

Regional Workshop on Methods and Tools for Vulnerability Assessment

Milan, 3-5 February 2016



About Fondazione CMCC

The Euro-Mediterranean Center on Climate Change is a **research organization** that conducts and promotes scientific and applied activities within the scope of international climate change research.

The Center is organized in the form of a **network** distributed throughout the country with locations in Lecce, Bologna, Capua, Milan, Sassari, Venice, Viterbo and Benevento, which involves and connects public and private entities working together on **multidisciplinary** studies concerning issues of interest to the climate sciences.



The **specific objective** of these research studies is to provide **scientifically reliable, rigorous and updated results** that will help to investigate, know and represent the interactions **between the climate system, the marine and terrestrial ecosystems, and society.**



Who we are

The Center's research lines and activities are implemented through the active involvement of the CMCC's members and through the sharing of their internal resources.

CMCC relies on the extensive and established research experience of the **eight members**:

- Istituto Nazionale di Geofisica e Vulcanologia (INGV)
- Università del Salento
- Centro Italiano di Ricerche Aerospaziali (CIRA S.c.p.a.)
- Università Ca' Foscari Venezia
- Fondazione Eni Enrico Mattei (FEEM)
- Università di Sassari
- Università della Tuscia
- Università degli Studi del Sannio



Our Mission

To investigate and model our climate system and its interactions with society to provide reliable, rigorous, and timely scientific results to stimulate sustainable growth, protect the environment and to develop science driven adaptation and mitigation policies in a changing climate

1. CMCC is committed to scientific integrity and independence, to foster scientific progress and innovation.
2. CMCC is committed to inform and facilitate the dialogue between scientists, decision makers, and the general public to support decisions and actions for the benefit of society and the environment.
3. CMCC is committed to encourage discipline convergence to spur new and creative ideas and to ensure that environmental observations, analyses, predictions, and services effectively meet the needs of society.
4. CMCC is an equal opportunity employer, actively promoting diversity in the workplace.
5. CMCC is a non-advocacy institution.

Strategic imperatives

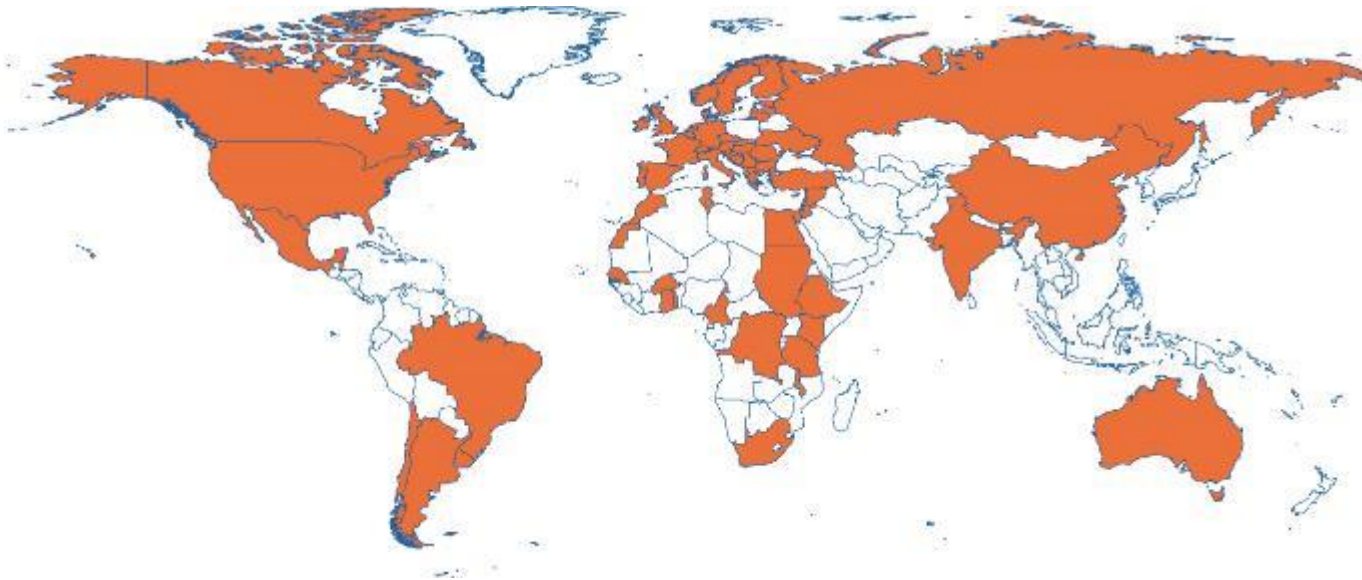
1. Assessing the state of the Human Earth System
2. Modeling and predicting the Human Earth System
3. Serving the society of tomorrow
4. Delivering Xtreme computing power
5. Reaching out



International Network

Since its inception, CMCC has played an active role in the international climate change research arena and provided assistance to public decision-makers and international institutions.

CMCC collaborates with centers and institutions based in more than 70 countries



Since August 2006, the Euro-Mediterranean Center on Climate Change hosts the **IPCC Focal Point for Italy**.

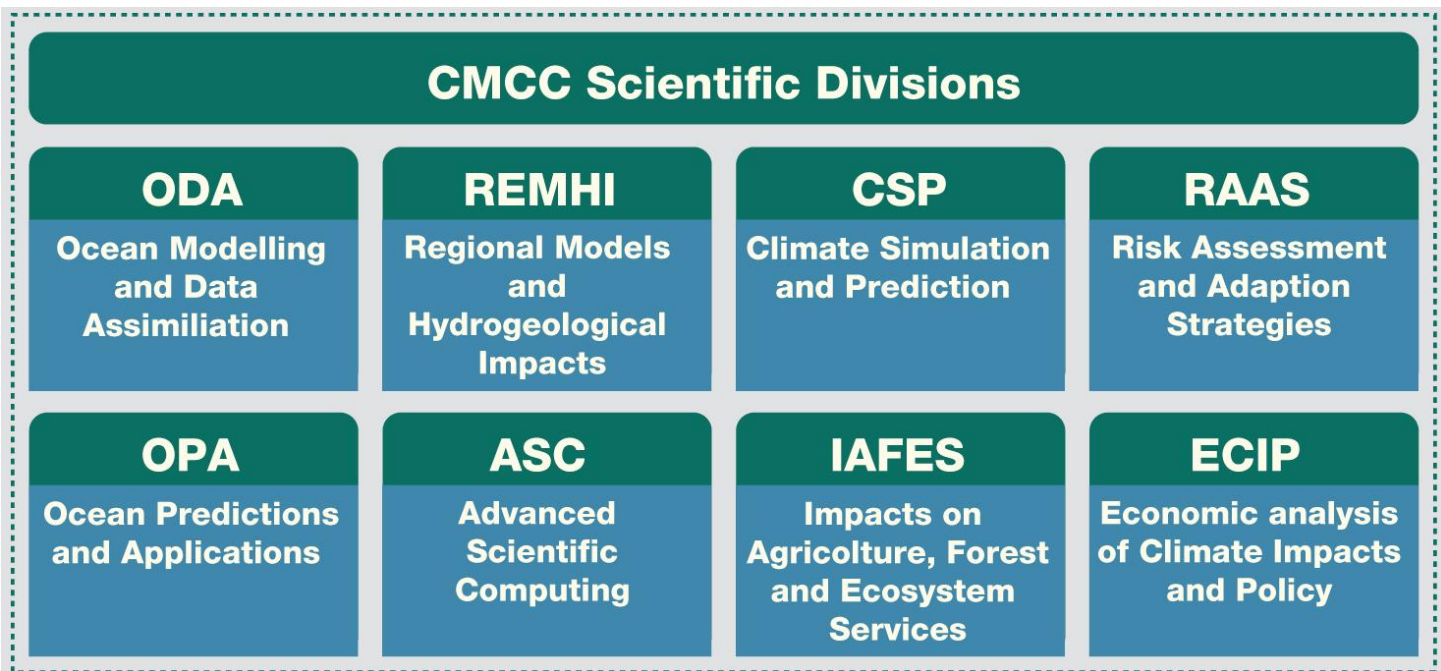
CMCC in the global Top 100 **Think Tank** Ranking.



CMCC Research Divisions

SCIENTIFIC DIVISIONS

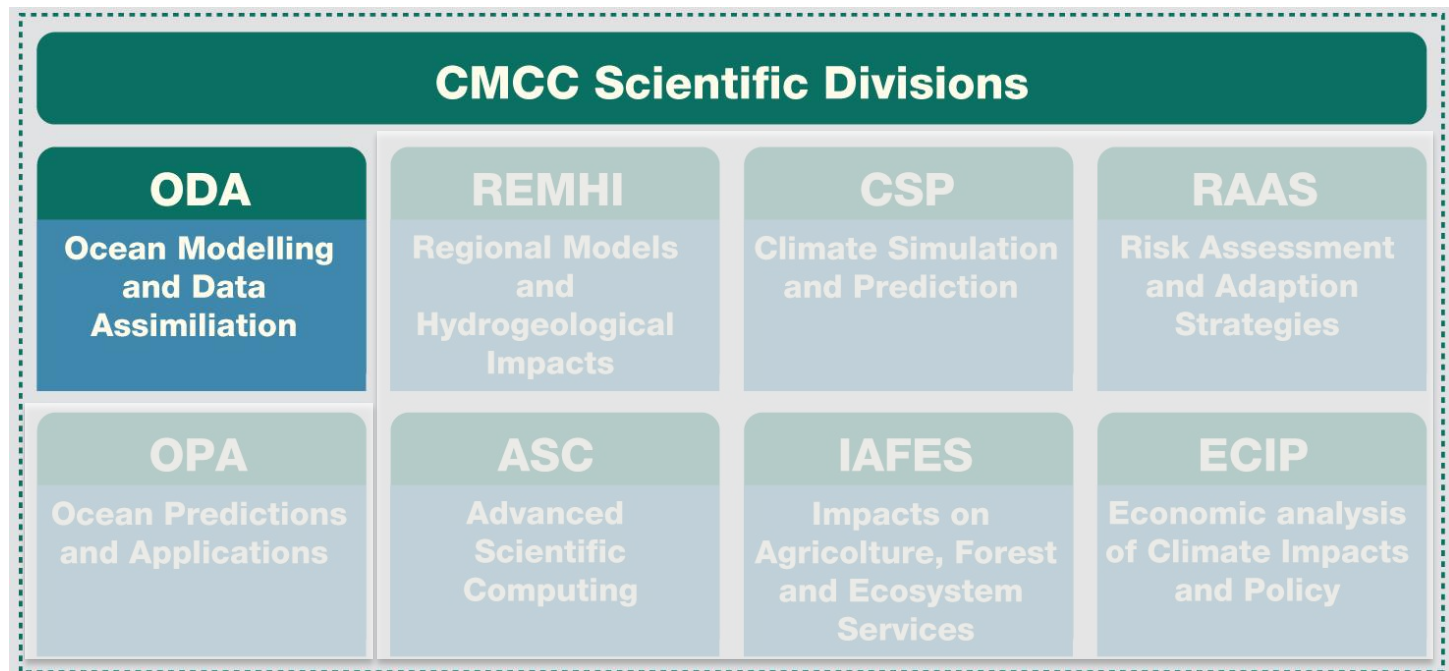
CMCC research activities are distributed among 8 research divisions that share different knowledge and skills in the field of climate science



CMCC Research Divisions

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[Ocean modeling and Data Assimilation \(ODA\) Division](#)

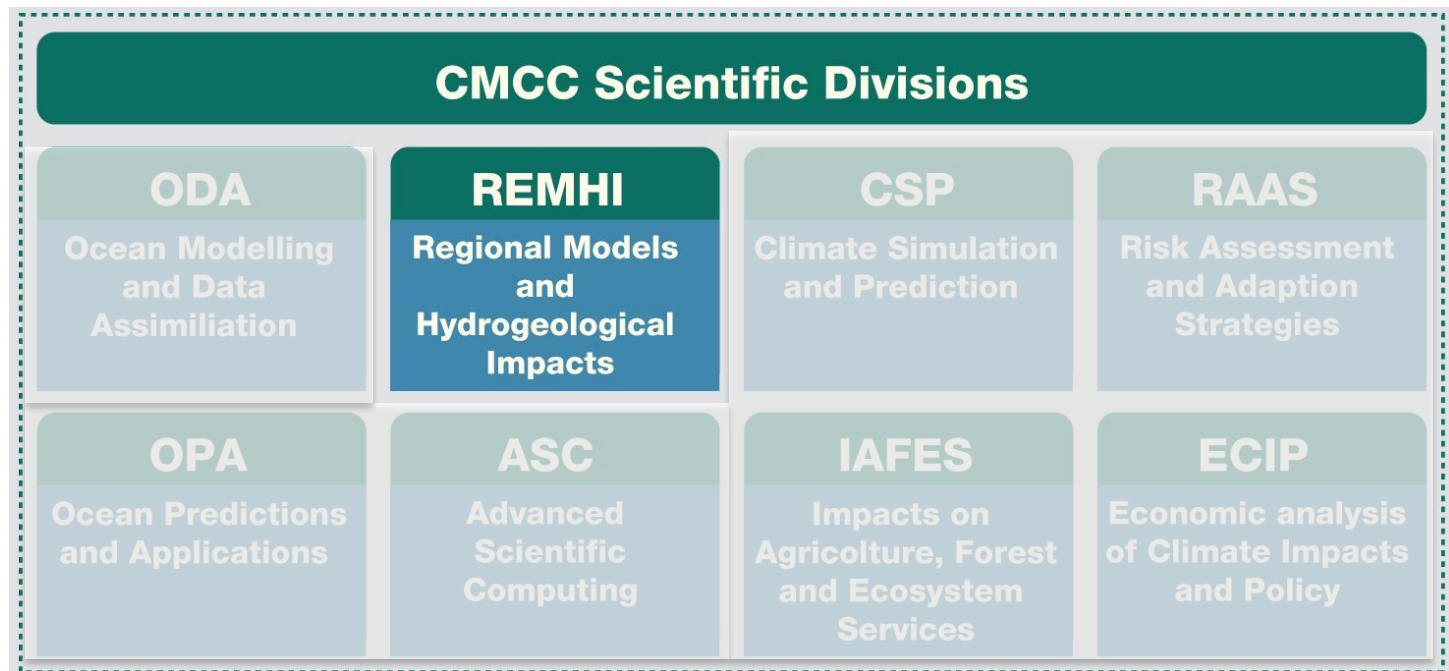
development and improvement of the CMCC Earth System Model components with a particular emphasis on the physical and biogeochemical ocean models



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REgional Models and geo-Hydrological Impacts (REHMI) Division

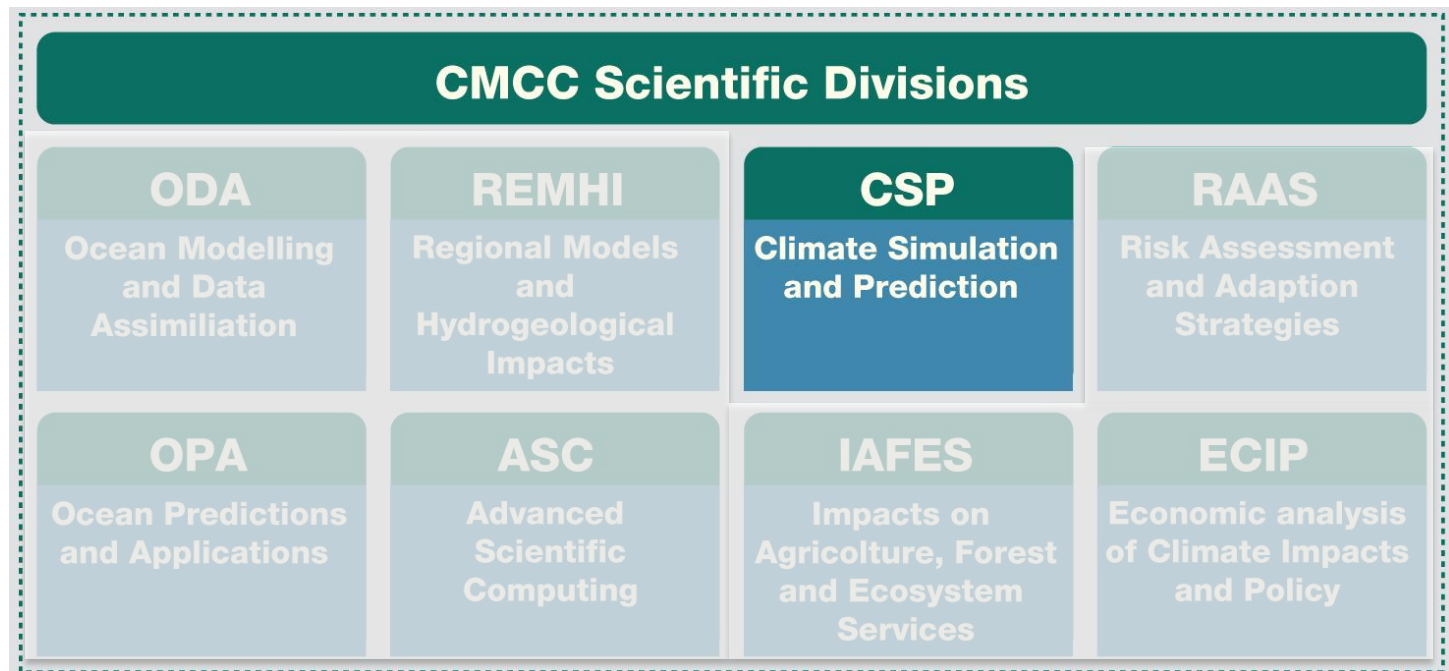
regionalization of the climatic signal through statistical and dynamical downscaling, and assessment of the geo-hydrological impacts



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Climate Simulation and Prediction (CSP) Division

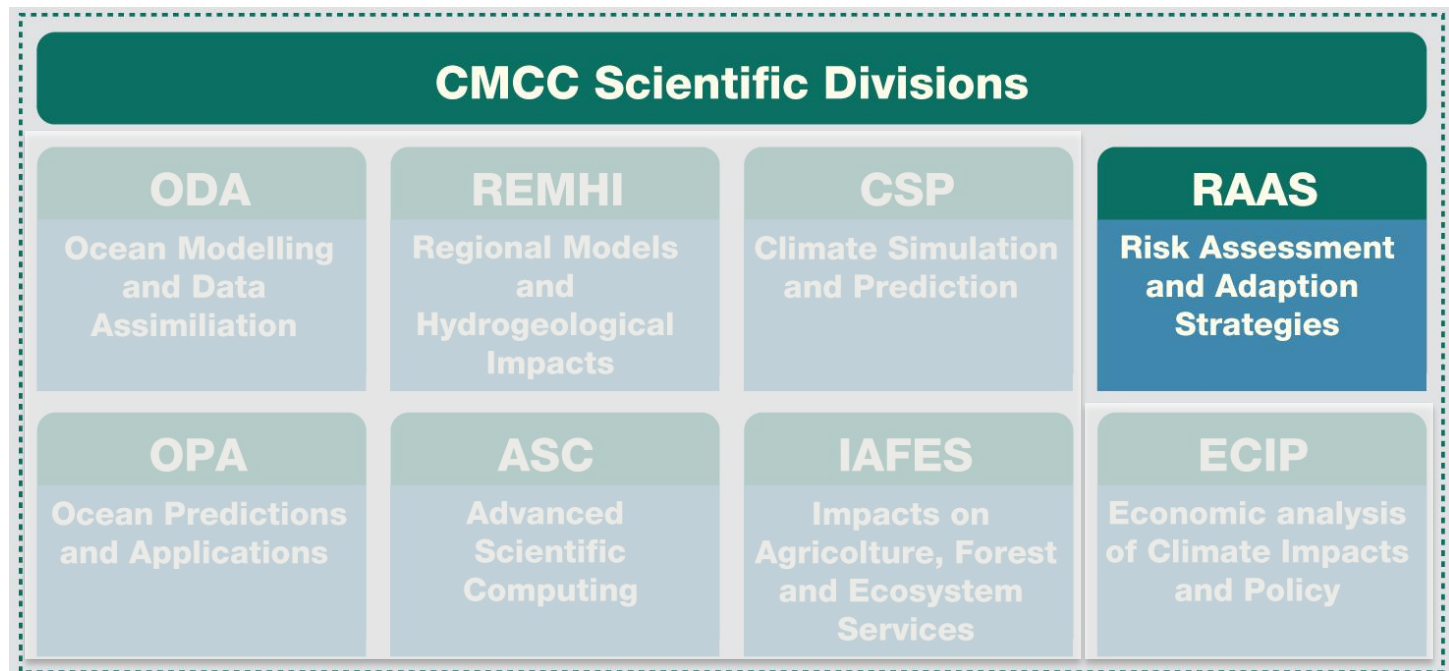
development of the CMCC Climate and Earth System models , climate variability, climate predictability and climate change



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Risk Assessment and Adaptation Strategies (RAAS) Division

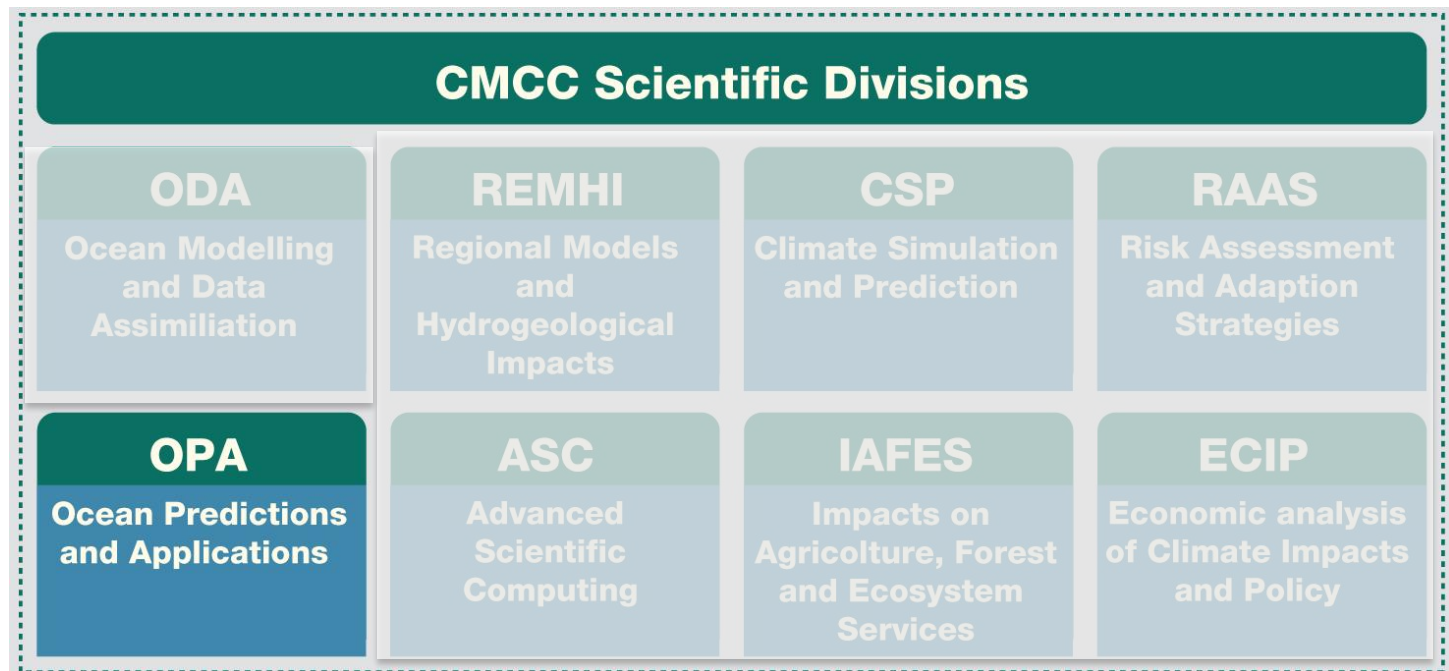
climate risk analysis and assessment, and development of adaptation strategies and policies



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[Ocean Predictions and Applications \(OPA\) Division](#)

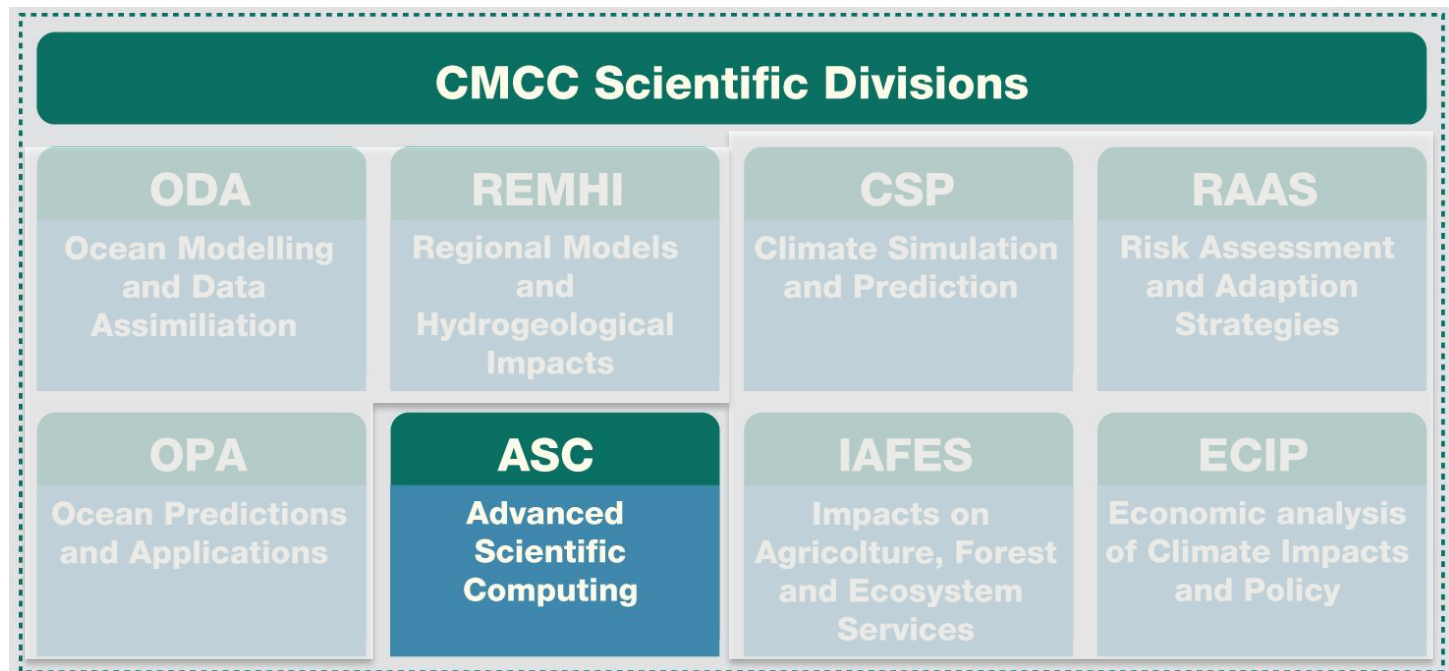
interdisciplinary research on marine operational forecasting and development of services and applications for maritime economy sectors



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Advanced Scientific Computing (ASC) Division

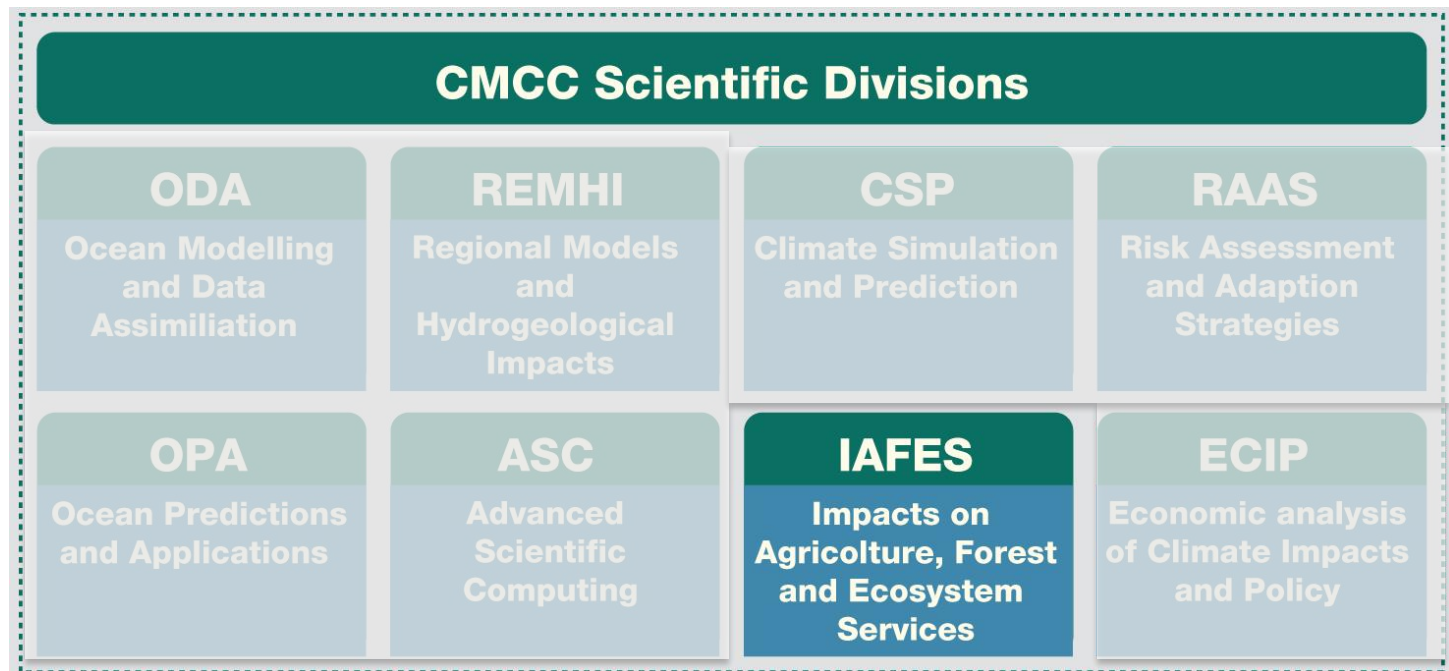
R&D activities on Computational Science applied to the Climate Change domain



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Impacts on Agriculture, Forests and Ecosystem Services (IAFES) Division

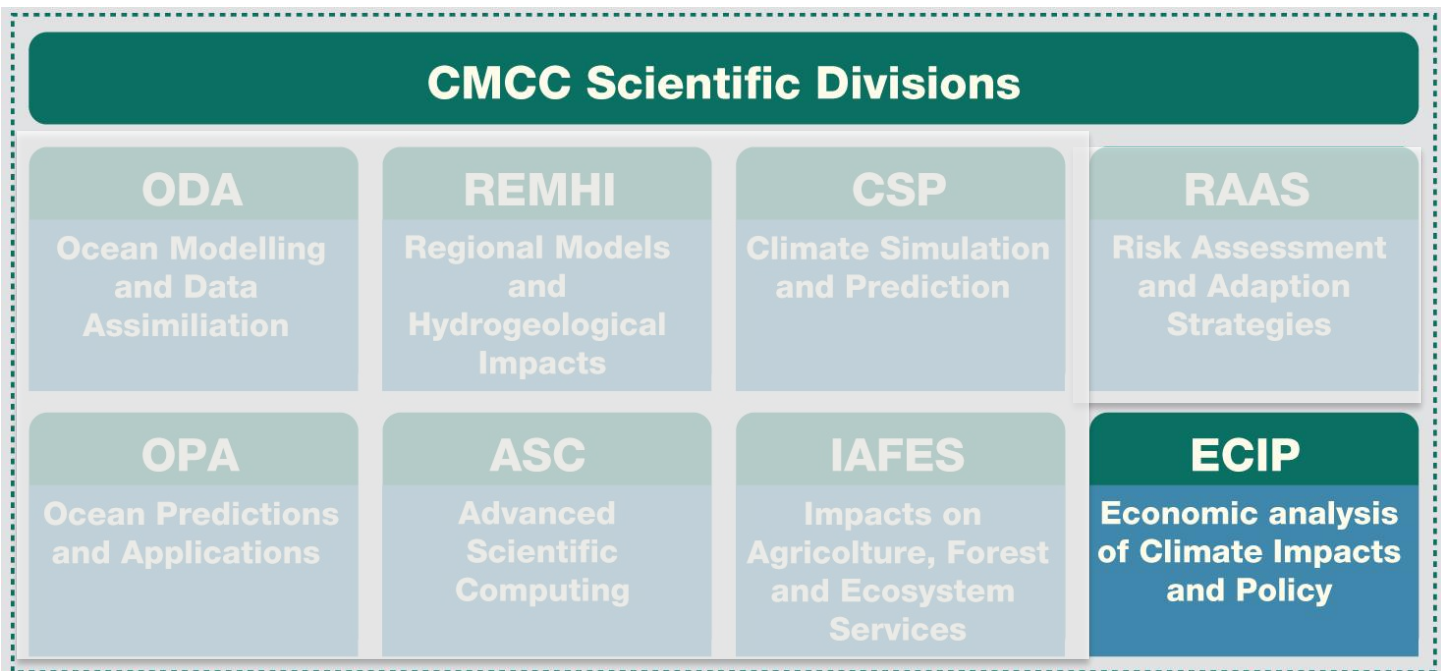
diagnosis and forecast of climate change impacts on agriculture and on natural and semi-natural terrestrial ecosystems



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Economic analysis of Climate Impacts and Policy (ECIP) Division

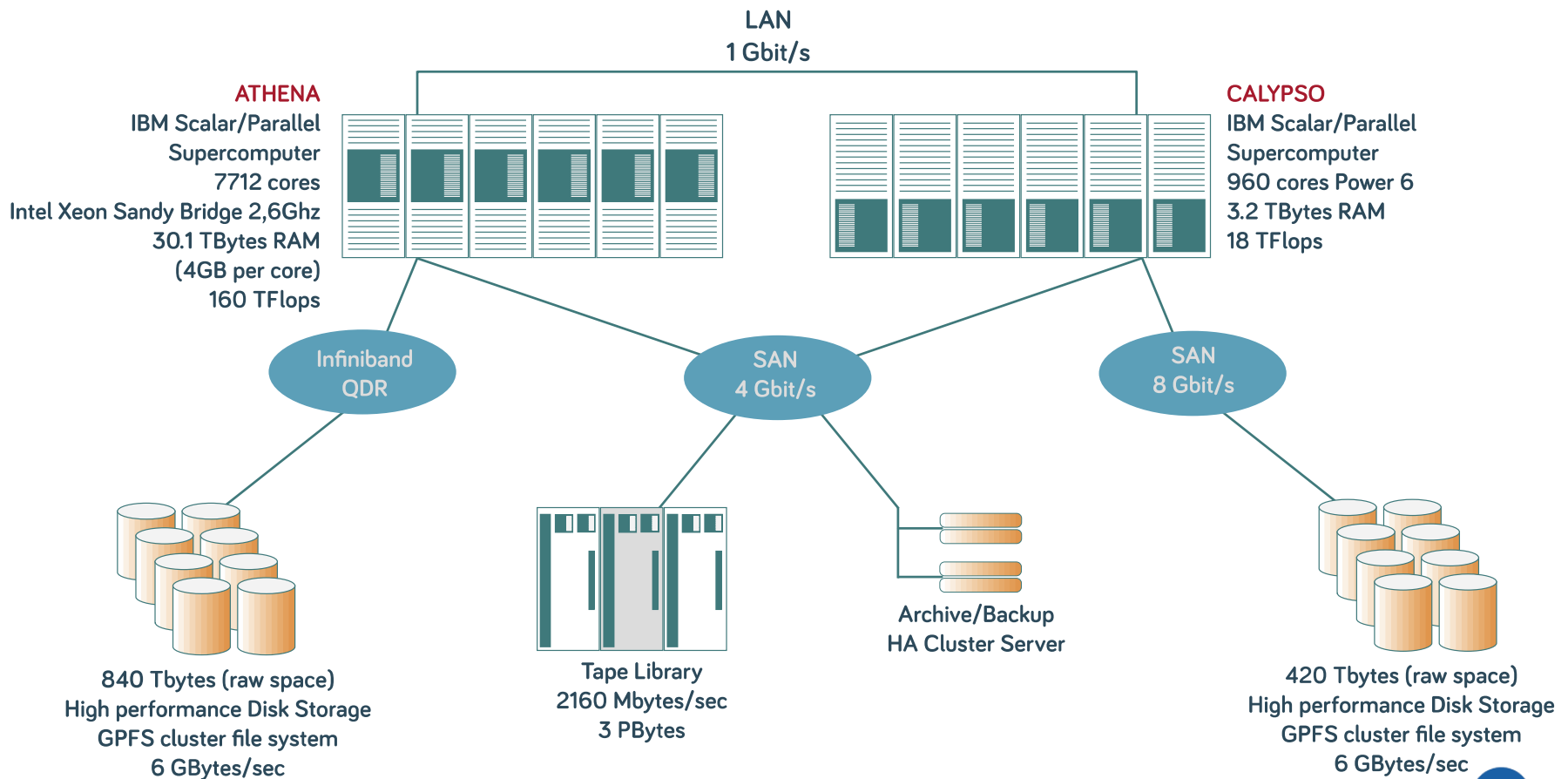
translates into economic values climate scenarios and the subsequent quantification of the impact of climate change



CMCC's Supercomputing Center

The technological heart in the global Top 500

The core of the technological infrastructure that allows CMCC to design and develop scenarios and models on the future of the climate is located in Lecce.

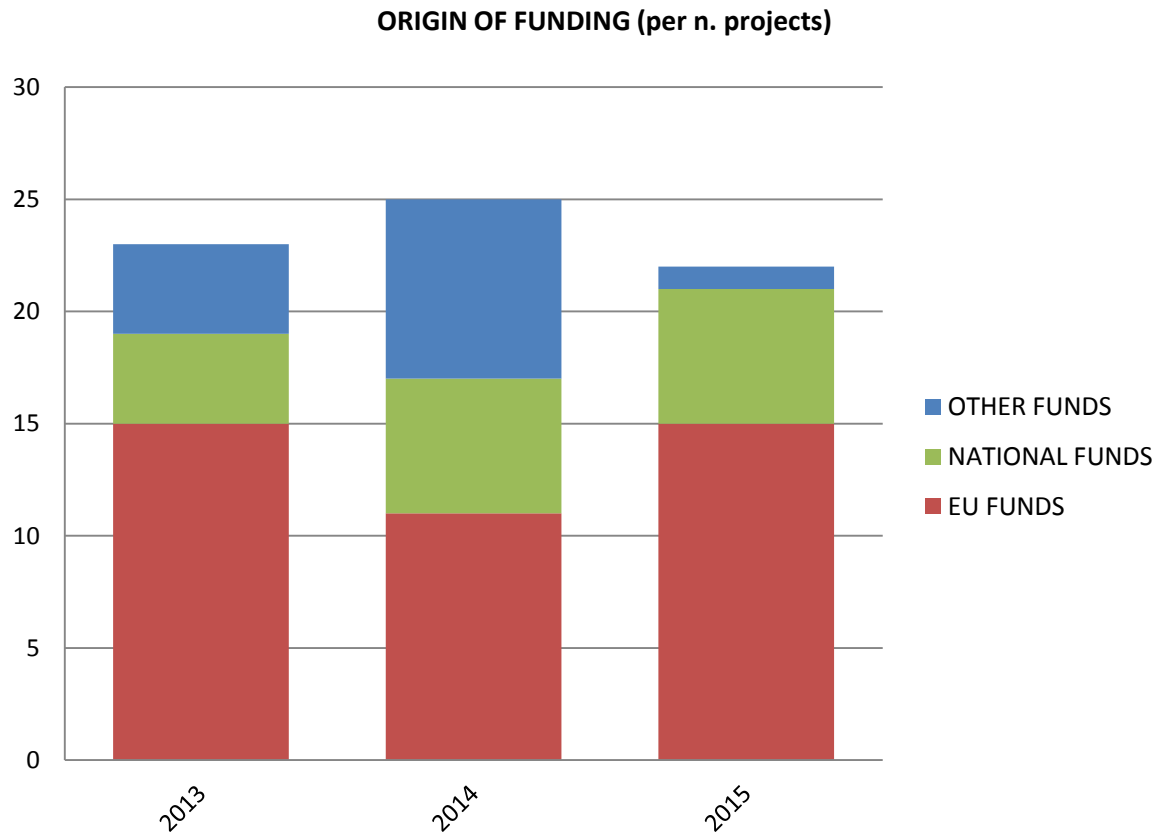


CMCC Research Projects

CMCC acquired portfolio of research projects includes **171 funded projects**: 2 funded projects in FP6, 35 funded projects in FP7, 16 funded projects in H2020 and 118 funded projects under other EU and international research grants

In about a half of the implemented projects, CMCC acted as the coordinator

CMCC average **turnover** in the last 3 years is around **13 M €**

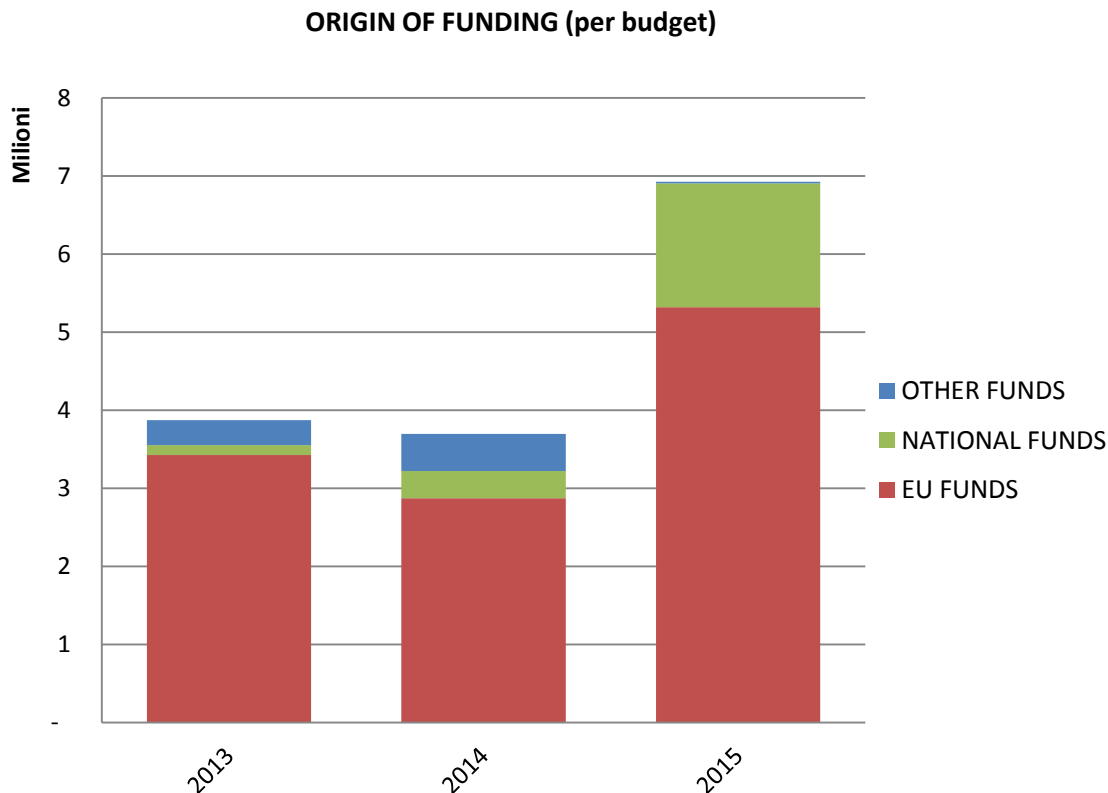


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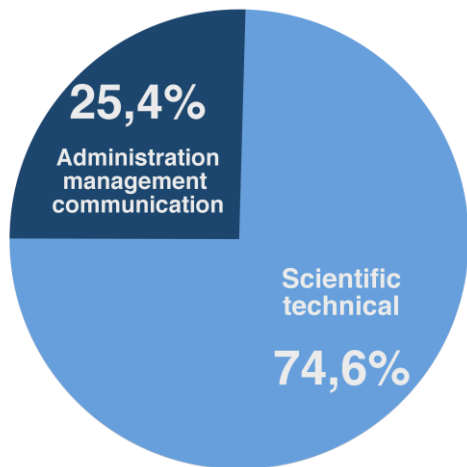
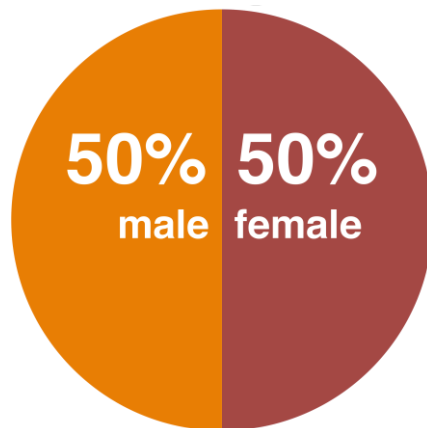
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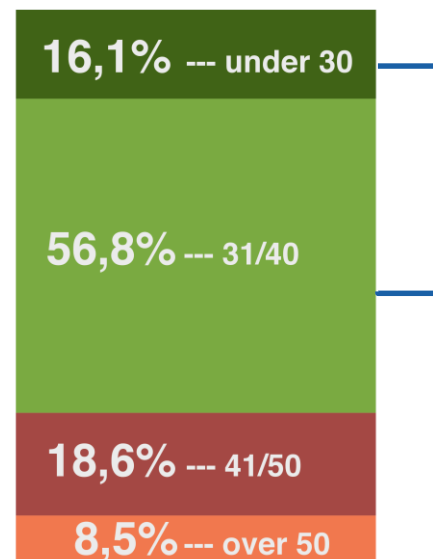
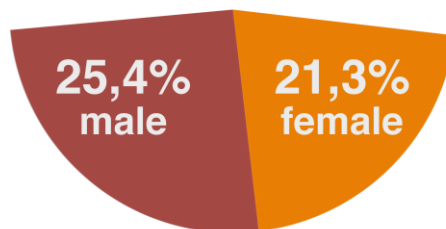


People at CMCC

119
(year 2015)



46,7% holds a PhD



72,9%
under
40



Training Programs

SCHOOLS

Advanced School on Data Assimilation

Bologna - June 24/28, 2013

Climate Change Impacts and Policy in the Mediterranean Basin

Venezia, May 20/25, 2013

CMCC-ICCG Summer School on Adaptation Policies and Practices in the Mediterranean Basin (MedAdapt)

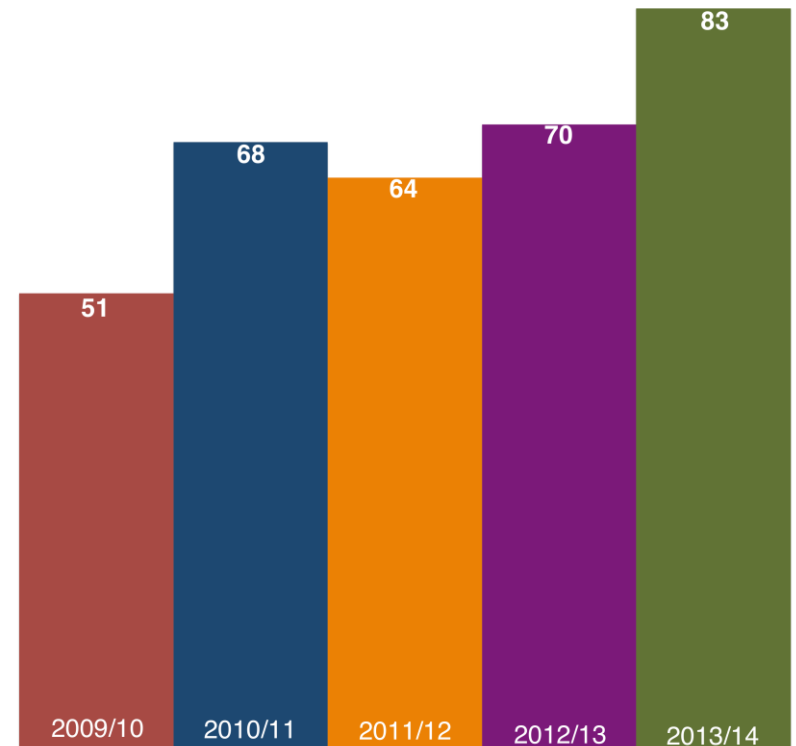
Venice, May 19/23, 2014

OTTIMA – Operational oceanography and information technologies for maritime security

Lecce/Napoli, January 2012/May 2015

GRADUATE PROGRAMS

Number of students



Communication

CMCC has developed a range of communication and **information** activities through which the Center acts as a reference point in **the public debate** on issues related to climate change research.

The CMCC's information and communication activities are carried out through the website – www.cmcc.it – which serves as multimedia and multidisciplinary repository of the contents produced by CMCC.

www.cmcc.it

TEC A blog on the changing climate

ClimateScience&Policy



@cmccclimate



Cmcc Climate
Cmcc Press



CMCC Channel
CMCCvideo



CMCC profile
on LinkedIn



Regional Workshop on Methods and Tools for Vulnerability Assessment

Milan, 3-5 February 2016



Agenda - Wednesday 3rd February 2016

BACKGROUND AND INTRODUCTION

Morning 9.30 -12.30

- **Workshop opening, welcome, workshop goals, participant introductions** - Giulia GALLUCCIO, Bernardo SALA, Andrea DI VECCHIA
- **The Paris Agreement and the adaptation goal** - Elisa CALLIARI, CMCC
- **Key Climate Change Issues in the ClimaSouth Region** - Edoardo BUCCHIGNANI, CMCC

Lunch 12.30-14.00

Afternoon 14.00-17.30

- **Climate Change Impacts, Adaptation and Vulnerability Approaches** - Andrea CRITTO, CMCC
- **Participatory (stakeholder based) methods for vulnerability assessment** - Valentina GIANNINI, CMCC
- **Preliminary discussion between participants and workshop experts of a vulnerability analysis that each participant country team would like to do as a supervised homework** (participants are encouraged to prepare for this discussion)

Introduction to Hands-on training component (the analysis/analyses that will be worked through)



Agenda - Thursday 4th February 2016


COASTAL VULNERABILITY ASSESSMENT, EXISTING METHODS & TOOLS

Morning 9.30 -12.30

- **Methods for assessing coastal vulnerability to climate change** - Silvia TORRESAN, CMCC
- **DESYCO: A decision support system for the regional risk assessment of climate change impacts in coastal zones** - Andrea CRITTO, CMCC
- **Towards a coastal ocean forecasting system in the Mediterranean Sea** - Ivan FEDERICO, CMCC

Lunch 12.30-14.00

Afternoon 14.00-17.30

- **DESYCO: key functionalities for stakeholders across case studies** (focus on the case study of the Gulf of Gabes, Tunisia) - Elisa FURLAN, CMCC
- **Addressing climate change vulnerabilities and risks in vulnerable coastal areas in Tunisia**, Abdel ABDOULI, Director Observatoire du Littoral, Tunisia
- **Marine Environment and  SEA CONDITIONS** , ocean/weather forecasts and environmental indicators for the Mediterranean Sea - Rita LECCI, CMCC
- **Application of a spatially explicit risk approach for multi-hazard assessment and management in marine environment** - Elisa FURLAN, CMCC

Hands-on training: discussion on possible vulnerability analyses.



Agenda - Friday 5th February 2016

VULNERABILITY ASSESSMENT IN AGRICULTURE, EXISTING METHODS & TOOLS

Morning 9.30 -12.30

- **Modelling crop vulnerability and risk by applying the Decision Support System for Agro technology Transfer-Cropping System Model (DSSAT-CSM)** (Valentina MEREU, CMCC)

Lunch 12.30-14.00

VULNERABILITY ANALYSIS FOR THE REGION

Afternoon 14.00-17.30

- **DESYCO Corner: interactive demonstration of the software DESYCO** (Andrea CRITTO, Silvia TORRESAN and Elisa FURLAN, CMCC)
- **SEA CONDITIONS Corner: interactive demonstration of the tool** (Rita LECCI and Ivan FEDERICO, CMCC)

Participants to present their vulnerability analysis (current status if progress is already in place, and plans for homework analysis)



Thank you!

