

SISC2022: Governing the Future

SISC 10th Annual Conference – Rome, 19-21 October 2022

Preliminary Programme

!!! UPDATED: 11 Oct 2022 !!!

Day 1 | Wednesday 19 October 2022

Cavour Congress Center

Wed
19
Oct

9:00 – 09:50 (CEST) - Registration of participants

Wed
19
Oct

9:50 – 10:00 (CEST) - Conference opening and welcome

Wed
19
Oct

10:00 – 11:30 (CEST)

S1 – Mitigation pathways and technologies in the context of sustainable development

Chair: (tbc)

10:00-10:10 Introduction

10:10-10:30 **Analysis of meteo-climatic and management influences on crop yields in the Sahel through a machine-learning method**

Antonello PASINI, CNR, Italia

Author(s): Antonello Pasini, Giuseppina De Felice Proia and Francesco N. Tubiello

10:30-10:50 **Sustainable land management and afforestation are key to achieve carbon-neutral rural districts**

Gabriele PIZZILEO, CMCC - Fondazione Centro Euro-Mediterraneo Sui Cambiamenti Climatici, Italy

Author(s): Gabriele Pizzileo; Riccardo Valentini; Maria Vincenza Chiriaco

10:50-11:10 **Toward Continuous Stem Increment Detection: Novel IoT Driven Dendrometry Sensors, Design, Application and Challenges**

Jim YATES, University of Tuscia and Nature4.0, Italy

Author(s): Jim Yates, Luca Belleli Marchesini, Francesco Renzi, Riccardo Valentini

11:10-11:30 **TreeTalker Applicability for Individual Mass Monitoring in Alpine Region**

Shahla ASGHARINIA, Department for Innovation in Biological, Agro-food and Forest Systems (DIBAF), Tuscia University, Italy

Author(s): Shahla Asgharinia, Damiano Gianelle, Riccardo Valentini

Wed
19
Oct

11:30 – 12:00 (CEST) – Coffee break

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Wed
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Oct

12:00 – 13:30 (CEST)

S2 – Global commons, climate policy and climate justice and rights

Chair: (tbc)

- 12:00-13:50 Introduction
- 12:10-12:30 **The European Union low carbon emission strategies: expectations and future directions for the land sector**
Giulio DI LALLO, CMCC - Fondazione Centro Euro-Mediterraneo sui Cambiamenti Climatici, Italy
Author(s): Giulio di Lallo, Maria Vincenza Chiriaco, Lucia Perugini
- 12:30-12:50 **Climate change integration in the multilevel governance of Italy and Austria: policy-making and implementation in selected subnational policies**
Federica CITTADINO, Eurac Research, Institute for Comparative Federalism, Italy
Author(s): Federica Cittadino
- 12:50-13:10 **The role of inequality in shaping climate change policy decisions**
Marinella DAVIDE, Ca' Foscari University, Italy
Author(s): Margherita Bellanca, Marinella Davide
- 13:10-13:30 **Preliminary analyses supporting the Strategy for Mitigation and Adaptation to Climate Changes of the Autonomous Province of Trento**
Anna NAPOLI, University of Trento, Italy
Author(s): Anna Napoli, Lavinia Laiti, Roberto Barbiero, Michael Matiu, Dino Zardi, Alberto Bellin, Bruno Majone

Wed
19
Oct

13:30 – 15:00 (CEST) – Lunch break

Wed
19
Oct

15:00 – 16:00 (CEST)

Keynote Lecture: Fiorenza Micheli

Chair: Riccardo Valentini

Ocean Solutions for Nature and People

The ocean is Earth's last frontier. It comprises most of its habitable volume, is home to a unique and extraordinary diversity of plants, animals, and microbes; regulates its climate; and provides food and livelihood for billions of people. Our future is inextricably linked to the ocean, and to maintaining the flow of critical and irreplaceable services healthy oceans provide. While much investigation and discussion is focused on impacts, there is a critical need and opportunity to develop solutions based in oceans. I will present and discuss ocean-based solutions to two grand challenges, climate and food and nutritional security, as well as their intersections, highlighting knowns and unknowns in their potential for deployment at scale, and opportunities for expanding global capacity for ocean solutions.

Fiorenza Micheli is the David and Lucile Packard Professor of Marine Science at Stanford University, chair of the Oceans Department in the Stanford Doerr School of Sustainability, co-director of Stanford's Center for Ocean Solutions, and senior fellow at Woods Institute for the Environment. Her research focuses on the processes shaping marine communities and coastal social-ecological systems, incorporating this understanding in marine conservation and in co-designing solutions with decision-makers and communities. She investigates climatic impacts on marine ecosystems, particularly the impacts of and adaptation to warming, hypoxia and ocean acidification in marine species, communities and fisheries, marine predators' ecology and trophic cascades, the dynamics and sustainability of small-scale fisheries, and the design and function of Marine Protected Areas. Her research takes place in California, Mexico, the Mediterranean Sea, Palau, The Pacific Line Islands, the Caribbean and the Chagos Archipelago. She is a Pew Fellow in Marine Conservation, a fellow of the California Academy of Sciences, co-chair of the UN Ocean Decade program GEOS (Global Ecosystems for Ocean Solutions) and advisor to the Monterey Bay National Marine Sanctuary, Seafood Watch, Global Fishing Watch, Ocean Visions and the Benioff Ocean Initiative.

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Wed
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16:00 – 17:50 (CEST)

S3 – Sectoral approaches to climate change impacts, climate risks and adaptation options I

Chair: (tbc)

- 16:00-16:10 Introduction
- 16:10-16:30 **Assessing the impacts of climate change on water resource availability: The Main Program of Acquedotto Pugliese S.p.A.**
Roberta PADULANO, Fondazione Centro Euro-Mediterraneo sui Cambiamenti Climatici, Italy
Author(s): Roberta Padulano, Giuliana Barbato, Marta Ellena, Paola Mercogliano, Vincenzo Patruno
- 16:30-16:50 **Climate-smart forest management to recover a chestnut forest monitored through IoT technologies**
Maria Vincenza CHIRIACÒ, CMCC - Fondazione Centro Euro-Mediterraneo sui Cambiamenti Climatici, Viterbo, Italy
Author(s): Maria Vincenza Chiriaco, Nafeesa Samad, Riccardo Valentini
- 16:50-17:10 **The Impact of Air-conditioning on Residential Electricity Demand: Evidence from a Multi-country Data set**
Filippo PAVANELLO, University of Bologna and CMCC, Italy
Author(s): Giacomo Falchetta, Filippo Pavanello, Enrica De Cian, Ian Sue Wing
- 17:10-17:30 **Multivariate analysis on compound events of humidity, solar radiation on heat-related health risks by vulnerable groups in Seoul, Korea**
Haemin PARK, Korea Environment Institute, Republic of Korea
Author(s): Sang-Min Lee, Woo Joong Kim, Haemin Park, Hyun-gyu Kim, Young woong Choi, Yeora Chae
- 17:30-17:50 **MUSIC Market Uptake Support for Intermediate Bioenergy Carriers: Italian Case Study**
Giacomo TROMBI, University of Florence, Italy
Author(s): Camilla Dibari, Niccolò Bartoloni, Giacomo Trombi, Giacomo Talluri, Marco Bindi, Marco Moriondo

Wed
19
Oct

17:50 – 18:10 (CEST) – Aperitif

Wed
19
Oct

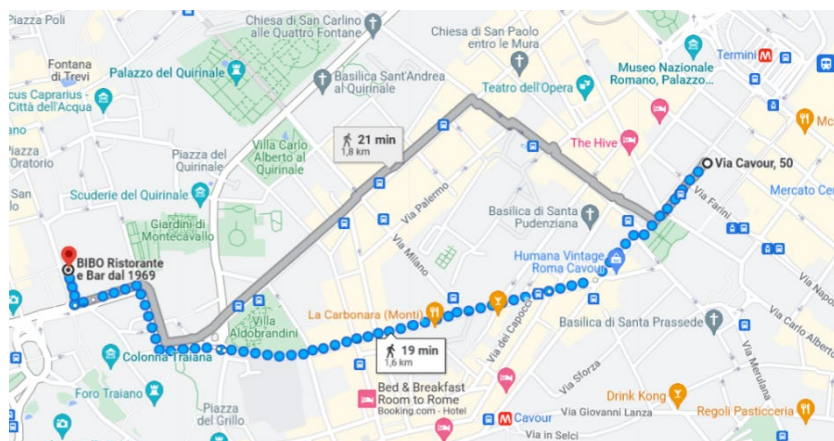
20:00 – Social dinner

BIBO Ristorante e Bar dal 1969

Piazza dei Santi Apostoli, 56-59

00187 Roma RM

<https://bibo-ristorante-pizzeria-bar.business.site/>



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Day 2 | Thursday 22 October 2022 Cavour Congress Center

Thu
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Oct

9:00 – 09:30 (CEST) - Registration of participants

Thu
20
Oct

09:30 – 11:20 (CEST)

S4 – Climate services and climate impacts for assessing, predicting and managing future climate risk in urban areas

Chair: (tbc)

- 09:30-09:40 Introduction
- 09:40-10:00 **Spatiotemporal analysis of urban climate aspects - case of the largest Hungarian cities**
Attila BUZÁSI, Budapest University of Technology and Economics, Hungary
Author(s): Attila Buzási, Bettina Szimonetta Jäger
- 10:00-10:20 **Land use and land cover classification using a ResNet deep learning Architecture**
Luigi SELMI, datiaperti, Italy
Author(s): Luigi Selmi
- 10:20-10:40 **Prototyping climate information: producing actionable climate information for business and adaptation. The EUCP project experience**
Elisa DELPIAZZO, CMCC, Ca' Foscari University of Venice, EIEE, Italy
Author(s): Elisa Delpiazzo, Katharina Buelow, Eulalia Baulenas Serra, Claas Teichmann, Jens Hesselbjerg Christensen, Dominic Matte, Dragana Bojovic, Peter Kalverla
- 10:40-11:00 **European Extreme Events Climate Index (E3CI)**
Alessandro PUGLIESE, Fondazione CMCC, Italy
Author(s): Guido Rianna, Alessandro Pugliese, Giuseppe Giugliano, Giuliana Barbato, Paola Mercogliano, Antonio Tirri, Francesco Lo Conti
- 11:00-11:20 **Marine Seasonal Forecasting: Towards new climate services for the ocean**
Ronan MCADAM, CMCC, Italy
Author(s): Ronan Mcadam, Simona Masina, Magdalena Balmaseda, Silvio Gualdi, Giovanni Coppini, Michael Mayer, Retish Senan

Thu
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Oct

11:20 – 11:50 (CEST) – Coffee break

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Thu
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Oct

11:50 – 13:30 (CEST)
Poster session

1. **A Tool to Measure Banks' Exposure to Climate Risk**
Francesca FRAULO, SustainAdvisory srl, Italy
Author(s): Francesca Fraulo, Ramona Rabbi, Carola Canu
2. **ADA270 – Ice Core project of Adamello Glacier**
Valter MAGGI, University of Milano Bicocca, Italy
Author(s): Valter Maggi
3. **Assessment of crop water use and its sustainability based on future projections, Aude Department (South-West France)**
Andrea BORGIO, CMCC Foundation, Italy
Author(s): Andrea Borgo, Donatella Spano, Marta Debolini, Sara Masia, Muhammad Faizan Aslam, Antonio Trabucco
4. **Assessment of crop water use and its sustainability based on future projections in Sardinia region**
Muhammad Faizan ASLAM, University of Sassari, Italy
Author(s): Muhammad Faizan Aslam, Donatella Spano, Marta Debolini, Sara Masia, Andrea Borgo, Antonio Trabucco
5. **BRIANZA CLIMATE CHANGE: a supra-local and multidisciplinary project for a new approach to the challenge of climate change**
Mita LAPI, Lombardy Foundation for the Environment, Italia
Author(s): Mita Lapi, Eleonora Esposito, Simone Picco
6. **Climate scenarios of precipitation and wind extremes affecting the Italian Energy System with a multi-hazard approach**
Arianna TREVISIOL, RSE S.p.A., Italy
Author(s): Arianna Trevisiol, Paola Faggian
7. **Climatology of parameters in the surface layer of the urban environment in Torino, Italy**
Claudio CASSARDO, University of Torino, Italy
Author(s): Claudio Cassardo, Valentina Andreoli, Davide Bertoni, Massimiliano Manfrin
8. **Evaluation of climate impact on grape productivity in Italy using bioclimatic indices**
Marco GAETANI, Scuola Universitaria Superiore IUSS, Italia
Author(s): Laura Massano, Giorgia Fosser, Marco Gaetani
9. **Exploiting community resilience to foster adaptation responses**
Mita LAPI, FLA-Polimi, Italy
Author(s): Domenico Vito, Mita Lapi
10. **Integration and assessment of different products for wildfire prediction over the Apulia Region Case Study**
Giusy FEDELE, Regional Models and Geo-Hydrological Impacts Division, Centro Euro-Mediterraneo sui Cambiamenti Climatici, Italy
Author(s): Giusy Fedele, Giuliana Barbato, Giuseppe Giugliano, Ilenia Manco, Mario Raffa, Paola Mercogliano and Pasquale Schiano
11. **Large Scale Representation Learning for Atmospheric Data**
Ilaria LUISE, Stony Brook University, USA
Author(s): Ilaria Luise, Christian Lessig, Martin Schultz, Maike Sonnewald, Aneesh Subramanian
12. **Observing trends and extreme events impacts on lakes using ESA CCI Satellite Data Package**
Giulio TELLINA, CNR-IREA, Italy
Author(s): Giulio Tellina, Monica Pinardi, Mariano Bresciani, Gary Free, Daniela Stroppiana, Claudia Giardino, Stefan Simis, Jean-Francois Crétau, Chris Merchant, Herve Yesou, Claude Duguay, Clément Albergel, Alice Andral, Bru
13. **Optimization of Soil Texture and Soil Parameters to Improve the Soil Moisture in the Land Surface Model**
Sujeong LIM, Ewha Womans University, Republic of Korea
Author(s): Sujeong Lim, Seon Ki Park, Claudio Cassardo

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14. The protocol for CMIP6 downscaling over

(EURO-)CORDEX domains

Marianna ADINOLFI, CMCC, Italy

Author(s): Marianna Adinolfi, Mario Raffa and Paola Mercogliano

15. Semi-analytical Solution for the Transient Regime:

Application to Sap Flow

Shahla ASGHARINIA, Tuscia University, Italy

Author(s): Shahla Asgharinia, Mazda Kompanizare, Francesco Renzi, Nicolas Friess, Riccardo Valentini

16. Updated trends in Italian temperature

Giulio SETTANTA, ISPRA - Istituto Superiore per la Protezione e la Ricerca Ambientale, Italy

Author(s): Giulio Settanta, Guido Fioravanti, Piero Frascchetti, Francesca Lena, Walter Perconti, Emanuela Piervitali

17. VHR-REA_IT and VHR-PRO_IT Datasets: Very High Resolution Dynamical Downscaling of ERA5 Reanalysis and climate projections over Italy by COSMO-CLM

Paola MERCOGLIANO, Fondazione CMCC, Italy

Author(s): Mario Raffa, Marianna Adinolfi, Alfredo Reder, Paola Mercogliano

Thu
20
Oct

13:30 – 15:00 (CEST) – Lunch break

Thu
20
Oct

15:00 – 16:50 (CEST)

S5 – Integrated approaches and predictions on climate change impacts, climate risks and adaptation options I

Chair: (tbc)

15:00-15:10 Introduction

15:10-15:30 **A Machine Learning approach to assess coastal risks related to extreme weather events along the coast of the Veneto region (Italy)**

Maria Katherina DAL BARCO, Ca' Foscari University of Venice, Italy

Author(s): Maria Katherina Dal Barco, Davide Mauro Ferrario, Margherita Maraschini, Ngoc Diep Nguyen, Anna Pasquali, Sebastiano Vascon, Silvia Torresan, Andrea Critto

15:30-15:50 **The contribution of cover crops to climate change mitigation: the effect of residues retention vs removal on SOC and the importance of the estimation approach**

Chiara DE NOTARIS, Euro-Mediterranean Center on Climate Change (CMCC), Italy

Author(s): Chiara De Notaris, Maria Vincenza Chiriaco

15:50-16:10 **Impact of climate change on the phenological phases of olive trees in the Euro-Mediterranean region**

Ali DIDEVARASL, University of Sassari, Italy

Author(s): Ali Didevarasl, Jose M. Costa-Saura, Donatella Spano, Diana Rechid, Katharina Bülow, Maurizio Mulas, Giovanni Nieddu, Richard Snyder, Samanta Zelasco, Antonio Trabucco

16:10-16:30 **The future in the past: the ClimADA project and the climatic and environmental reconstruction of the Adamello glacier in the central Alps**

Antonio BALLARIN DENTI, Lombardy Foundation for the Environment, Italy

Author(s): Valter Maggi, Mario Martinelli, Roberto Ranzi, Anna Bonettini, Paolo Colosio, Giovanna Grossi, Muhammad Usman Liaqat, Amerigo Lendvai, Mita Lapi, Antonio Ballarin Denti

16:30-16:50 **Optic monitoring of the Adamello Glacier's temperature and deformation profile**

Jacopo MOROSI, Coherentia Srl, Italy

Author(s): Jacopo Morosi, Maddalena Ferrario, Marco Brunero, Andrea Madaschi, Luca Albertelli, Mario Martinelli

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Thu
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Oct

16:50 – 17:20 (CEST) – Coffee break

Thu
20
Oct

17:20 – 18:50 (CEST)

S6 – Sectoral approaches to climate change impacts, climate risks and adaptation options II

Chair: (tbc)

- 17:20-17:30 Introduction
- 17:30-17:50 **Climate transition risk and credit risk: Evidence from Italy**
Lorenzo NOBILE, University of Salento, Italy
Author(s): Lorenzo Nobile, Simona Cosma, Paola Schwizer
- 17:50-18:10 **Measuring increased resilience: the Race to Resilience campaign. Challenges and opportunities to monitor the impact of global adaptation efforts**
Nicolle ASPEE, Center for Climate and Resilience Research (CR)2, United Kingdom
Author(s): Nicolle Aspee, Roxana Bórquez, Marco Bili, Paulina Aldunce, Juan Carlos Varela, Francis Mason
- 18:10-18:30 **The SUSTAINadapt project: A national pathway to integrate climate change adaptation and sustainable development**
Serena MARRAS, University of Sassari and CMCC, Italy
Author(s): Serena Marras, Nađa Beretić, Alissa Bauer, Valentina Bacciu, Valentina Mereu, Matteo Funaro, Giulia Tola, Vittorio Serra, Antonio Ledda, Maria Grazia Gavina Ruiu, Giovanna Calia, Laura Mula, Chiara Ces
- 18:30-18:50 **Multi-model scenarios of hot-days and dry conditions affecting the Italian Energy System**
Paola FAGGIAN, RSE S.p.A., Italy
Author(s): Paola Faggian, Arianna Trevisiol

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Day 3 | Friday 21 October 2022 Sala della Protomoteca in Campidoglio

Fri
21
Oct

9:00 – 09:30 (CEST) - Registration of participants

Fri
21
Oct

09:30 – 11:00 (CEST)
S7 – Integrated approaches and predictions on climate change impacts, climate risks and adaptation options II
Chair: (tbc)

09:30-09:40 Introduction

09:40-10:00 **Trans-regional Climate Adaptation Planning process for local development projects in small municipalities: The case study of North-West Italy**

Giuliana BARBATO, CMCC, Italy

Author(s): Guglielmo Ricciardi, Marta Ellena, Giuliana Barbato, Giuseppe Giugliano, Pasquale Schiano, Sara Leporati, Claudia Traina, Paola Mercogliano

10:00-10:20 **Extreme weather events resilience arrangements in local communities in Poland**

Adam CHORYŃSKI, Poznań University of Life Sciences, Poland

Author(s): Adam Choryński, Iwona Pińskwar, Dariusz Graczyk, Michał Krzyżaniak

10:20-10:40 **Defining adaptation measures through a participatory and collaborative process: A case study in the Italy-France cross-border area**

Valentina BACCIU, CNR-IBE; CMCC, Italia

Author(s): Valentina Bacciu, Serena Marras, Valentina Mereu, Matteo Funaro, Silvia Mongili, Sergio Cossu, Giampaolo Meloni, Francesca Masu, Virginia Cristina Pira, Donatella Spano

Fri
21
Oct

10:40 – 11:00 (CEST) - Break

Fri
21
Oct

11:00 – 12:00 (CEST)
Keynote Lecture – Ilona Otto (online)
Chair: Enrica De Cian

Cascading risks and social tipping dynamics in the transition to a global net-zero emissions system

abstract xxx

Ilona M. Otto holds the Professorship in Societal Impacts of Climate Change at the Wegener Center for Climate and Global Change, University of Graz. She leads a research group focusing on Social Complexity and System Transformation. The group's ambition is to use complex science theory and novel research methods to analyse social dynamic processes and interventions that are likely to spark rapid social changes necessary to radically transform the interactions of human societies with nature and ecosystem services in the next 30 years. Prof. Otto is a social scientist by training. She uses various research methods including social surveys, case studies, behavioural experiments, and simulations in analysing problems related to global environment changes, development, adaptation and sustainability.

Fri
21
Oct

12:00 – 12:15 (CEST) – Closing session and award ceremony

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List of Participants

Marianna **Adinolfi**, CMCC Foundation, Italy
Shahla **Asgharinia**, University of Tuscia, Italy
Muhammad Faizan **Aslam**, University of Sassari, Italy
Nicolle **Aspee**, CR2 University of Chile, United Kingdom
Valentina **Bacchi**, Fondazione CMCC - Consiglio Nazionale delle Ricerche, Italy
Antonio **Ballarin Denti**, Fondazione Lombardia per l'Ambiente, Italy
Giuliana **Barbato**, CMCC, Italy
Andrea **Borgo**, CMCC Foundation, Italy
Attila **Buzási**, Budapest University of Technology and Economics, Hungary
Claudio **Cassardo**, University of Torino, Italy
Yeora **Chae**, Korea Environment Institute, Republic of Korea
Maria Vincenza **Chiriaco**, CMCC, Italy
Adam **Choryński**, Poznań University of Life Sciences, Poland
Federica **Cittadino**, Eurac Research, Institute for Comparative Federalism, Italy
Linda **Cuppelli**, CMCC, Italy
Maria Katherina **Dal Barco**, Ca' Foscari University of Venice and CMCC Foundation, Italy
Marinella **Davide**, Ca' Foscari University of Venice, CMCC Foundation, Harvard University, Italy
Enrica **De Cian**, Ca' Foscari University of Venice and CMCC Foundation, Italy
Chiara **De Notaris**, CMCC Foundation, Italy
Marta **Debolini**, CMCC Foundation, Italy
Elisa **Delpiazzo**, CMCC Foundation, Ca' Foscari University of Venice, EIEE, Italy
Giulio **Di Lallo**, CMCC Foundation, Italy
Ali **Didevarasl**, University of Sassari, Italy
Maria Cristina **Facchini**, ISAC CNR, Italy
Paola **Faggian**, RSE S.p.A., Italy
Giusy **Fedele**, CMCC Foundation, Italy
Francesca **Fraulo**, SustainAdvisory srl, Italy
Marco **Gaetani**, IUSS, Italy
Martina **Gambaro**, SISC and Fondazione CMCC, Italy
Mita **Lapi**, Fondazione Lombardia per l'Ambiente, Italy
Sujeong **Lim**, Ewha Womans University, Republic of Korea
Ilaria **Luise**, Stony Brook University, CERN, Italy
Valter **Maggi**, University of Milano Bicocca, Italy
Serena **Marras**, University of Sassari and CMCC Foundation, Italy
Ronan **McAdam**, CMCC Foundation, Italy
Paola **Mercogliano**, CMCC Foundation, Italy
Fiorenza **Micheli**, Stanford University, USA
Jacopo **Morosi**, Coherentia Srl, Italy
Anna **Napoli**, University of Trento, Italy
Lorenzo **Nobile**, Università del Salento, Italy
Ilona M. **Otto**, Wegener Center for Climate and Global Change, University of Graz, Austria
Roberta **Padulano**, Fondazione Centro Euro-Mediterraneo sui Cambiamenti Climatici, Italia
Haemin **Park**, Korea Environment Institute, Republic of Korea
Antonello **Pasini**, CNR, Italia
Filippo **Pavanello**, University of Bologna and CMCC Foundation, Italia
Gabriele **Pizzileo**, CMCC Foundation, Italy
Alessandro **Pugliese**, Fondazione CMCC, Italy
Ramona **Rabbi**, SustainAdvisory Srl, Italy
Luigi **Selmi**, datiaperti, Italy
Giulio **Settanta**, Istituto superiore per la protezione e la ricerca ambientale, Italy
Costantino **Sirca**, University of Sassari, Italy
Donatella **Spano**, Univertia di Sassari, Italy
Ekaterina **Tarasova**, Tuscia University, Italy
Giulio **Tellina**, CNR-IREA, Italia
Antonio **Trabucco**, CMCC Foundation, Italy
Arianna **Trevisiol**, RSE S.p.A., Italy
Giacomo **Trombi**, University of Florence, Italy
Riccardo **Valentini**, University of Tuscia,
Jim **Yates**, University of Tuscia, Italy