The Integrated Global Greenhouse Gas Information System (IG^{3}IS) -Transcom Workshop and IG^{3}IS Science Team Meeting

AGENDA

Start date
15 October 2019 - 08:15
End Date
18 October 2019 - 16:00

Cité Internationale Universitaire de Paris
Boulevard Jourdan 17
75014 Paris, France

Tuesday October 15

08:15 – 09:00 Registration

09:00 – 09:35 Welcome and Introduction

09:00 Tarasova – WMO Welcome and Introducing the Mayor of Paris

09:05 Celia Blauel : Deputy Mayor of Paris for the environment, sustainable development, water, canal policies and the Climate Energy Plan

09:20 DeCola - IG3IS status and meeting objectives

09:35 – 10:35 Urban / Local Scale Presentations (Chair: Oksana Tarasova)

09:35 Ciais – Paris Megacity Project – From Measurements to Financing to Action

09:55 Whetstone – Quantifying Urban Greenhouse Gas Emissions and Uptake: Advances, Challenges, and Opportunities

10:15 Gurney – Convergence of High-Resolution Inventories and Atmospheric Monitoring

10:35 – 11:00 Coffee Break*

11:00 – 12:20 Urban / Local Scale Presentations Continue (Chair: Oksana Tarasova)

11:00 Lauvaux – Indianapolis INFLUX Project and Advances in Urban Inverse Modeling

11:20 Miller – Los Angeles Megacity Project and Urban Biospheric Issues

11:40 Lin – Zheng Zhao, China Megacity Project

12:00 Schuh – Bridging Global Scale CO2 Fluxes to Urban Scale Emissions

12:20 – 14:00 Lunch Break

14:00 – 15:00 Discussion - Inverse Modeling Crosscut Urban / Local Case Study (Chair: Thomas Lauvaux)

14:00 Lauvaux – Presentation of Urban Case Study

15:00 – 15:40 National / Regional Scale Presentations (Chair: Felix Vogel)

15:00 Manning – Estimating UK Emissions using an extensive network of observations

15:20 Henne – Validation of Swiss Non-CO2 Emissions in Support of National Inventory Reporting

15:40 – 16:00 Coffee Break*

16:00 – 17:00 National / Regional Scale Presentations (Chair: Felix Vogel)

16:00 Bukosa – CarbonWatch NZ: Regional/National Scale Inversion of New Zealand's Carbon Flux

16:20 Davis – Taking Regional Inversions to the Next Level – ACT – America Campaign Results

16:40 Monteil - EUROCOM intercomparison of regional CO_2 fluxes in EUROPE for the period 2006-2015

17:00 – 19:00 Poster Session and Reception (Courtesy of Origins/SUEZ)

Wednesday October 16

08:30 – 09:50 National / Regional Scale Presentations (continue) (Chair: Luciana Gatti)

08:30 Maksyutov – IPCC Guidelines and Atmospheric Measurements and Improvements Needed

08:50 Chevallier – Towards Country-Scale CO_2 Flux Estimates

09:10 Rigby – Next generation systems for greenhouse gas emissions evaluation

09:30 Nickless - Hierarchical Bayesian CO2 flux estimates for the UK, Europe and South Africa

9:50 – 10:10 Coffee Break*

10:10 – 11:10 Discussion - Inverse Modeling Crosscut National / Regional Scale Case Study (Chair: Sander Houweling)

10:10 Houweling - Presentation of National / Regional Case Study

11:10-12:30 Carbon Cycle and Process Studies (Chair: Anna Agusti-Panareda)

11:10 Ciais – 5 Decades of Northern Land Carbon Uptake from Interhemispheric Gradient

11:30 Walther – A Data Driven Approach to Quantify Terrestrial Biogenic Carbon Fluxes

11:50 Peylin - Ecosystem carbon stocks and their sensitivity to climate change: Insights from new tracers and model oarameter optimization

12:10 Smith - Impact of the 2018 summer drought on Europe's terrestrial biospheric carbon exchange from combined remote sensing, crop and forest modeling, and atmospheric inversions

12:30 – 14:00 Lunch

14:00 – 15:00 Carbon Cycle and Process Studies (Chair: Andreas Christen)

14:00 Hu – North American Terrestrial Carbon Uptake Enhanced by El Niño

14:20 Gatti – Amazon Carbon Balance and its Sensitivity to climate and human-driven changes

14:40 Koren – Interannual variability and trends of CO2 exchange over the Amazon from 8 years of aircraft profile measurements

15:00 – 15:20 Global Budgets (Chair: Andreas Christen)

15:00 Patra – Multi-model inversion results for supporting the IPCC AR6 (WG1) and RECCAP2

15:20 - 18:30 SOCIAL EVENT (Description available soon)

Thursday October 17

08:30 – 10:10 Methane, source attribution and other species (Chair: Jinwoong Kim)

08:30 Zavala - Toward a policy-relevant characterization of methane emissions from global oil and gas infrastructure
08:50 Bruhwiler - Detecting Feedbacks Between CH4 Emissions and Climate Change
09:10 Tsuruta – European Methane Budgets Estimated from Carbon Tracker Europe
09:30 Saunois – Global Methane Budget 2000 - 2017
09:50 Zheng - Global atmospheric carbon monoxide budget 2000 - 2017 inferred from multi species atmospheric inversions

10:10 – 10:30 Coffee break*

10:30 – 12:00 Methods, measurements and satellite applications (Chair: Wouter Peters)

10:30 Vermeulen – Data usage practices and network design for in-situ CO2 Regional Inversions
10:50 Fang - Observation of atmospheric CO2 and the study on source/sink strength in China
11:10 Bousserez –Towards a global CO2 Human Emissions (CHE) monitoring system: methodological aspects and transport error estimation.
11:30 Barre – ECMWF Copernicus Atmosphere Monitoring Service (CAMS) and Integrated Forecasting System (IFS)
11:50 Reflections on the global stocktake (input from UNFCCC)

12:00 – 13:30 Lunch

13:30 – 15:10 Methods, measurements and satellite applications (Chair: Antoine Berchet)

13:30 H. Peiro – Global correlations of CO and CO2 observed with MOPITT and OCO-2 flux I inversions
13:50 Roest - Vulcan 3.0 - High-Resolution Fossil Fuel CO2 Emissions for the United States
14:10 Kort – Role of Space-Based Measurements for Urban Emission Monitoring
14:30 Tunnicliffe - Top-down sector study of methane emissions from Brazil using satellite data
14:50 Pandey - Detection and quantification of methane emissions using TROPOMI data

15:10 – 15:30 Coffee break*

15:30 – 16:30 Methods, measurements and satellite applications (Chair: Eunsil Oh)

15:30 Kaminski - Assessments of CO2 observations from space and from the surface network in a Carbon Cycle Fossil Fuel Data Assimilation System
15:50 Meijer - The space component of the Copernicus CO2 Monitoring System
16:10 Engelen - Towards a Copernicus capacity to monitor anthropogenic CO2 emissions

16:30 – 16:50 Partnerships and cooperation (Chair: Audrey Fortems)

16:30 Erik Andersson – Copernicus CO2 Monitoring & Verification Support (MVS)

16:50 - 18:00 Poster Session (continued)

Friday October 18

8:30 Turnbull – Auckland City Project and the path forward for urban GHG monitoring

08:50 – 09:10 IG^{3}IS Updates from the Secretariat & business plan (Chair: Oksana Tarasova)
08:50 Peiró – Updates from the IG^{3}IS Office

09:10 – 09:55 Update on deliverables & user requirements (Chair: Oksana Tarasova & Philip DeCola)

09:55 – 10:15 Coffee break*

10:15 – 11:15 Summary of discussions and next steps for Inverse Modeling Crosscut Urban / Local & National / Regional Case Studies (Chair: Oksana Tarasova)
Thomas Lauvaux and Sander Houweling

11:15 – 12:00 Procedures for IG3IS projects engagement & support (Chair: Oksana Tarasova)
(Presentation and Discussion)

12:00 – 13:30 Lunch

13:30 – 16:00 Closed session IG3IS Core Team (Chair: Mario Peiró)

- *All the talks will have 20 minutes of duration: 15 minutes of presentation and 5 minutes of questions.*
- *Poster session will be held on Tuesday from 17:00 – 19:00 and Thursday from 16:50 – 18:00.*
- *Further details regarding the social event will be published in the IG3IS website.*
- *For logistic information please click here and for the latest updates please visit the event website.*

**Special thanks to ICOS for supporting the meeting coffee breaks*

IG3IS Meeting Poster List

1 **Yao** – Beijing-Tianjin-Hebei City Cluster CO2 Monitoring Project

2 **Vogel** – Tracking Urban GHG Emission Trends – Case Study Toronto, Canada

3 **Christen** – ICOS for urban

4 **Berchet** - Community Inversion Framework: Integrated Open-Source Tool for Inversion Studies

5 **Rodenbeck** - Carbon Cycle Response During the 2018 European Long-Lasting Drought

6 **Thanwerdas** - Global CH4 sources estimated from atmospheric observations of CH4 and its 13-CH4 isotopic signal through 3-D variational inverse modelling

7 **Agusti-Panareda** - High-res nature runs CAMS

8 **Crowell** - Synergies in a Constellation of GHG Observing Satellites

9 **Yurganov** - Atmospheric Methane over Arctic Seas Observed from Satellites

10 **Singh** - On the potential of mesoscale atmospheric inversion of the CO2 natural fluxes in Amazonia using GeoCarb and MicroCarb data

11 **Nakamura** - Development of Higher Resolution CO2 Transport Model for Inversion Analysis by Japan Meteorological Agency

12 **Maki** - Constructing a global carbon flux estimation system with bias corrected satellite data

13 **Fortems** - Variational regional inverse modeling of emissions of reactive species C + NO2

14 **Karstens** - ICOS Carbon Portal: data and services to support carbon cycle science

15 **Kim** - Estimation of regional GHG fluxes over Canada using an inverse modelling approach

16 **Yun** - Estimations of terrestrial carbon cycle over South Korea from atmospheric CO2 measurements from 1999 to 2017

17 **Nathan** - Demonstration of a High-Measurement-Density Aerosol Inversion System in Christchurch, NZ

18 **Florentie -** CarbonTracker Europe: Recent Developments

19 **Oh** - Establishing a Carbon Monitoring System in Seoul "Megacity-CO2, Seoul"

20 **Koch** - Inversion of NEE for 2006-2018 over Europe using the CarboScope Regional Inversion system

21 **Khade** - EnKF based flux estimation with a coupled weather-GHG transport model

22 **Mueller** - A Regional Approach to Estimate Methane Emissions in the Northeastern United States

23 **Hakkarainen** - Global and local XCO2 anomalies for detecting anthropogenic CO2 emission sources

24 **Chen** - Potential benefit of 14CO2 observations in CO2 inversions quantified using the coupled Carbon Cycle Fossil Fuel Data Assimilation System

25 **Potier** - A high temporal and spatial resolution inversion system to improve knowledge in CO2 anthropogenic emissions in the Western part of Europe.

26 **Krol** – Global Inversions of Carbnyl Sulfide

27 **Reum** - Integrating WRF-Chem into the CarbonTracker Data Assimilation Shell

28 **Balsamo** - An EO-driven surface model development to face global kilometre-scale Earth system monitoring challenges

29 **Peters** - Interannual variations in biomass burning over the Amazon from 8 years of aircraft profiles of CO and satellite data

30 **Purser** - Localising and Quantifying Methane Emissions at Facility Scale Using Laser Dispersion Spectroscopy

31 **Patra** - Global and regional budgets of 3 major greenhouse gases

32 **Chandra** - Carbon budget imbalance in atmospheric CO2 inversion using MIROC4-ACTM

33 **Wilson** - Quantifying long-term South American emissions of CH4 using a 4D-Var inverse model and remote sensing observations from GOSAT

34 **Basu -** Can we Estimate Fossil Fuel CO2 Emissions from a Country with Atmospheric Measurements?