

APPENDIX A: STATEMENT OF THE THIRTEENTH WORLD METEOROLOGICAL ORGANIZATION SYMPOSIUM ON EDUCATION AND TRAINING

The participants in the Thirteenth World Meteorological Organization (WMO) Symposium on Education and Training (SYMET-13), held in Needham's Point, Bridgetown, Barbados, from 30 October to 1 November 2017,

Deliberating on Education and Training for Human Resources 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 Small Island Developing States (SIDS) Accelerated Modalities of Action (SAMOA) Pathway and the Sendai Framework for Disaster Risk Reduction,

Noting further 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,

Made the following key observations and conclusions:

- The 2017 WMO Education and Training survey of the human resources requirements of NMHSs reveals a growing deficit in the capability and numbers of adequately educated and trained staff for 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;
- NMHSs should provide the range of services needed to attain sustainable development and disaster risk reduction 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 and increasing regulation and resource accountability by national governments and development partners require managers in NMHSs to possess greater planning, communication, legal, advocacy, financial and personnel management skills;
- The development of the WMO competency and qualification frameworks, particularly those related to the provision of aeronautical meteorological services, and their inclusion in the WMO Technical Regulations 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 need to be addressed across all activities;
- Cooperation among 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 procedures; and shared tools and platforms for developing, delivering, monitoring and reporting on education and training activities;
- The feasibility activities in the WMO Global Campus demonstration show good progress;

Made the following recommendations:

- The resourcing for infrastructure and personnel of the national and regional educational and training institutions should 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 should be introduced into initial and continuous professional development programmes for meteorological and hydrological professionals;
- National and international foundations and projects should be encouraged to pay more attention to meteorological, climatological and hydrological research, education and training, relevant to all potential audiences, to respond to challenging environmental problems;
- The WMO regulatory material concerning competencies and setting of 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 WMO technical commissions should be requested to consider how to assist service providers in streamlining the workload associated with setting up and maintaining competency systems and assessment tools;
- The WMO Global Campus concept should be further developed by the WMO Education and Training community for operational implementation in the 2020–2023 financial period;
- The WMO Secretariat should be requested to play an active role in supporting the development and ongoing activities of the WMO Global Campus concept.

The SYMET-13 participants called for action at national, regional and global levels to support WMO and National Meteorological and Hydrological Services in development and delivery of improved services to Members through the provision of adequate facilities and resources for education and training in weather, water and climate related fields.

The SYMET-13 participants called on WMO, international development partners, authorities of countries and territories, and other stakeholders, to take into account the recommendations arising from this Symposium in their ongoing and future socioeconomic endeavours.

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

The SYMET-13 participants requested WMO to publish the outcomes of this meeting to enable widespread reference to, and use of, the key issues and recommendations from the Symposium. The SYMET-13 participants noted the potential of the publication of the Symposium outcomes in promoting and setting the agenda for meteorological, climatological and hydrological education and training for the next decade.

The participants expressed their appreciation to the Government of Barbados for hosting the Symposium, to WMO for promoting the event, to the Caribbean Meteorological Organization and the Caribbean Institute for Meteorology and Hydrology for organizing it, and to the United States National Oceanic and Atmospheric Administration (NOAA) National Weather Service for providing the resources that made it possible.

Bridgetown, Barbados, 1 November 2017.
