CEOS Carbon Task Force

- to ensure the GEO task CL-09-03

Dr. Takashi Moriyama EORC/JAXA

CEOS-SIT23
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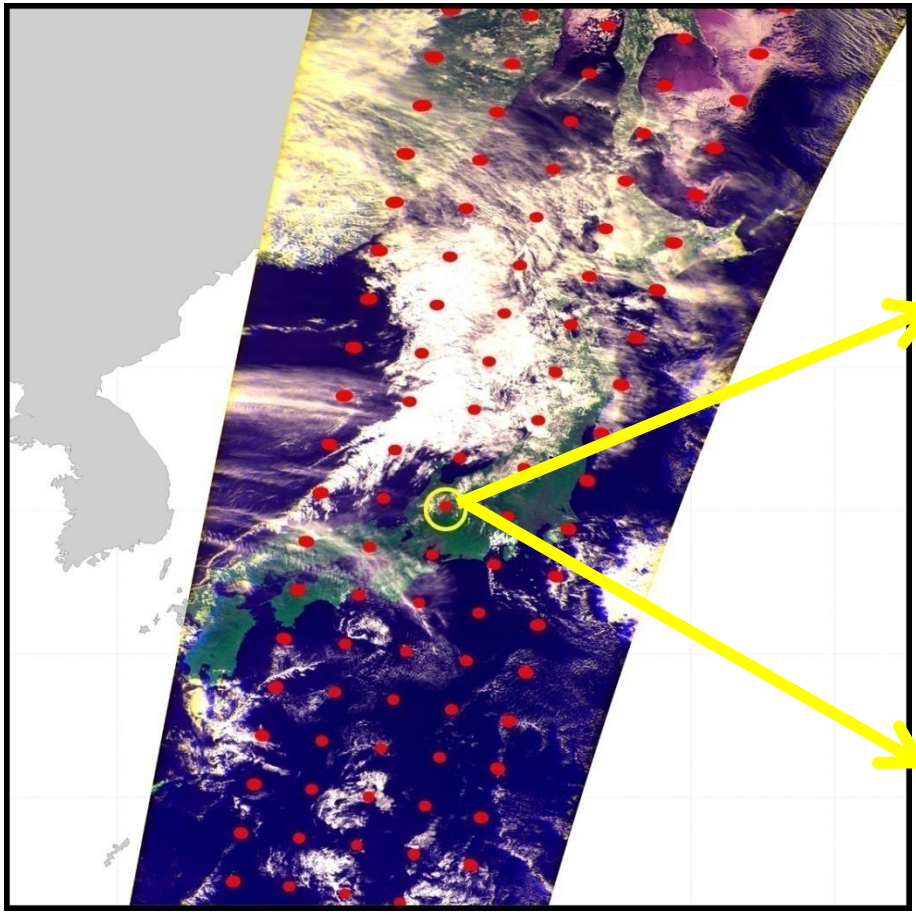
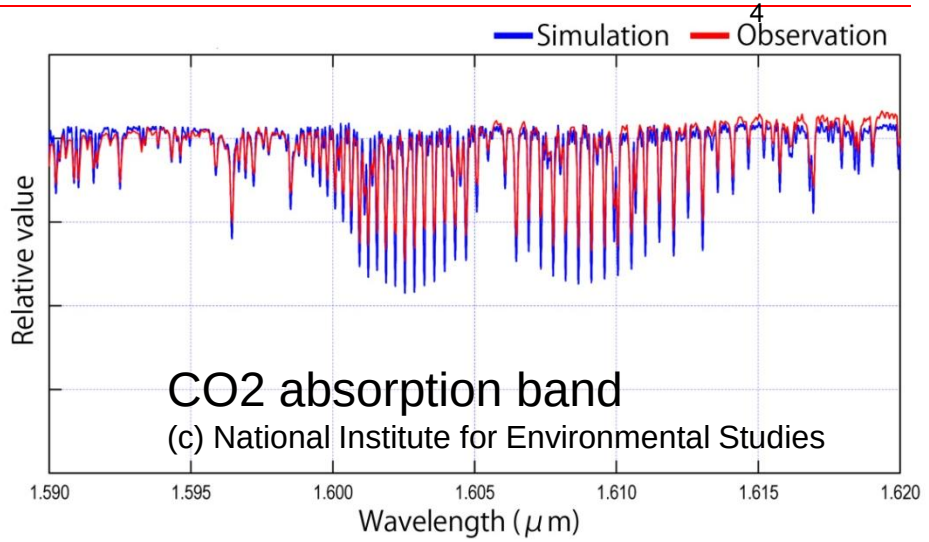
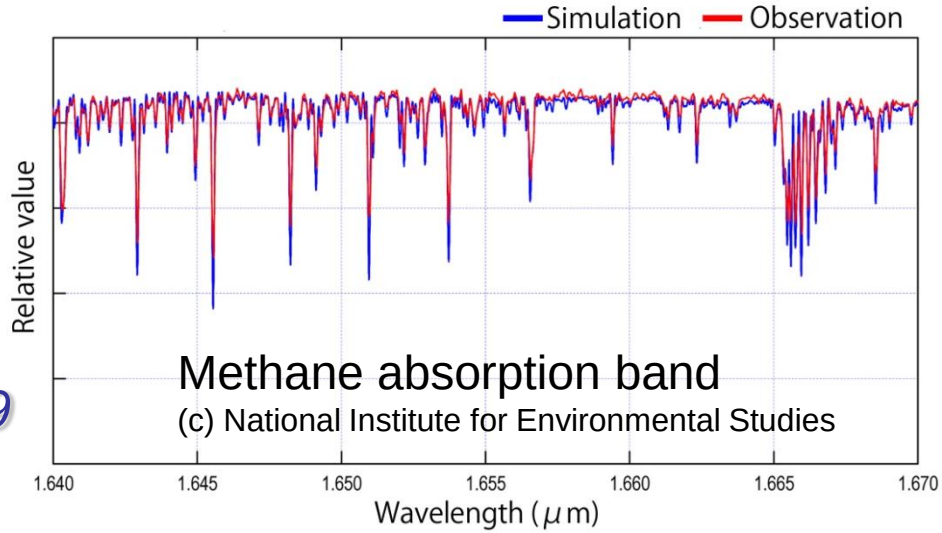
Florida



GOSAT (Ibuki) first light on 7 Feb, 2009





Motivation/Background (1/2)

a) The role of greenhouse gases in global warming processes and as an important element of the global Carbon cycle is widely recognized by GEO member countries.

b) With the advent of the technical means to provide new monitoring and measurement of GHG from space in 2009, CEOS has identified the coordination of these measurements and their application as a top priority for the coming years.

c) NASA, NOAA and ESA have agreed to work with JAXA to establish the necessary international framework to facilitate this coordination, aimed at access to the data, its application, and security of future supply.

Motivation/Background (2/2)

d) To ensure that the necessary cross-communication occurs between the three tasks, including communication of the latest science needs expressed through the update to the IGOS Carbon Theme Report in CL-09-03a.

e) JAXA, will co-lead **all three** CL-09-03 tasks and recognises the need for close coordination among all three and coordinated outreach of results. As Co-lead of all three, JAXA is willing to step up to provide the necessary coordination effort.

f) The inclusion of this coordination function in the description of CL-09-03c, is a vehicle of convenience, to get thing moving quickly, and can be reviewed at the end of 2009. The policy timetable for 2009 and 2010 demand a faster response from CEOS and GEO and this approach reflects that need.

g) Task Force seeks to raise the profile of the tasks within CEOS, GEO, and within funding agencies such as JAXA, necessary to secure high-level support and funding .

CL-09-03c Sub-task Definition *(as given in the 2009-2011 Work Plan):*

a) The task will foster the use of space-based greenhouse gas (GHG) observations and consolidate data requirements for the next-generation GHG monitoring missions from space.

b) The task will create a synergistic strategy for easy access to GHG satellite observations, including GOSAT and current observations, and to harmonise the next generation of GHG satellite observations.

c) The task will pursue the technical and organisational progress required for the application and integration of results with those of the other GEO Carbon CL-09-03 tasks, to which it is closely linked CL-09-03a (Integrated Global Carbon Observations (IGCO)) and CL-09-03b (Forest Carbon Tracking).

d) To ensure the necessary coordination and integration of outcomes of these tasks, the task (CL-09-03c) will also serve as a vehicle for the purposes of coordinated reporting to CEOS and GEO.

CL-09-03c Sub-task Definition *(as given in the 2009-2011 Work Plan):*

e) To facilitate this function, and to raise the profile and priority of all three Carbon tasks within GEO, the task will establish an international coordination Task Force (CEOS Carbon Task Force) within the CEOS structure and reporting to SIT with the other GEO tasks which CEOS leads.

To minimise the addition of unnecessary structures and process, the Task Force will, as far as possible, comprise representatives of, and leverage capabilities of, existing CEOS groups – including the ACC and the Working Groups – but with a task-specific focus on the CL-09-03 outcomes.

Outputs of CL-09-03c

a) Facilitate calibrated and validated GOSAT standard products in line with its data policy through the CEOS portal as a part of GEOSS outcomes which contribute to climate change studies.

b) Compare and explore integration of GOSAT products with mid tropospheric AIRS and IASA GHG products.

c) Develop a CEOS strategy to harmonise and secure future GHG data supply from space - reflecting updated science status and user requirements as defined by the update of the IGOS Carbon Theme Report via task CL-09-03a.

d) As required, support to the CEOS periodic reports to UNFCCC SBSTA informing of progress by space agencies towards the requirements of the GCOS Implementation Plan.

e) As required, compelling demonstrations and communications in support of key GEO meetings in 2009 and 2010 – including the GEO Ministerial – noting the science and policy implications of the new technical capabilities supplied by space systems.

f) The first step is to develop and communicate an overall CL-09-03 ‘CEOS Carbon Implementation Plan’ reflecting the key milestones of GEO.

Activities

a) The 1st IGGMGG from space meeting was held on 17th December in San Francisco to discuss overall scheme of IGGMGG from space. The discussion focused on the overall scheme, relations and task sharing among GEO-COP and CEOS Virtual Constellations (Atmospheric Composition Constellation). The action should be taken by JAXA to create white paper (CL-09-03c task sheet) to coordinate, and report to CEOS-SIT23 (December, 2008).

b) Communicate with other CL tasks, CL-09-3a and CL-09-03b, to harmonise among the tasks and make synergetic approach to achieve our goal.

c) Propose to establish a loose/lightweight coordinating Task Force, reporting to CEOS SIT, to harmonise reporting on the various CL-09-03 tasks and ensure cross-communication of progress and results (March, 2009).

d) Work with CL-09-03a (GEO-COP of global carbon observations) and CL-09-03b (Forest Carbon Tracking) to develop and communicate an overall CL-09-03 ‘CEOS Carbon’ implementation plan -reflecting the key milestones of GEO, including GEO-VI and GEO Ministerial (by April, 2009).

e) A draft CEOS strategy to harmonise and secure future GHG data supply from space - reflecting updated science status and user requirements as defined by the update of the IGOS Carbon Theme Report via task CL-09-03a (Date depends on CL-09-03a schedule).

Resources

a) GOSAT standard products ;
Level-2(CO_2 and CH_4 column amounts(SWIR), CO_2 and CH_4 profiles(TIR), Level-3(global CO_2 and CH_4 distribution, global radiance distribution, global NDVI), Level-4(global CO_2 flux)

b) Supporting current space GHG data, in-situ data, assimilated data and model by participating agencies.

c) Project management resources provided by JAXA.

CEOS Carbon Task Force operation scheme

a) Participants
The Task Force consists of experts representing from space agencies and CL task science representatives, involved in carbon observations from space and applications of the data.

b) Chairperson
JAXA is willing to supply a chairperson for the Task Force and resources to ensure necessary bridging among the tasks CL-09-03a, CL-09-03b and CL-09-03c. The chairperson has a responsibility to make an overview report to CEOS-SIT.

c) Meeting
The Task Force typically convenes twice a year, or as needed for the purpose of overall management of the task, interaction with CEOS related activities such as Virtual Constellations, and securing conclusion and communication of outputs to key events.

d) Secretariat
Co-leads of CL-09-03 a/b/c tasks and representatives of NASA, NOAA, ESA and JAXA requested to serve as a loose/lightweight secretariat function to drive progress within key agencies. JAXA is willing to provide ‘the glue’.

CL-09-03c task leads

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WMO: Len Barrie (WMO (GAW), LBarrie@wmo.int)
Representative from CL-09-03a:Han Dolman (Netherlands, han.dolman@geo.falw.vn.nl)
Representative from CL-09-03b: Alex Held (Australia, Alex.Held@csiro.au)

***Participation** (Table to be refined in 2009):*

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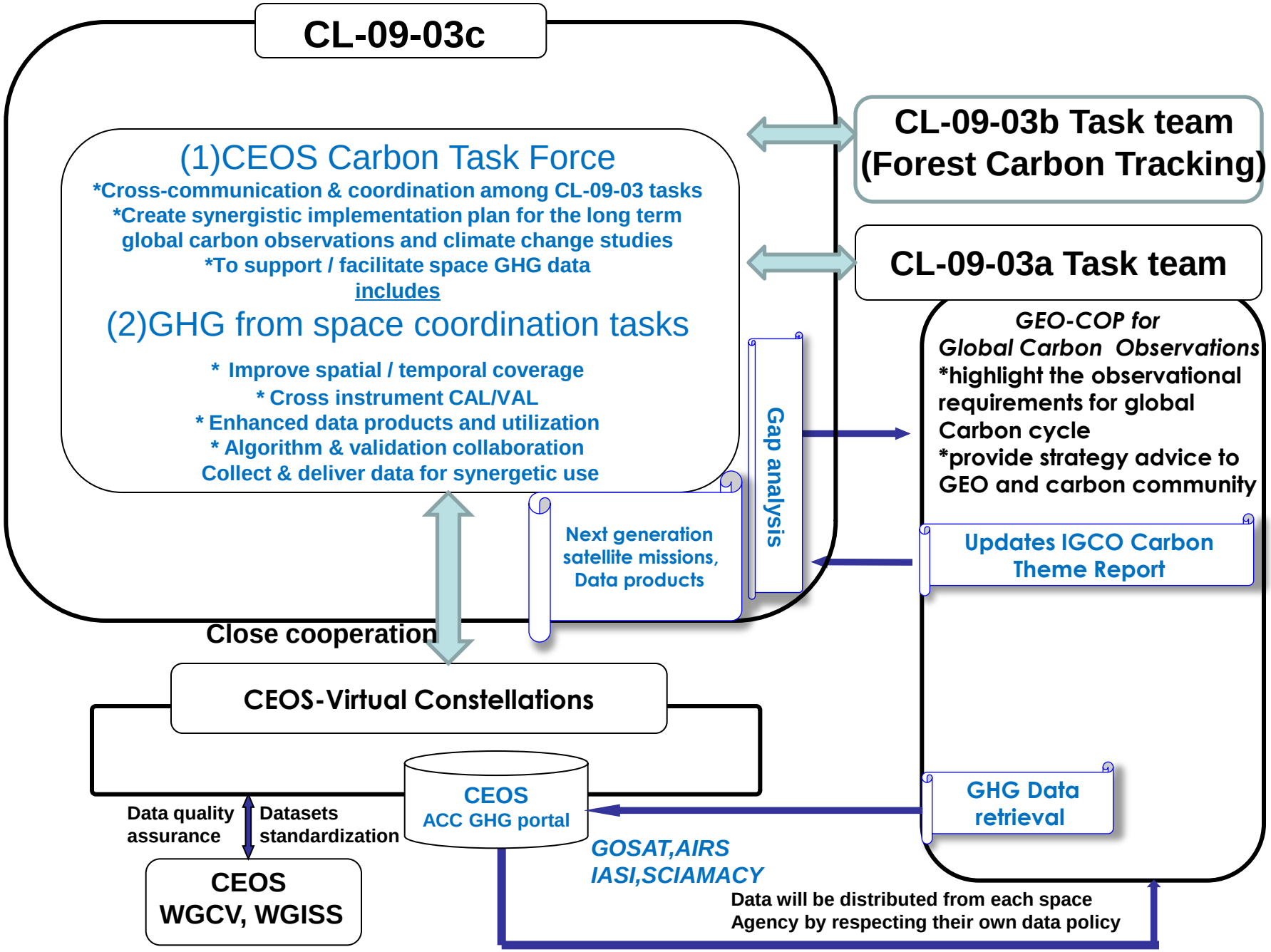
CL-09-03c
(1)CEOS Carbon Task Force
*Cross-communication & coordination among CL-09-03 tasks
*Create synergistic implementation plan for the long term global carbon observations and climate change studies
*To support / facilitate space GHG data
includes
(2)GHG from space coordination tasks
* Improve spatial / temporal coverage
* Cross instrument CAL/VAL
* Enhanced data products and utilization
* Algorithm & validation collaboration
Collect & deliver data for synergetic use
CL-09-03b Task team
(Forest Carbon Tracking)
CL-09-03a Task team
GEO-COP for
Global Carbon Observations
*highlight the observational requirements for global Carbon cycle
*provide strategy advice to GEO and carbon community
Gap analysis
Next generation satellite missions, Data products
Updates IGCO Carbon Theme Report
Close cooperation
CEOS-Virtual Constellations
CEOS
ACC GHG portal
GHG Data retrieval
Data quality assurance
Datasets standardization
CEOS
WGCV, WGISS
GOSAT,AIRS
IASI,SCIAMACY
Data will be distributed from each space Agency by respecting their own data policy

CEOS Carbon Task Force Schedule

	2008	2009	2010	2011	2012
CEOS Carbon Task Force	▲9/2 Concept launched ▲9/16 Joint secretariat MTG ▲9/18 EO seminar ▲Dec.17 *Group kick-off* 1st IGGMGG @SF	▲March SIT-23 ▲Sept SIT-24 *CL-09-03 overall task discussion* ▲May Task Force ▲ Oct – CEOS outcomes for COP-15/GEO-VI			
CL-09-03a CL-09-03b	***Gap analysis & requirements for GHG data/datasets and Long term space GHG missions***	▲4/Canberra W/S ▲7/2nd GEO Forest Symp (Thailand)			
GEO	▲11/GEO-V **GEO approved CL-09-03 as a enhanced new task for 2009 to 2011**	▲11/GEO-VI	▲11/GEO-VII & Ministerial		
CEOS	▲11/CEOS plenary **CEOS endorsed CL-09-03c as a top priority task**	▲12/COP-15 ▲Sept SIT-24 ▲11/CEOS Plenary	▲11/CEOS Plenary		