

CIRCLE is a European Networking project aiming at implementing a European Research Area (ERA) in the field of climate change and adaptation research. CIRCLE-MED is a geographical group in the frame of [CIRCLE ERA-Net](#), addressing issues of common interest to the Mediterranean countries. The first CIRCLE-MED joint research call is dedicated to **integrated coastal zone management and water management**.

In this issue...

CIRCLE-MED expresses its sympathy to relatives and colleagues of Paula Tavares from CLIMWAT project, who tragically left us last September. In this Newsletter MEDCODYN and INTERMED projects present their objectives and activities. This issue also shortly reports on some of the recent conferences. The CIRCLE-MED Mid Term conference will take place on Nov. 18 -19 in Lisbon.

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CIRCLE-MED Newsletter

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Editorial

Within the ERA-Net CIRCLE and its different groups, CIRCLE MED has developed fast and research funders and managers within CIRCLE-MED, acknowledge the importance of collaborative research in the north and south of the Mediterranean, which resulted in the first joint call for projects on “Integrated coastal zone and water management issues”.

Because of CIRCLE-MED efforts - its independence and fruitful work and the integration within the CIRCLE umbrella - it can be stated that this group supports in an operational way the creation of a European Research Area (ERA) in the field of Climate Change Impacts, Adaptation and Vulnerability. Through monitoring of ongoing activities in the eight projects and CIRCLE-MED webpage, all of CIRCLE and interested users are continuously informed and connected to the ongoing research.

The projects provide knowledge, expertise and advice to policy makers, and helps building bridges across different Mediterranean communities. Close collaboration between the researchers and stakeholders proof the existence of a science-policy interface between researchers and decision makers in CIRCLE-MED.



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INTERMED project: The impact of climate change on Mediterranean intertidal communities: losses in coastal ecosystem integrity and services.

Partners: *University of Palermo, Laboratory of Experimental Ecology, Dept. of Ecology (Italy); University of Haifa, Recanati Institute for Maritime Studies (Israel); University of Dubrovnik, Dept. of Aquaculture (Croatia)*
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Intertidal ecosystems are defined as the benthic marine environments between the high and low tide lines along the coasts. These systems provide extensive ecosystem services and goods, sustaining the well-being and economy of coastal populations throughout the world. In the Mediterranean area, more than 90% of human populations live in the coastal zone and rely on intertidal resources (e.g., fisheries, salters, tourism, mining of sediments, harbors, etc.). Despite their evident importance and conservation measures to protect coastal areas (e.g. Marine Protected Areas), intertidal systems are threatened by various human activities, and in particular by climate change (CC).

Intertidal organisms cope with severe conditions (hydrological regime, aridity-dryness, food availability) on a daily basis. These organisms may therefore have to face new challenges under CC scenarios. CC pressures are likely to cause altered community compositions and habitat loss, reduced productivity and ecosystem quality, and eventually loss in ecosystem services and goods for human economy.

INTERMED aims at evaluating CC impacts on intertidal communities in the Mediterranean basin. Forecast of socio-economic consequences, design of potential mitigation strategies and outreach actions are also integral parts of the project.

The scientific progress within INTERMED occurs through Work Packages (WPs) 2, 3 and 4. Indeed, following a first phase whose goal is to define the state of the art and research strategies (WP2), an experimental phase is planned both in the field and in the lab (WP3). WP4 (modelling and socio-economic evaluation) is parallel to WPs 2 and 3. Management of INTERMED is ensured by WP1, while dissemination and outreach occur in WP5.

The INTERMED International Workshop Intertidal organisms as a proxy for climate change was held in Palermo on 8-14 March 2009, being the launch-event of INTERMED itself. Besides providing for the kick-off meeting as well, the event set forth the state of the art of relevant INTERMED topics through a dedicated open workshop. A number of high-profile scientists from Europe, Hong-Kong and the US were invited to give key-lectures providing added value and further inputs to discussion ([view the workshop proceedings](#)).

Following the workshop, a **literature database** containing >10.000 relevant references was collated and several **systematic reviews** are under preparation.

Field and laboratory research is ongoing, including: sampling on hard and soft intertidal habitats and tidepools (biodiversity, morphometrics, physiology); temperature measurements (thermocamera and data loggers); laboratory manipulation (mesocosm).

The socio-economic research in progress includes the lay-out of a research strategy for the Mediterranean intertidal (poor literature coverage), meetings with conservation managers; and the development of scenarios for alternative conservation measures.





MEDCODYN: Climate change impacts in transitional water systems in the Mediterranean.

Partners: *CSGI - University of Siena (Italy); Consiglio per la Ricerca e la Sperimentazione in Agricoltura (Italy); La Tour du Valat (France); Univ. of Casablanca (Morocco) and SPANA (Morocco).*

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Within the Mediterranean, coastal transitional aquatic ecosystems have a strategic role in meeting the needs and aspirations of current and future populations. Proper functioning of coastal lakes, wetlands, estuaries and lagoons is fundamental for water resources, food production and biodiversity. Yet, they have been witness to a progressive and occasionally irreversible degradation, in particular to their hydrological and biogeochemical cycles, which are further complicated by their sensitivity to climate change. To avoid further losses in resource availability and basic environmental services, an **appropriate long term strategy** must be developed.

Long term adaptive management approaches in these ecosystems has been limited by the lack of:

- ✓ structured and open information about their ecological state,
- ✓ collaboration between scientific, administrative and policy levels,
- ✓ a clear understanding of the combined effects of human activities and climate change.

The Medcodyn project scientists are working closely together to develop instruments to facilitate the long term management of coastal



aquatic ecosystems, focusing on three ecosystems in **Italy, France and Morocco**. Over the last year, major activities include the construction of a common database, performing scenario with local stakeholders and collaborative field research regarding key aspects of coastal ecosystem dynamics.

The **Medcodyn database structure** (WP1) was completed following an intensive exchange between project researchers in Italy, France and Morocco, focusing on a suitable parameter list and user interface. Uploading of specific hydrological, chemical, biological and climatological data began on a dedicated server at the University of Siena.

To best focus the **assessment tools** being developed in the project (WP2), local scenario workshops were performed in Sabaudia (Italy) and Mehdia (Maroc), with the active **participation of stakeholders, operators and researchers**. A SWOT approach, with an objective to move towards an optimum scenario for 2050 and considering intermediate climate changes scenarios and past management trends was used.

Workshop results showed **common threats** (climate change, catchment overexploitation and **poor coordination** between researchers and decision makers) but different key steps to meet scenario objectives. In Italy and France, a major step towards developing long term adaptive management strategies (WP3) is being made through the **development of climate driven models** and alternative ecosystem (and hydrology) management scenarios. In Morocco, a **long term management plan** is being constructed but a better understanding of the ecological, hydrological and chemical nature of the coastal ecosystems is required. Medcodyn researchers are playing a key role in the development of this plan. In all the study ecosystems, climatic change (especially sea level rise) is perceived to weaken the empirical knowledge that has been used historically to manage these ecosystems.

Final CIRCLE Conference

The [Final and Outlook Conference of CIRCLE ERA-Net](#) took place in Vienna, Austria on September 9–10, 2009. CIRCLE-MED projects posters were displayed and projects discussed at poster sessions.



Science-Policy Interactions Workshop

The [Workshop 'Science-Policy interactions in national adaptation policy'](#) took place in Utrecht, Netherlands on September 14-15, 2009. The discussions highlighted some of the following points (among others):

- ✓ Adaptation is an ongoing endless process.
- ✓ Vulnerabilities analysis has replaced former exhaustive impacts assessments.

- ✓ Researchers need to address policy makers to understand their information needs in order to develop public policies.
- ✓ Social sciences are increasingly considered in the adaptation processes, in particular for governance or acceptability of adaptation measures issues.

Calendar of Events

- 2-3 Nov.2009, Cairo, Egypt; [Towards the new Long Term Strategy for Water in the Mediterranean](#)
- 12-14 Nov.2009, Agadir, Maroc, [The Integration of Sustainable Agriculture and Rural Development in the Context of Climate Change, the Energy Crisis and Food Insecurity](#)
- 16-20 Nov.2009 – Final Symposium of [ENSEMBLES](#) FP6 project (climate change predictions),

- 18-19 Nov.2009, Lisbon, Portugal, **CIRCLE-MED Mid-Term Meeting.**
- 23-24 Nov.2009 – Lyon, France, [Contribution of local and regional authorities to the Water Strategy of the Union for the Mediterranean](#)
- 30 Nov – 11 Dec 2009, [COP 15 Copenhagen](#),
- 14-18 Dec.2009, Montpellier, France, [4th European Conference on Coastal Lagoons Research.](#)

In Memoriam: Paula Tavares (03/11/1971 – 08/09/2009)



Paula, a researcher of the CLIMWAT project, passed away last September the 8th in a fatal car accident, at the age of 37. She was born in Lisbon. Her family originated from Aveloso, São Pedro do Sul. She obtained Bachelor, MSc and PhD degrees in Biology, Ecology and Ecotoxicology. After working for several years on bioindicators of environmental pollution (invertebrate communities and their predators - birds), she joined the Geo-Systems/CVRM research centre of the Instituto Superior Técnico in 2008 and since then was involved in research related to biodiversity and ecological indicators of environmental changes (climate/habitat), particularly in groundwater dependent ecosystems. Besides her academic work, Paula was a fervent social and environmental activist, defending the rights of minority groups. She will be greatly missed.