Please join us at our next **NASA Carbon Monitoring System (CMS) Policy Speaker Series** talk:

Monitoring CO2 Anthopogenic Emissions with an Earth system approach

Gianpaolo Balsamo

Team Leader for Coupled Processes, European Centre for Medium-Range Weather Forecasts (ECMWF)

Philippe Ciais

Researcher, Climate and Environment Sciences Laboratory (LSCE)

Monday, June 7, 2021

12:00PM-1:00PM Eastern Time

Register here for the WebEx Meeting Link.

The Policy Speaker Series is an effort funded through the NASA Carbon Monitoring System (CMS) Initiative and co-sponsored by the Joint Global Carbon Cycle Center (JGCCC).

About the Talk

Under the guidance of the European Commission, and in particular its CO2 Task Force, developments of a new Copernicus service elements capable to use Earth observations to monitor human-induced carbon dioxide (CO_2) emissions have reached a first prototype phase.

The CO_2 Human Emissions (CHE) project had successfully gathered efforts of 22 partners to develop the building blocks (mapping, modelling, data assimilation, uncertainty characterization) of a European CO_2 monitoring and verification support (CO2MVS) capacity for global CO_2 emissions related to human activities.

A chain of modelling approaches produces global, regional and local CO_2 simulations, with a focus on the representation of human-emission sources. The CHE project has moved closer towards a high-resolution CO_2 global inversion capacity to connect

atmospheric concentrations to surface emissions, and shown how satellites and ground-based Earth observations can be used to limit uncertainties and to prepare for an operational CO_2 monitoring system. High-resolution global simulations (at 9 km) covering the whole of 2015 were used as input for regional and local simulations over Europe (at 5 km and 1 km resolution) and have been used to simulate satellite observations from a future dedicated CO_2 Monitoring mission.
The CHE Horizon 2020 project, which ran from October 2017 to December 2020, transferred all its findings to a new project, now dedicated to the prototype Copernicus CO_2 Service, the CoCO2 project running from January 2021 to December 2023.
This follow-on project is focused on supporting the 1st Global Stocktake in 2023 of the Paris Agreement in partnership with the European Commission, countries of the United Nations Framework Convention on Climate Change, and international interested parties. The presentation will include some of the key achievements, list the challenges and perspectives in 2021.

About Our Speakers

Gianpaolo Balsamo is an ECMWF principal scientist and team leader for Earth system coupled processes. He is involved in the coordination and system integration for the CHE/CoCO2 projects. He has a PhD/Habilitation in Meteorology/Earth system science from the French University Paul Sabatier and an invited professorship for climate-change at Politecnico of Turin, department of environmental, land and infrastructure engineering.

Philippe Ciais is a researcher of the Laboratoire des Sciences du Climat et de l'Environnement (LSCE), the climate change research unit of the Institut Pierre Simon Laplace (IPSL). He is a physicist working on the global carbon cycle of planet Earth, climate change, ecology and geosciences. Philippe Ciais studied Physics at École normale supérieure and received a PhD in 1991 entitled “Holocene climate record of Antarctic ice cores”.

Past Seminars: Check out recordings of previous Policy Speaker Series talks on the CMS website: http://carbon.nasa.gov/policy_series.html