

## Tokyo Climate Conference Conference Statement

Participants from National Meteorological and Hydrological Services (NMHSs) and user organizations of climate information in 24 Asia-Pacific countries and 8 relevant international organizations met in “Tokyo Climate Conference” held in Tokyo from 6 to 8 July 2009, which aimed at enhancing collaboration between and among relevant bodies toward establishment of a new international framework for climate services. Participants shared views of the current status and challenges as follows and those for the use of climate information in agricultural and water sectors, in particular, as in the appendix of this statement.

(1) In the Asia-Pacific region, where people face several types of climate-related disasters, such as drought, flood, tropical cyclones and extreme warm/cold temperature, adaptation to climate variability and change and climate-related risk management are important issues. In order to appropriately address these issues, it is necessary to have access to scientifically sound climate information on a wide range of spatial and time scales and apply such information to relevant decision-making and policy development.

(2) In the Asia-Pacific region, where climate and its predictability at all temporal scales differ from region to region, and where the social and cultural background varies from country to country, it is necessary to take into account these differences and variations in climate information services and applications.

(3) Application of short-term climate and weather information helps adaptation to long-term climate variability and change, because long-term climate change is projected to cause changes in the frequency and intensity of extreme weather events.

(4) To promote the application of climate information, improvement of forecast and monitoring accuracy is indispensable. This requires sustainable high quality observations, research and technical development in various areas including

numerical modeling. The output of fine spatial scale climate projection is useful for NMHSs in the Asia-Pacific countries to develop climate information. In addition to such technical development by NMHSs by themselves, use of supporting information such as El Nino predictions provided by Global Producing Center for Long-range Forecasts (GPC) and Regional Climate Centers (RCCs) can help NMHSs produce and provide new useful climate information. The Lead Center for Long-Range Forecast Multi-Model Ensemble (LC-LRFMME), which was established by the Korea Meteorological Administration (KMA) and the National Centers for Environmental Prediction (NCEP), the US, collects GPC's data and provides the standardized climate prediction products including MME products and technology to World Meteorological Organization (WMO) members via the LC-LRFMME website.

(5) Beijing Climate Center and Tokyo Climate Center were recently designated as the first WMO Regional Climate Centers, in recognition of their contribution to improving the capabilities of NMHSs' climate services in the Asian region through the provision of basic climate prediction and monitoring information, technology transfer, training events and organizing Regional Climate Outlook Forums. In Asia, India, Iran, Russian Federation and Saudi Arabia have expressed their desire to establish RCCs. In the Pacific region, discussion about the necessity of establishing a RCC has also started.

(6) While uncertainty in climate prediction is unavoidable, there are several examples of the successful use of current climate information and forecasts. Learning these good practices and strengthening the interface between information users and providers, including NMHSs, can bring wider use of climate information and forecasts in a wider range of user sectors, for example, through improvements in the presentation of climate information and forecasts.

(7) A good practical and progressive use of climate information is the provision of tailored climate information, including consultation on the usage of climate information by climate experts and intermediate climate service providers, such as private weather companies, weather consultants and sectoral research institutes, who are well versed in decision making and policy development in the climate

sensitive sectors and are able to add values to the basic information provided by NMHSs.

Based on this recognition, the participants agreed to recommend the following actions to the relevant bodies.

- (1) Decision makers in the climate sensitive sectors, NMHSs, research institutes and intermediates are invited to work together in making better decisions by using a full range of available climate information, through adaptation to climate variability and change and climate risk management, to contribute to sustainable social and economic development.
- (2) NMHSs, which provide weather services including those for domestic extreme events, are urged to play a major role in continuously providing operational climate services to meet national needs, taking into account the social and cultural background of the nation.
- (3) NMHSs are urged, in order to meet the users' needs for less uncertainty in climate information, to continue making efforts to improve their climate prediction and monitoring information, which is indispensable for effective use of such information, through enhancing observation and information processing, promoting research and development, and cooperating with research institutes and researchers, in cooperation with supporting organizations where necessary.
- (4) Users and potential users in the climate sensitive sectors are encouraged to communicate with NMHSs, to obtain climate information and convey their requirements to NMHSs regarding the provision of climate information.
- (5) NMHSs are urged to promote mutual understanding and cooperation between information providers and users in order to realize user oriented information services, through actions including active participation in each user community and forum, improved explanation on climate science and information, and better understanding of user needs and current and future application of climate

information.

(6) Users and potential users of climate information and NMHSs and other relevant providers are invited to make efforts to share good practices demonstrated in other countries and other regions in order to strengthen user-provider interaction and to provide more user-oriented climate information.

(7) Users and potential users of climate information, NMHSs and related research institutes are invited to implement research and development and demonstration projects in collaboration with each other for further utilization of climate information in a wider range of user sectors, and to promote the successful outcomes of such activities for use in operational and sustainable climate services.

(8) WMO, international organizations and RCCs should help NMHSs in the region in capacity building to downscale and use climate information in their respective countries.

(9) RCCs and LC-LRFMME are urged to make efforts to further support the capacity building of NMHSs based on their requirements by enhancing the provision of observational and prediction data and products to NMHSs, and strengthening technology transfer and training events and forums.

(10) RCCs and other regional entities are requested to periodically organize Regional Climate Outlook Forums in order to promote the application of climate information tailored to the users' circumstances and requirements through the exchange of good practices in the application of climate information and in the strengthening of user-provider interaction.

(11) The Japan Meteorological Agency, the host of this Conference, the WMO Secretariat, and all the participants in this Conference are invited to make efforts to ensure that the concept of this statement is reflected in the discussion at the World Climate Conference – 3.

## Appendix

### Shared views in Agricultural and Water Sectors

1. The type of climate information required for the agricultural sector is customized site-specific data. Providers should recognize the importance of site-specific information and optimize their climate data with careful attention to the trade-off between resolution and accuracy, and should do so in consultation with users. The development of statistical downscaling techniques is important in creating information for specific points and/or data with high resolution. It is advisable to learn from good examples such as the 15-day forecast for specific points being developed by the National Institute of Water and Atmospheric Research (NIWA), New Zealand.
2. Providers should promote research and development to improve the accuracy of climate information. Efforts should also be made to enhance user understanding of such information through explanatory meetings and workshops. Meanwhile, measures to provide users with climate data in a more easily understandable and accessible form are also important.
3. For probabilistic climate information, it is important to show methods of concrete application to agricultural operation. This may be achieved through collaborative research for the application of such information in the agricultural sector.
4. Tailored climate information for individual users may be provided directly by National Meteorological Services or National Climate Services in some countries. However, it may be more effective to provide such information with the assistance of agricultural research institutes and other intermediate bodies. This will enable the various demands of users to be met, and will accordingly promote the usage of this information. Good practices for such an approach are seen in the National Agricultural Monitoring System (NAMS) provided by the Bureau of Rural Sciences of Australia.
5. Providers and users should promote the utilization of ENSO information such as

the El Niño outlook for decision-making in the water management and disaster prevention sectors in regions where the ENSO signal has a large impact on extreme weather, including heavy precipitation and drought.

6. There is a need to enhance the monitoring network on snow and glacier over high elevation and extensive use of remote sensing techniques. The network would also help NMHSs to improve seasonal prediction in the Asian region. In Asian Mountains surrounding countries, information on the snow and glacier melting is indispensable to predict the river discharge in early summer.
7. It is necessary to promote improvements in the availability, accessibility and reliability of both historical and climatological data as fundamental information for the implementation of measures and planning for water management and disaster prevention.
8. Providers need to issue various time-scale forecasts seamlessly, including short- and long-term predictions and decadal projection for the water management and disaster prevention sectors. Closer cooperation between climate and weather departments in National meteorological and Hydrographical Services (NMHSs) is therefore important. Various programmes of the World Meteorological Organization (WMO) toward seamless weather and climate predictions are effective in this regard.
9. Providers should also promote the development of techniques to issue forecasts that are more user-oriented bearing in mind the following points:
  - Nowcast are important in certain disasters such as flash floods and nor'wester.
  - Forecasts from weekly to yearly are important for the water management and disaster prevention sectors.
  - Longer-term prediction of meteorological phenomena (such as the number of tropical cyclones) that have a large impact on the Asia-Pacific region could be applied in this field.
  - Interpretation of El Niño and other high-impact climate phenomena in

terms of local climate may be useful for users.

10. To utilize climate information more effectively in the water management and disaster prevention sectors, cooperation between climate information providers (NMHSs) and users (national and local administrative organizations and research institutes) should be intensified.
  
11. Many of these views are applicable not only to the sectors specified but also to other sectors, and are useful to develop and improve the whole climate services in the region.