COP28 UAE

Side event

Transformative climate services for decision-makers based on observational data

Wednesday 6 Dec. 2023, 16:45—18:15 UTC+4
SE Room 6 & online

icos-ri.eu

KADI

HELSINGIN YLIOPISTO
HELSINGFORS UNIVERSITET
UNIVERSITY OF HELSINKI

ICOS Integrated Carbon Observation System

UNIVERSITY OF TURKU

Transformative climate services for decision-makers based on observational data

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Transformative climate services are crucial to leverage efficient climate mitigation actions.
By mobilising available knowledge, resources and skills, accounting for local realities and using actual data from observations, these services provide decision-makers with tools to tackle their climate-related issues. Drawing, amongst others, on their experience in the KADI project (kadi-project.eu), our speakers will share their insights and experiences on co-designing and implementing climate services, showcasing African and European success stories as transferrable references.

Funded by the European Union

Direct access to the live stream

Speakers

Clement Albergel
Scientist
European Space Agency

Understanding the size and dynamics of the emissions from fossil fuels and their partitioning among the atmosphere, land and ocean is the core challenge of the carbon-cycle research community. Globally, land use is, after fossil fuel combustion, the second highest (for some developing countries even the first) contributor to GHG emissions. If fossil fuel emissions from the global to the national level are quite well known, CO_2 fluxes from land use change and management, as swell as land and ocean sinks, have large uncertainties. Space-based earth observation (EO) information has the potential to accurately attribute sources and sinks, thus contributing to the Paris mitigation and adaptation objectives in many ways, including by feeding into the Global Stocktake process. Satellite-borne instruments can provide uniquely valuable information on sources and sinks in complement to ground-based and airborne measurements.

Clement Albergel is a scientist working at the European Space Agency (ESA) Climate and Long-term Action division in the UK, focusing on land surface activities. The division oversees implementing ESA's climate program, the Climate Change Initiative (CCI). The climate-quality datasets produced by CCI are a major contribution to the evidence base used to understand climate change, which drives international action. Prior to ESA he has held position in the research departments of the European Centre for Medium Range Weather Forecast (ECMWF) as well as of the French Meteorological service (Meteo-France) working on land surface analysis. His activities at ESA are mainly shared between ESA Climate program (ESA Climate Change Initiative), program in support of international development (GLOBAL DEVELOPMENT ASSISTANCE (esa.int) and EOAFRICA (EO AFRICA – Research and Development Facility (eoafrica-rd.org), all implemented under the Directorate of Earth Observation Programmes.

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Niina Käyhkö
Professor at the Department of Geography and Geology
University of Turku

Climate services in Africa need to be more demand-driven, localized, community-engaging and accessible for learning and for public decision- making. How can we practice open science of the 21st century so that opportunities around the revolution of open data and digital technologies, community engagement and youths skills-building can be turned into contextually smart, actionable and impactful climate service solutions?

Niina Käyhkö is a Professor at the Department of Geography and Geology, University of Turku, Finland. She has 20 years of experience working on innovative digital geospatial data solutions in rapidly developing countries and she is one of the leaders of the Resilience Academy.

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Joyce Kimutai
Climate scientist
Kenya Meteorological Services

Nairobi, Kenya's capital with a population of about 5 million people, is characterised by a diverse range of microclimates and different surface characteristics. Paved roads and high-rise buildings interspersed with low vegetation typify the central business district and the suburbs, while large neighborhoods of informal settlements show dense tin housing, little vegetation, and limited access to public utilities and services. Nearly half the population lives in informal settlements on about 1% of the land. This leads to literally hotspots for heat stress during the 4 to 5 hotter months of the year. The pilot will scope climate service needs related to extreme heat with a key component exploring the efficacy of co-production and provision of temperature forecasts.

Joyce is a climate scientist with Kenya Meteorological Services. Her research has increasingly focused on analysing climate extremes and co-production of climate services with different stakeholders in Kenya. She is the alternate IPCC Focal point for Kenya and negotiates for Kenya on agenda items under Science, Review and Systematic observations, and loss & damage at UNFCCC COP sessions. She participated as one of the Lead authors for the IPCC Special Report on Climate Change and Land in the Sixth Assessment Cycle (AR6).

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Werner Kutsch
Director General
Integrated Carbon Observation System

There is currently no long-term infrastructure to standardise the operation of the existing stations on the African continent, and to harmonise collected data into one portal. Moreover, the current global models and observational guidelines have been developed mainly in the northern hemisphere and do not necessarily reflect the African environment. To start addressing these issues, ICOS is now leading a new EU project called KADI, Knowledge and Climate Services from an African Observation and Data Research Infrastructure. Starting from the co-design of climate services meeting the needs of African stakeholders, KADI aims at improving the knowledge about climate change in Africa and at developing tools to combat its impacts. The ultimate aim is to design a pan-African climate observation research infrastructure.

Dr. Werner Kutsch is the Director General of the Integrated Carbon Observation System (ICOS) since March 2014. He is a biologist, plant ecologist and ecosystem scientist by education and has worked on ecosystem carbon cycling and carbon-climate feedbacks for 25 years in Europe and Africa. Dr Kutsch is now leading the further development ICOS which includes services based on ICOS data for scientists and for societies.

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Joanna Masic
Global Lead for Sustainable City Infrastructure and Services
Lead Urban Specialist
World Bank

The Resilience Academy presents a model for localizing digital skills and harnessing low-cost local technologies for climate risk management. This talk will showcase affordable and sustained approaches for generating digital services and AI models used in climate exposure, hazard, vulnerability and risk assessment.

Joanna Masic is the Global Lead for Sustainable City Infrastructure and Services and Lead Urban Specialist (Cities and Climate Change) at the World Bank.

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Zakaria Ngereja
Lecturer at the Dept. of Geospatial Sciences and Technology
Ardhi University

Tanzania Resilience Academy is a university partnership and service delivery program aiming to improve digital skills, competences and employment of the university students and graduates for more effective disaster risk management and climate resilience. The Resilience Academy is grounded on four interrelated actions: collecting climate risk data with affordable and low cost tools as an effort of the university students and local communities, curating and sharing data openly through Climate Risk Database, securing learning opportunities through online resources and catalysing innovative data driven climate solutions based on ecosystem of open data, open tools and skilled people.

Zakaria Ngereja is a Lecturer at the Dept. of Geospatial Sciences and Technology, Ardhi University, He has 17 years of experience working on higher education in geospatial science in Tanzania. He is an advocate of open digital geospatial data for climate resiliency and spatial data infrastructure. Driven by a dedicated passion, he strives to advance the application of geospatial technology and solutions across diverse domains in Tanzania. He is one of the leaders of the Resilience Academy.

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Tuukka Petäjä
Vice-Director
Institute for Atmospheric and Earth System Research

Tukka Petäjä will address the opportunities of comprehensive atmospheric observations with a particular focus on combining data from co-located european research infrastructures.
This allows a thorough analysis of climate change, air quality and ecosystem processes in the changing environmental conditions. Particularly, Tukka connect air quality in the cities and recent work done in Africa.

Prof. Tuukka Petäjä has over 20 years of research experience related to experimental atmospheric sciences. He is the Vice-Director of Institute for Atmospheric and Earth System Research responsible for research in the aerosol domain, research infrastructures and long-term observations and a highly cited scientist.

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