

ICOS

Integrated
Carbon
Observation
System

SIDE EVENT UN COP 25

4 Dec 2019
15:00 - 16:30
Room 1

Standardized observations are the base of all climate science

Best available science requires high-quality monitoring of greenhouse gases. High-precision, sustained, interoperable and freely accessible data is a prerequisite for relevant climate policies. Research Infrastructures cooperate globally to provide standardized observations and contribute to enhanced Monitoring, Reporting and Verification (MRV).

Research Infrastructures as providers of standardized observations



High-quality data is crucial for climate science. Research Infrastructures (RI) provide long-term observational data that pass rigorous QA/QC processes. ICOS is a European RI with a high degree of integration in its atmospheric, oceanic and ecosystem station networks.

Werner Kutsch is the Director General of ICOS, Integrated Carbon Observation System. As a scientist, he has been working in ecosystem carbon cycling for 25 years in Europe and Africa.

WMO approach to high-quality measurements of atmospheric composition





Within WMO, the Global Atmosphere Watch (GAW) is responsible for global measurements of atmospheric composition. In this presentation, the procedures for the measurement stations within GAW, the approach to quality assurance, quality control and data management will be presented.

Claudia Volosciuk is a researcher at GAW, in the Atmospheric Environment Research Division, Research Department of WMO.

About us

Integrated Carbon Observation System (ICOS) is a European-wide research infrastructure producing standardised data on greenhouse gas concentrations in the atmosphere, as well as on carbon fluxes between the atmosphere, the earth and oceans, used by e.g. researchers and policy-makers.

 icos-ri.eu
 [ICOS_RI](https://twitter.com/ICOS_RI)
 [icosri](https://www.instagram.com/icosri)

Current status and challenges of GHG observations:

Japan's contribution to the Paris Agreement



Asia plays an important role to turn the goals of the Paris Agreement into reality. GHG observations are needed to reduce their source/sink estimation uncertainties and to identify knowledge gaps. Estimating anthropogenic and natural emissions based on GHG observations has great potential in complementing national inventories. I will discuss the current status and challenges from Japan's relevant institutions.

Nobuko Saigusa is the Director of the Center for Global Environmental Research, National Institute for Environmental Studies, Japan. She specializes in terrestrial carbon cycle, and was a lead author of Chapter 6 of IPCC Special Report on Climate Change and Land.

Systematic Observations for Monitoring the Global Climate



The GCOS program assesses the status of global climate observations of the atmosphere, land and ocean, and produces improvement guidance. GCOS expert panels maintain definitions of Essential Climate Variables (ECVs) which are required to systematically observe Earth's changing climate. These observations contribute to solving challenges in climate research and also underpin climate services and adaptation measures.

Carolin Richter is the Director GCOS Secretariat, WMO.

The role of atmospheric observations in the Global Carbon Budget



The Global Carbon Budget is an international effort to monitor changes in the sinks and sources of atmospheric CO₂. Each year, the project quantifies emissions of CO₂ from fossil fuel use, cement production and land use change, as well as the sequestration of CO₂ from the atmosphere by the terrestrial biosphere and oceans.

With this information it is possible to identify the drivers of observed changes to atmospheric CO₂ concentrations. This talk will discuss the use of atmospheric observations in the global carbon budget.

Matthew Jones is a Senior Research Associate at the Tyndall Centre for Climate Change Research, University of East Anglia.