Experiences in the provision of weather, climate-related (& hydrological-related) information to Regional and Local DRRMCs (Disaster Risk Reduction & Management Councils) in the Philippines

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PAGASA
Provinces within the PAMPANGA RIVER BASIN
APEC Climate Symposium (Nov. 2015)

Typhoon “Lando” (Koppu) Oct. 2015
The Pampanga River Basin Flood Forecasting & Warning Center (PRFFWC)
Tropical Depression "LUIS" has slightly intensified over the Philippine Sea.

**Location of Center:**
(as of 10:00 a.m.)
Coordinates: 780 km East of Virac, Catanduanes
14.0°N, 132.2°E

**Strength:**
Maximum sustained winds of 55 kph

**Movement:**
Forecast to move West Northwest

**Forecast Positions/Outlook:**
Saturday morning:
480 km East of Casiguran, Aurora
Sunday morning:
180 km Northeast of Casiguran, Aurora
Monday morning:
70 km West Northwest of Laoag, Ilocos Norte

No Public Storm Warning Signal

Estimated rainfall amount is from 7.5 – 15 mm per hour (moderate - heavy) within the 500 km diameter of the Tropical Depression.

The public and the disaster risk reduction and management council are advised to take appropriate actions and watch for the next bulletin to be issued today.

**SEVERE WEATHER BULLETIN NUMBER TWO**
**TROPICAL CYCLONE ALERT: TROPICAL DEPRESSION "LUIS"**
Issued at 11:00 a.m., Friday, 12 September 2014
EL NIÑO ADVISORY No. 6

Moderate El Niño conditions continue to persist across the equatorial Pacific Ocean. Leading climate models suggest that it may intensify from moderate to strong El Niño in the coming months (late quarter of 2015) and may last until early 2016.

Weather systems that affected the country during the month of July were the ridge of high pressure area (HPA), inter-tropical convergence zone (ITCZ), Southwest (SW) monsoon, low pressure areas (LPAs) and the passage of three (3) tropical cyclones (TC) over the Philippine Area of Responsibility (PAR), namely: Tropical Storm (TS) Egay (July 2-7); Typhoon (TY) Falcon (July 8-10) and TY Goring (July 23-25). All these TCs enhanced the SW monsoon and brought moderate to heavy rains and thunderstorms over most sections of the country resulting to landslides and flooding, based on the report of the National Disaster Risk Reduction and Management Council (NDRRMC).

Analysis of rainfall distribution for the month of July showed that near to above normal rainfall were observed over Cordillera Administrative Region (CAR), Ilocos Region, Central and Southern Luzon including Metro Manila, Romblon, Albay, Palawan, Negros Island Region, southern section of Cebu, Western and Central Mindanao. The rest of the country experienced below to way below normal rainfall conditions especially the eastern section of the Philippines, which is a clear manifestation of the impacts of El Niño in the country.

Further analysis showed that the provinces of Aurora, Camarines Norte, Catanduanes, Laguna, Marinduque, Occidental Mindoro, Oriental Mindoro and Quezon were affected by dry spell. Dry spell is described as three (3) consecutive months of below normal (21%-60% reduction from average) rainfall conditions or two (2) consecutive months of way below normal (more than 60% reduction from average) rainfall conditions.
# Flood Bulletin No. 7 - Pampanga River Basin and Allied Rivers

**Issued At:** 6:00 PM, 20 September 2011  
**Validity:** Until the next bulletin at 6:00 AM tomorrow unless there is an intermediate bulletin  
**Past 24-Hr:** 3.5 MM  
**Forecast 24-Hr:** 3 to 5 MM

## Basin Expected Response

<table>
<thead>
<tr>
<th>Station Name</th>
<th>River/ Swamp Water Level Trend at Station</th>
<th>Flood Situation Message</th>
<th>Particular Low-Lying Riverside Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Safang Buho Stn., Pampanga River</strong></td>
<td>Now at 2.61 M/ Continued Slow Recession Below 3.7 M ALERT WL</td>
<td>Flooding is no longer expected to persist (Final Message)</td>
<td>Laurel, Bongabong, Palayan City, Antonio Quirino, Agoo, Talavera</td>
</tr>
<tr>
<td><strong>Mayaday Stn., Pampanga River</strong></td>
<td>Now at 1.93 M/ Continued Slow Recession Below the 3.0 M ALERT WL</td>
<td>Flooding is no longer expected to persist (Final Message)</td>
<td>Casalag, Sta. Rosa, Mabalacat</td>
</tr>
<tr>
<td><strong>San Isidro Stn., Pampanga River</strong></td>
<td>Now at 3.34 M/ Continued Slow Recession to Reach Below 4.5 M ALERT WL Late Tonight</td>
<td>Flooding is expected to persist until tomorrow noon</td>
<td>Jano, San Isidro, Cabiao, San Leonardo</td>
</tr>
<tr>
<td><strong>Arayat Stn., Pampanga River</strong></td>
<td>Expected to crest above 8.50 M ALERT WL Tonight</td>
<td>Flooding is expected to persist for several days</td>
<td>San Luis, Arayat, San Simon</td>
</tr>
<tr>
<td><strong>Suliran Stn., Pampanga River</strong></td>
<td>Now at 4.40 M/ Very Slow Rise to crest just above the 4.5 M ALERT WL Tonight Below the 5.0 M Critical WL</td>
<td>Flooding is expected to persist for several days</td>
<td>Apalit, Calumpit, Masarral, Mabalacat, San Bartolome, Paombong</td>
</tr>
<tr>
<td><strong>Zaragoza Stn., Rio Chico River</strong></td>
<td>Now at 15.10 M/ Slow Recession to Reach 14.50 M Critical WL by tomorrow afternoon</td>
<td>Flooding is expected to persist for several days</td>
<td>San Antonio, La Paz, Zaragoza, Ligas, Guagua</td>
</tr>
<tr>
<td><strong>Candaba Stn., Candaba Swamp</strong></td>
<td>Now at 7.61 M/ To crest late today, Way Above the 5.0 M Critical WL</td>
<td>Flooding is expected to persist for several days</td>
<td>Candaba, San Miguel, San Ildefonso, Pulilan</td>
</tr>
<tr>
<td><strong>Mexico Stn., Abacan River</strong></td>
<td>Now at 1.80 M/ Continued Slow Recession</td>
<td>Flooding is expected to persist for a few days</td>
<td>Mexico, San Fernando, Sta. Ana, Sto. Tomas, Minalin</td>
</tr>
<tr>
<td><strong>Penasando Stn., Penasando River</strong></td>
<td>Now at 9.45 M/ Continued Slow Recession</td>
<td>Flooding is no longer expected to persist (Final Message)</td>
<td>Penasando, Gapan</td>
</tr>
<tr>
<td><strong>Sasmuan Stn., Guagua River</strong></td>
<td>Now at 2.83 M/ Very Slow Recession</td>
<td>Flooding is expected to persist for a few days</td>
<td>Sasmuan, Luba, Guagua</td>
</tr>
</tbody>
</table>

## Expected Flood Situation

- **P:** Possible  
- **T:** Threatening  
- **F:** Persist

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**Coastal Flooding in the Low-Lying Seashore Areas**  
- The residents and the disaster risk reduction and management councils concerned are advised to continue to take appropriate actions.

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**PRFFWC – HTH / RPY / JRD / RFD**
Info thru the web: e-mail, twitter, FB; etc.

prffwc.webs.com; twitter: @PRFFWC; prffwc_ffb@yahoo.com; FB accounts
Complementing activities that will help end-users understand the information further
Localization

PAMPANGA RIVER BASIN AND ALLIED RIVER BASIN OF PASAC-GUAGUA

HYDROLOGICAL FORECAST
October 29, 2015
6:00 AM (LST)

PARTLY CLOUDY TO CLOUDY SKIES WITH ISOLATED LIGHT RAINS WITHIN THE NEXT 24 HOURS. SLOW RECESSION OF WATER LEVEL OF THE MAIN PAMPANGA RIVER. SLIGHT FLOODING AT LOW-LYING RIVERSIDE AND COASTAL AREAS AFFECTED BY HIGH TIDE.

(BAHAGYANG MAULAP HANGGAN SA MAULAP NA KALANGITAN NA MAY PULU-PULONG MAHINANG PAG-ULAN ANG MARARANASAN SA SUSUNOD NA 24-ORAS. MABAGAL NA PAGBABABA NG ANTAS NG TUBIG NG KABUUANG ILOG NG PAMPANGA. BAHAGYANG PAGBABAHA SA MGA MABABANG LUGAR SA DALAMPASIGAN AT TABING-ILOG NA APEKTADO NG "HIGH TIDE")
Bulacan Province Hydrological Situation as of:
6:00 AM (LST) October 29, 2015

NORMAL RIVER WATER LEVELS WITHIN THE PROVINCE. SLIGHT FLOODING AT LOW-LYING RIVERSIDE AND COASTAL AREAS AFFECTED BY HIGH TIDE.

(KARANIWANG ANTAS NG MGA KAILUGAN SA LALAWIGAN AY MAGPAPATULOY. BAHAGYANG PAGBABABA SA MGA SADYANG MABABANG LUGAR SA TABING-ilog AT DALAMPASIGAN NA APEKTADO NG HIGH-TIDE.)
Workshops…
BARANGAY ROXAS, DIST. IV, QC
LOCATION MAP - not to scale

LEGEND:
- Flooded Area
- Evacuation site
- Evacuation Route

Generate Community-friendly (Flood) Hazard Maps
Taking advantage of Media
Strengthen (continuous) communication links with DRRMO focal person / group
Establish good rapport with the LGU / local DRRMOs
Information (warnings) by memory

Flood level memorials (markers) for flood awareness
(some) Lessons learned...

- Each LGU have a different personality
- Unable to grasp / understand the info leads to inaction; ..decline in public trust; eventually future info is ignored
- Empathize
- Communication is an “art”
- Accommodate
- Events (by memory)
- Organizations don’t learn, individuals do (Berg, 2000)
Ramifications...
Rising to the Call
Good Practices in Disaster Risk Reduction and Climate Change Adaptation in the Philippines
Enhance drills, etc.

SM Baliuag holds flood drill

November 6, 2009 1:50 am

BALIUAG, Bulacan. Nov. 6 — Learning lessons from the devastation suffered by its giant malls in Rosales, Pangasinan and Marilina City, the management and staff of SM City Baliuag on Friday conducted a disaster management drill.

This is in coordination with local and provincial disaster control officials here.

A worse case storm and flood scenario was simulated.

A powerful typhoon (storm signal number 4) with strong winds and heavy rains was wreaking havoc at the mall area which was getting flooded as Angat dam open all its floodgates and released about 4,000 cubic meters per second of water.

Andrew Cristobal, assistant mall manager of SM City Baliuag, said the flood drill aims to foster a disaster-awareness culture among the mall work force and to implement emergency procedures for prompt response during threats of heavy rains and potential flooding in the area.

Cristobal said that prior to the holding of the disaster management exercise, frontliners like security personnel and in-house paramedics underwent a series of trainings and seminars on basic life support and rescue operation.

Bev Cruz, public relations officer of SM City Baliuag, said mall employees, security and janitorial personnel were grouped to be part of various emergency response units such as rescue and evacuation units, security and crowd control, medical, communications and engineering teams in order to form the disaster management team.

A panel of observers led by Pagasa hydrologist (flood forecaster) Hilton Hernando, Baliuag Municipal Disaster Coordinating Council chair Josie Labastas, Philippine National Red Cross-Maibonas district head Donald Maniego and Bulacan Provincial Disaster Management Office senior staff Raul Agustin evaluated the exercise and came up with suggestions for future reference.

Hernando has suggested to Cristobal and Ramon Fernandez, a customer relations manager, that in case of flooding it is prudent to open the entrance so that floodwaters can flow easily.
• Bridging the information (weather, climate, hydrological) gap between the scientific community and its recipients (end-user / decision makers) is not just a matter of simply providing the information…

• its more on being able to provide the true essence / meaning of the information;

• “this can be viewed only if the community eventually reacts with an action / activity that addresses the information that was shared.”
Thank you very much for your attention.

- Pampanga River Basin Flood Forecasting & Warning Center (PRFFWC), PAGASA, DOST
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- Tel: (045) 455-1701 (City of San Fernando, Pampanga)