

# Japanese Alliance for Climate Change Observation (JACCO)



**Office for Coordination of Climate Change Observation  
(OCCCO)**



**Supported by  
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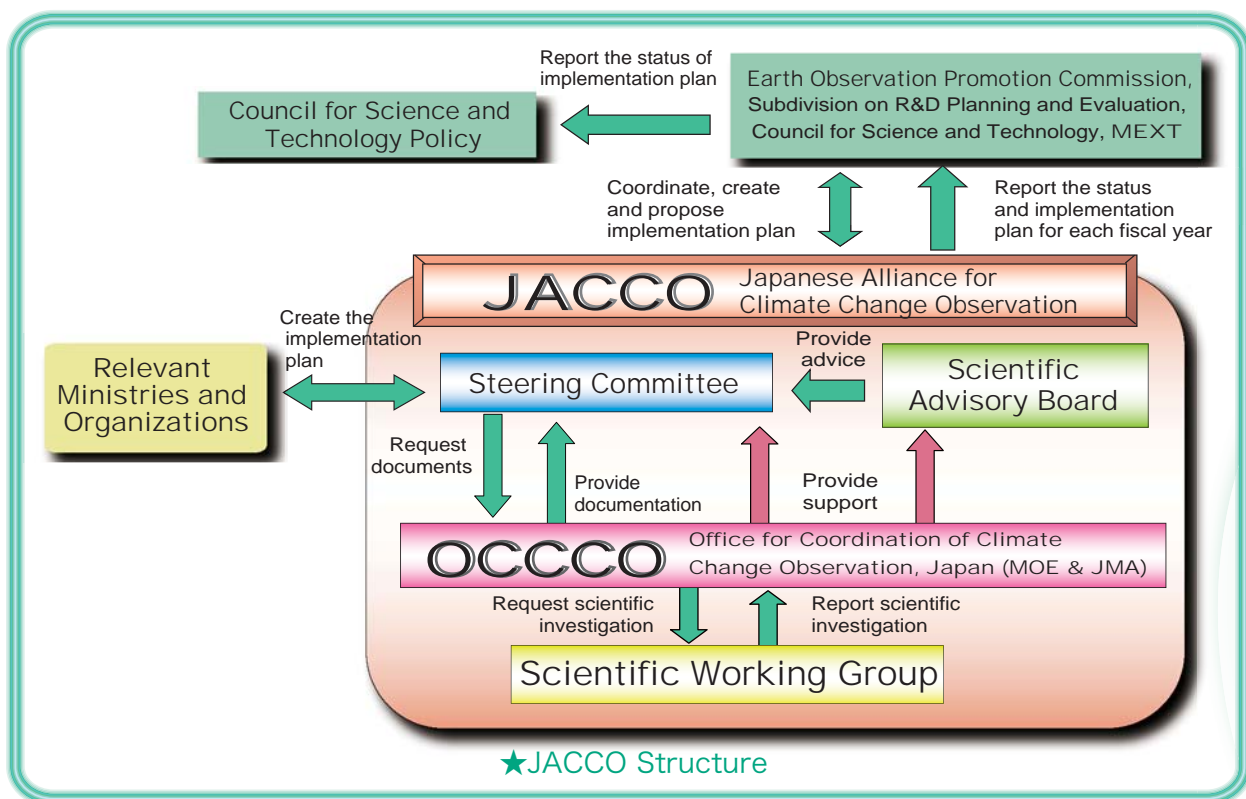
# Japanese Alliance for Climate Change Observation

## -Toward the integration of climate change observation-

With the increasing emphasis placed on earth observation, international cooperation for the promotion of earth observation has increased, and as a result, the **GEO** (Group on Earth Observations) was established and the **GEOSS** (Global Earth Observation System of Systems) 10-year Implementation Plan was adopted at the third Earth Observation Summit in 2005.

In Japan, the Council for Science and Technology Policy (**CSTP**) released the Earth Observation Promotion Strategy in 2004, which proposed the establishment of an organization promoting earth observation and a national alliance to enhance cooperation between ministries and institutions.

Following this, the Earth Observation Promotion Commission was established at the Ministry of Education, Culture, Sports, Science and Technology (**MEXT**), and the Japanese Alliance for Climate Change Observation (**JACCO**) was organized. As the secretariat of **JACCO**, the Office for Coordination of Climate Change Observation (**OCCCO**) was established by the Ministry of the Environment (**MOE**) and Japan Meteorological Agency (**JMA**) in April 2006. **OCCCO** is located in the Center for Global Environmental Research of the National Institute for Environmental Studies (**NIES**).



## Main Activities

**JACCO** has been engaged in the following activities to promote interagency and interdisciplinary cooperation in climate change observation. It aims to promote long-term continuous observations by interagency cooperation, as well as to create new research fields and provide original research results by interdisciplinary collaboration. Furthermore, **JACCO** has been facilitating the dissemination of information through the **OCCCO** website.

### 1. Conducting surveys

**JACCO** investigates the current state of and future needs for climate change observation by surveys and discussion in working groups. The results of the surveys are reported to the Earth Observation Promotion Commission.

#### Surveys for the current state of Climate Change Observation

In order to enhance the joint usage of observational sites and to promote interagency and interdisciplinary cooperation, **JACCO** conducts surveys on observational sites in Japan and investigates the current situation of the collaborative use of facilities and equipment. The survey results are provided on the **OCCCO** website.



## Analysis of future needs for Climate Change Observation

JACCO has set up scientific working groups comprised of experts, and has discussed issues on the current status of and future needs for observations in various fields. The results reported by the scientific working groups have been compiled in two Japanese volumes, which have been submitted to the Steering Committee and the Earth Observation Promotion Commission. The following English summaries of the reports were issued:

- Observations for the monitoring of greenhouse gases and the carbon cycle and for the assessment of the impacts of climate change (2008)
- Observations for the monitoring of clouds, aerosol and atmospheric radiation, and for the assessment of the impacts of climate change (2012)

JACCO has also organized expert meetings and set up relevant working groups to address priority issues raised in these reports.

## 2. Discussing in expert meetings and scientific working groups

JACCO has organized expert meetings and set up working groups (WGs) to discuss collaborative efforts toward specific issues.

### Expert meetings

- Standard Scale for Greenhouse Gas Measurement (February, 2010)
- Interagency Cooperation on Observations in the Cryosphere and Arctic Research Consortium (November, 2010)
- Calibration of Atmospheric Radiation Measuring Instruments (December, 2010)

### Working groups

- WG for compiling statistics on climate change impacts (2010)  
This WG has compiled a plan for collecting statistical data on climate change impacts to promote the development of environmental statistics and enhance data sharing. On the basis of this plan, OCCCO released a list of statistical data on "MOE portal site of statistical data on climate change impacts"<sup>†</sup> and has kept it updated since 2012.  
<sup>†</sup>URL : [http://www.nies.go.jp/occco/statistics\\_portal/index.html](http://www.nies.go.jp/occco/statistics_portal/index.html)
- WG for the standardization of greenhouse gas (GHG) observational data (2010~)  
To facilitate the standardization and dissemination of GHG observational data, this WG has conducted InterComparison Experiments for GHG Observation (iceGGO) with standard reference gases of GHGs since 2012.
- WG for the calibration of atmospheric radiation measuring instruments (2011~)  
The WG is considering collaborative ways to calibrate atmospheric radiation measuring instruments.

## 3. Organizing workshops

JACCO has organized annual workshops to raise awareness among the public about issues relating to climate change observation. The following workshops entitled **Toward the integration of climate change observations** were held:

- In view of long-term climate change observations and interdisciplinary and interagency collaborations (October, 2007)
- In the frontline of observations of climate change impacts (December, 2007)
- In the frontline of observations in the cryosphere (January, 2010)
- In the frontline of forest observations (November, 2010)
- Climate change revealed by long-term observational data – In view of data collection, rescue, and archive (December, 2011)
- Observation and utilization of solar radiative energy (November, 2012)

Panel discussions regarding interdisciplinary and interagency cooperation were held in the workshops. Based on these discussions, proposals for future collaboration among research bodies were compiled and submitted to the Earth Observation Promotion Commission, aiming to be reflected in national science policies. The following proposals were submitted:

- Cooperation for terrestrial carbon cycle and ecosystem monitoring (2009)
- Interagency cooperation for observations in the cryosphere (2010)
- Cooperation for forest observations (2011)
- Data collection, rescue and archive (2012)
- Cooperation initiatives for observation and utilization of solar radiative energy (2013)



## JACCO and GEO/GEOS

In recent years, there has been an increasing emphasis on earth observation to deal with global issues such as damages caused by global warming and natural disasters. Internationally, **GEO** was launched to coordinate efforts on global earth observations. Since then, various activities have been initiated to build a Global Earth Observation System of Systems (**GEOS**).

In Japan, responding to these international trends, **CSTP** released the Earth Observation Promotion Strategy in 2004, which proposed the establishment of the Earth Observation Promotion Commission and a national alliance to enhance cooperation between ministries and institutions. Accordingly, two national alliances have been set up: one for climate change, established by the **MOE** and **JMA**, and one for earthquake and volcanic activity by **MEXT**.

### References

**GEO**: <http://www.earthobservations.org/index.shtml>

**GEOS**: <http://www.earthobservations.org/geos.shtml>

Earth Observation Promotion Strategy: [http://www8.cao.go.jp/cstp/project/envpt/english/pub/eops\\_finnal1.pdf](http://www8.cao.go.jp/cstp/project/envpt/english/pub/eops_finnal1.pdf)



## Contact

### Office for Coordination of Climate Change Observation (OCCCO) (MOE/JMA)

Center for Global Environmental Research (CGER)  
National Institute for Environmental Studies (NIES)  
16-2 Onogawa, Tsukuba, Ibaraki 305-8506, Japan  
Telephone: +81-29-850-2980 Fax: +81-29-858-2645  
E-mail: [occo@nies.go.jp](mailto:occo@nies.go.jp)  
[http://occo.nies.go.jp/e\\_index.html](http://occo.nies.go.jp/e_index.html)



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Coordination of  
Climate  
Change  
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