extend it until the end of the project in order to enlarge the work done and to manage two major changes.*
11	Patrick Farcy (IFREMER)	*Everything is going as planned.* *M36 reporting (technical and financial) are in process.*

4.6. Session 2: Conclusions of GA and actions

After the General Assembly and the steering committee meetings, the following decisions and actions have been taken:

WPs	Action	Who	Deadline
1	*Deliver the second FCT final report*	G Nolan	End of June
	Complete the Label document and the roadmap	WP1 members + G Petihakis	End of June
	Organize a stakeholders' meeting	P Farcy	Before the end of the project
2	*Update the gap analyses report*	WP2 members + WP9	TBD
	Promote Task 2.2	WP2 members + BL	TBD
	Organize a joint meeting between WP1, 2, 3 & 9	N Pinardi, H Wehde, P Gorringe	Agenda for mid june (October 28th)
3	*Organize a workshop on fixed platforms in common with WP4*	W Petersen + P Gorringe	October 27th
	Update the fixed platforms data base and make it available on the website (+EMODNET)	WP3 member + BL+ P Gorringe	TBD
4	*Organize a workshop on fixed platforms in common with WP3*	WP4 members + WP3	October 27th
	Send a small questionnaire to the partners to see if they can apply the label recommendations	*HCMR*	TBD

5	*Solve the issues with MyOcean*	WP5 members	End of June
	Check that the JERICO data in EMODNET is labelled	L Petit de la Vileon + P Gorringe	End of June
6	*Promote the Summer School*	WP6 members	End of May
7	*Work on the portal (data coming from JERICO partners + link with MyOcean and SeaDataNet)*	WP7 members	End of 2014
	Initiate the TOP: application of JERICO data tools and 2 other TOPS	WP7 members + BL	Before the end of the project
8	*Prepare a final workshop focusing on TNA projects*	WP8 members	Before the next GA
9	*Organize a meeting with WP1, 2, 3 & 4*	N Pinardi	End of October
10	*Finalize the Villefranche workshop report*	G Nolan	End of June
	Follow up on Task 10.5 and 10.6	G Nolan	End of June
11	*Deliver the technical and financial reporting to the EC*	IFREMER + partners	End of June
	Propose an editorial group for a special issue (to be released before the end of the project)	I Puillat + WP8, 9, 10 and 11	Mid-June
	All partners should give their real costs concerning TA and SA	JERICO partners	End of May

4.7. Session 3: H2020 JERICO

The last session of this meeting was focusing on the making of the JERICO 2 proposal and its first discussion. A workshop on future strategy was scheduled that day to start thinking of what would be integrated into the proposal and into the work packages of the JERICO 2 project.

A Steering Committee meeting was organized on Thursday to discuss on how we will prepare the answer to the call, due September 2nd 2014.

Through a Google document presented to the participants, each partner appointed themselves in the different work packages and shaped discussion groups to start writing a first draft and a first work package structure.

For each work package, a discussion group was appointed with a leading contact person and even a WP/task leader in some cases.

A dedicated preparation meeting will be organised in Delft in June: the same week of the Summer School organised by DELTARES.