

SISC ANNUAL CONFERENCE

CLIMATE CHALLENGES AND SOLUTIONS UNDER THE 2°C TARGET

CAGLIARI / 19-20 OCTOBER 2016

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Welcome Message

Dear Conveners and Colleagues,

it is my great pleasure to welcome you to Cagliari and to the fourth edition of the Annual Conference of the Italian Society for Climate Sciences (SISC). The Conference is organized by SISC in cooperation with others Italian Institutions.

In particular, let me thank the Universities of Cagliari and Sassari that, together with the CMCC Foundation (Euro-Mediterranean Center on Climate Change), gave a decisive impetus in making this event possible.

I would like also to highlight the key contribution of the National Research Council (CNR) with the Biometeorology Institute, the Institute for the Dynamics of Environmental Processes, the Institute of Atmospheric Science and Climate, the Institute of Atmospheric Pollution Research, as well as the Politecnico di Milano, the National Institute of Oceanography and Experimental Geophysics, Fondazione Lombardia per l'Ambiente, Fondazione Eni Enrico Mattei, and the Divisions on Impacts on Agriculture, Forests and Ecosystem Services and on Ocean Predictions and Applications from the CMCC Foundation.

The aim of this 2016 SISC Conference is to promote the scientific debate among scientists, policy and decision makers on challenges, opportunities and solutions that could help in respecting the recent Paris Agreement.

At COP 21 in Paris, the Parties reached a ground-breaking agreement to cope with climate change and to accelerate and intensify actions and investments needed for a sustainable low carbon future. For the first time, all Nations are involved into a common cause with the ambitious aim to keep global temperature rise well below 2 degrees Celsius above pre-industrial levels, and to chase energies to limit the temperature increase even further to 1.5 degrees Celsius.

Last 5 October the threshold established by the Paris Agreement was achieved (the 55% of global greenhouse gas emissions covered) and today 75 Parties have ratified the Paris Agreement. It will finally enter into force on 4 November 2016, and we can say without doubt that this is an extraordinary moment for nations. The ratification of the Agreement by China and the USA also gives positive signals, and makes the scientific community confident that the Paris target can be reached.

The SISC Conference would like to give a contribution in this context, by addressing challenges, opportunities and solutions to reach the 2 degrees Celsius target, by involving the Italian scientific community for a convergence of intentions and efforts to enhance mitigation initiatives, adaptation responses, and to address issues in protecting vulnerable assets, infrastructures, and ecosystems from climate change. One of the institutional purposes of the SISC is, in fact, to promote communication and cooperation between universities and research institutions in Italy, as well as to become the reference point and the meeting place for Italian scientists, and I can tell that, thanks to the concerted efforts of all the above mentioned Institutions and Research Centers, with this event we have achieved our objectives.



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The Conference topics range from the presentation of new modeling approaches for climatic investigation, to the analysis of climate change impacts over different sectors, the development of new strategies to support sustainable societies, towards the investigation of mitigation and adaptation options with a multidimensional perspective in a post-Paris context. In addition, the Conference will be opened by two Keynote Speakers, Dr. Andrea Karpati from the EU Climate-Kic Program and Dr. Fiamma Straneo from the Woods Hole Oceanographic Institution, who will enrich our Conference with their high value talks.

I hope that you will find this program interesting and thought-provoking. I firmly believe this Conference will help us in better designing the track within the crucial debate on how to manage climate change impacts and risks, and in going forward and achieving the common target with scientific strictness, but also with enthusiasm, creativity and determination.

As I said before, putting together SISC 2016 was a team effort. Again, thanks to all the Institutions and Research Centers that made it possible. I would like also to thank the authors and speakers for providing the contents of the program. Let me also thank the Lenovo Group that kindly supported our event.

Finally, I would like to express my personal thanks to all the components of the Organizing Committee and the Scientific Secretariat for the great effort and care during all phases that made this Conference possible.

I wish you all two productive and engaging days, hoping that the Conference will provide you with a valuable opportunity to share ideas with other researchers across Italy.

Your sincerely



**Donatella Spano**  
SISC President

# About the Conference

The Annual Conference of the Italian Society for Climate Sciences (SISC) takes place on October 19-20, 2016 at Cagliari, Italy.

The conference, entitled “**Climate challenges and solutions under the 2°C target**”, is organized by SISC in cooperation with other Italian Institutions. It aims to foster the scientific debate among scientists, policy and decision makers (Italians and foreigners), NGOs members and other stakeholders whose activities are focused on climate change and its relationships with the environment and socio-economic systems, opportunities and solutions helping in respecting the recent Paris agreement.

The main objective of the Conference is to summarize the Italian experience on climate research, and policy action within the international setting, and specifically:

- To promote an interdisciplinary platform for sharing and discussing on climate risk for the environment and the society;
- To highlight the scientific advances made to address the different aspects of climate change;
- To explore possible solutions to cope with climate change by promoting a dialogue on policies and strategies regarding adaptation, mitigation, and sustainable growth.

The program of the 2016 SISC Annual Conference consists of:

- plenary lectures
- parallel sessions of high profile invited talks
- contributing posters sessions
- workshop sessions

The Conference is open to:

- scientists
- policy and decision makers
- entrepreneurs
- NGOs
- others stakeholders

## Logistics & Information

### Presentations & Time Limits

Presenters should make sure that their presentations can be done in the time allotted (18 min + 2 min for Q&A). It is important that all sessions end on time. Chairs should not allow the discussion to continue beyond the announced time limit.

# Partners

The 2016 SISC Annual Conference is organized with the **scientific support** of:

- Fondazione CMCC – Centro Euro-Mediterraneo sui Cambiamenti Climatici
- Università degli Studi di Sassari
- CNR-IBIMET – Istituto di Biometeorologia
- CNR-IDPA – Istituto per la Dinamica dei Processi Ambientali
- CNR-IIA – Istituto sull’Inquinamento Atmosferico
- CNR-ISAC – Istituto di Scienze dell’Atmosfera e del Clima
- FEEM – Fondazione ENI Enrico Mattei
- FLA – Fondazione Lombardia per l’Ambiente
- OGS – Istituto Nazionale di Oceanografia e Geofisica Sperimentale
- Politecnico di Milano

## Hosting Institution

Università degli Studi di Cagliari

## Sponsor

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Regione Autonoma della Sardegna

# Scientific Committee

The Scientific Committee is dedicated to ensuring that the content will be relevant to today's questions.

The **Scientific Committee** is composed by:

Chair: Donatella Spano – CMCC, Università degli Studi di Sassari  
Valentina Bacciu – CMCC  
Carlo Barbante – CNR-IDPA, Università Ca' Foscari Venezia  
Francesco Bosello – CMCC, FEEM, Università degli Studi di Milano  
Antonio Bombelli – CMCC  
Stefano Caserini – Politecnico di Milano  
Giovanni Coppini – CMCC  
Bernardo De Bernardinis – ISPRA  
PierPaolo Duce – CNR-IBIMET  
Mita Lapi – FLA  
Serena Marras – CMCC, Università degli Studi di Sassari  
Valentina Mereu – CMCC  
Renzo Mosetti – OGS  
Antonio Navarra – CMCC  
Antonello Pasini – CNR-IIA  
Fabrizio Picarolo – FLA  
Cristina Sabbioni – CNR-ISAC  
Monia Santini – CMCC  
Costantino Sirca – CMCC, Università degli Studi di Sassari

## Organizing Committee

Valentina Bacciu  
Martina Marian  
Serena Marras  
Valentina Mereu

## Media and Communication

Mauro Buonocore  
Selvaggia Santin

## Organizing Secretariat

Silvia Gaias  
Gavriil Kyriakakis  
Lucia Luperto

## Web and Visuals

Carlo Palma  
Renato Dalla Venezia

# Plenary Sessions

## AULA MAGNA

**Wednesday, October 19, 2016 - 12.00**

**ANDREA KARPATI**, Climate-KIC Head of Policy

### **EU commitments, programs and strategies to bridge Paris Agreement into action, focusing on the cross-sectoral cooperation**

Andrea Karpati is the Head of Policy at Climate-KIC, Europe's largest public-private innovation partnership focused on climate change.

Her role is to translate between climate policy and Climate-KIC's strategic activities. She interprets the latest developments in climate science and policy, the trends in innovation policy to guide collaborative innovation in the Climate-KIC framework; and connects the innovative climate solutions to policy makers in order to raise ambition of addressing climate change.

Prior to joining Climate-KIC, Andrea has worked in economic policy development at national level, then at the European Commission DG Research and Innovation coordinating the launch of several public-private research partnerships, the Joint Technology Initiatives. She is an economist by training and holds an MPA in Environmental Science and Policy from the Earth Institute at Columbia University.

## AULA MAGNA

**Thursday, October 20, 2016 - 08.30**

**FIAMMA STRANEO**, Woods Hole Oceanographic Institution

### **Melting of Greenland Glaciers: Mechanisms and Impacts**

Fiamma Straneo is a Senior Scientist in the Physical Oceanography Department at the Woods Hole Oceanographic Institution, USA. She studies the high latitude North Atlantic and Arctic oceans and their role in climate and climate variability on seasonal to multi-decadal timescales. Her recent work has focused on the influence of climate on the Greenland Ice Sheet and, in particular, on understanding the causes behind the recent speed up and retreat of Greenland's glaciers. She has led over a dozen field expeditions to the Arctic and Greenland that have employed icebreakers, local vessels, helicopters and snowmobiles. Straneo is chair of the Greenland Ice Sheet/Ocean Science Network (GRISO) and a member of the Atlantic Meridional Overturning Circulation Science Team. She was awarded the Sverdrup Lecturer Award by the Ocean Sciences Section of the American Geophysical Union in 2016. Straneo obtained her Ph.D. in Physical Oceanography from the University of Washington, USA, following a Laurea cum Laude in Physics from the University of Milan, Italy. She teaches and advises students in the WHOI-MIT Joint Program in Oceanography.



# Program at a Glance

Wednesday, October 19, 2016

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|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10:00 | <b>Registration</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                         |                                                                                                                                                      |
| 11:00 | <b>AULA MAGNA</b><br>Welcome addresses<br><br><b>Donatella Spano</b> – SISC President, Regione Autonoma Sardegna - Ass. della Difesa dell'Ambiente<br><b>Micaela Morelli</b> – Università degli Studi di Cagliari - Prorettore alla Ricerca<br><b>Corrado Zompi</b> – Università degli Studi di Cagliari - Preside Facoltà di Ingegneria e Architettura<br><b>Luca Gabriele Deidda</b> – Università degli Studi di Sassari - Prorettore Vicario<br><b>Roberto Furesi</b> – Università degli Studi di Sassari - Direttore Dip.to di Scienze della Natura e del Territorio |                                                                                                                                                                                                         |                                                                                                                                                      |
| 12:00 | <b>AULA MAGNA</b><br>Plenary LECTURE<br><br><b>Andrea Karpati</b> – Climate-KIC Head of Policy<br><br><b>EU commitments, programs and strategies to bridge Paris Agreement into action, focusing on the cross-sectoral cooperation</b>                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                         |                                                                                                                                                      |
| 13:00 | <b>Soft Lunch</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                         |                                                                                                                                                      |
|       | <b>Sessions I - AULA MAGNA</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <b>Sessions II - AULA I</b>                                                                                                                                                                             | <b>Sessions III - AULA M</b>                                                                                                                         |
| 14:00 | <b>NEW DATA ANALYSES AND DATA-DRIVEN MODELLING FOR CLIMATIC INVESTIGATIONS</b><br><br>Chair:<br><b>Antonello Pasini</b><br>(CNR IIA)                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>CLIMATE SMART SOLUTIONS FOR AGRICULTURE AND FORESTRY: A WAY TO COPE WITH CLIMATE CHANGE</b><br><br>Chairs:<br><b>Valentina Mereu</b><br><b>Costantino Sirca</b><br><b>Antonio Bombelli</b><br>(CMCC) | <b>CONTRIBUTIONS BY NON-STATE ACTORS FOR MORE EFFECTIVE POLICIES AT SUB-NATIONAL LEVEL</b><br><br>Chair:<br><b>Mita Lapi</b><br>(FLA)                |
| 15:40 | <b>Coffee Break</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                         |                                                                                                                                                      |
| 14:00 | <b>TRANSFORMING CONSUMPTION AND PRODUCTION PARADIGMS TO SUPPORT SUSTAINABLE SOCIETIES – SUSTAINABLE FUTURES IN PRACTICE</b><br><br>Chair:<br><b>Pierpaolo Duce</b><br>(CNR IBIMET)                                                                                                                                                                                                                                                                                                                                                                                       | <b>CHALLENGES AND OPPORTUNITIES FOR MITIGATION AND ADAPTATION IN A POST-PARIS CONTEXT</b><br><br>Chair:<br><b>Francesco Bosello</b><br>(CMCC, FEEM, Università di Milano)                               | <b>CLIMATE OF THE PAST, FROM ARCHIVES TO DATA INTERPRETATION</b><br><br>Chair:<br><b>Carlo Barbante</b><br>(CNR IDPA, Università Ca'Foscari Venezia) |
| 17:40 | <b>FOYER AULA MAGNA</b><br><br>Poster Session                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                         |                                                                                                                                                      |
| 18:30 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                         |                                                                                                                                                      |

# Program at a Glance

Thursday, October 20, 2016

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| 08:30 | <b>AULA MAGNA</b><br>Plenary LECTURE<br><br><b>Fiamma Straneo</b> – Woods Hole Oceanographic Institution, USA<br><br><b>Melting of greenland glaciers: mechanisms and impacts</b> |                                                                                                                                                                    |                                                                                                                                                                                             |
| 09:30 | <b>Sessions I - AULA MAGNA</b><br><br><b>REGIONAL AND ENVIRONMENTAL IMPACTS IN A CHANGING CLIMATE I</b><br><br>Chair:<br><b>Cristina Sabbioni</b><br>(CNR ISAC)                   | <b>Sessions II - AULA I</b><br><br><b>FEASIBILITY AND IMPLICATIONS OF LOW-CARBON SCENARIOS</b><br><br>Chair:<br><b>Stefano Caserini</b><br>(Politecnico di Milano) | <b>Sessions III - AULA M</b><br><br><b>INTEGRATED APPROACH FOR THE MANAGEMENT OF THE COASTAL AREAS IN A CLIMATE-CHANGING ENVIRONMENT</b><br><br>Chair:<br><b>Giovanni Coppini</b><br>(CMCC) |
| 11:10 | <b>Coffee Break</b>                                                                                                                                                               |                                                                                                                                                                    |                                                                                                                                                                                             |
| 11:30 | <b>REGIONAL AND ENVIRONMENTAL IMPACTS IN A CHANGING CLIMATE II</b><br><br>Chair:<br><b>Cristina Sabbioni</b><br>(CNR ISAC)                                                        | <b>IMPACTS AND MITIGATION STRATEGIES IN COASTAL AREAS</b><br><br>Chair:<br><b>Renzo Mosetti</b><br>(OGS)                                                           |                                                                                                                                                                                             |
| 13:15 | <b>Soft Lunch</b>                                                                                                                                                                 |                                                                                                                                                                    |                                                                                                                                                                                             |
| 14:10 | <b>AULA MAGNA</b><br><br>Workshop SECTEUR - Food and forests at risk: how can climate services help?                                                                              |                                                                                                                                                                    |                                                                                                                                                                                             |
| 14:10 | <b>FOYER AULA MAGNA</b><br><br>Poster Session                                                                                                                                     |                                                                                                                                                                    |                                                                                                                                                                                             |
| 16:00 | <b>Coffee Break</b>                                                                                                                                                               |                                                                                                                                                                    |                                                                                                                                                                                             |
| 16:30 | <b>AULA MAGNA</b><br><br>Assembly of Members<br>Awards                                                                                                                            |                                                                                                                                                                    |                                                                                                                                                                                             |
| 18:00 |                                                                                                                                                                                   |                                                                                                                                                                    |                                                                                                                                                                                             |

# Parallel Sessions

Wednesday, October 19, 2016

|       | AULA MAGNA                                                                                                                                                                        | AULA I                                                                                                                                                                                                   | AULA M                                                                                                                                                                                                 |
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|       | <b>NEW DATA ANALYSES AND DATA-DRIVEN MODELLING FOR CLIMATIC INVESTIGATIONS</b><br><br>Chair:<br><b>Antonello Pasini</b><br>(CNR IIA)                                              | <b>CLIMATE SMART SOLUTIONS FOR AGRICULTURE AND FORESTRY: A WAY TO COPE WITH CLIMATE CHANGE</b><br><br>Chairs:<br><b>Valentina Mereu</b><br><b>Costantino Sirca</b><br><b>Antonio Bombelli</b><br>(CMCC)  | <b>CONTRIBUTIONS BY NON-STATE ACTORS FOR MORE EFFECTIVE POLICIES AT SUB-NATIONAL LEVEL</b><br><br>Chair:<br><b>Mita Lapi</b><br>(FLA)                                                                  |
| 14:00 | <b>Manara V.</b><br>(Università di Milano)<br><br>Sunshine duration and solar radiation variability and trends in Italy during the last 55 years and underlying causes            | <b>Bindi M.</b><br>(Università di Firenze)<br><br>The role of precision agriculture tools to cope with climate change impacts                                                                            | <b>Gaudio D.</b><br>(ISPRA)<br><br>Mitigation and adaptation planning in Italy at the different administrative levels: synergies and contradictions                                                    |
| 14:20 | <b>Brunetti M.</b><br>(CNR ISAC)<br><br>Temperature and precipitation climatologies for Italy and downscaling of the Italian secular records onto a high-resolution grid          | <b>Mallet R.</b><br>(Università di Firenze)<br><br>Innovative policy approaches; the key to unlocking global goals                                                                                       | <b>Gurrieri G.</b><br>(ISPRA)<br><br>From international commitments to the climate action plan of Lombardy: mitigation and adaptation at regional level                                                |
| 14:40 | <b>Cassardo C.</b><br>(Università di Torino, CINFAI)<br><br>Climatology of surface and subsurface layer parameters on Piemonte (Italy) vineyards                                  | <b>Salis M.</b><br>(CMCC, Università degli Studi di Sassari)<br><br>Application of wildfire spread modeling to support fuel management programs and wildfire risk mitigation in Mediterranean ecosystems | <b>Cocco G.</b><br>(Regione Sardegna)<br><br>Regional climate change mitigation strategy of Sardinia Region: implementation and the resulting adaptation measures. Pilot actions and governance models |
| 15:00 | <b>Panegrossi G.</b><br>(CNR ISAC)<br><br>Role and capabilities of GPM mission in the characterization and monitoring of extreme precipitation events in the Mediterranean region | <b>Trabucco A.</b><br>(CMCC)<br><br>Tree inclusion over agricultural landscape, an uncounted potential for climate change mitigation                                                                     | <b>D'Alessio E.</b><br>(CA21)<br><br>Pilot experiences from Italian cities and territories                                                                                                             |
| 15:20 | <b>Pasini A.</b><br>(CNR IIA)<br><br>Assessment of climatic influences on the abundance of vectors of leishmaniasis in Italy using a neural-network model                         | <b>Ventura M.</b><br>(Free University of Bolzano/Bozen)<br><br>The biochar option: a carbon negative technology for climate change mitigation                                                            | <b>Piana V.</b><br>(Economics Web Institute)<br><br>From local to global fight for limiting warming at 1.5°C: the role of NAZCA pledges                                                                |
| 15:40 | Coffee Break                                                                                                                                                                      |                                                                                                                                                                                                          |                                                                                                                                                                                                        |

# Parallel Sessions

Wednesday, October 19, 2016

|       | AULA MAGNA                                                                                                                                                                         | AULA I                                                                                                                                                                    | AULA M                                                                                                                                                                                                                             |
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|       | <b>TRANSFORMING CONSUMPTION AND PRODUCTION PARADIGMS TO SUPPORT SUSTAINABLE SOCIETIES – SUSTAINABLE FUTURES IN PRACTICE</b><br><br>Chair:<br><b>Pierpaolo Duce</b><br>(CNR IBIMET) | <b>CHALLENGES AND OPPORTUNITIES FOR MITIGATION AND ADAPTATION IN A POST-PARIS CONTEXT</b><br><br>Chair:<br><b>Francesco Bosello</b><br>(CMCC, FEEM, Università di Milano) | <b>CLIMATE OF THE PAST, FROM ARCHIVES TO DATA INTERPRETATION</b><br><br>Chair:<br><b>Carlo Barbante</b><br>(CNR IDPA), Università Ca' Foscari                                                                                      |
| 16:00 | <b>Masoni P.</b><br>(ENEA)<br><br>LCA in the agro-food sector: complex but necessary                                                                                               | <b>Bosello F.</b><br>(CMCC, FEEM, Università di Milano)<br><br>Cost effectiveness of adaptation reconsidered in the light of higher order effects: the case of irrigation | <b>Laurenzi M.</b><br>(CNR IGG)<br><br>Paleoclimatology, geochronology and tephra layers                                                                                                                                           |
| 16:20 | <b>Miglietta F.</b><br>(CNR IBIMET)<br><br>Opportunities for a multifunctional agriculture                                                                                         | <b>Emmerling F.</b><br>(FEEM)<br><br>Assessing INDCs in China, India and developing Asia                                                                                  | <b>Ferretti P.</b><br>(CNR IDPA)<br><br>An ensemble of interglacials: insights from marine sediments                                                                                                                               |
| 16:40 | <b>Marin G.</b><br>(CNR IRCRES)<br><br>Transition to a circular economy and climate change                                                                                         | <b>Mysiak F.</b><br>(CMCC, FEEM)<br><br>Towards a comprehensive risk assessment of climate induced and aggravated risk in Italy                                           | <b>Pini R.</b><br>(CNR IDPA)<br><br>Reconstructing terrestrial climates using quantitative palaeoecology. Case studies from the high-altitude alpine holocene and the last glacial and interglacial extremes in Italy and Slovenia |
| 17:00 | <b>Ravasio N.</b><br>(CNR ISTM)<br><br>Re-use residues: food wastes and circular economy                                                                                           | <b>Aleluia Reis L.</b><br>(FEEM, CMCC)<br><br>The co-benefits of the INDCs on local air pollution                                                                         | <b>Battistel D.</b><br>(Università Ca' Foscari Venezia, DAIS)<br><br>Reconstructing early human activity and fire history from biomarker profiles in lake sediment cores: three case study                                         |
| 17:20 |                                                                                                                                                                                    | <b>Motta M.</b><br>(Politecnico di Milano)<br><br>The challenge of the climate and energy policies integration in Italy: the De-carbonization Technical Experts Group     | <b>Zanchetta G.</b><br>(Università di Pisa)<br><br>Millennial to centennial-scale climatic variability during the last 10 ka over the central mediterranean: chasing for analogues?                                                |
| 17:40 | Poster Session                                                                                                                                                                     |                                                                                                                                                                           |                                                                                                                                                                                                                                    |

# Parallel Sessions

Thursday, October 20, 2016

|       | AULA MAGNA                                                                                                                                                         | AULA I                                                                                                                                                    | AULA M                                                                                                                                                                                |
|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|       | <b>REGIONAL AND ENVIRONMENTAL IMPACTS IN A CHANGING CLIMATE I</b><br><br>Chair:<br><b>Cristina Sabbioni</b><br>(CNR ISAC)                                          | <b>FEASIBILITY AND IMPLICATIONS OF LOW-CARBON SCENARIOS</b><br><br>Chair:<br><b>Stefano Caserini</b><br>(Politecnico di Milano)                           | <b>INTEGRATED APPROACH FOR THE MANAGEMENT OF THE COASTAL AREAS IN A CLIMATE-CHANGING ENVIRONMENT</b><br><br>Chair:<br><b>Giovanni Coppini</b><br>(CMCC)                               |
| 09:30 | <b>Palazzi E.</b><br>(CNR ISAC)<br><br>Elevation-dependent warming and changes in the hydrological cycle in the mountains                                          | <b>Caserini S.</b><br>(Politecnico di Milano)<br><br>Introduction: looking for ambitious low-carbon scenarios                                             | <b>Fraschetti S.</b><br>(Università del Salento, CONISMA)<br><br>Marine spatial planning in a changing world                                                                          |
| 09:50 | <b>Gualdi S.</b><br>(CMCC)<br><br>Extreme precipitation events and climate change in the Mediterranean region                                                      | <b>Drouet L.</b><br>(CMCC)<br><br>Going further than the INDC, a global view on the short and long term implications of the Paris agreement               | <b>Pusceddu A.</b><br>(Università di Cagliari)<br><br>Deep-sea ecosystems responses to climate anomalies along the European continental margins                                       |
| 10:10 | <b>Sannino G.</b><br>(ENEA)<br><br>Reconstructed and projected heat waves over the main Italian cities from the new high resolution Med-Cordex climate simulations | <b>Tagliabue L.</b><br>(Politecnico di Milano)<br><br>Deep decarbonisation of the Italian energy system based on renewable energies: a technical analysis | <b>Coppini G.</b><br>(CMCC)<br><br>Coastal areas and harbours operational scientific based information system in support of safety and resilience: the case of Apulia region in Italy |
| 10:30 | <b>Lionello P.</b><br>(CMCC, Università del Salento)<br><br>The Mediterranean region hotspot: links to global climate change and likely impacts                    | <b>Emmerling J.</b><br>(FEEM)<br><br>Deep carbonisation in the Paris Agreement and the role of negative emission                                          | <b>D'Alessandro F.</b><br>(Università del Salento)<br><br>Climate change adaptation and coastal management                                                                            |
| 10:50 |                                                                                                                                                                    |                                                                                                                                                           | <b>Torresan S.</b><br>(CMCC)<br><br>Risk assessment and decision support tools for the evaluation of multiple climate change impacts in coastal and marine areas                      |
| 11:10 | Coffee Break                                                                                                                                                       |                                                                                                                                                           |                                                                                                                                                                                       |

# Parallel Session

Thursday, October 20, 2016

|              | AULA MAGNA                                                                                                                                                           | AULA I                                                                                                                                                    |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
|              | <b>REGIONAL AND ENVIRONMENTAL IMPACTS IN A CHANGING CLIMATE II</b>                                                                                                   | <b>IMPACTS AND MITIGATION STRATEGIES IN COASTAL AREAS</b>                                                                                                 |
|              | Chair: <b>Cristina Sabbioni</b><br>(CNR ISAC)                                                                                                                        | Chair: <b>Renzo Mosetti</b><br>(OGS)                                                                                                                      |
| <b>11:30</b> | <b>De Bernardinis B.</b><br>(ISPRA)<br><br>Integrated climate monitoring and operational applications                                                                | <b>Solidoro C.</b><br>(OGS)<br><br>Impacts of climate-driven changes on coastal marine ecosystem and related good and services                            |
| <b>11:50</b> | <b>Cacciamani C.</b><br>(ARPAE, SIMC)<br><br>Climate change scenario at regional scales for risk valuations and production of climate services for local stakeholder | <b>Sannino G.</b><br>(ENEA)<br><br>Current status of development of ocean energy in Italy                                                                 |
| <b>12:10</b> | <b>Artale V.</b><br>(ENEA)<br><br>Role of the mixing bottom layers in the ocean circulation (Ionian Mediterranean sub-basin)                                         | <b>Albrecht B.</b><br>(Università IUAV di Venezia)<br><br>Hydraulic civilizations and climate change                                                      |
| <b>12:30</b> | <b>De Ridder K.</b><br>(VITO)<br><br>Urban climate projections with UrbClim                                                                                          | <b>Lionello P.</b><br>(CMCC, Università del Salento)<br><br>Multi-model and multi-scenario projections for waves and storm surges along the Italian coast |
| <b>12:50</b> |                                                                                                                                                                      | <b>Bosello F.</b><br>(CMCC, FEEM, Università di Milano)<br><br>Assessing economically coastal zone protection in a general equilibrium framework          |
| <b>13:10</b> | <b>Soft Lunch</b>                                                                                                                                                    |                                                                                                                                                           |
| <b>14:10</b> | <b>AULA MAGNA</b><br><br>Workshop SECTEUR - Food and forests at risk: how can climate services help?                                                                 |                                                                                                                                                           |
| <b>14:10</b> | <b>FOYER AULA MAGNA</b><br><br>Poster Session                                                                                                                        |                                                                                                                                                           |
| <b>16:00</b> | <b>Coffee Break</b>                                                                                                                                                  |                                                                                                                                                           |
| <b>16:30</b> | Assembly of Members<br>Awards                                                                                                                                        |                                                                                                                                                           |

## Poster Session

Special areas is dedicated to the exhibition of posters to provide a further opportunity to present work and projects on climate related research. Thanks to the poster sessions, authors have the opportunity to share knowledge and results in a communicative context which encourages an immediate exchange of opinions and ideas among the participants.

| Corresponding Author                                   | Title                                                                                                                                                                       |
|--------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Altea L. (NRD, UNISS)                                  | Adapting to climate change in a multiple stressors context: a case study from two rural districts in the "Ceja de Selva" of Perú                                            |
| Athanasiadis P. (CMCC)                                 | Heat waves in the changing climate of Northern Italy                                                                                                                        |
| Bacciu V. (CMCC)                                       | Integrating fire modelling systems to estimate fire emission under climate change: a novel approach                                                                         |
| Baldi M. (CNR IBIMET)                                  | Heat waves in Italian urban areas and their relationship with weather patterns                                                                                              |
| Campagnolo L. (FEEM, CMCC)                             | Future pathways towards SDGs                                                                                                                                                |
| Capozzi V. (Università di Napoli)                      | Analysis of temperature time series collected in a high elevation site in Southern Apennines (Montevergine, AV – Italy): variability, trends and extreme events (1884-2015) |
| Cappai M. (Università degli Studi di Sassari)          | Can circulating metabolic N derivatives point to the estimation of livestock impact on climate changes?                                                                     |
| Cassardo C. (Università di Torino, CINFAI)             | Intercomparison of climate model data on Piemonte (Italy) single meteorological stations                                                                                    |
| Casu A. (Università di Sassari)                        | Towards resilient climate proof towns: urban and territorial projects and strategies                                                                                        |
| Choryski A. (Polish Academy of Science)                | Barriers for increasing resilience – municipal adaptation to extreme rainfall in Poland                                                                                     |
| Ciaravino G. (Università di Napoli)                    | Levels of alarm matrix in rapid flow                                                                                                                                        |
| Faggian P. (RSE spa)                                   | Changes in precipitation extremes over Italian peninsula and its impacts on the electric system                                                                             |
| Faggian P. (RSE spa)                                   | Estimating degree days                                                                                                                                                      |
| Fais S. (Università di Cagliari)                       | Relations between natural phenomena and solar activity in the oceanographic and forest fields                                                                               |
| Farago T. (Eötvös Loránd University)                   | The anthropogenic climate change hazard: role of precedents and the increasing science-policy gap                                                                           |
| Fetsis P. (NEEMO)                                      | The LIFE programme & adaptation to climate change                                                                                                                           |
| Fiori M. (Environmental Protection Agency of Sardinia) | Drought monitoring in Sardinia. A case study                                                                                                                                |
| Gallo A. (CMCC IAFES)                                  | Comparison of two approaches to optimize the genetic coefficients of CSM-CERES wheat crop model                                                                             |
| Galluccio G. (CMCC)                                    | Clima South: support for climate change mitigation and adaptation in the Southern and Eastern Mediterranean regions                                                         |
| Giannini V. (CMCC)                                     | A participatory process to design climate change adaptation measures for the Carmen-Pajonal-Machona lagoon system in Mexico                                                 |
| Guido V. (Università degli Studi di Sassari)           | Impact of climate change on grapevine: bioclimatic-land suitability maps as forecast tools                                                                                  |
| Lakshmi S. (Lakshmi LLC)                               | Over come drought and water crisis                                                                                                                                          |
| Mallet R. (FAO)                                        | Enabling forest policies for the achievement of the Sustainable Development Goals                                                                                           |

# Poster Session

|                                                      |                                                                                                                                            |
|------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| Marcomini A. (CMCC, Università Ca' Foscari Venezia)  | Eutrophication in the context of climate change: a methodology to study the impacts of nutrients on aquatic ecosystems in the 21st century |
| Marras S. (CMCC, Università degli Studi di Sassari)  | Daily and seasonal fluxes in the city of Sassari (Sardinia)                                                                                |
| Marson P. (CMCC)                                     | Statistical framework for generating precipitation occurrence over complex terrain                                                         |
| Masia S. (Università degli Studi di Sassari)         | Evaluation of climate change impact on crop water requirement at local and mediterranean scale                                             |
| Mazzai A. (IGCC, FEEM, CMCC)                         | ICCG observatories: research, policy and best practices on climate governance                                                              |
| Melis E. (Università di Cagliari)                    | Fostering climate change mitigation through local forest biomass for energy production in Sardinia                                         |
| Mereu S. (CMCC)                                      | Water-Food-Energy nexus and climate change for multipurpose reservoirs in the island of Sardinia                                           |
| Mulè P. (AgriSardegna)                               | Sustainable agriculture in Sardinia: first results of conservation tillage in vineyards                                                    |
| Pilon A. (University of São Paulo)                   | An ecosystemic approach for the problems of our times: how to deal with public policies research and teaching programmes                   |
| Ruggeri C. (Editrice Incontri Nautici)               | Climate change and heat waves: the impact on citizenry                                                                                     |
| Salis L. (Agris Sardegna)                            | Effects of Municipal Solid Waste Compost On forage barley crop productivity and soil chemical characteristics                              |
| Sanna L. (CNR IBIMET)                                | Changes in atmospheric chemistry and pollutants deposition in the Asinara island: a tool for investigating global change                   |
| Satta A. (Rete Gaia Srl, ARPAS-Sardegna)             | Building an internet based science – policy interface for climate change adaptation in Sardinia                                            |
| Selvakkumaran S. (KTH Royal Institute of Technology) | Assessment of agricultural biomass for realizing climate and modern energy goals in sub-Saharan Africa                                     |
| Sferra F. (Climate Analytics)                        | Towards optimal 2°C and 1.5°C emission pathways for individual countries: an Italian case study                                            |
| Sirca C. (Università degli Studi di Sassari, CMCC)   | Differences in carbon flux patterns between an urban and a natural Mediterranean ecosystem                                                 |
| Standardi G. (FEEM, CMCC)                            | Sensitivity of modeling results to technological and regional details: the case of Italy's carbon mitigation policy                        |
| Stein L. (FNU, University of Hamburg)                | Constrained climate models in the integrated assessment-Emission pathways matter for the economy                                           |
| Tomozeiu R. (ARPAE)                                  | Climate change scenarios over areas of PRIMES-LIFE+ project                                                                                |
| Torresan S. (CMCC)                                   | A gis-based Bayesian belief network for the assessment of cumulative environmental and climate change impacts in the Adriatic sea          |
| Torresan S. (CMCC)                                   | A Bayesian networks approach for the multi-risk assessment of climate change impacts on water resources                                    |
| Uram S. (St Pious X College, India)                  | Bio-aerosol identification and air quality analysis in hyderabad city                                                                      |
| Vacca A. (UNISS, Kingston University)                | Public and private law issues related to climate change                                                                                    |
| Viscuso M. (Potsdam University)                      | The role of indigenous communities in the CDM decision-making process: conditions to improve participation                                 |
| Vito D. (Politecnico di Milano)                      | Health and climate, a strict relationship in an ecosystemic vision: proposals of a framework                                               |



# Workshop

## AULA MAGNA

**Workshop 20 October 2016, 14:10 - 16:00**

### Food and forests at risk: how can climate services help?

This workshop session takes place as part of the SECTEUR project (Sector Engagement for the Copernicus Climate Change Service: Translating European User Requirements). The workshop is led by Wageningen Environmental Research (Alterra) with support from Fondazione CMCC - Centro Euro-Mediterraneo sui Cambiamenti Climatici (CMCC).

|              |                                                                                                      |                                             |
|--------------|------------------------------------------------------------------------------------------------------|---------------------------------------------|
| <b>14:10</b> | Keynote presentation: "How can climate services help to address risks in agriculture and forestry"   | Wageningen Environmental Research (Alterra) |
|              | Session 1: Using climate information in agriculture and forestry: managing the data flood            | Interactive (Alterra facilitator)           |
|              | Session 2: Improving information and identifying gaps: enabling more effective climate risk response | Interactive (Alterra facilitator)           |
|              | Wrap up and evaluation                                                                               | Wageningen Environmental Research (Alterra) |
| <b>16:00</b> | Workshop closure                                                                                     |                                             |