



## Pampanga River Flood Forecasting & Warning Center (PRFFWC) Annual Report 2011 Programs, Activities and Accomplishments

### I. Background:

**The Pampanga River Basin Flood Forecasting and Warning Center (PRFFWC)** is the main information service center of the Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA) when it comes to providing timely flood warnings and related information to the target communities within the Pampanga River Basin area and the allied river basin system of Pasac-Guagua.



PRFFWC is the pilot flood forecasting and warning center in the Philippines. It started its operations in the last quarter of 1973 and has since been primarily the focal lead flood forecasting and warning center of the then Flood Forecasting Branch (FFB) and now the Hydrometeorological Division (HMD) for Pampanga River system, and the National Capital Region (NCR) of PAGASA's Regional Services Division (PRSD). Its original operations center was previously based in Diliman, Quezon City. The Center is now located in the City of San Fernando, Province of Pampanga and has been the center of information mainly on floods by various LGUs, communities and private entities whenever inclement weather affects the basin area.

The center functions on a 24/7 monitoring of its basin's hydrological situation, operations and maintenance of its facilities and equipment, and when need arises issue flood info and warnings. Other than this, the center undertake hydrographic measurements at various river sections within the basin whenever possible; conduct information and dissemination of related info concerning hydrological issues particularly flood awareness and mitigation through presentations and lectures to the RDRRMC (Region 3), various PDRRMCs, MDRRMCs and Barangay councils, entities and other institutions within and even outside the basin's concern; conduct hydrological analyses particularly on the improvement of flood forecasting and warning activities through simplified flood models and other related hydrological researches; carry-out special programs and activities pertaining to the community and schools in relation to hydrometeorological-related disasters awareness and preparedness; participate and interact with various entities, organizations and agencies in matters relating to flood awareness and mitigation, and other matters pertaining to other PAGASA-related functions and services.



The Pampanga River Flood Forecasting and Warning Center facilities located in the Government Center, Bgy. Maimpis, San Fernando, Pampanga. (top left and middle – view of the compound area and its tower, respectively, top right – the main operations building)

## II. Annual Report: 2011 Programs, Activities and Accomplishments

2011 was definitely a challenging year for the PRFFWC. The basin has had a fair number of flood events during the year requiring quite a number of flood advisories and flood bulletins issued.

While the center remains undermanned with 5 personnel to date and having limited resources and logistics, it has nonetheless maintained a high-level of efficiency in its obligations and services not only to its target communities within the basin but to other entities as well. It was able to work-out as many of its regular functions particularly the operational activities, public service and community relation activities during the year. A lot of the activities relating to public information and presentations were again provided by the center personnel to various entities, groups from both the public and private sectors within its area of concern and even outside the basin's coverage.

The following report summarizes the various accomplishments, programs and activities that were undertaken by the center during its operational year 2011.

## III. Operational Activities

### 1. Flood Monitoring and Warning Information:

The center issued a total of 21 Flood Advisories (FAs) and 37 Flood Bulletins (FBs) covering some 10 events (combinational) that affected the basin.

Breakdown of issued FAs and FBs for the year:

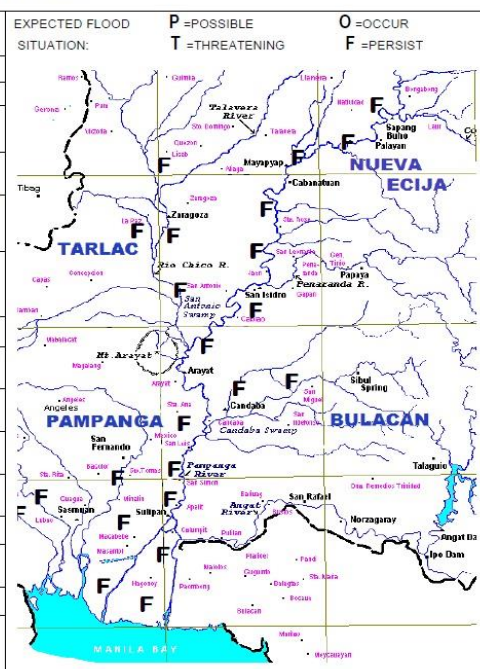
Event	Period	FA issued	FB issued
Tropical Depression "Dodong"	June 09	1	
Tropical Depression "Egay" (HAIMA)	June 19 - 22	4	
Tropical Storm "Falcon" (MEARI) and SW Monsoon	June 24 - 27	2	7
Tropical Storm "Juaning" (NOCK-TEN)	July 25 - 29	2	4
Typhoon "Kabayan" (MUIFA) and Tropical Depression "Lando"	July 31 to Aug 02	3	
Typhoon "Mina" (NANMADOL) and SW Monsoon	Aug 27 - 30	2	4
Typhoon "Pedring" (NESAT) and Typhoon "Quiel" (NALGAE)	Sept 26 to Oct 04	1	18
SLPA - ITCZ	Nov 6 - 8	1	4
SLPA	Nov 15 - 17	3	
LPA	Dec 09 - 10	2	



Department of Science and Technology  
PHILIPPINE ATMOSPHERIC, GEOPHYSICAL AND ASTRONOMICAL SERVICES ADMINISTRATION (PAGASA)  
Pampanga River Flood Forecasting and Warning Center, Hydro-Meteorology Division/NCR-PRSD  
Brgy. Malimpis, San Fernando, Pampanga (Gov. Site) <http://www.prffwc.webs.com>

FLOOD BULLETIN NO. 5 – PAMPANGA RIVER BASIN AND ALLIED RIVERS			
ISSUED AT: 5:00 PM, 28 SEPTEMBER 2011			
VALID UNTIL THE NEXT ISSUANCE AT 5:00 AM TOMORROW UNLESS THERE IS AN INTERMEDIATE BULLETIN			
BASIN RAINFALL AS OF 5:00 PM TODAY:		FORECAST 12-HR = 10 TO 15 MM	
PAST 12-HR = 15 MM			
BASIN EXPECTED RESPONSE:			
WATER LEVEL STATION (STN)	RIVER/ SWAMP WATER LEVEL (WL) TREND AT STATION	FLOOD SITUATION MESSAGE	PARTICULAR LOW-LYING RIVERSIDE AREAS
SAPANG BUHO STN. PAMPANGA RIVER	NOW AT 4.28 M/ SLOW RECEPTION TO CONTINUE BELOW 3.70 M. ALERT WL	FLOODING IS EXPECTED TO PERSIST UNTIL TONIGHT	LAUR, BONGABONG, PALAYAN CITY, NATIVIDAD, LLANERA, ALIAGA, TALAVERA
MAYAPYAP STN. PAMPANGA RIVER	NOW AT 4.15 M/ CONTINUED SLOW RECEPTION TO REACH BELOW 3.50 M ALARM WL TONIGHT	FLOODING IS EXPECTED TO PERSIST UNTIL EARLY TOMORROW MORNING	CABANATUAN, STA. ROSA, SAN LEONARDO
SAN ISIDRO STN. PAMPANGA RIVER	NOW AT 7.31 M/ SLOW RECEPTION TO CONTINUE TO REACH BELOW 6.0 M CRITICAL WL BY TOMORROW MORNING	FLOODING IS EXPECTED TO PERSIST UNTIL TOMORROW AFTERNOON	JAEN, SAN ISIDRO, CABAJO
ARAYAT STN. PAMPANGA RIVER	SLOW RISE TO CONTINUE ABOVE 8.50 M CRITICAL WL	FLOODING IS EXPECTED TO PERSIST	SAN LUIS, ARAYAT, SAN SIMON
SULIPAN STN. PAMPANGA RIVER	NOW AT 3.23M/ VERY SLOW RISE TO REACH 3.60 M ALERT LEVEL BY LATE TODAY	FLOODING IS EXPECTED TO PERSIST	APALIT, CALUMPIT, MASANTOL, MACABEBE, HAGONUY, PAOMBONG
ZARAGOZA STN. RIO CHICO RIVER	NOW AT 14.88 M/ SLOW RISE ABOVE 14.50 M. CRITICAL WL TO REACH JUST ABOVE 15.0 M	FLOODING IS EXPECTED TO PERSIST	SAN ANTONIO, LA PAZ, ZARAGOZA, LICAB, QUEZON
CANDABA STN. CANDABA SWAMP	NOW AT 7.0 M/ TO CONTINUE ITS SLOW FILLING-UP, WAY ABOVE THE 5.0 M CRITICAL WL	FLOODING IS EXPECTED TO PERSIST FOR SEVERAL DAYS	CANDABA, SAN MIGUEL, SAN ILDEFONSO, PULILAN
MEXICO STN. ABACAN RIVER	NOW AT 2.05 M/ CONTINUED SLOW RECEPTION	FLOODING IS EXPECTED TO PERSIST UNTIL EARLY TOMORROW MORNING	MEXICO, SAN FERNANDO, STA. ANA, STO. TOMAS, MINALIN
PENARANDA STN. PENARANDA RIVER	NOW AT 1.19 M/ CONTINUED SLOW RECEPTION	FLOODING EXPECTED TO RECEDE FURTHER	PENARANDA, GAPAN
SASMUAN STN. GUAGUA RIVER	NOW AT 2.98 M/ CONTINUE A VERY SLOW RISE	FLOODING IS EXPECTED TO PERSIST UNTIL TOMORROW NOON	SASMUAN, LUBAO, GUAGUA
COASTAL FLOODING IN THE LOW-LYING SEASHORE AREAS			HAGONUY, PAOMBONG, MASANTOL, MACABEBE
THE RESIDENTS AND THE DISASTER RISK REDUCTION AND MANAGEMENT COUNCILS CONCERNED ARE ADVISED TO CONTINUE TO TAKE APPROPRIATE ACTIONS			
HTH / RPY / JRD / RFD			

HTH / RPY / JRD / RFD



A sample Flood Bulletin (No. 5) issued at the height of T. Pedring (Sept 28, 2011)



Highlights of operational activities for the year included a center record of 18 FBs issued during the combined events “Pedring” and “Quiel”. Also, during the passage of “Falcon” coupled with the SW Monsoon and where Pampanga province was placed under a state of calamity, the center issued a total of 2 FAs and 7 FBs. More enhanced information sharing of the center was part of its service info expansion. Aside from the usual faxed FAs-FBs to recipients (OCD-3, PDRRMCs, etc.) and updating / uploading of these messages in the center’s website, the center disseminates info widely through e-mails, SMS and through social networks, “twitter” and “facebook”.

(Top Right) The main webpage of PRFFWC [www.prffwc.webs.com](http://www.prffwc.webs.com); (Top Left) The Flood Bulletin page showing the latest FB issued with location map of areas affected within the basin and below it are links to files to previous FBs issued for the event.

The center’s website is updated regularly, almost daily, except when internet service is down. There were a total of 364 hydrological forecasts and a 24-hourly rainfall (RR) total and instantaneous 8 am water level (WL) information uploaded to the PRFFWC website. Likewise, high tide readings for the whole year 2011 were uploaded and included as a table in the website.

The PRFFWC website has been a major information link to many of the LGUs and communities within and even from outside of the basin’s concern.

## 2. Data maintenance and analysis:

The PRFFWC operates on a 24/7 real-time hydrological monitoring with database back-up system that is available also at the MOC (main operations center) of HMD in Diliman, Quezon City. A tipping-bucket type rain gauge that is digitally monitored is being used for the RR data at the center and made possible through the center’s initiatives. This data is not available at the MOC-HMD. Activity program of data quality control from year 2009 to present is set for 2012.

As part of its continuing activity of updating its own retrievable electronic database, the center was able to work on the following activities on the observed rainfall (RR) and water level (WL) data:

1. Encoded some 153 station-months of RR data and 90 station-months of WL data from all the reporting telemetering stations within the PRB system.
2. Encoded and processed 12 station-months of RR data for San Fernando Station; processed information from the encoded data which includes monthly RR, maximum 24-hour RR, day of occurrence of maximum 24-hour RR, and the number of RR days for each month.
3. Telemetry RR and WL data recovery and quality control for the downtimes on October 04 to 06, 2011.

### 3. Physical Hydrological Station and Telemetry Systems Maintenance:

There had been quite a number of system downtimes during the year, many attributed to signal interferences but having short durations only. However a much bigger problem of station vandalism has caused major data losses to the center. Particular problems during the year were the deliberate theft of telemetry cables which proved to be the most difficult situation to control and prevent. Arayat telemetry station had its sensor to station cables of about 230 meters stolen on midnight of August 22 and on another time its water level sensor at around the 3<sup>rd</sup> week of November. To date, the Arayat WL monitoring system remains out of order.

Despite having limited personnel, the center was able to participate in the regular maintenance of its telemetry system during the year. The center technician was able to participate in the telemetry maintenance with personnel of HMTS-HMD during the said periods: April 11 to 17; July 6 to 12; and October 19 to 26.

No physical maintenance of telemetering stations and streamgaging sites were carried-out during the year. One reason was the lack of personnel and no vehicle available at the center. Several minor preventive maintenance at the center were carried-out such as repair of telephone trunk lines and changing of the generator's oil and its filter.

Station's physical and telemetry system maintenance are important and necessary activities for the continued operations of a Flood Forecasting & Warning System.

### 4. Streamgaging and hydrological related activities:

Relatively few numbers of streamgaging and field hydrological related activities were undertaken during the year. Hydrographic works include river cross-sectioning, river velocity measurements and other hydrological related surveys, etc. These activities are a basic part in the improvement and enhancement of flood forecasting and warning activities of the center, mainly for the development of flood forecasting models.

Streamgaging works including collaborative undertakings with other agencies during the year:

1. Survey of Sta. Maria River Basin area for site selection of CCTV (closed-circuit television) set-up for monitoring river stage (qualitative) at selected sections along Sta. Maria River. The activity was in support of PDRMO-Bulacan's expansion of its local flood warning system in the province (Feb. 24-25).
2. Conducted post-flood survey and investigation of various flooded areas affected during the enhanced SW monsoon over the basin (June 29 to July 01).
3. Post-flood survey of various areas within Pampanga River Basin as per flood event caused by T. Pedring & Quiel. (October 17 to 20)



Flooding scenes in Pampanga and in Cabanatuan, Nueva Ecija at the height of Typhoon "Pedring" (left pictures).

4. Post-flood survey of Bulacan (San Miguel Area) as a result of the event SLPA-ITCZ that affected the region on November 6-8.

## IV. Public Information, Data provision, Trainings and other related Center Functions

### 1. Presentations and lectures to various functions within and outside the basin area.

Various requests for presentations and lectures covering a whole lot of topics, generally on the operations of an FFWS center, basin weather and hydrological situation, flood disaster awareness and mitigation issues, Disaster Risk Reduction and Climate Change Adaptation, Community-based Flood warning systems, local flood warning systems networking, and related topics were carried-out for almost the whole year round of 2011.

As a highlight to this activity, a total of about 2,000 persons from various LGUs, schools, institutions, organizations, agencies and other entities were provided with lectures and presentations of the abovementioned topics. Several outside the basin presentations (in red print) were also conducted including several television, radio and newsprint interviews. The list of presentations and events are as follows:

1. January 25 - Resource speaker on the topic "Typhoon and Flood Hazard Awareness and Mitigation" in the conduct of Information and Education Campaign Training for CDRRMC of Malolos City, Bulacan (1st batch composed of 125 barangay personnel from 25 barangays)
2. January 31 – Conducted an orientation-workshop on "Rainfall and Water Level Observations" to volunteer-observers of San Jose Matulid Elementary School and Barangay officials of the area as part of the DPWH-PHUMP III non-structural flood mitigation program in the province of Pampanga. (about 60 students, teachers and barangay officials participated)



*SJMES students with their advisers and barangay officials during their orientation workshop on rainfall and water level observation (January 31)*

3. February 01 - Resource speaker on the topic "Typhoon and Flood Hazard Awareness and Mitigation" in the conduct of Information and Education Campaign Training for CDRRMC of Malolos City, Bulacan (2<sup>nd</sup> Batch of 135 barangay personnel from 27 barangays)
4. Resource speaker on the program of School Hydrological Information Network (SHINE) in the Sharing Session of Good Practices in DRR-CCA with the project entitled: "Knowledge Management Systems in the Philippines to create a safer environment for men and women in vulnerable communities" implemented by OXFAM-DILG and funding support by AusAID as follows:
  - a.) March 01 – 02: Luzon cluster held at Club Royale, Malolos City, Bulacan participated by about 60 persons from various entities (LGUs, NGOs, etc)
  - b.) March 10 – 11: Visayas cluster held in Iloilo City, Iloilo participated by about 60 persons from various entities (LGUs, NGOs, etc)
  - c.) March 16 – 18: Mindanao cluster held in St. Bernard, So. Leyte participated by some 70 persons from various entities (LGUs, NGOs, etc)
5. March 25 - Resource speaker and critic in the data presentation of the school's hydrological observers of the San Jose Matulid Elementary School, Mexico, Pampanga in connection with program of capacity building project of DPWH-PHUMP III and implemented by PDRN (People's Disaster Risk Reduction Network) (30 school children observers, 15 teachers and barangay officials in attendance)
6. May 19 - Resource speaker on the topic "Community-based Flood Forecasting & Warning System" during the Laguna Lake Development Authority (LLDA) DRRM seminar-workshop at "The Legend Villas", Mandaluyong City. (about 60 LLDA DRRM-involved employees participated)
7. May 25 to 26 – Main Resource person to the GIZ organized training in hydrological data monitoring and recording of the personnel of the LGU Operations Centers in 8 watersheds areas in Region 8 held in Ormoc City (about 30 personnel from various LGU Operation Centers attended the specialized training)
8. June 13 - Presentation on the topic "Pampanga River Flood Forecasting & Warning Center" during the Observation and Study Tour to the PRFFWC by the Municipal Disaster Risk Reduction and Management Council of Municipality of Baggao, Province of Cagayan. (30 members of MDRRMC including the Municipal Mayor in attendance)
9. Resource speaker on the topic "Hydromet Hazards Awareness and Mitigation" during the launching of SHINE program at the following schools in Bulacan Province:
  - a. July 19 - Tibagan High School, Bustos, Bulacan (40 students and 2 teacher advisers)
  - b. July 22 - San Rafael National Trade School, San Rafael, Bulacan (40 students and 2 teacher advisers)
10. July 26 - Resource speaker on the topic "Hydromet Hazards Awareness and Mitigation" in the seminar-workshop conducted by DILG Reg. 3 to various LGUs within the region, Clark, Pampanga (1<sup>st</sup> batch of about 50 persons from various LGUs of the region in attendance)
11. July 29 - Resource person on the topic "LFWS Networking and NetFLOWS" in the OCD-GIZ conference roll-out for Mindanao on Local Flood Warning Systems in Butuan City (more than 50 persons from various LGUs in Mindanao attended the event)
12. Resource speaker on the topic "Hydromet Hazards Awareness and Mitigation" in the DILG Region 3 seminar-workshop on the conduct of Infra Audit in Clark, Pampanga
  - a. August 03 – 2<sup>nd</sup> batch with 60 participants
  - b. August 09 – 3<sup>rd</sup> batch with 50 participants



13. Resource speaker on the topic “Hydromet Hazards Awareness & Mitigation” and “LFWS Networking and NetFLOWS” in the GIZ-PAGASA-OCD conference roll-out for enhancement of Local Flood Warning Systems in the country.
  - a. August 10 – Iloilo City with 80 persons from various LGUs, NGAs & NGOs within Visayas area in attendance
  - b. August 17 – Metro Manila with 60 persons from various LGUs, NGAs & NGOs in the Southern Luzon area in attendance
  - c. August 23 – Clark, Pampanga with 100 persons from various LGUs, NGAs & NGOs in the Northern and Central Luzon areas in attendance
14. August 23 - Presentation on “Pampanga River Basin & the PRFFWC” to some 80 persons (participants in the workshop on LFEWS) and site visit to PRFFWC.
15. August 31 - Attended and represented PRFFWC-PAGASA, being a member of the council, in the RDRRMC meeting held in Bulacan Hiyas Convention Center; did a presentation on the topic “LFEWS Networking and NetFLOWS” to the council members (more than 40 persons from various member LGUs and agencies in the region attended)
16. 1<sup>st</sup> week of September - Resource person in training of more than 80 policemen, firemen and DRRM action officers from various LGUs within the province of Bulacan in observation, recording and reporting of rainfall as part of the implementation of the one RR gauge per municipality program of the province in relation to their CBFMMP (Community-based flood mitigation & management program).
17. Resource speaker on the topic “The Pampanga River Basin Flood Forecasting & Warning Center: System & Activities” in the following events:
  - a. September 08 - Stakeholders Meeting on Strengthening of FFWSDO, Pantabangan Dam, Nueva Ecija, (30 persons in attendance)
  - b. September 21 to 23 - 4th Workshop for the JICA Technical Cooperation Project on the Strengthening of FFWSDO, Amihan Conference Room (about 50 persons in attendance)
18. September 13 - Resource speaker on the topic “Rainfall observation and reporting” to the Communicators League of Bulacan (COLB) in Malolos, Bulacan (about 15 persons in attendance)
19. November 29 - Presented to Peer Review in READY 2 Project for 2 Provinces: Catanduanes and Isabela for Storm Surge Hazard Mapping
20. Resource speaker on the topic “Engaging Local Communities for DRR/CCA and Opportunities for integration” in the DILG-3 seminar-workshop “Basic Orientation on Disaster Risk Management & Climate Change Adaptation for LGUs”, Maharajah Hotel, Angeles City, Pampanga.
  - a. October 27 – 72 participants from various municipalities of Tarlac.
  - b. November 11 – 88 participants from various municipalities of Pampanga.
  - c. December 02 – 87 participants from various municipalities of Aurora.
  - d. December 09 – 103 participants from various municipalities of Bataan
21. December 13 - Resource person on the topic “Flood Preparedness and TC tracking” in the Barangay Disaster Training of the Municipality of Hagonoy (52 barangay personnel in attendance)
22. December 12 - Resource person in the 2nd Conference on School Hydrological Information Network (SHINe) held at Malolos Resort Club Royale, City of Malolos, Province of Bulacan. The event was organized and sponsored by the Provincial Government of Bulacan through the PDRRMO-Bulacan with the coordination of DepEd, Division of Bulacan and the PRFFWC (112 teachers and students from 11 school SHINe beneficiaries)  
 Related Site: <http://bulacanshine.yolasite.com/2nd-shine-conference-2011.php>  
<http://bulacanshine.webs.com>



Participants in the 2<sup>nd</sup> Conference on School Hydrological Information Network (SHINe) held last December 12, 2011 at Club Royale Resort, City of Malolos, Province of Bulacan.

## 2. Public information through TV, Radio and Newsprint interviews

1. Special guest appearance in the CLTV-36 program "FOCUS" hosted by Jun Lutero in the June 24 episode with the topic "Present Weather and Flood Conditions within the Pampanga River Basin".
2. Radio Interview guest at DWGV-FM, 99.1MHz, in Angeles City hosted by Fr. Ed Panlilio and Mr. Irwin Nucum focusing on the topic "Understanding Weather, Disaster Preparedness and Risk Reduction" with co-guest, Mr. Nigel Lontok, Asst. Regional Director, OCD, Reg. 3. (July 03, 2011)



(Top left and Center) Radio interview at DWGV-FM 99.1 with Fr. Ed Panlilio, Mr. Irwin Nucum and OCD-3 ARD Nigel Lontok. (Top Right) Interviewed by Ms. Aizeline David of CLTV-36 during event T. Pedring.

3. Radio and TV interviews by local stations at the height of T.S. "Juaning", 2 times by the ABS-CBN 46 and one time by CLTV-36. (July 25-27)
4. Media Interview (Radio and TV) – 3 times via Radio phone-patch (DWGV-FM), Aug. 17, 25 and 29; 6 times TV interviews by ABS-CBN 46, UNTV 37 & CLTV-36 (Aug.1, 2 and 29 during T.C.s "Kabayan-Lando" & "Mina-SW" events)
5. Media Interview (Radio and TV) – daily during weekdays via Radio phone-patch (DWGV AM 792), TV interviews by ABS-CBN 46, UNTV 37 & CLTV 36 and GNN 44 (Sept 27, at the height of T. "Pedring")
6. December 21 - Special Resource person in the afternoon news report program of ABS-CBN 46 in Pampanga hosted by Gracie Rutao.
7. Several newsprint interviews during the events T.C. "Falcon" – SW Monsoon and T.C. "Pedring".  
Some related links: <http://newsinfo.inquirer.net/69345/floods-to-last-4-5-more-days>  
<http://newsinfo.inquirer.net/70453/%E2%80%98i-pray-no-more-rains-hit-us%E2%80%99>

## 3. Meetings; participation in national, regional and local undertakings; special and other activities

The Center actively supported various undertakings mainly in relations to its hydrological monitoring and operational activities in particular meetings involving basin situations during inclement weather conditions, official and management functions, participation in various national, regional and/or local program undertakings, including special field visits. Other than this, it actively shared hydrological data and information to different requesting entities as part of the center's special functional activities.

1. January 12 - Assessment and coordination meeting with SMART Communications in relation to a tie-up program between SMART PRG and the SHINE Program in Dumaguete, Negros Oriental.
2. January 19 - Orientation of JICA representatives in their follow-up visit to the PRFFWC as part of its continuing program of rehabilitation and strengthening of the PRFFWS.
3. February 11 – Attended and participated in the seminar series of DLSU Center for ICT and Development on the topic "Uncovering the Transformational Role of Participation and ICT in Good Governance and Disaster Management". (SMX Convention Center, MOA, Pasay City)
4. March 10 - Hosted the visit of Embassy of Japan Official Development Assistance (ODA) Press Tour to the center; main support coming from FFWS-HMD with about 10 members of both Japan Embassy ODA and the Press present during the event.
5. March - Acted as an industry adviser to a group of graduating students of Don Honorio Ventura Technological State University (DVHTSU) in their thesis entitled: SMS Based Water Level Monitoring and Warning System for Pampanga River, test site was Bgy. Bebe Anac, Masantol, Pampanga.  
Related links: <http://www.youtube.com/watch?v=7kKOLL5dZuc>
6. April 04 - Attended and represented PRFFWC-PAGASA in the RDCC-3 meeting on "Review and Updates of Contingency Plans" of member agencies. Presented to the council a proposal on the hydrological info / data exchange scheme for the region with PRFFWC as lead technical adviser. Meeting was held at OCD-3 building with more than 30 member agency representatives present.

7. March 19 - Joint meeting with Bgy. Bancal local officials and Guagua municipal personnel on the request to assist in the establishment of community-based flood warning system for the aforesaid barangay. (10 persons in attendance)
8. Created the initial website of Pampanga Province SHINE program: "[www.pampangashine.webs.com](http://www.pampangashine.webs.com)" (shown below) as part of disaster awareness and strengthening of community relations of the sub-center.



9. April 25 - Attended and represented PRFFWC in the Video and Book Launching of Best Practices on DRR-CCA led by OXFAM and project sponsored by AusAID with Usec. Benito Ramos of the NDRRMC being the guest speaker for the event. SHINE program in Bulacan Province, a PRFFWC conceived project, was one of the chosen good practices on DRR-CCA. Event held at Discovery Suites with some 80 persons from various agencies / entities present.
10. May 26 - Attended and represented PRFFWC-PAGASA in the Region 3 Joint RDRRMC and CDCC Meeting; presented weather outlook and updates on T.C. "Chedeng" and about 100 persons from various agencies / entities in the region were present.
11. June 19 to 21 - Attended and participated in the Team Building Activity Seminar of NCR-PRSD in Makiling, Calamba. (1 center personnel attended)
12. June 17 - Attended and represented PRFFWC-PAGASA as member of the RDRRMC-3 in the meeting called for by the OCD Regional-3 regarding updates on the contingency plans of the council in preparation for the coming rainy season with more than 30 members from various agencies comprising the council in attendance.
13. July 01 - Participated as member agency of the RDRRMC-3 in the Opening Celebration of National Disaster Consciousness Month led by the OCD-3. Opening ceremonies were held at OCD-3 Regional Office with more than 40 agency representatives in attendance. (1 personnel from the center participated)
14. July 14 - Attended and represented PRFFWC in the meeting activity of the JICA Technical Cooperation Project for the Strengthening of FFWSDO for the planned dam discharge information dissemination drill for Angat Dam held at Bulacan Capitol with some 80 persons from various agencies and LGUs within Bulacan in attendance. ( 2 PRFFWC personnel attended)
15. July 22 - Participated in the Dam Discharge Dissemination Drill for Angat Dam on 22 July 2011 with 2 personnel of the center participating.
16. September 15 - Center participation in the flood drill for dam discharge of the Pantabangan Dam in relation to the on-going JICA TCP on the Strengthening of FFWSDO with 2 center personnel participating.
17. September 16 - Attended and represented PRFFWC-PAGASA in the program-activity "Sustaining the Community-Based DRR Initiatives towards its Institutionalization" initiated by PDRN, with partner entities – DPWH, NK, PDRRMC-Pampanga, DepEd-Reg.3 and PRFFWC as a partner in the program with more than 50 persons in attendance and venue at "Bale Katimawan" Hall, PPO, Pampanga Capitol Compound.
18. October 01 - Attended and represented PRFFWC-PAGASA in the emergency meetings at the height of flood events due to Typhoons "Pedring" and "Quiel" as follows:
  - a. Pampanga Provincial Government with Governor Lilia Pineda presiding (0900H, Pampanga Capitol)
  - b. RDRRMC-Reg.3 with DILG Secretary Jesse Robredo taking charge of the meeting. (1400H, OCD-3 office)
19. October 05 - Attended Regional Development Council (RDC-3) meeting with the Honorable President of the Philippines Benigno Aquino III on the Early Recovery and Rehabilitation efforts of the region and presentation of the Proposed Rehabilitation Priorities as a result of the floods caused by Typhoons "Pedring" and Quiel in the region with venue at Hiyas Convention Center, Malolos, Bulacan.
20. November 15 - Attended and participated in the RTD (round table discussion) on FEWS policies at NDRRMC-OCD conference room, Camp Aguinaldo; 1 center personnel attended.
21. November 17 to 18 - Attended & participated in the 7th PMS National Meteorological-Hydrological Convention held in BSWM convention hall. (1 center personnel attended)
22. November 24 to 25 – Participated in the READY 2 National Conference held at Sofitel Hotel, CCP Complex. (1 PRFFWC personnel participated)
23. December 5 to 6 - Participated in the Flood Assessment Study of the JICA-TCP Consultant Team in the Pampanga River and tributaries, and allied rivers (1 PRFFWC personnel participated)
24. December 08 - Represented PRFFWC-PAGASA in a meeting called for by Congresswoman Josefina M. Joson (1st District, Nueva Ecija) in the Pre-Water Summit Meeting for a more effective and sustainable solutions to Hydrometeorological-related Disasters at the House of Representative, Q.C. (1 PRFFWC personnel attended)



25. December 19 to 21 - Attended and participated in the READY 2 Annual Planning Meeting held in Antipolo City, Rizal. (1 PRFFWC personnel participated)
26. December 22 – Attended the PDRRMO-MDRRMOs of Bulacan province year-end meeting at Club Royale, Malolos, Bulacan. (1 PRFFWC personnel attended)
27. December 28 – Attended and represented PRFFWC-PAGASA in the RDRRMC-3 Year-end Assessment Meeting at OCD-3 Conference Room, Pampanga. (1 PRFFWC personnel attended)

#### 4. Personnel Trainings

Trainings and enrichment programs throughout the year were not that much. One major reason is the lack of personnel for augmentation on the 24/7 hydrological monitoring operations. Nonetheless, there were several short training programs that some of the personnel were able to participate in and are as follows:

1. January 19 to 21 - Training on “Operations and Management of FFWS” as a related program to the Project for Strengthening of FFWS for Pampanga & Agno River Basins. (H. Hernando)
2. February 02 to 28 – Training on “Inundation analyses / MIKE flood software” as part of the Project for Strengthening of FFWS for Pampanga & Agno River Basins. (H. Hernando)
3. December 5 to 9 - Training on “Microcontroller Design and Development” (J. R. Dabu)
4. November 21 to 25 – “Dual Polarity RADAR Training-Workshop” (N. B. Nimes)

#### 5. Published Reports (In-house) and other hydrological-related materials

The center was able to produce several reports, in particular post-flood events. Other latest information-related material is a digitized map of PRB. All materials are available upon request at the center.

1. PRFFWC Post-Flood Report 2011-1 - Event: Enhanced SW Monsoon due to Tropical Storm “Falcon” (MEARI), June 2011
2. PRFFWC Initial Post-Flood Report – Event: Typhoon “Pedring” (NESAT), October 06, 2011
3. Proceedings on the 2<sup>nd</sup> Conference on School Hydrological Information Network (SHINE) – December 2011, in collaboration with PDRRMO-Bulacan.  
Related site: <http://bulacanshine.yolasite.com/2nd-shine-conference-2011.php>
4. Initial GIS mapping of Pampanga River Basin (December 2011)



PRFFWC production 2011

Contact details:

Tel / Fax: (63)(045) 4551701

E-mail: [prffwc\\_ffb@yahoo.com](mailto:prffwc_ffb@yahoo.com)

Website: [www.prffwc.webs.com](http://www.prffwc.webs.com)

