WMO/ESCAP Typhoon Committee (TC) and activities of it’s Hydrological Component

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Typhoon Committee (TC)

- Established in 1968 under the auspice of WMO and UN/ESCAP
- A subregional network for effective cooperation in Typhoon-related natural disaster reduction
- Membership has increased from 7 to now 14: Cambodia; China; DPR of Korea; Hong Kong, China; Japan; Macau; Malaysia; Lao PDR; Philippines; Republic of Korea; Singapore; Thailand; United States; Viet Nam
Three major components of TC

- Meteorological component
- Hydrological component
- Disaster Prevention and Preparedness (DPP)
TC HC activities

• Core of TC HC activities is the implementation of RCPIPs (Regional Cooperation Programme Implementation Plan). Each program is led by volunteer member and participated by other interested members.

• Each member conduct RCPIP activities as discussed/agreed among members.

• Annual activities are reported and discussed at TCHC annual workshops, etc.

Ongoing RCPIC Projects related to HC (1)

1. **Pilot project on the preparation of Inundation and Water-related Hazard Maps.**  
   Japan

2. **Pilot project on the establishment on flash-flood warning system (including debris flow and landslides).**  
   Japan

3. **Development of guidelines for the dam operation in relation flood forecasting.**  
   Korea

4. **Evaluation and improvement of operational flood forecasting system focusing on model performance.**  
   Korea
5. Extension of flood forecasting systems to selected river basins. China

6. Project on the evaluation and improvement of hydrological instruments and telecommunication equipment. China

7. On-the-job Training on Flood Forecasting between TC members. Malaysia

8. Pilot project on the establishment of community-based flood forecasting system, Philippines

9. Improvement of Hydrological products in response to user needs. Philippines
Project on flood hazard mapping

- Leading Country: Japan (IDI: Infrastructure Development Institute)
- Project period: 2002-2009
Implementation of FHM Project

1. Pilot Area (s) in each participating members nominated
2. Flood Hazard Map Manual prepared and distributed
3. OJT provided (during Seoul WS in 2004)
4. FHM training course established and being provided in Japan inviting members from TC region
5. Each country’s preparation of FHM ongoing at model location
6. Revision of the original Manual and preparation of each country’s version of FHM manual
7. Expansion of FHM to other river basins
Flood Hazard Map Manual prepared

OJT was conducted at Seoul WS, Sep. 2004
Project on flash flood warning incl. debris flow and landslides

• Leading Country: Japan (NILIM: National Institute for Land and Infrastructure Management)
Setting of “standard critical line” to suit each target area

- Rainfall index
- Long-period
- Short-period

- Unsafe zone
- Safe zone

- Occurrence of debris flows
- No-occurrence of debris flows

Critical line ("CL")
In Japan, we have cumulated many successful cases in predicting landslides, using this simple method.
Guidelines for development of warning and evacuation against sediment-related disasters

prepared and distributed
Pilot project on Evaluation and improvement of operational flood forecasting system focusing on model performance

- Leading Country: ROK (KICT: Korea Institute for Construction Technology)
  Project period: 2004-2007
Objectives of the project

- To evaluate and improve the operational forecasting system focusing on model performance
- To exchange and share the experiences about the Flood Forecasting System (FFS) between members, etc.

Final Target

Development of a Guideline to evaluate the FFSs by 2007
Pilot project on Development of guidelines for the dam operation in relation flood forecasting

• Leading Country: ROK (KOWACO: Korean Water Company)

• Project period: 2004-2007

Final Target

Publication of General Reservoir Operation Guideline by 2007
Project on Extension of flood forecasting systems to selected river basins

- Leading Country: China
- Project period: 2003-2005, results will be provided to FF OJT project led by Malaysia
- Results will be compiled as a guideline in 2006
Guidelines for Establishment of Flood Forecasting System

Contents (draft idea)

1. Introduction
2. Basic structure of FFS
3. Data preprocessing
4. Flood Forecasting Methodology
   4.1 Applied Hydrological Forecasting Schemes
   4.2 Watershed forecasting model
   4.3 How to choose model
5. Parameters Calibration
   5.1 Trial and error method
   5.2 Auto optimization method
6. Real-time Operational Forecasting
   6.1 Interactive forecasting program
   6.2 Real-time modification
7. Case study
Project on the evaluation and improvement of hydrological instruments and telecommunication equipment

- Leading Country: China (MWR)
- Project period: 2003-2005
- China conducted comparative study of telecommunication equipment used in TC region. Review report will be compiled soon.
On-the-job Training on Flood Forecasting between TC members

- Leading Country: Malaysia (DID)
- Project period: 2005-2007
- OJT of FF is under preparation, will be started in 2006. Outputs from China project on FFS will be incorporated.
Pilot project on the establishment of community-based flood forecasting system

- **Leading Country:** The Philippines (PAGASA)
- **Project period:** 2002-2007

**Activities:**

Based on coordination with LGUs and concerned agencies,

- Conduct survey of sites
- Training of observers (LGUs, volunteers)
- Fabrication of installation of monitoring facilities (rainfall and water level)
- IEC (Information Education Campaign)

5. Implementation of monitoring
Community-Based Flood Warning System (CBFWS)

- Pampanga river basin, Bulacan and Nueva Ecija
- Allied river basins of Agno, Pangasinan
- Sibalom, Antique
- Jalaur river basin, Dumangas, Iloilo
- Agus river basin, Misamis Oriental
- Mindanao river basin, Cotabato
- Cagayan river basin, Nueva Viscaya
- Pampanga river basin, Bulacan and Nueva Ecija
- Ilog-Hilabangan river basin, Negros Occidental
- Agusan river basin
- Tagum-lishuban river basin, Davao del Norte
Pilot project on Improvement of Hydrological products in response to user needs

- Leading Country: The Philippines
- Project period: 2003-2006
PAMPANGA RIVER BASIN
FLOOD BULLETIN NO. 10
FLOOD OUTLOOK
ISSUED AT 5:00 AM
AUGUST 4, 1989

LIGHT RAIN WAS RECORDED OVER THE BASIN DURING THE PAST 12 HOURS.
THE WATER LEVELS AT ZARAGOZA, ARAYAT AND CANDABA GAUGING STATIONS
CONTINUED TO RISE SLOWLY DURING THE PAST 12 HOURS.

LIGHT RAIN IS STILL EXPECTED TO PREVAIL WITHIN THE NEXT 12 HOURS. THE
WATER LEVELS DOWNSTREAM OF RIO CHICO AND PAMPANGA RIVERS FROM
ZARAGOZA TO APALIT ARE EXPECTED TO CONTINUE TO RISE WITHIN THE NEXT 12
HOURS.

THE INHABITANTS ALONG THE RIO CHICO AND PAMPANGA RIVERS ARE
ADVISED TO WATCH FOR FURTHER FLOOD BULLETIN WHICH WILL BE ISSUED AT 5:00
PM, AUGUST 4, 1989.

APTH/TH/LPP/CAVMFP/ECU
FLOOD BULLETIN NO. 5
ISSUED AT 4:00 AM, 24 AUGUST 2005
(VALID UNTIL THE NEXT ISSUANCE AT 4:00 PM TODAY)

1. OBSERVED AND FORECAST RAINFALL

Past 24-hour Rainfall

Forecast 24-hour Rainfall

2. EXPECTED HYDROLOGICAL RESPONSE

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Flood Depth (m)</th>
<th>Area Covered (has)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aguilar</td>
<td>0.82</td>
<td>52.00</td>
</tr>
<tr>
<td>Bayambang</td>
<td>1.25</td>
<td>92.00</td>
</tr>
<tr>
<td>Bugallon</td>
<td>1.15</td>
<td>124.00</td>
</tr>
<tr>
<td>Camiling</td>
<td>0.95</td>
<td>40.00</td>
</tr>
<tr>
<td>Lingayen</td>
<td>1.75</td>
<td>348.00</td>
</tr>
<tr>
<td>Mangatarem</td>
<td>0.88</td>
<td>612.00</td>
</tr>
<tr>
<td>San Carlos City</td>
<td>1.05</td>
<td>388.00</td>
</tr>
<tr>
<td>San Clemente</td>
<td>0.66</td>
<td>152.00</td>
</tr>
<tr>
<td>Ubigzondo</td>
<td>1.43</td>
<td>288.00</td>
</tr>
</tbody>
</table>

THE RESIDENTS AND DISASTER COORDINATING COUNCILS CONCERNED ARE ADVISED TO TAKE APPROPRIATE ACTION.

PREPARED BY GIP FRE FLOOD
Conclusion

- TC's main mission is to serve members for reduction of Typhoon-related disasters. For this purpose, we are compiling/collecting information which suit for TC area.
- However, after verification, we are ready to provide our outputs to outside TC region for the benefit of water-related disaster-prone areas.
Thank you very much for your attention.