

Report of the WMO Expert Team on Weather Modification Research

WWPR/JSC4, 21-24 February 2011

1. The WMO ET on Weather Modification Research consists of the following members:

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2. Activities since the WWRP/JSC3

2.1 Review of the WMO status and guidelines documents on weather modification

The ET on WMR met in Abu Dhabi in March 2010 to review the WMO status and guidance documents related to weather modification and these have been finalised, approved and published on the WMO webpage.

2.2 Organizing the 10th WMO Scientific Conference on Weather Modification Research

In addition, the planning for the 10th WMO Scientific Conference on Weather Modification which is scheduled to take place in Bali, Indonesia in 4 (Tuesday) to 7 (Friday) October 2011 was initiated during the meeting in Abu Dhabi. The theme of the conference is “Scientific Basis and Challenges” and was chosen to reflect the importance of sound scientific practices in weather modification activities as contained in the WMO Guidelines on Weather Modification but also to highlight the scientific and other challenges that face this developing field of applied science. The impacts of Global Climate Change, the increasing pressure on water resources due to population growth and development as well as the vulnerability of society against severe weather events have increased the interest in weather modification. New concepts related to Geo-Engineering are emerging, while the field of weather modification has made steady progress through the use of new observation techniques, a number of research experiments and operational experiences. This conference is being

arranged to allow the exchange of information, results and ideas on these matters, informed by the inclusion of invited talks by experts. These keynote talks will deal with a range of issues such as inadvertent weather modification, the scientific status of weather modification, Climate Change mitigation and adaptation in relation to weather modification, concepts related to geo-engineering, new statistical techniques etc. Although the science of weather modification will feature prominent at the conference, a separate session will also provide a platform to summarize operational weather modification activities.

This conference is arranged to stimulate the cooperation between the weather modification community and those in air quality and chemistry, cloud microphysics, numerical modeling and climate change as we share common gaps in our understanding of atmospheric processes that impact on the physical environment. These gaps can be addressed more efficiently by coordinated research efforts between these communities.

The chairperson also undertook a site visit to Indonesia in July 2010 to consider possible venues and accommodation facilities available and worked with the local sponsors to shortlist two specific venues in Bali for the conference. At the same time draft plans of actions, responsibilities etc. were also clarified and a local organizing committee established. At the same time the agreement between WMO and BPPT (the local sponsor) was also drafted with support from the WMO legal section.

2.3 The International Centre for Weather Modification Research

During the meeting of the WMO Expert team on Weather Modification Research (ET-WMR) from 22 to 24 March 2010 in Abu Dhabi in the United Arab Emirates the Expert Team was presented a proposal from the National Center for Meteorology and Seismology (NCMS), "to establish an International Centre for Weather Modification Research (ICWMR) in the UAE. The proposal contained the following points:

- International Center for Weather Modification will be approved and recognized by WMO as a WMO center for weather modification and related science (aerosols, cloud physics and meteorological research and training)
- WMO Expert Team on weather modification will be steering committee for this center and provide guidance for the future development of the center
- Training courses in weather modification research will be approved by the steering committee and WMO training department will designate Center as a training center
- Steering committee will provide input on needed workshops
- The center will support important global field programs in weather modification and cloud seeding experiments in developing countries
- University involvement will be important.
- The Center will have its own budget

- UAE/NCMS/ICWMR will sponsor:
 - future WMO weather modification executive committee meeting on annual basis.
 - International WMO conferences on weather modification
 - Focused workshops on weather modification issues

Grant/award for scientific achievements in weather modification.”

This proposal was interrogated by the expert team and refined to form the basis of a MoU between the WMO and the UAE with regards to the ICWMR. The documents related to the international centre has been reviewed and approved by both the WMO and authorities in the UAE and finalization is expected early in 2011.

2.4 Other planned activities

The activities of the ET on WMR are dependent on WMO member contributions to the Trust Funds specifically established for this purpose. The encouragement of members with an interest in weather modification to contribute towards the Trust Fund is therefore vital to ensure sustainability of WMO's role in this regard.

The ET on WMR has identified the need for a thorough scientific review of weather modification as a future activity to be supported through the trust fund. This activity of ET will also review possible links between the scientific knowledge gained through weather modification research and other emerging issues such as climate change and geo-engineering as encouraged by the Congress.