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REPORT OF THE PANEL ON TROPICAL CYCLONES

Note by the secretariat

The secretariat transmits to the Commission for information the report submitted by the Panel on Tropical Cyclones.[1]

[1] The report of the Panel on Tropical Cyclones is reproduced in its original language, which is English. Any queries concerning the report should be directed to the secretariat of the Panel on Tropical Cyclones.

ANNUAL REPORT [1]
PANEL ON TROPICAL CYCLONES FOR THE BAY OF BENGAL AND THE ARABIAN SEA
to
ECONOMIC AND SOCIAL COMMISSION FOR ASIA AND THE PACIFIC
Sixty-second Session

A. Main Activities of Members

The Panel reviewed and evaluated in detail its activities undertaken during 2005 under the meteorological, hydrological, disaster prevention and preparedness, training, and research components.

Meteorological Component

The Panel was pleased to note that the tropical cyclone name list was completed in May 2004 and continued to be adopted to name cyclones which formed in the Panel Area by the Regional Specialized Meteorological Centre (RSMC) New Delhi since September 2004. The Panel was pleased to note keen interest of the media in the names adopted by the Panel and agreed to request RSMC-New Delhi to continue assigning names based on the list for its advisories. The Panel reviewed the implementation of this programme and suggested several changes to the name list.

The Panel was informed that the matter relating to the proposed change for the boundaries of RSMC New Delhi's forecast area of responsibility was discussed during the seventeenth session of the Regional Association (RA) I Tropical Cyclone Committee for the South-West Indian Ocean (Gaborone, October 2005) and also at the fifth Tropical Cyclone RSMC/TCWC (Tropical Cyclone Warning Centres) Technical Coordination Meeting (Honolulu, December 2005). The Panel requested WMO to pursue the matter for approval with WMO's Regional Association I which will meet in Abuja in November 2006.

The Panel expressed its appreciation to the RSMC-tropical cyclones New Delhi for the continued valuable contribution it was making to its Members and further emphasized the importance of further strenghthening the existing cooperation and collaboration between the national warning centres and RSMC New Delhi. In this connection, it expressed its appreciation to Mr S.K. Subramanian for his devotion to his work as Director of RSMC New Delhi and for his untiring efforts to further improve the services of the RSMC to the Panel Members and wished him all the best in his retirement.

The Panel took note that according to the results of the World Weather Watch (WWW) Annual Global Monitoring (AGM) October 2005, the availability of SYNOP (surface observation from a land station) reports expected to be received from the Regional Basic Synoptic Network (RBSN) of members of Panel on Tropical Cyclones ranged from 68 to 100 per cent. The percentage of the reports received from India and Oman remained stable constituting 93 per cent each respectively whilst Thailand remained the highest in the region, constituting 100 per cent of expected reports. The availability of data from rest of the member countries showed an increase with Bangladesh 94 per cent (74% in 2004), Sri Lanka 89 per cent (83% in 2004), Pakistan 87 per cent (47% in 2004), Maldives 80 per cent (39% in 2004) and Myanmar 68 per cent (51% in 2004) of reports expected being registered.

The availability of the TEMP (upper-level temperature, humidity and wind report from a land station) reports during the same AGM period in October 2005 ranged from 0 to 90 per cent. India continued to provide the highest coverage of data from its 35 upper-air stations (90 per cent), while the 5 upper-air stations in Myanmar continued to be silent similar to previous years. Availability of reports from Oman, Thailand and Bangladesh remained stable producing 53, 50 and 30 per cent of expected reports respectively whilst Pakistan showed a significant increase in the availability of reports 48 per cent

[1] Extracted from the Report of the Thirty-third Session of the Panel on Tropical Cyclones for the Bay of Bengal and the Arabian Sea

compared to 8 per cent in 2004. Maldives joined the RBSN in 2005 establishing one upper-air station and produced 50 per cent of expected reports. Sri Lanka did not have any upper-air stations listed in the RBSN during the monitoring period.

The Panel noted that as before, deficiencies in surface and especially upper-air data coverage over certain areas in the region continued to be caused mainly due to financial difficulties in countries concerned to rehabilitate and operate both observational and telecommunication equipment. It should be also stressed that some observing stations destroyed during natural disasters in South-East Asia region during 2004-2005 are yet to be rehabilitated.

The Panel requested WMO for the urgent implementation of the Global Telecommunication System (GTS) upgrade in Panel Members such as Bangladesh, Maldives, Sri Lanka and Thailand so as to address requirements for tsunami-related information exchange in the Indian Ocean Rim.

The Panel noted with appreciation that the Coordination Grove for Meteorlogical Satellites (CGMS) -XXXIII (Tokyo, Japan, 1-4 November 2005) had taken actions in response to the requirements expressed by the Tropical Cyclone Programme via its ESCAP Panel on Tropical Cyclones. The TCP expressed in particular three requirements related to geostationary coverage of the Indian Ocean, availability of TRMM (Tropical Rainfall Measuring Mission) data and ocean surface winds from scatterometer data. The Panel noted with appreciation that the EUMETSAT's (European Organization for the Exploitation of Meteorological Satellites) plan to relocate Meteosat-7 over the Indian Ocean would allow continued coverage until 2008 but recalled the need for long-term coverage of the Indian Ocean area. The Panel was also pleased to learn that Russia intended to ensure long-term coverage of the Indian Ocean Region, with its Electro L-N1 and N2 satellites, currently scheduled for launch in 2007 and 2009 respectively.

The Panel noted the opening of the Centre of Excellence in Oman for Satellite Application Courses. The Centre was established with the kind cooperation between the Sultanate of Oman and EUMETSAT. The Panel Members were requested to participate in the courses.

The Panel was informed that the Tropical Cyclone Programme (TCP) had requested the National Aeronautics and Space Administration (NASA) of the United States of America to continue the TRMM mission as long as the satellite is still in a functional status and that CGMS noted the positive response of NASA to extend the operation until 30 September 2009. The Tropical Cyclone Programme also recommended encouraging the development of future plans for deployment of scatterometer sensors, and other satellite surface wind vector retrievals.

The Panel noted that automated meteorological observation reporting systems from aircraft collectively known as Aircraft Meteorological Data Relay (AMDAR) continued to represent a prime source of good quality, high resolution and timely upper air data increasingly used to supplement conventional upper air observations from the WWW Global Observing System (GOS). Globally, 14 national operational AMDAR programmes are currently producing up to 200,000 observations per day compared to only 3 operational national programmes producing around 30,000 observations per day in 1998 when the AMDAR programme started.

The Panel was pleased to note that India and Pakistan have expressed interest in developing AMDAR programmes and that the AMDAR Panel has provided relevant AMDAR information to a number of airlines of these countries.

The Panel was informed that the AMDAR Panel has offered to assist countries in the Panel Region to develop national AMDAR programmes and is also encouraging cooperation in developing a regional AMDAR programme. The AMDAR Panel is facilitating the development of stand-alone AMDAR application software for the visualization of AMDAR data. When completed, this visualization software will enable users, in particular those in developing countries, to receive, decode, archive and display AMDAR data and minimize development costs.

The Panel noted that buoy reports from the region continue to increase primarily due to the activities of the International Buoy Programme for the Indian Ocean (IBPIO) and the National Data Buoy Programme (NDBP) of India.

The Panel appreciated the efforts of India to digitize the cyclone track atlas which will be completed soon.

Hydrological Component

The Panel expressed its appreciation to the strong spirit of cooperation among the concerned Members of international river basins in the region on the exchange of hydrological data, especially for flood forecasting. The Panel noted the important increase in the lead-time as a result of exchange of real time data as emphasized by hydrology experts from Bangladesh. The Panel urged that these Members continue this kind of cooperation to further improve flood forecasting services for better protection of lives of the people and hoped that this spirit of cooperation for humanitarian cause be highlighted at various international forums to reflect the enhanced spirit of cooperation among the Panel Members.

The Panel recognized that several Members had been using the Mike11 system for flood forecasting and detailed exchange of experiences would be beneficial to all. It therefore decided to establish a task force on Mike-11 to encourage sharing of experiences and called on international organizations to assist in facilitating the exchange of experiences, including organization of a regional workshop.

The Panel expressed its interest on the efforts of India to strengthen the flood forecasting system, to digitize the inundation areas and to revise its guidelines on flood forecasting. It urged India to share the results of these studies.

At the internaitonal level, the Panel noted that WMO had launched a flood forecasting initiative based on the recommendations of a start-up expert meeting held in April 2003 in the WMO Secretariat. The principal objective of the initiative was to improve flood forecasting by making use of advanced weather forecasting products through the enhanced cooperation between NMSs and NHSs. So far, regional workshops had been held in South Africa in December 2003 and for RA III (South America) and RA IV (Central America) in Valencia, Spain, in March 2004 and in Bangkok in December 2005.

The Panel was pleased to note that the meeting in Bangkok had been co-organized with ESCAP and attended by 13 experts from meteorological and hydrological services of 8 countries. In particular, participants urged the PTC to revive the Storm Surge Project in the light of the 2004 Tsunami including the need to prevent coastal flood disasters as a result of storm surges in the PTC region. In particular, participants had recommended that storm surge risk management supporting technology and forecasting techniques and associated activities should be renewed in the context of the PTC and also the Typhoon Committee. In this regard, a closer cooperation between the PTC and the Typhoon Committee was encouraged in particular with regard to strengthening the hydrological component of the PTC. Likewise, the participants recommended that efforts should be undertaken to improve and utilize ensemble-forecasting techniques in hydrology based on relevant meteorological information. It was also recognized that the outreach to risk and disaster management activities is essential and therefore, risk–based flood hazards maps should be prepared for areas exposed to hydrometerological hazards. The PTC is therefore invited to consider whether such issues should be addressed in the work programme of the hydrological component of the PTC.

As flash floods are a serious problem in the PTC region and in the context of tropical cyclones, Panel Members were urged to consider activities related to flash flood forecasting jointly in the meteorological and hydrological components of the PTC.

The Panel noted that a “Regional Expert Meeting on Improved Meteorological and Hydrological Forecasting of the WMO Flood Initiative” had been jointly organized by WMO and ESCAP in December 2005 at the United Nations Conference Centre of Bangkok, as part of the common efforts to enhanced

cooperation between WMO and ESCAP stipulated in the Memorandum of Understanding signed by the Secretary General of WMO and the Executive Secretary of ESCAP in 2003. The Panel was pleased to also note that the meeting was attended by both meteorologists and hydrologists and recommended a list of priority activities for WMO and ESCAP to consider for further action to aim at strengthening services of NMHS's on flood forecasting.

Disaster Prevention and Preparedness Component

The Panel noted the importance of involvement of communities in disaster management and disaster risk management. In view of the extensive experiences of Bangladesh, the Panel welcomed the offer of Bangladesh to lead a working group aiming at facilitating exchange of experiences on disaster management among the Panel Members and decided to appoint Mr Md. M. Rahman of Disaster Management Bureau to chair this working group and requested him to report to the next session of progress of work.

The Panel was informed that the WMO Global Telecommunication System (GTS) was being upgraded, where needed to address requirements for tsunami-related information exchange in the Ocean Indian Rim. The GTS already provides for the exchange of warnings related to cyclones and severe weather, including in the Indian Ocean region, and supports the current Pacific Tsunami Warning System in the Pacific basin. The GTS, including its satellite-based telecommunications sub-systems and the data-collection and data-distribution components of meteorological satellites, will support the exchange of tsunami warnings and related information in the Indian Ocean Rim. It was pleased to note that the following four members of the Panel had been identified as priority countries for inclusion in the GTS upgrading project at the multi-disciplinary workshop from 14 to 18 March, 2005 in Jakarta, Indonesia: : Bangladesh, Maldives, Myanmar, and Sri Lanka.

The Panel was pleased to note that three Members of the Panel, namely Pakistan, Sri Lanka and Thailand, had been participating in the joint ESCAP-UNDP-ECLAC project on enhanced national capacity on assessing socio-economic impacts of natural disasters in Asia, with special emphasis on the methodology developed by ECLAC for this purpose. The Panel members indicated their interest in the assessment methodology for better integration of disaster reduction activities into the development process.

Training Component

The Panel noted the number of training events and workshops, which were organized in 2005 for the benefit of its Members. Since its last session, the Panel had benefited from WMO's education and training activities, relating to the award of fellowships, relevant training courses, workshops, seminars, the preparation of training publications, and the provision of advice and assistance to Members. The Panel noted that WMO fellowships for long-term and short-term training continued to be granted to the Member countries of the Panel under the various WMO programmes.

The Panel expressed appreciation to Panel's Member countries, which offered their national training facilities to other Members under bilateral arrangements. These cooperative efforts by the Panel Members have been found by the recipient countries to be very useful, and the Panel strongly recommended that such endeavors should continue in the future and be strengthened. The Panel urged its Members to make maximum use of such training facilities.

The Panel was pleased to note the successful two week attachment of three tropical cyclone forecasters (from Maldives, Oman and Thailand) at the RSMC New Delhi in October 2005. The Panel requested that RSMC New Delhi continue to provide for the attachment of forecasters from the Members and that the Technical Support Unit of the Panel (TSU), WMO and ESCAP to support this activity.

The Panel expressed appreciation to the Indian Institute of Technology (IIT) Kharagpur and Prof. S.K. Dube for indicating that the Institute will organize in 2006, attachment of storm surge forecasters from Bangladesh and Pakistan (see para 7.3). It also expressed its gratitude to Prof. S.K. Dube for

accepting the Panel's request for him to chair the project on institutionalizing the storm surge training module.

The Panel was also pleased that operational tropical cyclone forecasters from Bangladesh, Oman and Sri Lanka participated at the 2005 Miami hurricane workshop.

Research Component

The Panel noted that the International Workshop on Tropical/Extra-tropical Interaction, incorporating the International Workshop on Extratropical Transition (IWET)-III had been held in Perth, Australia in December 2005 to develop a scientific plan, which focused on extra-tropical transition of tropical cyclones in conjunction with the Pacific THORPEX Regional Campaign and the International Polar Year during 2008. This project would contribute to improving further safety and to reducing the economic losses of land-falling tropical cyclone affected countries.

The Panel was pleased to note that steps are underway to organize the Sixth International Workshop on Tropical Cyclones (IWTC-VI), which will be held in San José, Costa Rica from 21-30 November 2006 with the theme "Quantitative Forecast Guidance for Tropical Cyclone Landfall in Relation to an Effective Warning System", which was considered by the Panel to be a timely topic given the devastation caused by tropical cyclones in both the Atlantic and the Pacific in 2005. The Panel was represented by Mr Subramanian (India) in the International Committee for IWTC-VI, which is responsible for preparation and organization of the workshop. Members of the Panel are urged to actively participate in the said Workshop.

Publications Published in 2005/2006

Panel News No.22 is under preparation and would be published soon by TSU and subsequently distributed to the Members.

The "Panel on Tropical Cyclones Annual Review" for the year 2004 which was consolidated and finalized by the Chief Editor, Mr S.R. Kalsi (India) with contributions from the National Editors will be submitted to WMO in March 2006 for publication soon.

B. Other Matters

The Panel underlined the benefits that the regional storm surge project could offer to other early warning systems in the Panel Area, in terms of infrastructure that are in place or expected to be in place soon as well as human resources developed for an effective disaster prevention and preparedness system against cyclones and storm surges. In that context, the Panel expressed its sincere appreciation to the Indian Institute of Technology at Kharagpur, particularly Prof Dube, for the efforts to build up technical capacity of all Panel Members, and called on WMO to continue its support to IIT in these human resources development efforts. The Panel unanimously agreed to continue their efforts to put in place in the near future an effective regional early warning system on storm surge in the Panel Area. It also called on other national and international organizations to make use of the above achievements of the Panel Members in the field of storm surge in order to synergize all the related efforts, including for tsunami warning, for the benefits of people in the region.

In view of the increasing benefits of the storm surge project for regional efforts on dealing with natural disasters, the Panel called on all Members to enhance their efforts for an early operation of the planned storm surge early warning system. It also called on WMO and ESCAP and international organizations to increase their assistance to the Panel and the Members in this respect.

The Panel recognized the important and active role of RSMC in dealing with cyclones and cyclone warnings and invited Mr S.K.Subramanian, Director of RSMC-New Delhi to coordinate efforts for strengthening the storm surge project.

The Panel recognized the increased concern for security of people against tsunamis, cyclones, and other natural hazards. It emphasized the need to coordinate the national, regional and international efforts for establishing an integrated early warning system. In this connection, the Members called for the assistance of WMO in assessing the needs of the countries for enhancing the capabilities of the National Meteorological and Hydrological Services in this regard. It was expected that a clear road map could be presented to the Panel for consideration at the nearest future.

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