COMPENDIUM OF CANADA'S ENGAGEMENT IN INTERNATIONAL ENVIRONMENTAL AGREEMENTS AND INSTRUMENTS

Memorandum of Understanding between the United Kingdom's Meteorological Office and the Department of the Environment of Canada for Collaboration on Weather, Atmospheric, Hydrologic and Oceanographic Research and Development and Implementation of Related Assimilation and Prediction Systems for the Enhancement of National Safety and Economic Prosperity

SUBJECT CATEGORY:
Meteorology

TYPE OF AGREEMENT / INSTRUMENT:
Bilateral

FORM:
Memorandum of Understanding

STATUS:
- Signed by Canada May 6, 2016

LEAD & PARTNER DEPARTMENTS:
Lead: *Environment and Climate Change Canada*

FOR FURTHER INFORMATION*:*

***Web Links*:**

Environment and Climate Change Canada - Meteorological Research

UK Met - Research

Contacts:
ECCC Inquiry Centre

COMPENDIUM EDITION:
October 2018

PLAIN LANGUAGE SUMMARY

Modern meteorological and environmental prediction is one of the best tools available to manage our society relative to changing weather and climate and to reduce the loss of life and property due to high-impact weather events. Considering that for more than 100 years, both the United Kingdom and Canada have been responsible for many of the success stories underlying modern forecasting systems; it was decided to strengthen collaborations with an MOU to enhance research and development in atmospheric, hydrologic and oceanographic sciences. This will encourage joint efforts to resolve common challenges, including data management in support of health and safety, economic prosperity and the protection of the environment.

OBJECTIVE

the purpose of this Memorandum of Understanding (MOU) is to recognize the long-standing cooperation between the Participants; to facilitate the exchange of information, technology, and management practices; and to create a mechanism through which future efforts can be coordinated.

KEY ELEMENTS

The MOU sets a framework to collaboratively work on activities aiming at improving environmental prediction, implementing hazard preparedness through emergency management and all-hazards dissemination systems, bringing greater awareness of the role of regional meteorology on hemispheric and global weather and climate conditions, improving understanding of and ability to manage and protect the world's oceans and polar regions, sharing of environmental data and products, collaborating in meteorological, hydrologic, oceanographic, and climate research, observations, and applications development, organizing effective meetings, workshops, and conferences for the

mutual exchange of scientific and technical knowledge and ideas, as well as through other forms of cooperation that may be identified by the Parties.

EXPECTED RESULTS

This MOU is expected to achieve the following activities, among others: exchange of numerical environmental prediction model outputs and configurations, sharing of databases, contribution to collaborative projects on critical themes such as environmental prediction in the Arctic.

CANADA'S INVOLVEMENT

This agreement is important to Canada because it officialises and strengthens the longstanding and fruitful collaboration between ECCC and the UK Met Office on atmospheric sciences and operationalization of innovations aiming at improving weather and environmental services.

In Canada, this MOU is implemented by means of the existing Joint Statement between the Department of Foreign Affairs and International Trade of Canada and the Department of Business, Innovation and Skills of the United Kingdom concerning Joint Initiatives in the Fields of Science, Technology and Entrepreneurship signed in 2012, aiming at enhancing collaboration between government bodies, knowledge based institutions, and businesses in the areas of science, technology, entrepreneurship and innovation that are of high strategic priority to both countries.

RESULTS / PROGRESS

Activities

In May 2016, UK Met Office and ECCC signed the MOU and agreed to develop joint projects, building on existing collaboration in the fields of weather observation technologies, data assimilation, ensemble and satellite applications, modelling and physic processes, and assimilation of weather radar observables.

The MOU Steering Committee is currently in constitution and will initiate regular meetings in the months to come.

Reports

For now, the MOU Steering Committee has not issued reports on its activities, as formal activities have not yet been initiated.

Results

As examples of results obtained from collaboration between the UK Met Office and ECCC that are framed within this MOU, there are exchanges on technical aspects of satellite data assimilation, such as pre-processing and quality control, channel selection, assigned observation errors, etc. The UK Met Office and ECCC have access to their respective data quality monitoring websites. On the topic of satellite monitoring of volcanic ash plumes, the London and Montreal Volcanic Ash Advisory Centres often share information on volcanic ash events, as they are responsible for adjacent areas over the North Atlantic. Collaboration, included in the MOU, on the use of satellite data to detect the ash is highly valuable particularly with the launch of a new satellite mission (GOES-R). Both ECCC and UK Met Office developed a significant expertise in airborne measurements of aerosols, microphysical properties of clouds and precipitation. Over the years, ECCC and UK Met Office experts in airborne measurements are sharing instrumentation, experience in probes calibrations and data processing. During the Year of Polar Prediction (YOPP), an international initiative of intensive observation, modeling and user engagement, centered in 2018, the UK Met Office will fly its aircraft (FAAM) over the Canadian Arctic, and ECCC will provide support to this measurement campaign as well as benefit from observational data collected over the territory.