



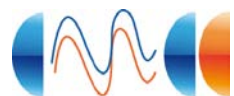
Centro Euro-Mediterraneo  
per i Cambiamenti Climatici

An Outlook on  
the Euro-Mediterranean Centre for Climate Change  
CMCC

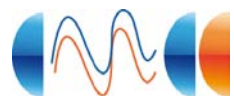
# Introduction to CMCC

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- **CMCC is the Italian Research Centre on Climate Science and Policy.** Supported by the Italian Ministry for the Environment Land and Sea, the Ministry for Education, University and Research and the Ministry for Economy
- **CMCC was established in 2005 from the experience of Six Italian Research Institutions** (Istituto Nazionale di Geofisica e Vulcanologia, Fondazione Eni Enrico Mattei, Università degli Studi del Salento, Centro Italiano Ricerche Aerospaziali, Consorzio Venezia Ricerche, Università degli Studi del Sannio).
- **CMCC hosts the IPCC Italian Focal Point**



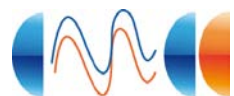
To act as a **vertically integrated research centre** able to produce scientific studies, assessments and investigations in climate change science, contributing to develop strategies and to inform policies, with a global approach but a with a **specific focus on the Mediterranean region**



## 1.3 CMCC Resources

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- **Offices in Italy**
  - Lecce, Venice, Milan, Benevento, Sassari, Capua, Viterbo
- **Supercomputing Infrastructure**



## 2. CMCC Activities

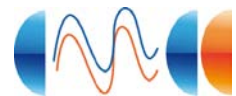
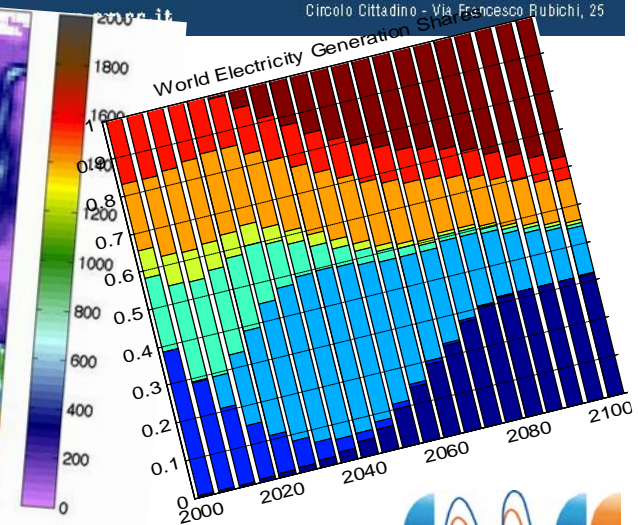
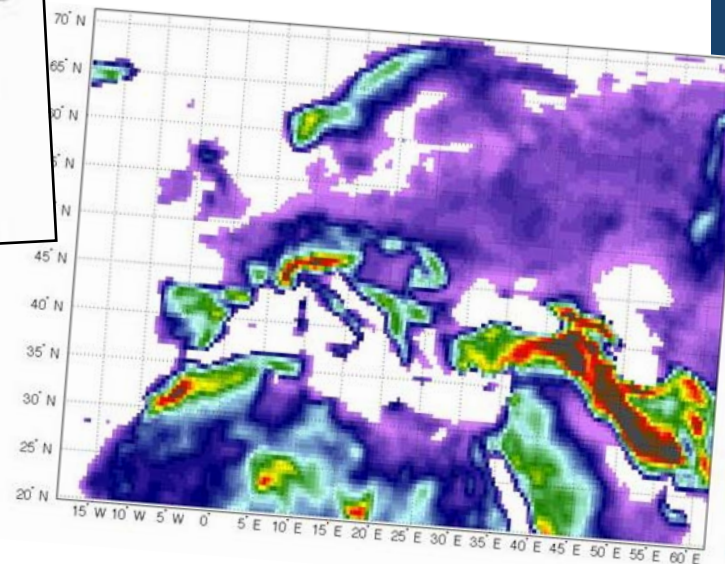
- Research
- Dissemination
- Training



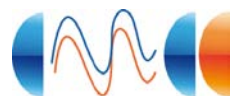
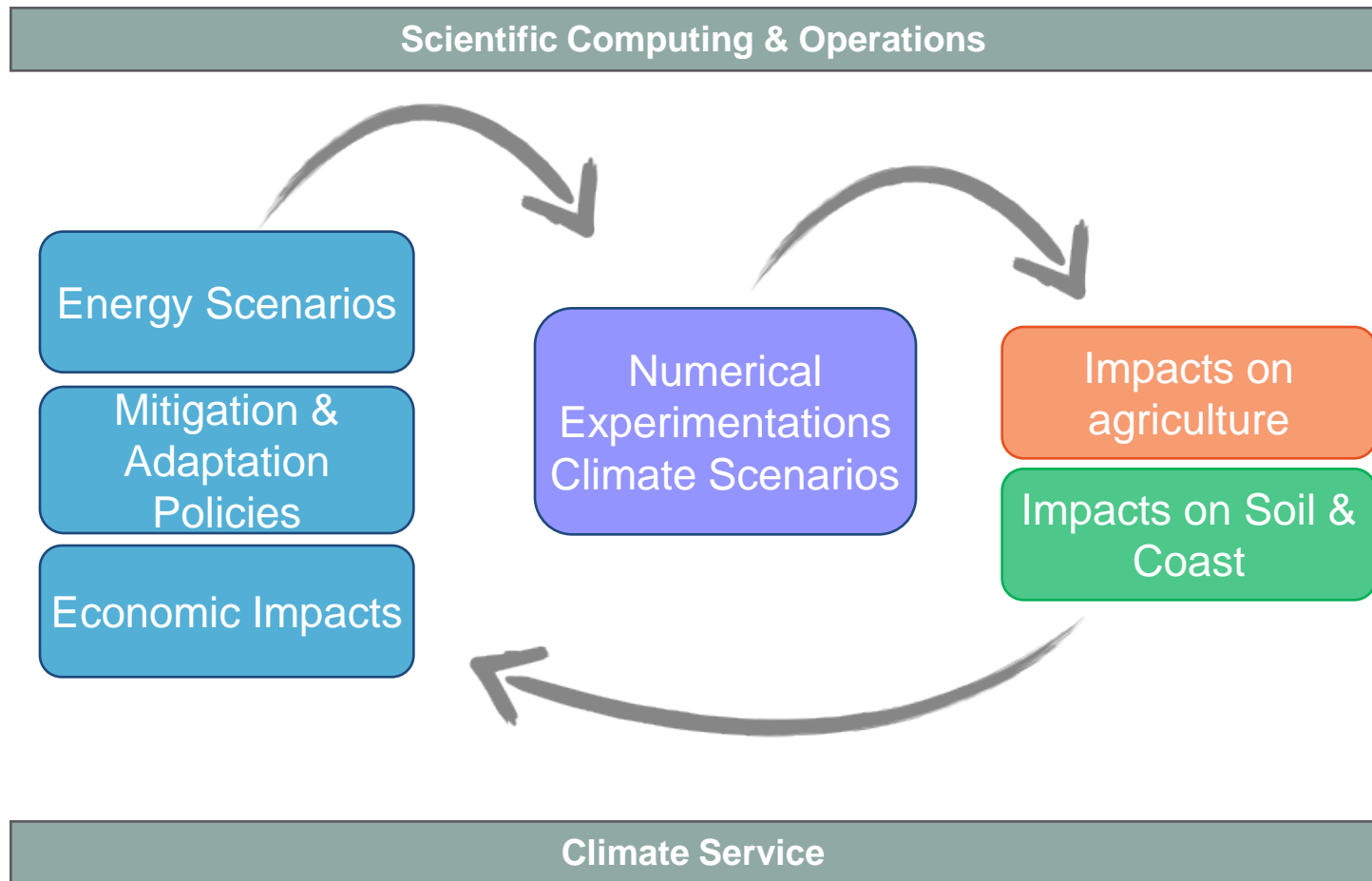
Climate Science in the MEDITERRANEAN AREA  
Lecce, January 31<sup>st</sup> 2009



**Conference Programme:**  
"The climate to come. Scientific analysis and political choices."  
Start at 9.00 a.m.  
Circolo Cittadino - Via Francesco Rubichi, 25

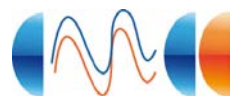


# Six Integrated Divisions



- 126 rapporti di lavoro attivi al luglio 2011 (di cui 99 figure tecnico – scientifiche)
- Valore della produzione al 31/12/2010: 8.049.120 euro (2011 circa 13Meuro).
- Totale attività al 31/12/2010: 30.067.106 euro
- 23.456.334 euro complessivi per i progetti gestiti dal 2005 oltre al finanziamento iniziale FISR di 27 Meuro.
- 61 progetti di ricerca gestiti dal 2005 (di cui 31 coordinati dal CMCC e 42 tuttora in corso)

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- 42% percentuale di successo nella presentazione nel Programma Europeo Ambiente dell'FP7





# Research Activities: key topics

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## Science basis

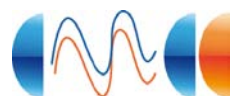
- Natural Variability of the climate and climatic changes due to the anthropic effects
- Development of Global and Regional Numerical Models

## Physical Impacts

- Impacts and risks of climatic changes on:
  - Agriculture, Forests, Natural and Half-Natural Ecosystems, Costs
- Hydro geological Phenomena (floods and landslides) related to extreme meteorological events

## Economics

- Energy and Emission Long Term Scenarios and Mitigation Policies
- Economic Assessment of Climate Impacts and Adaptation Policies



# Dissemination Activities

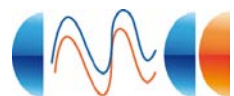
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## CMCC Publications Series

- Research Papers  
also published on the Social Science Research Network (SSRN)
- Policy Notes  
short papers on key scientific and policy issues on CC
- Weekly Column “**Climate Policy News**”  
collection of latest news on carbon market, EU ETS and international climate change agreements
- Bi-monthly Report “**International Climate Policy and Markets**”  
on international climate negotiation and policy measures

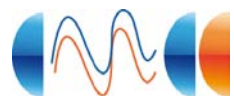
## CMCC Events

- International Scientific Conferences
- Technical workshops
- Policy meetings

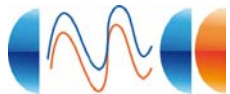
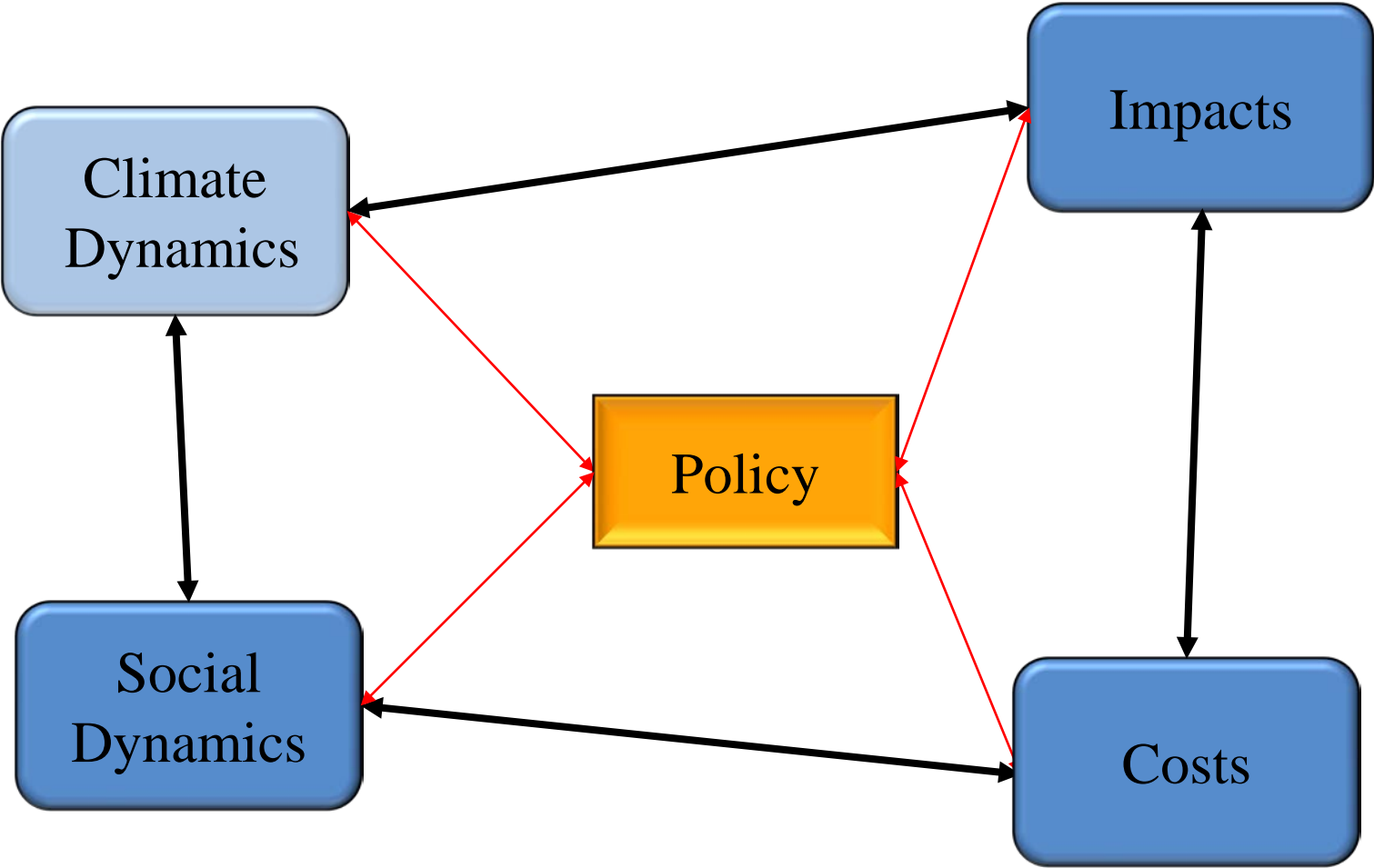


# Training Activities

- **Doctorate School in Global Change Science and Policy – ChangeS**  
In partnership with: University of Venice, University of Salento, University of Sassari
- Aim: promoting and coordinating advanced studies on climate change impacts and policy
- Activities: advanced training and research activities with emphasis on the development of innovative management strategies for both physical and socio-economic climate related phenomena.
  - **4 Ph.D. programs** currently active on:
    - **Science and Management of Climate Change** – Venice, Bologna
    - **Environmental and Energy Systems** – Lecce
    - **Climate Change Sciences** - Lecce
    - **Agriculture and Forestry Systems** – Sassari
- A structured **Winter and Summer Schools Programme**

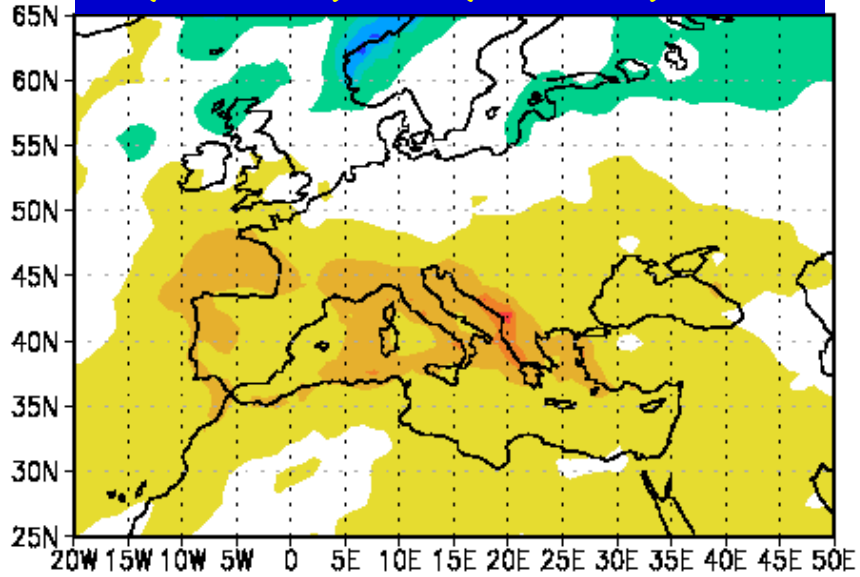


# Climate Change Impacts

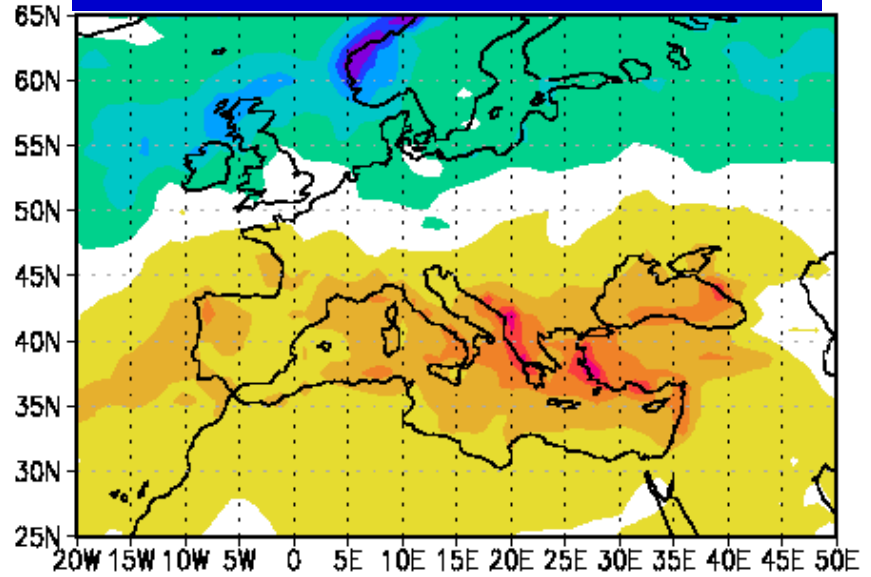


# SCENARIO: **A2 - 20C** precipitation

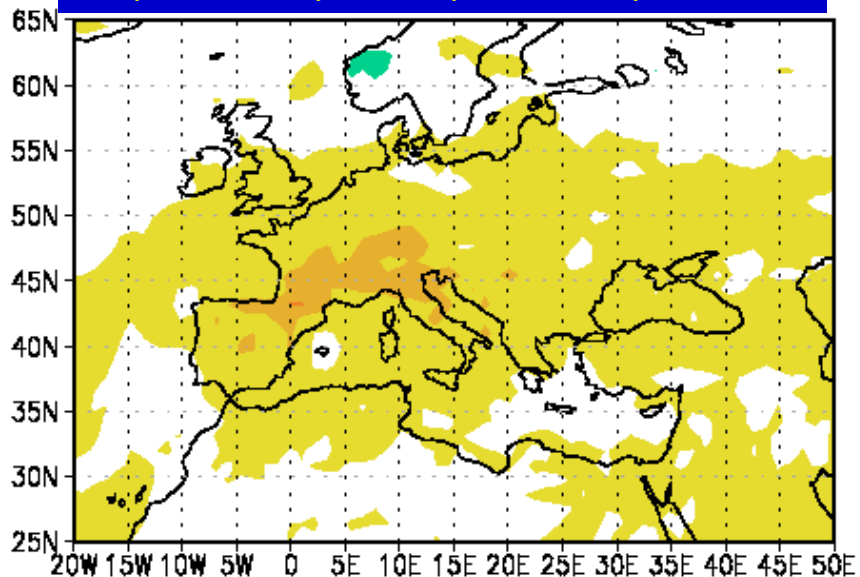
**A2(2001-2050) - 20C(1951-2000) JFM**



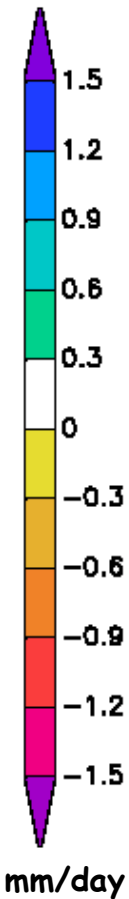
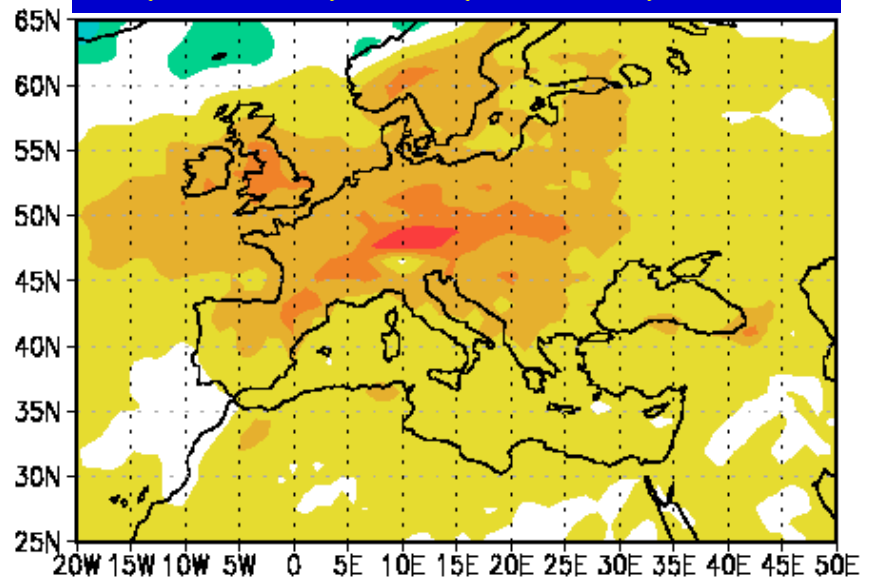
**A2(2051-2100) - 20C(1951-2000) JFM**



**A2(2001-2050) - 20C(1951-2000) JAS**



**A2(2051-2100) - 20C(1951-2000) JAS**

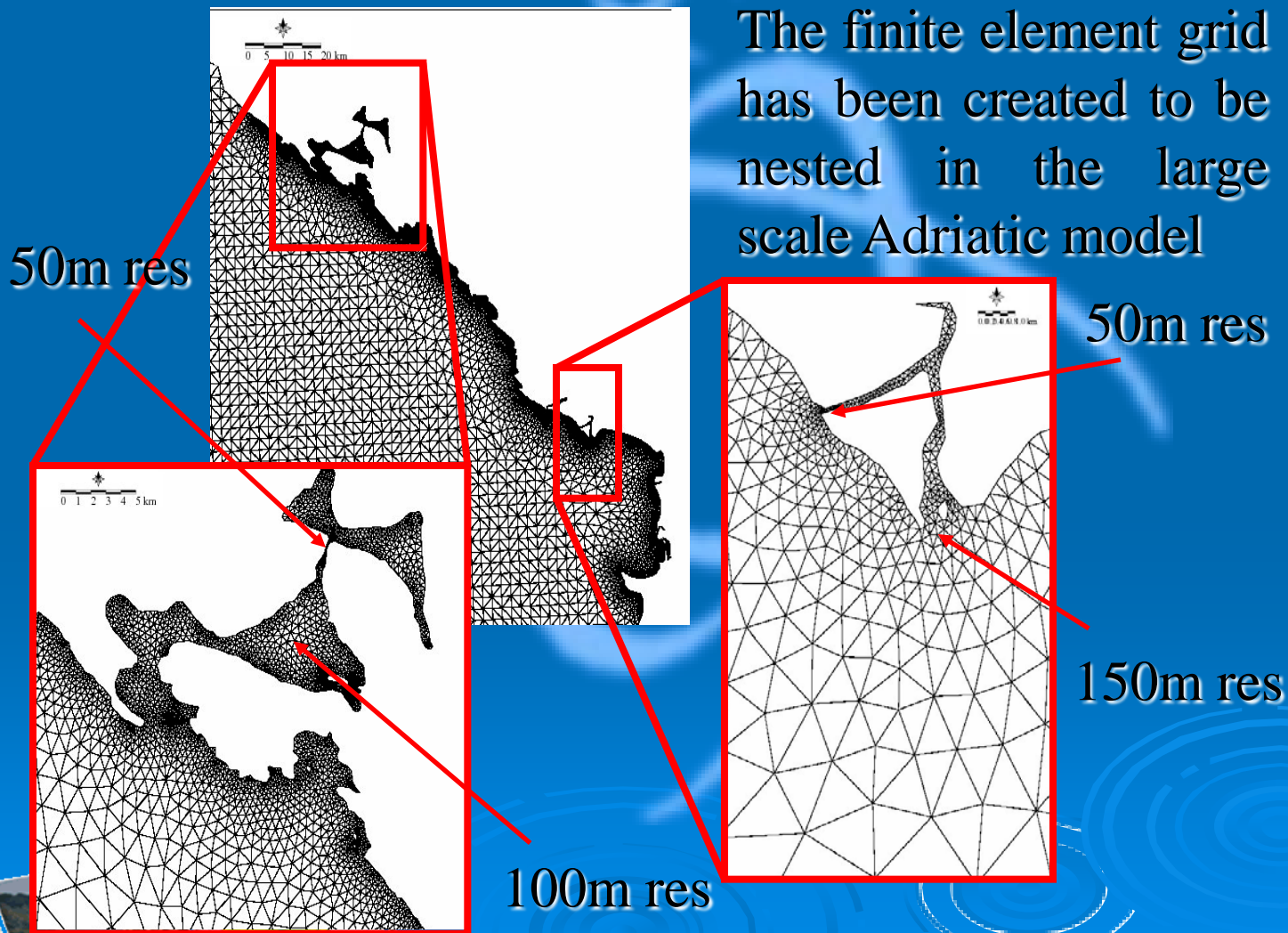


# *There are limits to adaptation*

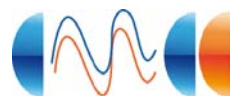
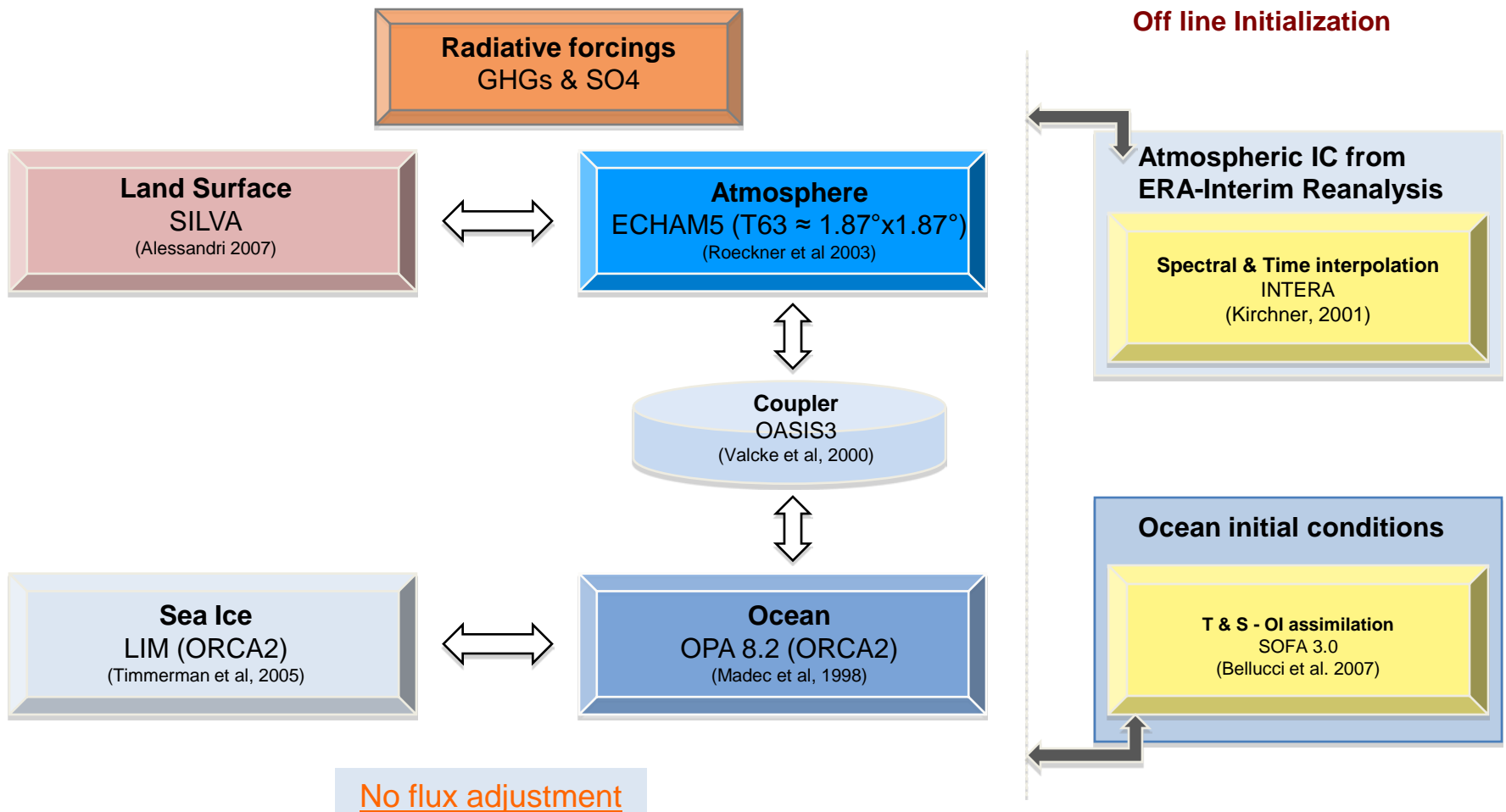


Dutch cows,  
End of XXI century

# Montenegro coastal strip modelling

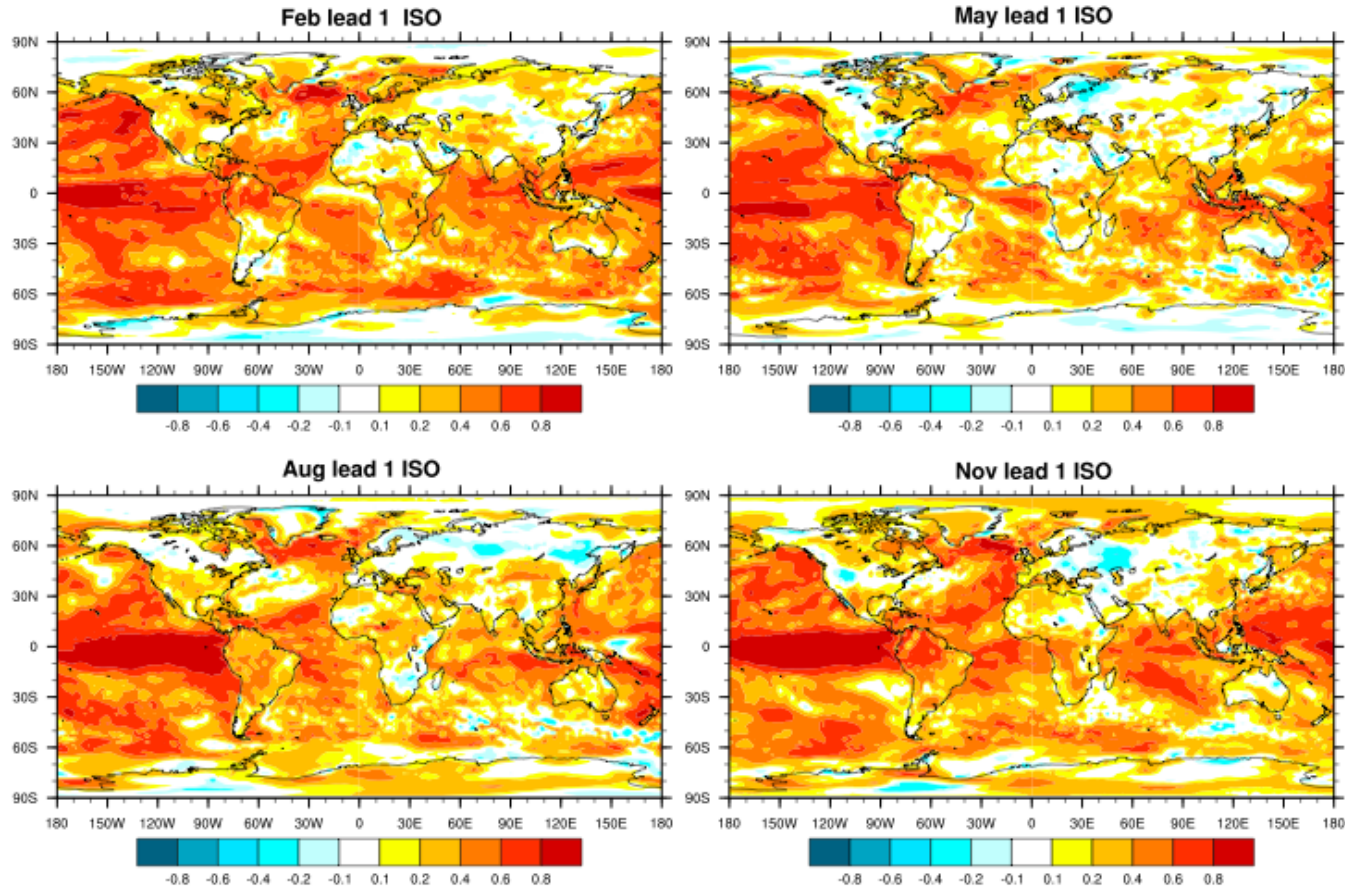


# The CMCC seasonal forecasting system

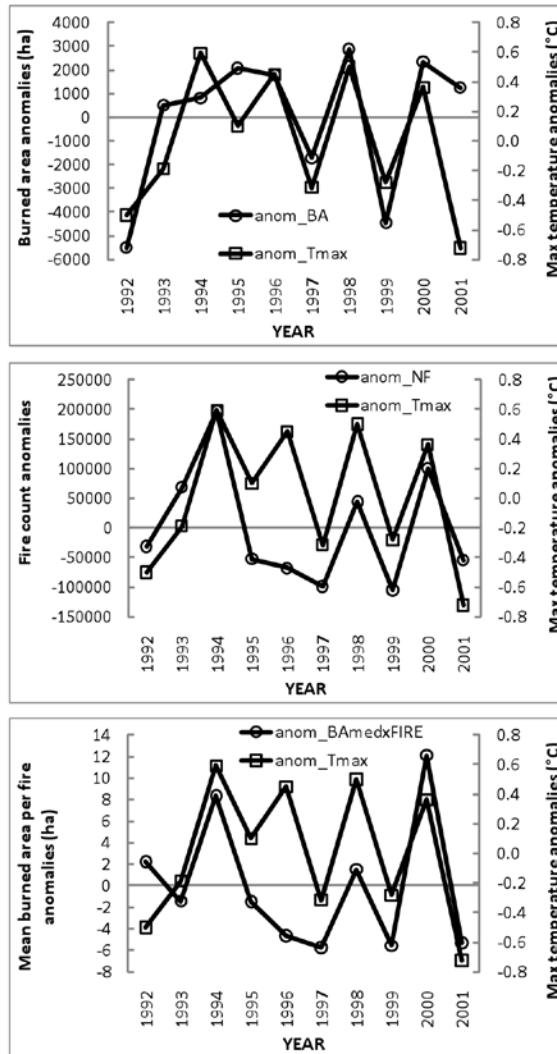




## tsurf Anomaly Correlations (ACC)

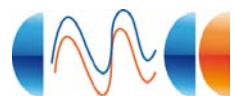


# Seasonal Forecasting of Fires Risk



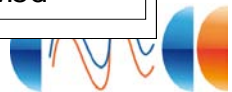
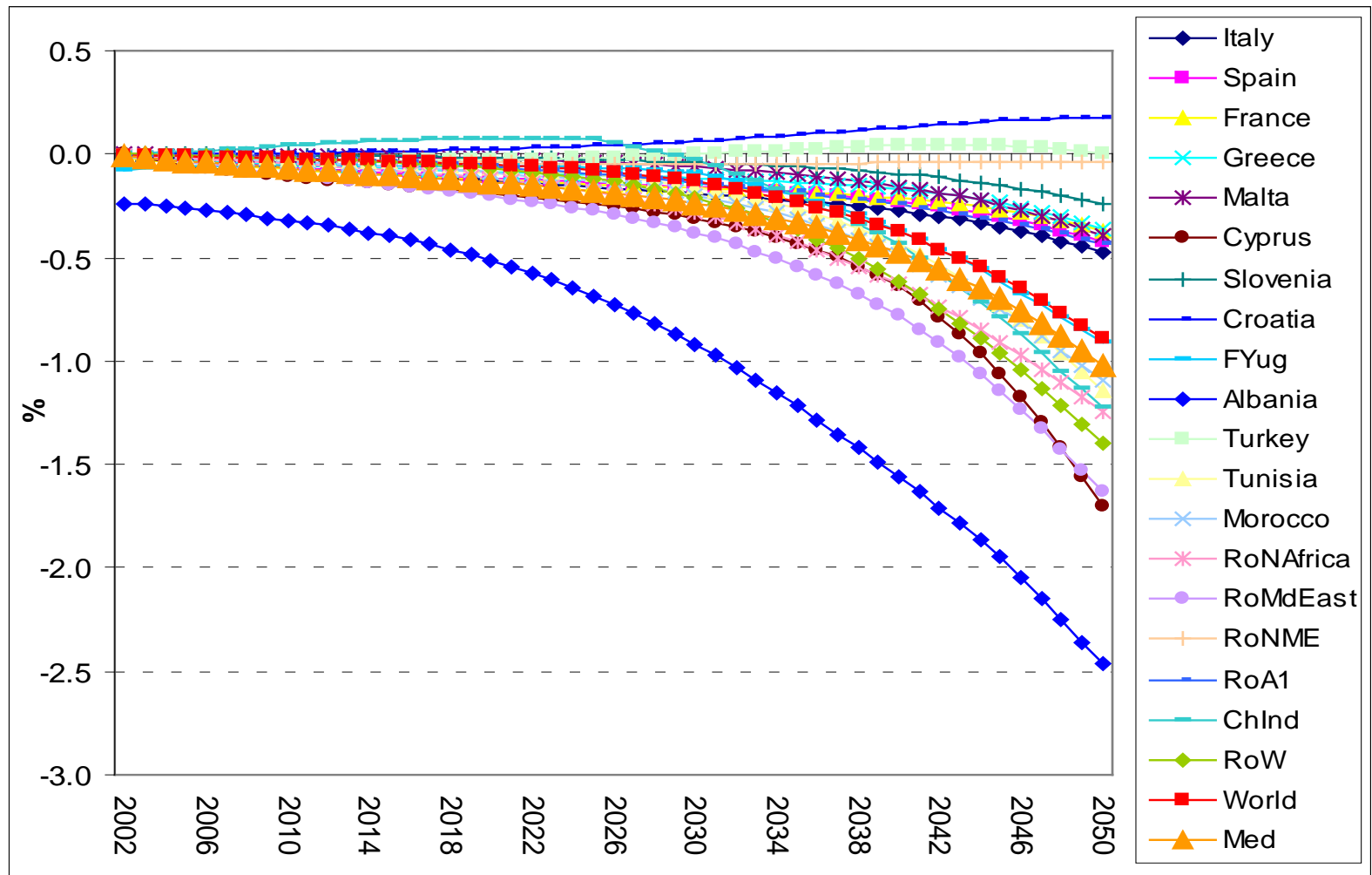
Analysis of correlations between fires and temperatures

Figure 4. Relationship between fire occurrence and maximum air temperature anomalies



# Climate Change Impacts on GDP

% change of GDP wrt no CC baseline





A VOLTE,  
SFIDARE LA  
NATURA PORTA  
A RISULTATI TRE-  
MENDI, VECCHIO  
MIO!

D'ACCORDO CON TE, SATA-  
NASSO! ROBA DA FARTI ACCAP-  
PONARE LA PELLE!

**FINE**

