MedCLIVAR newsletter

www.medclivar.eu

15th December 2011 - n. 1

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During the **MedCLIVAR Conference** held in June 2011 in Lecce (Italy), it has been proposed to start with a **six-monthly MedCLIVAR newsletter**, of which this is n. 1. The MedCLIVAR Steering Committee agrees on the importance of continuing carrying on the MedCLIVAR goals. The Editorial Board has been chosen by the MedCLIVAR SC during the Conference, and is composed by 4 young scientists that were awarded during the Conference itself. In this first number we want to introduce them first:

Marta Marcos is Researcher at the Mediterranean Institute for Advanced Studies (IMEDEA), a joint research centre between the University of the Balearic Islands (UIB) and the Spanish Research Council (CSIC), since 2008. She obtained her PhD in Physics at the UIB in 2004, after which she did two post-doctoral stays at the University of La Rochelle and at the National Oceanography Centre, Southampton. Her research line is focused on sea level variability, mainly in the Mediterranean Sea. Her interests comprise from high frequency sea level changes to seasonal, inter-annual and long-term sea level variations together with their forcing mechanisms. She has published 35 papers in peer-reviewed journals and participated in 20 research projects. During the Conference she has been awarded "for her important contribution to research addressing key issues on Mediterranean sea level and for her active participation to MedCLIVAR activities"

Katrin Schroeder is Researcher at the Marine Science Institute of the Italian National Research Council (CNR-ISMAR). Her major research interests are experimental studies in physical oceanography, mainly of the deep waters in the Mediterranean Sea. In particular, her research is focused on: dynamic processes influencing the water mass characteristics and distribution; interannual variability of the physical and biogeochemical properties of Mediterranean water masses; mass, salt, heat and nutrient exchanges through the channels of Sicily and Corsica, the driving force of the Mediterranean circulation. During the Conference she has been awarded "for her important contribution to the understanding of the physical oceanography of the western Mediterranean, her leading role in the second MedCLIVAR book and active contribution to the MedCLIVAR activities".

Samuel Somot is Researcher at the Centre National de Recherches Météorologiques (CNRM/GAME), a joint research center between Météo-France and CNRS since September 2003 in the Climate and Large-Scales Modelling Group. He obtained his PhD in Physics of the Climate in 2005. His main scientific interest is the understanding of the long-term variability of the Mediterranean Sea and Mediterranean Climate over the last decades and their possible evolution during the 21st century as a consequence of the global climate change. His main tools are atmosphere-only, ocean-only or fully coupled regional climate models dedicated to the Mediterranean study. During the Conference he has been awarded "for his important contribution to the development of regional climate modeling in the Mediterranean region, for his promotion of modeling research within HyMeX and MedCORDEX, and for his active participation to MedCLIVAR activities".

Andrea Toreti has a degree in Mathematics (University of Rome 'La Sapienza') and obtained his Ph.D. in Climate Sciences at the University of Bern. Since April 2011 he is appointed Assistant Professor at the Justus Liebig University of Giessen (Germany). His research interests are: analysis of climate extremes (e.g. heat waves and torrential rainfall) especially in the frame of the Extreme Value Theory; dynamics of extreme events; change point detection, attribution and correction; Mediterranean climate and climate change issues. During the Conference he has been awarded for "his important contribution to research addressing issues on climate extremes in the Mediterranean region and his active participation to MedCLIVAR activities".

"During the last five years MedCLIVAR has grown and become a reference for regional climate research in the Mediterranean region. This newsletter is meant as a new tool for distributing information on the MedCLIVAR activities and on initiatives that are important for the Mediterranean Climate. I thank indeed Katrin, Marta, Andrea and Samuel for having accepted the task of editing this newsletter, which they have been asked by the MedCLIVAR SC. It is expected to be published twice on 15 December and 15 June and gather contributions from the MedCLIVAR community. Please contact the editors if you would like news and material to be published in this newsletter. I am looking forward to many interesting issues and to a large participation of MedCLIVAR scientists to this publication."
Piero Lionello, Chair of the MedCLIVAR SC

The MedCLIVAR 2011 Conference

The MedCLIVAR Conference "**Mediterranean Climate: From past to future**" was held in Lecce on June 6-9th 2011. The Conference brought together nearly 130 international participants working on climate change. It has offered the opportunity to show the latest research developments in this topic and has represented an important platform of discussion between the different disciplines that are involved in these studies.
The Conference, which was founded by the European Science Foundation, was cosponsored by the University of Salento, CMCC (Centro Euro-Mediterraneo per i Cambiamenti Climatici) and APT (Azienda di promozione Turistica di Lecce). The Conference had an echo on local newspaper. The topics covered during the Conference concerned:

- Mediterranean climate: relevant and important scientific issues
- Paleoclimatic evidence from the Mediterranean region
- Synoptic patterns: climatology and trends
- The circulation of the Mediterranean Sea: trends and changes
- Extremes and impacts of climate variability in Mediterranean region
- Aerosols chemistry and climate
- Modeling of the Mediterranean climate system
- The climate of the Mediterranean region in future climate projections.

Drs. Piero Lionello, Philippe Drobinski, Ali Harzallah, Vassilis Zervaksi, Juerg Luterbacher, Uwe Ulbrich, Agustí Jansà, Mikis Tsimplis, Damia Gomis, Laurent Li, Paolo Ruti, Francois Dulac, Jos Lelieveld, Serge Planton, Jucundus Jacobeit, Véronique Ducrocq, Maria-Carmen Llasat, Elena Xoplaki, Vincenzo Artale were in charge of chairing these discussion sessions and encouraging participants to explore the most relevant open issues in Mediterranean research.
'The majority of participants was from countries of the Mediterranean region. Approximately 26% of attendees came from Italy, following by 12% from Spain, 11% from Germany and 10% from France. Eastern and Middle-Eastern Countries contributed a small number of senior scientists. Female participants were about 40%. PhD students were about 20% of the total. The subdivision by age shows that most participants were 30-40 years old. There were 80 oral presentations given by 19 Keynote speakers, 21 Invited speakers and 40 participants, selected by session conveners on the basis of their CV and of the submitted abstract. The rest of the participants presented 29 posters.
At the Conference Dinner 4 young scientists were awarded by the MedCLIVAR Steering Committee: Marta Marcos, Katrin Schroeder, Samuel Somot and Andrea Toreti. They were also committed to become the Editorial Board of the six-monthly MedCLIVAR newsletter.

<u>Announcement</u>:
Call for papers for a Special Issue of Regional Environmental Changes
(http://www.springer.com/environment/global+change+-+climate+change/journal/10113) with title

"The climate of the Mediterranean region: recent progresses and climate change impacts"

Guest editors: Piero Lionello, Fatima Abrantes, Miroslav Gacic, Serge Planton, Ricardo Trigo, Uwe Ulbrich,
Submission period
From 15th October 2011 to 15th March 2012.
See details on the News section of www.medclivar.eu

Mediterranean sea level Workshop

The workshop "**Unresolved issues in Mediterranean sea level research**" was held during the past 30th May to 1st June in Palma de Mallorca, organized by the Mediterranean Institute for Advanced Studies (IMEDEA), a joint institution between the University of the Balearic Islands (UIB) and the Spanish Research Council, with the financial support of the UIB, the Government of the Balearic Islands and the Spanish Ministry of Science and Innovation. The major objectives of the meeting were to bring together scientists from different but complementary disciplines in order to create a discussion forum on sea level research in the Mediterranean region and to explore the most relevant aspects requiring most and specific efforts. The program of the workshop was structured in four sessions: the monitoring of coastal sea level, the study of sea level changes at time scales from decades to millennia, followed by two more sessions on ocean climate modelling aimed at reproducing Mediterranean sea level and future projections. Almost 50 scientists from different European countries participated in the forum. Disciplines such as satellite altimetry, tide gauges and vertical land movement monitoring, sea level indicators and data archaeology, models of glacial isostatic adjustment and regional ocean modelling were represented in the conference. As the workshop was aimed at promoting the exchange of ideas within the scientific community in an interactive way, only between four and five invited oral talks were presented in each session, while most of the time was dedicated to open discussions. Professors Phil Woodworth, Anny Cazenave, Bernard Barnier and Mikis Tsimplis were in charge of chairing these discussion sessions and encouraging participants to explore the most relevant open issues in Mediterranean sea level research. As a result of the presentations and discussions held during the workshop a final report containing the most relevant conclusions has been produced and circulated among all those researchers interested. The report lists the most relevant scientific issues raised during the discussions and provides a summary of open questions and a set of recommendations on both sea level observations and modelling. More information on the particular issues of the conference and access to the complete report can be found at the workshop web site: http://imedea.uib-csic.es/proyecto/sealevel/index.html. Given the success of the meeting and the relevance and high level of the scientific community involved the National Oceanography Centre has volunteered to organize a second meeting during 2012.

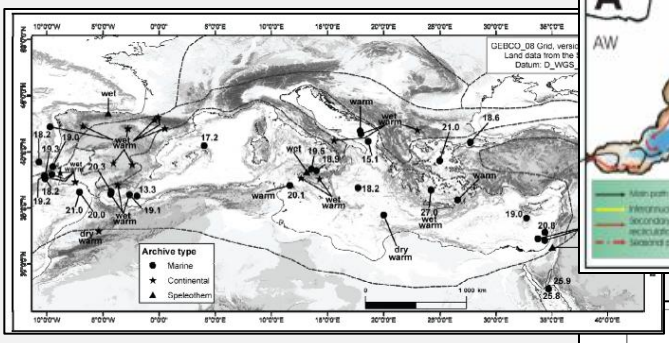
MedCLIVAR at the WCRP Conference

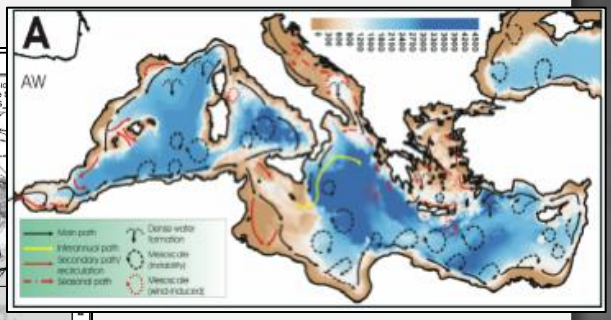
The WCRP OSC Conference "Climate Research in Service to Society" has been held on 24-28 October 2011 in Denver, USA. It was an important event which gathered more than 1900 participants from 86 countries. MedCLIVAR contributed with a cluster of 14 posters to session C4 "Meeting the Needs for Integrated Climate Science, Information and Capacity Building with Regard to Climate Variability and Change in Europe" (conveners: V. Pope, C. Goodess, M. Beniston, P. Lionello) The session was based on poster presentations contributing to address the issues of climate variability and change throughout Europe by meeting the needs for integrated climate science, information and capacity building on regional scales. The session aimed at analyzing the impacts of a changing climate associated with a likely increase in weather extremes such as heat-waves, drought, floods and wind storms on the Euro-Mediterranean region. The Mediterranean region has been a main focus of the session to which also CLIVAR-Spain and HyMeX contributed and all four young scientists of this session (G.Jordà, Pedro Jimenez-Guerrero, Hiba OMRANI, Merce Castelle Sanchez) that were awarded a prize for outstanding posters, presented a contribution on the Mediterranean Climate.

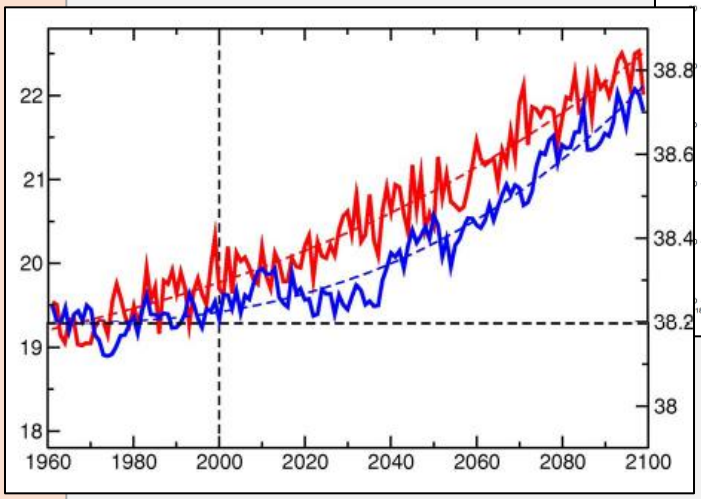
MedCLIVAR book: The Mediterranean Climate - From the Past to the Future

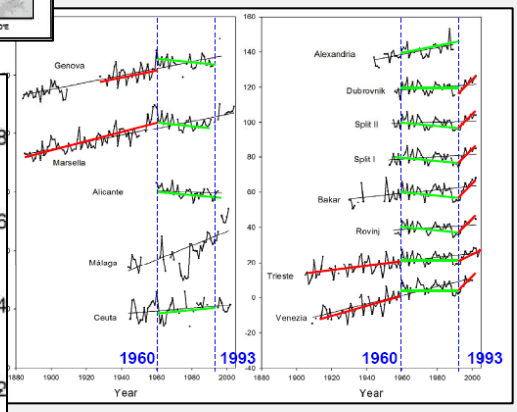
Five years after the publication in 2006 of the first MedCLIVAR book "Mediterranean Climate Variability" (published by Elsevier), 2011 the second book (also by Elsevier), will be published with the title "**The Climate of the Mediterranean Region: From the past to the future**". This book provides a complete description of the Mediterranean climate evolution from paleo-climate to the 21st century projections. The book is written by a team of scientists very active on Mediterranean climate research and provides a complete and updated presentation of the state of art of research on this subject. The information provides at the same time a complete review for experienced scientists and an excellent basis for young researchers. Environmentalists and policymakers will find clear and correct information on climate change at regional Mediterranean scale. Summarizing, after one year writing, the book is now completed (it will be published as an E-book in early 2012) and contains the following chapters :

Chapter 0. Mediterranean climate: background information (Lionello et al.)
Chapter 1. Paleoclimate variability in the Mediterranean region (Abrantes et al.)
Chapter 2. A review of 2000 years of paleoclimatic evidence in the Mediterranean (Luterbacher et al.)
Chapter 3. Circulation of the Mediterranean sea and its variability (Schroeder et al.)
Chapter 4. Sea level rise and its forcing in the Mediterranean sea (Gomis et al.)
Chapter 5. Climate of the Mediterranean: synoptic patterns, temperature, precipitation, winds and their extremes (Ulbrich et al.)
Chapter 6. Large-scale atmospheric circulation driving extreme climate events in the Mediterranean and related impacts (Xoplaki et al.)
Chapter 7. Modeling of the Mediterranean climate systems (Li et al.)
Chapter 8. The climate of the Mediterranean region in future climate projections (Planton et al.)









Clockwise captions:
From chapter 1: SST estimated through Uk37 on marine cores. Qualitative information derived from pollen data in marine cores as well as other proxies from lakes, peat bogs, lagoons and speleothem records.

From chapter 3: Mediterranean Sea circulation in the upper layer (Atlantic water)
From chapter 4: Annual mean sea level for different Mediterranean tide gauges
From chapter 8: Yearly-mean time series of the Mediterranean Sea average SST in red (in °C) and SSS in blue (in psu). The dashed lines are quadratic fits. Temperature and salinity curves are scaled by a factor 5 in order that their variations represent an equivalent density change. This curves have been obtaines from a coupled regional climate model.

FORTHCOMING EVENTS

EGU 2012 MedCLIVAR sessions

The next EGU meeting will take place in Vienna in April 2012, from 23rd to 27th. Three sessions concerns explicitly the Mediterranean Region. Besides the traditional and general MedCLIVAR session (CL4.3), focusing on the Mediterranean climate variability, the reborn Mediterranean and Black Sea session (OS2.2), focusing on the Mediterranean Sea physics and biology at all temporal and spatial scales, and a new session on climate, erosion rates and vegetation cover (SSS5.19). We are waiting for you to submit abstracts with the following **deadline: 17th January 2012.**

✓ **CL4.3 Mediterranean Climate: from past to future**

Also this year, this MedCLIVAR session offers a forum to present research on the Mediterranean climate considering different time scales and different components. It is important to bridge the research from paleoclimate to future projections in order to achieve a seamless vision of regional climate evolution. It is also intended to reflect the interdisciplinary aspects of climate research and to encourage exchange of information between climatologists and researchers investigating the impacts of climate on society and ecosystems. Finally, interactions between the various systems, such as atmosphere, ocean, land and hydrological, chemical and biological components must be considered. Particularly welcome are presentations studying the coupled atmosphere-ocean-land system, bridging past (including paleo-climate) and future and analyzing impacts of climate change on the environment and on human society. This year specifically solicited are new inputs relevant for AR5 and analyses of the results of HyMeX, CIRCE and other European projects. Contributions dealing with the Southern Mediterranean are also particularly encouraged.

Convener: P. Lionello
Co-Conveners: C.M. Goodess, F. Abrantes, M. Tsimplis
http://meetingorganizer.copernicus.org/EGU2012/session/9048

✓**OS2.2 Advances in understanding of the multi-disciplinary dynamics of the Southern European Seas (Mediterranean and Black Sea)**

The session would like to overview recent understanding, by observations and modelling, of the Southern European Seas general circulation, their ecosystems and biogeochemical fluxes. Themes of particular interest are hydrodynamic interactions at multiple temporal and spatial scales, response to atmospheric forcing and process coupling at different trophic levels of the ecosystem. Issues related to long and short term circulation, mesoscale variability, biogeochemical flux dynamics, ocean forecasting, assessment and understanding of climate trends and the state of the ecosystem are also within focus of the session.

Convener: S. Somot
Co-Conveners: M. Gregoire , E. Özsoy , A. Pascual
http://meetingorganizer.copernicus.org/EGU2012/session/9315

✓ **SSS5.19 Climate and erosion in Mediterranean Ecosystems under Global Change**

Mediterranean ecosystems are particularly threatened by soil erosion. They are particularly sensitive to Global Changes due to: (i) land use/cover changes, (ii) intense human activity, (iii) precipitation totals, extremes and seasonality, and (iv) means and extremes temperature. Recent and future trends in erosion and desertification in the Mediterranean region is on debate. Climate scenarios foresee pronounced changes in the Mediterranean region, with a decrease of the mean precipitation and increasing frequency and intensity of extreme events. Land use change scenarios differ notably for the North and the South shores of the Mediterranean, but they also predict relevant changes for the next decades. How these changes will affect the vegetation cover and erosion rates is an open question, which we will try to answer. Scenarios of projected climatic and land use change in the region will be discussed, and their expected impact on the natural vegetation, crop yields, frequency and magnitude of erosion processes, forest fires, and other related aspects will be explored. Examples of studies covering both the North and the South shores of the Mediterranean will be especially welcome.

Convener: E. Nadal Romero
Co-Conveners: J. C. Gonzalez-Hidalgo, J. P. Nunes, S. Beguería, P. Lionello
http://meetingorganizer.copernicus.org/EGU2012/session/9884

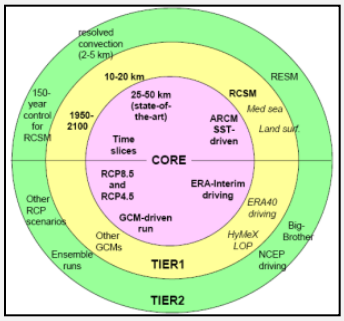
FORTHCOMING EVENTS

2012 MedCLIVAR Conference

The next **MedCLIVAR Conference** in 2012 will be held in **Madrid, from 26th to 29th September 2012**.
The conference aims to offer a forum for discussion of recent progress in Mediterranean climate research and to promote discussion involving integrating expertise. Special focus will be on modeling and understanding of regional climate extremes and their impacts, recent development in regional climate models, exchange of information between climatologists, on one hand, social scientists, economists, agronomists on the other hand.
Further information will be given at our homepage: www.medclivar.eu

MedCORDEX initiative

The Mediterranean region is considered as particularly vulnerable to climate variability and change, in particular, to changes in its regional water cycle. In addition, the Mediterranean is a good case study for climate regionalization and has been chosen as a CORDEX sub-domain (MED) leading to the MedCORDEX initiative endorsed by MedCLIVAR and HyMeX. In addition to the core CORDEX framework, two tiers have been defined for MedCORDEX. The first one to assess the added value of high resolution RCMs (10 km), the second one to test new regional climate modeling tools (Regional Climate System Models, RCSM). The initiative is strongly coordinated with the HyMeX and MedCLIVAR programs, ensuring the set-up of a large and multi-skilled evaluation team as well as the access to specific databases and to the regional impact community.
For information refer to:
• www.medcordex.eu
• www.hymex.org (TTM3)
• co-leaders (S. Somot-CNRM, P. Ruti-ENEA).
Next meetings will be in Toulouse (France) in Spring 2012 and during the 6th HyMeX workshop.



6th HyMeX workshop

The 6th HyMeX workshop will take place in Primosten, Croatia, 7-10 May 2012. The workshop will be hosted by the Meteorological and Hydrological Service of Croatia, Institute of Oceanography and Fisheries and Andrija Mohorovicic Geophysical Institute (Faculty of Science, University of Zagreb) The general scope includes strengthening the scientific links, stimulating the exchange of knowledge and promoting cooperation among HyMeX community. The program will consist of:
• working sessions dedicated to the implementation of the programme with focus on the Special Observation Periods
• plenary oral and poster sessions (open call for contributions to present and discuss recent scientific progress on the Mediterranean water cycle that meets the objectives of HyMeX Science Plan).

Deadline for submission: 15 March 2012
www.hymex.org

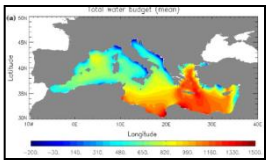
PAGES Ocean2k

The recently-formed Ocean2k regional PAGES 2k synthesis project (www.pages-igbp.org/workinggroups/ocean2k/) is looking for volunteers to assist in assembling a metadatabase of marine paleodata for the past 2000 years available from publicly archived databases. The goal is to have this part of the project ready by January 2012, such that synthesis projects using it can be developed in time for use in the UNEP/IPCC's AR5 Working Group I report. What's in it for you: (1) Learn all about the various marine sources of paleoclimate information; (2) Work virtually with a highly collaborative, international team of paleoclimatologists; (3) Contribute to the IPCC's AR5 WGI assessment. Please reply by email to: Delia Oppo (doppo@whoi.edu) with your availability from now through January 2012.

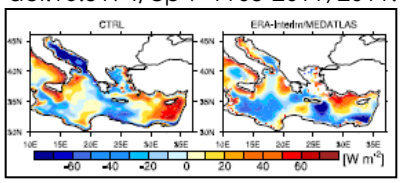
SCIENTIFIC HIGHLIGHTS

Recent publications

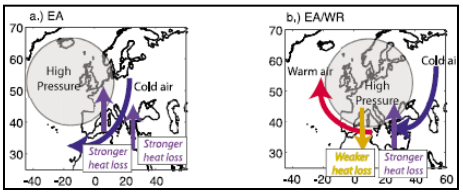
✓ Sanchez-Gomez E., Somot S., Josey S.A., Dubois C., Elguindi N., Déqué M. (2011). **Evaluation of the Mediterranean Sea Water and Heat budgets as simulated by an ensemble of high resolution Regional Climate Models**. Clim. Dyn., 37:2067-2086, doi:10.1007/s00382-011-1012-6.



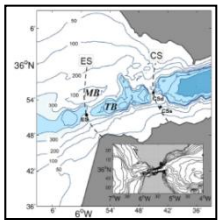
✓ Adloff F., Mikolajewicz, U., Kučera, M., Grimm, R., Maier-Reimer, E., Schmiedl, G., and Emeis, K.-C. **Upper ocean climate of the Eastern Mediterranean Sea during the Holocene Insolation Maximum – a model study**, Clim. Past, 7, 1103-1122, doi:10.5194/cp-7-1103-2011, 2011.



✓ Josey S. A., S. Somot, M. Tsimplis (2011), **Impacts of atmospheric modes of variability on Mediterranean Sea surface heat exchange**, J. Geophys. Res.,116, C02032, doi: 029/2010JC006685.



✓ García-Lafuente, J., A. Sánchez-Román, C. Naranjo, and J. C. Sánchez-Garrido (2011), **The very first transformation of the Mediterranean outflow in the Strait of Gibraltar**, J. Geophys. Res., 116, C07010, doi: 10.1029/2011JC006967.



IMEDEA glider activities in the Western Mediterranean

1. Gliders as a new component for ocean observing systems

Gliders are underwater autonomous vehicles designed to observe vast areas of the interior ocean (Stommel, 1989). They make use of their hydrodynamic shape and small fins to induce horizontal motions while controlling their buoyancy. At every surfacing point gliders transmit data to a land station through satellite bi-directional Iridium satellite communication, the gliders behaviour can be modified (e.g. sampling frequency, up/down data acquisition and depth of inflexions) and the missions waypoints changed. Regarding autonomy at sea, this ranges from months to weeks depending of the type of batteries (lithium or alkaline) and the glider mission configuration. At present, commercially available gliders can operate between the ocean surface and 1000 m depth (shallow units to 200 m). Further details of technical/engineering characteristics and functioning of the three main classes of gliders used at present can be found in Webb et al. (2001), Sherman et al. (2001) and Eriksen et al. (2001).

2. Infrastructure for gliders at IMEDEA

The Marine Tecnologies, Operational Oceanography and Sustainability (TMOOS) Department at IMEDEA started to operate Slocum gliders (Figure 1) in November 2006. The actual glider fleet at IMEDEA consists of 3 Teledyne Webb Research Slocum gliders, one coastal glider (200 m) and 2 deep gliders (1000 m). At IMEDEA, TMOOS facilities include new marine electronics and mechanical laboratories, in place since 2007, as well as a renovated specific glider laboratory composed by a glider ballasting tank, a Nissan Van and a Valiant 620 Rubber boat for coastal operations.

Figure 1. IMEDEA glider deployed at sea.

S. Ruiz, B. Garau, M. Martínez-Ledesma, B. Casas, G. Vizoso, E. Heslop, A. Pascual, J. Tintoré
IMEDEA (CSIC-UIB), Mallorca , Spain
simon.ruiz@uib.es

❑Recent publications
❑Recent advances in monitoring, technology, etc.

… IMEDEA glider activities in the Western Mediterranean

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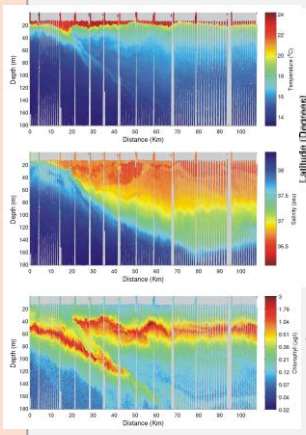
3. Gliders for ocean research: an overview of results

Using the high resolution data that autonomous underwater platforms such as gliders collect, one of the challenges at IMEDEA-TMOOS is to better understand and quantify the importance of sub-mesoscale process (1-20 km) in the upper ocean, including the coupling between physical and bio-geochemical processes (Figure 2) in the marine ecosystem (Ruiz et al., 2009a). Gliders are also contributing to characterize at high resolution, the ocean mixed layer depth and evaluate air-sea energy exchanges under extreme weather conditions (Ruiz et al., 2011). In addition, glider data is motivating the development of new methodologies to improve coastal altimetry (Figure 3), as demonstrated in Bouffard et al. (2010) and the development of new algorithms for optimal glider navigation and mission definition (Alvarez et al., 2004, Garau et al., 2005).
It is worth mentioning the new methodology developed at IMEDEA for the thermal lag correction of conductivity data from the un-pumped CTD sensors installed on Slocum gliders (Garau et al., 2011). It is also essential to highlight the contribution of this new platform to routine monitoring in the Balearic Sea (Ruiz et al. 2009b), obtaining high quality 3D observations in an area where oceanic climatologies are of limited use given the few available historical observations. Since January 2011, a new sustained observational program (monthly) in the Balearic Channels is being conducted by IMEDEA and SOCIB, the new Balearic Islands Coastal Observing and Forecasting System. This monitoring program consists of repeated transects between Mallorca, Ibiza and Denia. During 2011, 7 glider missions have been successfully carried out in the Ibiza Channel reporting an unprecedented spatial and temporal variability in transports (Heslop et al., 2011). This glider track will be maintained in a routine basin and additional permanent glider sections will be progressively considered in the Balearic sub-basin.
The potential of new autonomous platforms such as gliders in combination with data from other platforms (satellites, Argo profilers, moorings, etc) for investigating the dynamics of the ocean is promising. The data from these new instruments will improve the ability to obtain a better description of the 3D ocean and will be extremely useful for assimilation into existing numerical models.



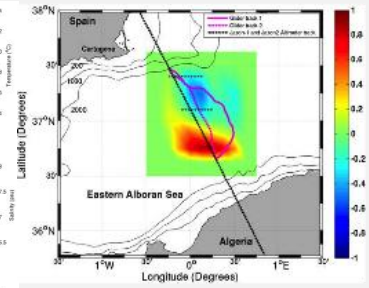


Figure 2. Vertical section of temperature (°C), salinity and chlorophyl (ug/l) from a glider section in the Eastern Alboran Sea (left). Quasi-Geostrophic vertical velocity (m/day) at 75 m (right).

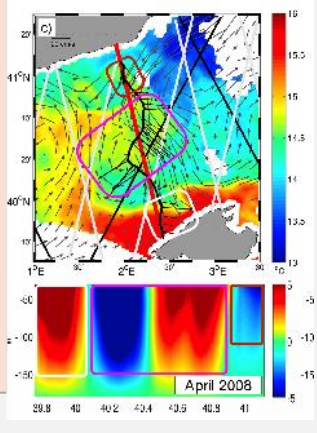


Figure 3. Surface circulation from remote sensing and the associated vertical structures from glider "go" (northward) missions in 2008. Top image shows Surface Absolute Geostrophic Current in cm/s (shaded arrow) derived from map of sea level anomalies ((M)SLA) overlapped by snapshot sea surface temperature (SST, °C) and satellite altimetric tracks (black, Jason-1; white, Envisat; the Envisat track 773 is highlighted in red). Glider displacement (black curve) with corresponding GPS raw current (Vabs, black arrows). Bottom image shows projected across-track glider CTD velocity (Vgz180, cm/s) as a function of latitude (°N) and depth (in m). For both top and bottom images the areas inside the white squares indicate the Balearic Current (BC), pink squares indicate anticyclonic eddies, and brown squares the Northern Current. (From Bouffard et al., 2010).

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MISCELLANEOUS

MedCLIVAR data archive at WDCC

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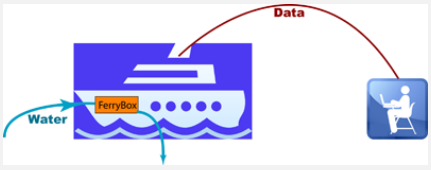
Find the call soon at: http://www.jerico-fp7.eu/tna/calls-and-selection/first-call



Post-doctoral contract at IMEDEA

We offer a **one-year postdoctoral contract** starting early in 2012 in the field of marine climate scenarios. The contract is linked to the project "VANIMEDAT2: 21st CENTURY MARINE CLIMATE SCENARIOS IN THE MEDITERRANEAN SEA AND THE NE ATLANTIC OCEAN". The aim is to determine the evolution of both the mean regime and the distribution of extreme events for the major oceanographic parameters (temperature, salinity, sea level and waves) under different climate change scenarios. The tasks to be carried out by the postdoctoral fellow will not be the design or launching of numerical simulations, but the interpretation and intercomparison of the outputs of an ensemble of simulations. Expertise in the management of large data sets and computational/graphical skills are therefore requested. VANIMEDAT2 is a coordinated project between IMEDEA and Puertos del Estado (the Spanish Harbour Authority). The postdoctoral fellow will be hosted at IMEDEA, a joint centre between the University of the Balearic Islands and the Spanish Research Council based in Mallorca (Spain). For more information about IMEDEA visit the link: http://imedea.uib-csic.es/index.php?lang=en
For information contact Damià Gomis damia.gomis@uib.cat.

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