

**JOINT WMO-IOC TECHNICAL COMMISSION  
FOR OCEANOGRAPHY AND MARINE  
METEOROLOGY (JCOMM)**

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WMO Secretary-General  
and UNESCO/IOC  
Executive Secretary

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**SUPPORTS FOR DISASTER RISK REDUCTION,  
PARTICULARLY IN COASTAL ZONES**

**SUMMARY**

**ISSUES TO BE DISCUSSED:**

1. Outcome of the work of the SFSPA regarding the maritime safety serv
2. Future development of JCOMM/SFSPA activities, including the work programme and tasks

**DECISIONS/ACTIONS REQUIRED:**

The Commission is requested to:

- (a) Decide to:
  - identify activities related to marine and coastal hazards as a priority during the intersessional period;
  - continue its joint effort with the Tropical Cyclone Programme (TCP) to support the Storm Surge Watch Scheme (SSWS);
  - hold the 8<sup>th</sup> JCOMM-TCP training workshop on storm surge and wave forecasting for the South/East African and West Indian Ocean countries;
  - provide enhanced support for preparing and updating technical guidance material;
  - provide enhanced support for time-bound demonstration projects addressing regional issues, upon strong participation of the Members / Member States and in close coordination with relevant programmes;
  - extend an invitation to the appropriate groups/teams of the Intergovernmental Coordination Groups of the Tsunami Early Warning and Mitigation System, in dealing with the full spectrum of multi-hazard forecast, warning and preparedness issues;
- (b) Request Expert Team on Maritime Safety Services (ETMSS) and the Expert Team on Wind Waves and Storm Surges (ETWS) to:
  - continue developing proposals to include information on complex sea states as well as associated terminology in weather and sea bulletins to be disseminated through SafetyNET and NAVTEX;
- (c) Request ETWS and the Expert Team on Marine Climatology (ETMC) to:
  - continue developing and Extreme Wave Dataset;
  - assist Members / Member States to develop storm surge climatologies;
  - consider working with the Global Sea Level Observing System (GLOSS) regarding storm surge climatologies;
- (d) Endorse a strategy for JCOMM/CHy Coastal Inundation Forecasting Demonstration Project (CIFDP), as described in paragraph 8.2.9;
- (e) Request the CIFDP Steering Group (PSG) and National Coordination Teams (NCTs) to:
  - document established procedure and best practices as guidance material;
  - ensure data availability between involved national institutions;
- (f) Request ETWS to continue supporting the CIFDP design and implementation;
- (g) Request Members/Member States with concerns of coastal inundation to consider participating in CIFDP;
- (h) Approve the draft text for inclusion in the general summary of JCOMM-4 given in Appendix;

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## **APPENDIX: DRAFT TEXT FOR INCLUSION IN THE GENERAL SUMMARY OF JCOMM-4**

### **8.2 SUPPORTS FOR DISASTER RISK REDUCTION, PARTICULARLY IN COASTAL ZONES** (*agenda item 8.2*)

**8.2.1.** The Commission recalled that both WMO and IOC recognized the increasing requirements placed on it in coordination and support for developing and improving forecasting capabilities and service delivery in coastal risk reduction. Also considering the emerging importance of coastal zones in delivering climate services in the Global Framework for Climate Services (GFCS), as well as the potential role of JCOMM in this area, the Commission agreed to identify activities related to marine and coastal hazards as a priority during the intersessional period.

**8.2.2.** Recalling the relevant decision at its 3<sup>rd</sup> session (2009, Morocco), the Commission requested the Expert Team on Maritime Safety Services (ETMSS) and the Expert Team on Wind Waves and Storm Surges (ETWS) to continue developing proposals to include information on complex sea states as well as associated terminology in weather and sea bulletins to be disseminated through SafetyNET and NAVTEX. The Commission also requested the Teams to provide submit amendment of the respective part of the WMO Manual on Marine Meteorological Services (WMO-No. 558) as well as the Catalogue on MetOcean Object Classes and Attributes.

**8.2.3.** The Commission decided to continue its joint effort with the Tropical Cyclone Programme (TCP) to support the Storm Surge Watch Scheme (SSWS), including the series of JCOMM-TCP training workshop on storm surge and wave forecasting, noting the importance of the SSWS as a regional framework for technical advisories for coordinated operational services for storm surge forecasting and warning that are the core elements of the JCOMM contribution to coastal hazard management.

**8.2.4.** The South and East African coasts suffer in particular from recurrent coastal inundation by storm surges. Taking into account the ongoing requests from the region for technical support and training, as well as the recent dialogue at the Climate Change workshop and the effects on African Coastal communities (August 2011, South Africa), the Commission agreed to make further efforts to provide training opportunities in the region of concern by holding the 8<sup>th</sup> JCOMM-TCP training workshop on storm surge and wave forecasting for the South/East African and West Indian Ocean countries.

**8.2.5.** The Commission emphasized the importance of capacity development in pursuing this line of work, as well as addressing the regional aspects. In this context, the Commission agreed that it should continue preparing and updating technical guidance material such as the "Guide to Storm Surge Forecasting" (WMO-No. 1076, and its dynamic part: <http://www.jcomm.info/SSguide>). It also agreed to provide enhanced support for the time-bound demonstration projects addressing regional issues of concern, upon strong participation of the Members/Member States and in close coordination with relevant programmes.

**8.2.6.** The Commission recognized the leading role of the ETWS in scientific and technical support for monitoring and predictions relevant for coastal hazard forecasting and warning services, and requested the Team to extend its activities during the next intersessional period. Considering the recent interaction between the ETWS and the multi-hazard Task Team of the North-East Atlantic and Mediterranean Tsunami Warning System (NEAMTWS), the Commission also decided to extend an invitation to the working groups and/or task teams of the Intergovernmental Coordination Groups of the Tsunami Early Warning and Mitigation System, who concentrate on preparedness, response and planning. The IOC Working Group on Tsunamis and Other Hazards related to Sea Level Warning and Mitigation Systems (TOWS-WG) may be an appropriate group to partner with JCOMM in dealing with the full spectrum of multi-hazard forecast, warning and preparedness issues.

**8.2.7.** The Commission noted with appreciation the ETWS initiative in collaboration with the Expert Team on Marine Climatology (ETMC) to develop and maintain an Extreme Wave Dataset, and requested that the Teams continue their effort during the intersessional period. Following the recommendation from the First JCOMM Scientific and Technical Symposium on Storm Surges (2007, Republic of Korea), the Commission also requested ETWS in collaboration with ETMC and the Global Sea Level Observing System (GLOSS) in coordinating the development of storm surge climatologies as a measure of risk assessment for marine hazards and to assist Members/Member States in developing their own databases and hazard analysis, in view of its important potential contribution to the GFCS.

**8.2.8.** Taking into account the increasing requirement to address coastal hazard forecasting issues, primarily associated with storm surges, the Commission re-named the ETWS the Expert Team on Waves and Coastal Hazards Forecast Systems (ETWCH) [see agenda item 12.4].

*JCOMM/CHy Coastal Inundation Forecasting Demonstration Project (CIFDP)*

**8.2.9.** The Commission noted that, pursuant to Recommendation 6 (JCOMM-3), the Coastal Inundation Forecasting Demonstration Project (CIFDP, <http://www.jcomm.info/CIFDP>) was developed jointly by JCOMM and the WMO Commission for Hydrology (CHy) aiming to implement a comprehensive and integrated approach for marine multi-hazard forecasting and warning systems and coastal risk management. The Commission noted and endorsed a strategy for CIFDP, as follows:

- The Project would be implemented under each regional/national sub-project, launched for a country that meets the essential requirement for initiating a national agreement between national institutions with relevant responsibilities, and the provisional establishment of a National Coordination Team (NCT) that includes operator(s) of the NMHS;
- The Project would be designed based on users' perspectives and requirements, considering only existing and available open source techniques. Final products of the Demonstration Project should be operated and maintained by a national operational agency which has the responsibility/authority for storm surge warning and flood warning;
- The developed procedure/best practice through a sub-project should be applicable to other (neighbouring) countries with common issues and interests, and should be closely linked to and cooperating with related projects and activities, such as the regional Severe Weather Forecasting Demonstration Project (SWFDP) in building a "cascading forecasting process" to produce services for coastal zones.

**8.2.10.** Nothing the successful launch of the first sub-project in Bangladesh (Bay of Bengal), followed by the progress in Dominican Republic (Caribbean), the Commission emphasized the necessity of strong national participation as well as of extrabudgetary contributions for the successful implementation of the sub-projects. The therefore strongly encouraged the NCTs to closely work with the Project Steering Group (PSG) to implement CIFDP in respective country/region. The Commission also requested the NCT and PSG, once the project was successfully implemented in the first sub-projects, to document the established procedure and best practices in order to guide other interested Members/Member States. The Commission also encouraged Members/Member States with concerns of coastal inundation to consider participating in the Project.

**8.2.11.** The Commission recognized potential challenges of data availability (e.g. tide gauge measurements, bathymetry data) in the implementation of the Project and application of the results in the region, and therefore encouraged the Members/Member States implementing the CIFDP to

ensure that data was available between involved national institutions for coastal inundation forecasting and warning.

**8.2.12.** The Commission noted the key role of the Services and Forecasting Systems Programme Area (SFSPA), particularly its ETWS, in the CIFDP design and implementation phases, and endorsed the Team's intersessional workplan focusing on the related activities.

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#### REFERENCES FOR DOC. 8.2 (Not to be included in the final Meeting Report):

1. Abridged Final Report with Resolutions of the Sixteenth World Meteorological Congress (WMO-No. 1077) Resolution 24, paragraph number 4.4
2. Abridged Final Reports with Resolutions of the Sixty-second (WMO-No. 1059) and Sixty-third Sessions (WMO-No. 1078) of the WMO Executive Council, paragraph number 4.2.46 to 4.2.50
3. Abridged Final Report with Resolutions and Recommendations of the First (WMO-No. 931), Second (WMO-No. 995) and Third (WMO-No. 1049) Sessions of JCOMM:  
[http://www.jcomm.info/index.php?option=com\\_oe&task=viewDoclistRecord&doclistID=112](http://www.jcomm.info/index.php?option=com_oe&task=viewDoclistRecord&doclistID=112)
4. Summary Report of the Forty-third (IOC/EC-XLIII) Session of the UNESCO/IOC Executive Council, paragraph number 5.3
5. Summary Report of the Twenty-sixth (IOC-XXVI) Session of the UNESCO/IOC Assembly, paragraph number 6.2
6. Final Reports of the Eighth (JCOMM/MR-No.83) and Ninth (JCOMM/MR-No. 88) Sessions of the JCOMM Management Committee:  
[http://www.jcomm.info/index.php?option=com\\_oe&task=viewDocumentRecord&docID=6397](http://www.jcomm.info/index.php?option=com_oe&task=viewDocumentRecord&docID=6397)  
[http://www.jcomm.info/index.php?option=com\\_oe&task=viewDocumentRecord&docID=7803](http://www.jcomm.info/index.php?option=com_oe&task=viewDocumentRecord&docID=7803)
7. Final Reports of the Fifth (JCOMM/MR-No.76) and Sixth (JCOMM/MR-No.89) Sessions of the Services and Forecasting Systems Coordination Group:  
[http://www.jcomm.info/index.php?option=com\\_oe&task=viewDocumentRecord&docID=5768](http://www.jcomm.info/index.php?option=com_oe&task=viewDocumentRecord&docID=5768)  
[http://www.jcomm.info/index.php?option=com\\_oe&task=viewDocumentRecord&docID=8248](http://www.jcomm.info/index.php?option=com_oe&task=viewDocumentRecord&docID=8248)
8. **JCOMM-4/BM. 8:** Report on SFSPA Progress/Achievements