

The Thirteenth World Meteorological Organization Symposium on Education and Training

(Symposium Statement)

The participants of the Thirteenth World Meteorological Organization (WMO) Symposium on Education and Training (SYMET-13), 29 October – 1 November 2017, Needham's Point, St. Michael Bridgetown Barbados:

Deliberating on the theme "Education and Training For Human Resource Development in Meteorological and Hydrological Services";

Noting the various international and national initiatives and commitments to address global issues related to natural disasters, environmental degradation, the Paris Agreement, the 2030 Agenda for Sustainable Development, the SIDS Accelerated Modality for Action (SAMOA) Pathway and the Sendai Framework for Disaster Risk Reduction;

Further noting the major initiatives and issues that are driving change within the WMO community as well as the initiatives and issues that are driving change within the wider education and training sector of the global economy;

Recalling the agreed key thematic areas requiring further development to enable the WMO Education and Training community to address the increasing education and training requirements;

Expressed the following key observations and conclusions:

- The 2017 WMO Education and Training survey on human resources requirements of NMHSs reveals a growing deficit in the capability and numbers of adequately educated and trained staff required to provide meteorological, climatological and hydrological services in many countries and territories.
- Rapid advances in scientific innovation and technological developments require corresponding update training of NMHS personnel.
- The research capability of the current and future generations needs to be developed as a critical part of a robust training programme.
- For NMHSs to provide the range of services required to address the sustainable development and DRR goals, increased funding is required to support the initial and ongoing education and training of NMHS personnel.
- Governments, as well as national and international stakeholders, need to be made more aware of the importance of increasing support for formal education and continuous professional development of meteorologists and hydrologists.
- The evolving requirements of users, increasing regulation and resource accountability by national governments and development partners requires managers in NMHSs to

possess increased planning, communication, legal awareness, advocacy, financial and personnel management skills.

- The development of the WMO competency and qualification frameworks and their inclusion in the WMO Technical Regulations, particularly those related to the provision of aeronautical meteorological services, have raised the importance of, and support for, education and training within the NMHSs.
- NMHS personnel and the broader user community across the globe are increasingly accessing meteorological products, data and education and training opportunities via the Internet. Whilst some countries are still experiencing limited bandwidth and access, the situation is improving and the WMO Education and Training community is continuing to improve its online as well as classroom courses and delivery.
- As the WMO Education and Training community works with students from many countries, language, gender and cultural awareness needs to be addressed across all activities.
- Cooperation between the Universities, NMHS training centres, WMO Regional Training Centres and international education and training partners provides a solid foundation for: increased sharing of teaching and learning resources and approaches; collaboration on development and delivery of education and training opportunities; developing model or common accreditation, certification, evaluation and assessment systems and their underlying quality control systems; and developing shared tools and platforms for developing, delivering and monitoring/reporting education and training activities.
- The feasibility activities in the WMO Global Campus demonstration show positive progress.

Made the following recommendations:

- The resourcing for infrastructure and personnel of the national and regional educational training institutions needs to be increased to meet the growing demands for meteorological, climatological and hydrological education and training across all societal sectors.
- Management, leadership, communication and advocacy skills need to be introduced into Initial and Continuous Professional Development programmes for meteorological and hydrological professionals.
- Encourage national and international foundations and projects to pay more attention to meteorological, climatological, and hydrological research, education and training, relevant to all potential audiences, to respond to the challenging environmental problems.
- The WMO regulatory material concerning competencies and setting of the standards for initial education and training of meteorological, climatological and hydrological personnel should be regularly reviewed and updated in light of the evolving service requirements.
- The Technical Commissions be requested to examine approaches to assist service providers streamline the workload associated with setting up and maintaining competency systems and assessment.

- The WMO Global Campus concept is further developed by the WMO Education and Training community for operational implementation during the 2020 to 2023 Financial period
- The WMO Secretariat be requested to play an active role in supporting the development and ongoing activities that comprise the WMO Global Campus concept.

SYMET-13 participants call for support and action at national, regional and global levels to support WMO and its National Meteorological and Hydrological Services develop and deliver improved services to the Member States by the provision of adequate facilities and resources for education and training in weather, water and climate related fields.

SYMET-13 participants called upon the World Meteorological Organization, international development partners, authorities of countries and territories, and other stakeholders to take into account recommendations arising from this Symposium in their recurrent and development socio-economic endeavours.

SYMET-13 participants recalled their critical role in following the recommendations themselves as well as influencing their institutional, national and regional authorities to implement the recommendations from this Symposium.

SYMET-13 participants further requested the World Meteorological Organization to publish the outputs of this meeting to enable widespread reference to, and use of, the key issues and recommendations from the Symposium. SYMET-13 participants further noted the potential for the publication of the Symposium outcomes to promote and set the agenda for meteorological, climatological and hydrological education and training for the next decade.

Participants express appreciation to the Government of Barbados for hosting the Symposium, the World Meteorological Organization for organizing the Symposium, the Caribbean Meteorological Organization, the Caribbean Institute for Meteorology and Hydrology for organizing it and the United States National Oceanic and Atmospheric Administration (NOAA) National Weather Service for providing resources that has enabled the delivery of the event.

Bridgetown, Barbados, 1 November 2017.

Summary of the Outcomes of the World Meteorological Organization Meeting
of Heads of Regional Training Centres (RTC)

Barbados, 2 November 2017

The meeting reflected on a number of issues and came up with the following recommendations/observations:

1. The Management Development Training resource material being developed by the WMO ETR Office be published as a WMO Information Note in the first quarter of 2018 and shared with RTCs and other training institutions. D/ETR agreed to respond as soon as development is concluded. He also advised that additional materials are planned for development on the topic of air quality;
2. When a review of the BIP-M and BIP-MT is undertaken, consider including learning outcomes related to management development;
3. RTCs to consider running management development courses;
4. The RTCs create a list and regularly update it of national/regional institutional specialities in all WMO priority areas. This list to contain contact addresses and advise whether the institutions are willing to share resources;
5. Strongly recommended that RTCs and other training institutions share resources and strive to develop relationships to advance training and capacity development in their respective regions and beyond where possible;
6. Concluded that RTCs must take into account the rapid changes in technology and user-orientated services whilst developing and revising their education and training programmes;
7. Strongly recommended that operationalization of the WMO Global Campus is fast tracked and that WMO consider seeking regional consultation in the development;
8. Recommended that if they have not already done so RTCs must align their programmes to support the WMO competency and qualification frameworks and provide participant documentation that could be used in their home services to show what sections of the various competency frameworks had been addressed in the training intervention;
9. Strongly recommended that RTCs actively participate in raising resources for fellowships and other education and training activities;
10. Noted that due to low bandwidth it could be difficult to use complex web and other online interfaces and thus the meeting recommended that participants use their influence to request software interfaces that included an option suitable for low bandwidth connections;

11. Encouraged RTCs to follow the rapid evolution in technology and changes in services wherever possible and where this was not possible to strategize on how to overcome capacity issues;
 12. Encouraged the RTCs to collect research results of institutions cooperating with the RTCs and make them available to their students and other RTCs where appropriate. The meeting requested RTCs to encourage research institutions to develop new services and products;
 13. Encouraged RTCs to share their documents/information with the ETR Office who will consider them for global circulation.
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