

**PAGASA ACCOMPLISHMENT REPORT**  
(January to December, 2011)

PROGRAMS/ACTIVITIES/PROJECTS	TARGETS (January to December, 2011)	ACTUAL ACCOMPLISHMENTS (January to December, 2011)
<p><b>A. PROGRAMS AND ACTIVITIES</b></p> <p><b>I. GENERAL ADMINISTRATION AND SUPPORT SERVICES</b></p> <p>a. General Administration and Support Services</p> <p>1. General Management and Supervision</p> <p>2. Engineering and Maintenance Services</p>	<p>Support services provided to the different operating units of the agency including policy formulation, central direction, planning, personnel administration, records and supply management, financial management, public information and international affairs</p> <p>Facilitated/conducted of non-technical training courses, seminars and other related human resource development activities</p> <p>Established, repaired, installed, operated and maintained environmental monitoring and observing stations including field mechanical-electrical power generating systems, motor vehicles and other facilities in support to data collection.</p> <ul style="list-style-type: none"> <li>• Operation and maintenance of mechanical, electrical and infrastructure</li> </ul>	<p>Provided effective support services to the agency organizational units in the areas of policy formulation, planning, personnel administration, records and supply management, financial management, public information and international affairs.</p> <ul style="list-style-type: none"> <li>• Teambuilding Activity, participated in by Chief Meteorological Officers, OICs and senior staff, conducted at: <ul style="list-style-type: none"> <li>- Vigan, Ilocos Sur with 17 participants</li> <li>- Makiling Highland Resort with 24 participants</li> </ul> </li> <li>• Mindanao-PRSD Values Orientation Workshop, Nov. 8-10 (25 participants)</li> </ul> <p>Maintained/repaired/rehabilitated 118 stations and 13 vehicles</p> <ul style="list-style-type: none"> <li>• Conducted the repair of water system at WFFC compound and Science Garden</li> <li>• Conducted repair/replacement of defective parts (pipes, flexible, hose, water closets, p-traps, faucets, gate valves, etc.) of Men's and Ladies' comfort rooms at various offices of the Agency</li> <li>• Conducted carpentry works on the minor repair of ceiling, electrical panel board cover and air-condition frame support at Science Garden Observation building</li> <li>• Repaired/maintained 3 power generator set at Casiguran Station</li> <li>• Installed waterline from main water source to transient building, NCR-PRSD and Hostel Bldg.; tapped PI pipe to GI pipe for IDRU office bldg.; Basic Met. Instrument bldg.; and ME/EE shop and office bldg.</li> <li>• Conducted troubleshooting/repair/maintenance of 130 ACUs at various offices of the Agency</li> <li>• Conducted the repair/replacement/installation of lightings and electrical facilities at various offices of the Agency</li> </ul>

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	<ul style="list-style-type: none"> <li>• Operation and maintenance of meteorological equipment and accessories</li> </ul>	<ul style="list-style-type: none"> <li>• Provided electrical circuit design for the connection of the standby power generator to PAGASA main building lighting, power outlets and the air-conditioning units of Amihan Conference Room and Administrator's Office</li> <li>• Conducted repair/repainting of PAGASA public CR and guardhouse at Science Garden</li> <li>• Involvement of ETSD in the monitoring/inspection of Doppler radar installation in Subic, Hinatuan, Tagaytay, Cebu and Tampakan and in the construction of Radar tower bldg. under JICA Project on Virac, Aparri, and Guiuan.</li> <li>• Maintained Weather Surveillance Radars at Baguio, Aparri, Guiuan, Virac and Baler.</li> <li>• Completed the relocation of the outdoor meteorological basic instruments/ equipment and antenna system in preparation for the construction of Radar Tower building under the JICA Project at Virac and Aparri Radar Station</li> <li>• Completed the relocation of outdoor meteorological basic instruments and panzer mast system, including installation of new wind equipment at Mactan radar station.</li> <li>• Conducted preventive maintenance of Automatic Weather Station (AWS) at Mindanao (14 sites): Tandingan, Kabakan, Digos, Nabuntaran, Mati, San Francisco, Tandag, Talisayan, Nasipit, Camiguin, Siargao, Valencia, Musuan and Tagum.</li> <li>• Completed the installation of two (2) 30 KVA power generator set and other related facilities including electrical system in preparation for the installation of the new Doppler Radar at Mactan</li> <li>• Completed the dismantling /hauling of all meteorological instruments/ equipment, telecommunications system, antenna system, power generator set, office equipment, cabinets, tables, chairs and other related facilities from PAGASA Station at Iloilo Sports Complex to the Department of Agriculture, Jaro, Iloilo for safe keeping.</li> <li>• Involvement in DOST-ASTI / TECO project on the installation of AWS nationwide.</li> <li>• Repaired and maintained Upper-air observation equipment and accessories at Tanay, Puerto Princesa, Davao and Legaspi stations</li> <li>• Conducted routine calibration, repair and maintenance of meteorological basic instruments at 22 stations; Tayabas, Ambulong, Alabat, Baler, Casiguran, Munoz, TCA-Tarlac, Cabanatuan, CavSU-Cavite, Sangley Point, Infanta, Laoag, Sinit, MMSU-Batac, Sorsogon, Daet, NAIA, UEP, Catarman, Catbalogan, ISU-Isabela and San Jose.</li> </ul>

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	<ul style="list-style-type: none"> <li>• Operation and maintenance of electronics and communications network at field stations</li> </ul>	<ul style="list-style-type: none"> <li>• Delivered, installed &amp; tested Agromet instruments at PCA-Bago Oshiro, CMU-Musuan, USM-Kabacan &amp; USEP-Tagum</li> <li>• Conducted maintenance of AWS equipment at Baler, Casiguran, San Idefonso and Muñoz.</li> <li>• Fabricated eight (8) instrument shelter at Carpentry shop for Baler, Sinait, Laoag, Science Garden, ISU-Isabela and Tayabas</li> <li>• Installed eleven (11) instrument shelters at Romblon, Catarman, Masbate, Legaspi, Baler, Sinait, Laoag, Port Area and UEP agromet station.</li> <li>• Conducted repair/maintenance of telecommunication facilities, basic electronics office equipment and telephony at various PAGASA offices</li> <li>• Conducted repair and tuned the HF SSB radiophone of the HF antenna system at Dagupan PAGASA Station</li> <li>• Conducted survey and installation of HF Communication System at DOST Regional Office at PSTC-Siquijor, Cebu, PSTC Basco, Batanes and Tagbilaran PAGASA Station.</li> <li>• Facilitated the connectivity of Weather and Flood Forecasting Center (WFFC) Data Information Center (DIC) and PAGASA Baguio Radar thru ASTI.</li> <li>• Provided maintenance of the LED Moving Display System at WFFC and Central Office</li> <li>• Provided maintenance of the lighting detection system at PAGASA Astronomical Observatory UP Diliman Campus</li> <li>• Provided technical assistance in the monitoring of IP CCTV Security System Project for PAGASA main building</li> <li>• Conducted the reinstallation of WAFS antenna in Central Office and re-connection of AMSO NAIA for Radio Link</li> <li>• Conducted installation of GPS antenna of rime server and establishment of new NTP Server of PAGASA</li> <li>• Conducted the establishment of ASTI-PAGASA MODIS connectivity</li> <li>• Updated Kaspersky Anti-virus for all PAGASA workstations</li> <li>• Provided assistance in the installation of Microsoft Operating System for newly purchased computers used by various PAGASA offices</li> <li>• Conducted the maintenance and keep the MMAS/DTS Server online and connected to PAGASA's Local Area Network (LAN)</li> <li>• Conducted the establishment of Planetarium-WFFC internet connectivity</li> <li>• Conducted repair and maintenance of VSAT equipment at Baler and Baguio stations</li> <li>• Conducted repair and maintenance of IP wireless broadband radio system at NAIA, Tanay, and Tagaytay</li> </ul>

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		<ul style="list-style-type: none"> <li>• Provided monitoring on the communication of the 5 Ghz wireless broadband radio system at PAGASA's Science Garden - the link of Science Garden, Mt. Sta. Rita Subic site and SBIA</li> <li>• Provided assistance and technical support for maintenance of PAGASA Local Area Network including antenna installation, computer workstations and peripheral devices to various PAGASA offices</li> <li>• Provided technical assistance and monitoring of Ethernet Structured Cabling System Project including IP Camera System of WFFC building and formerly NDRB building</li> <li>• Provided on-duty technical personnel in the maintenance of internet/LAN connection, computers, satellite and AWS data during inclement weather</li> <li>• Provided Multimedia Services in the Agno River Basin FFWS inauguration at Carmen and Rosales Pangasinan.</li> <li>• Conducted monitoring and testing of the connectivity via Internet Service Provider (ISP) of the iHPC at WFFC and Local Area Network (LAN) at PAGASA Science Garden.</li> <li>• Conducted testing and calibration of Doppler radar at Hinatuan including the configuration and activation of VSAT equipment via the satellite system as well as the communication link at El Salvador.</li> <li>• Provided assistance in the installation of computer at Municipal Agriculture's Office-Benguet, DMMMSU-Bacnotan, TCA-Tarlac, RMTU/WLAC-Zambales, CavSU-Cavite, BUCAF, Pili, Lalo-Cagayan, and Tagbilaran.</li> <li>• Installed/calibrated HF SSB radiophones and installed dipole antenna at Baler, Casiguran, CavSU-Cavite, Puerto Princesa and Infanta, Quezon, Sorsogon and Daet.</li> <li>• Conducted orientation of antenna system, configuration and testing of C-band VSAT equipment; including site acceptance test and inspection of radar system at Hinatuan radar station</li> <li>• Pulled-out the KU band VSAT equipment at Baguio and reinstall at Baler radar station</li> <li>• Pulled-out the outdoor unit of C-band VSAT equipment at Tuguegarao and reinstall at Baler radar station</li> <li>• Conducted repair/troubleshooting of grounded station building electrical wiring system; and repair/maintenance of communication system at Daet station</li> <li>• Constructed antenna base foundation for the upcoming installation of new FY-2D satellite receiving station from China</li> <li>• Provided technical assistance in the implementation works and facilitated in the registering the Radio's National Telecommunication Commission for the KOICA 2 Project</li> </ul>

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<p>3. Construction/Repair/ Rehabilitation of Typhoon Damaged Weather Stations</p> <p>4. Magna Carta for S &amp; T Personnel</p> <p><b>II. SUPPORT TO OPERATIONS</b></p> <p>a. Climate Data Management, Agrometeorological and Weather Modification Research and Development</p> <p>1. Operation and Maintenance of Meteorological Data Banks, including the Provision of Processed Climatological Information</p>	<p>Civil works related to the construction/ repair and rehabilitation of typhoon damaged weather stations undertaken</p> <p>This refers to RA 8439, an act of providing a MAGNA CARTA (MC) for scientists, engineers, researchers and other S&amp;T personnel in government.</p> <p><b><i>Climatological/Agroclimatic Data/ Information Prepared, Issued and Disseminated:</i></b></p> <ul style="list-style-type: none"> <li>• 200 Weather certifications</li> </ul>	<ul style="list-style-type: none"> <li>• Provided technical assistance in the implementation works and facilitated in the registering permit to operate at National Telecommunication Commission (NTC) for the JICA project related to the VSAT communication system for WFFC and Virac radar</li> <li>• Conducted inspection of Virac Complex Station for the preparation of IPP in the proposed demolition of old radar building; dismantling of radar equipment; and for the conversion of the old Radar Station to Personnel Quarters</li> <li>• Conducted ocular inspection/assessment for station building repair/rehab at Tayabas, Alabat, Iba, PCA-Bago Oshiro, CMU-Musuan, USM-Kabacan, USEP-Tagum, Guian radar station, Catarman and LSU</li> <li>• Repair/rehabilitation of perimeter fence of Legaspi Station - 100% completed</li> <li>• Refurbishing of Tagaytay radar building - 100% completed</li> <li>• Construction of entrance post at Tagaytay - 100% completed</li> <li>• Replacement of cubicle door of Public CR at Science Garden - 100% completed</li> <li>• Repair/rehabilitation of electrical system of NDRB building - 90% completed</li> <li>• Constructed the Ambulong Station Perimeter fence</li> <li>• Repair/rehabilitation of station building at Tacloban - 100% completed</li> <li>• Repair/rehabilitation of DCZA building - 100% completed</li> <li>• Construction of transient bldg. - on-going</li> <li>• Improvement/rehabilitation of NCR-PRSD office - on-going</li> <li>• Repair/rehabilitation of PAGASA station bldg. at Malaybalay, Alabat, San Jose, and Catbalogan - on-going</li> </ul> <p>Development of the Agency's Human Resources</p> <p>256 weather certifications issued (Income Generated ₱ 380,557.00)</p>

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	<ul style="list-style-type: none"> <li>• 12 Monthly Agroclimatic Impact Assessment for Philippine Agriculture</li> <li>• Customized weather information and other publications <i>(upon request)</i></li> <li>• 12 Weather Update/Climate Outlook/Advisories</li> </ul> <p><b>Farm Weather Forecasting and Advisory Services Provided:</b></p> <ul style="list-style-type: none"> <li>• 365 Daily Farm Weather Forecasts and Advisories (FWFA)</li> <li>• Tropical Cyclone Warnings and Advisories (TCWA) for Agriculture issued <i>(whenever TC threatens PAR)</i></li> <li>• 36 Ten-day Regional Agri-weather Forecasts and Advisories</li> <li>• 36 Ten-day Weather Agro-climatic Review and Outlook for Agriculture</li> </ul> <p><b>Consultancy Services Extended:</b></p> <ul style="list-style-type: none"> <li>• Interviews granted to tri-media <i>(as requested)</i></li> <li>• Lectures/workshops attended/conducted <i>(as need arises)</i></li> <li>• Climate forum</li> <li>• Researchers of climate information <i>(as need arises)</i></li> <li>• Court hearing attended <i>(as requested)</i></li> </ul> <p><b>Special Observations Gathered and Collected:</b></p> <ul style="list-style-type: none"> <li>• 1,072 Ozone observations</li> <li>• 13,064 pages of Meteorological/Climatological/Agromet data collected</li> </ul>	<p>12 publications and 276 copies disseminated <i>(A copy is also posted in the internet.)</i></p> <p>427 sets of publications sold <i>(Income Generated ₱ 1,841,168.00)</i></p> <p>8 La Niña advisories, and 7 Weather Situation and Outlook, 2 Seasonal Climate Outlook issued and 1,024 copies disseminated</p> <p>365 issued and 6,825 copies disseminated <i>(All issuances were posted in the internet.)</i></p> <p>40 TCWA issued</p> <p>36 issued and 1,080 copies disseminated <i>Agri- weather updates aired live daily (except Sun.) at DZRM radio (posted also in the internet)</i></p> <p>36 issued <i>(emailed to clients upon request)</i></p> <p>40 interviews <i>(Radyo ng Bayan, Channel 5, Da Ai TV Reporters, GMA 7, Business World, Bombo Radyo, DZAS, DZXZ-Davao, Carla Lim - ABC 5, Business World, DEEC, Christian Aid, RPN 9, Manila Shimbun, IHMC, Radio Veritas, GMA, ABS-CBN, Philippine Graphic, Legislator's Political Magazine, CDC, Uniliver)</i></p> <p>236 lectures attended/conducted to 21,723 participants</p> <p>8 Climate Forum conducted with 775 participants</p> <p>893 researchers/visitors</p> <p>2 court hearings (Makati RTC)</p> <p>663 Ozone observations conducted and 42 calibrations made <i>(Remarks: Fewer observations due to cloudy sky.)</i></p> <p>15,801 pages of observation data collected</p>

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<p>b. Training Activities in Atmospheric Geophysical and Allied Sciences</p>	<ul style="list-style-type: none"> <li>• 796,444 records of Meteorological/Climatological/ Agromet entered, checked and edited</li> <li>• 22,320 records of Solar radiation data extracted</li> </ul> <p><b>Special Observation Stations Operated and Maintained:</b></p> <ul style="list-style-type: none"> <li>• 1 Ozone monitoring station</li> <li>• Visual Storm Station (VSS)</li> </ul> <p>10 In-house Technical Training Courses conducted to 240 participants:</p> <p>Conduct of Adhoc trainings:</p>	<p>819,291 records entered, checked and edited</p> <p>20,510 records extracted</p> <p>1 Ozone station</p> <p>10 VSS</p> <ul style="list-style-type: none"> <li>• 11 Technical Trainings Course with 266 participants. <ul style="list-style-type: none"> <li>▪ Refresher Course on Meteorological Observations, Practices and Procedures for Field Station Personnel <ul style="list-style-type: none"> <li>- MIN-PRSD, January 14-16 (27 participants)</li> <li>- NLPRSD, January 28-30 (19 participants)</li> </ul> </li> <li>▪ Seminar on Objective Forecasting of Maximum and Minimum Temperatures, February 23-24 (29 participants)</li> <li>▪ JOOMLA! Basic Training, April 11-15 (11 participants)</li> <li>▪ Orientation Workshop on Weather Observation Protocol Project of PAGASA for DOST Regional Directors, April 7 (16 participants)</li> <li>▪ Technical Training on Automatic Weather Station (AWS), June 6-7 (31 participants)</li> <li>▪ Meteorological Technicians Training Course, August 2011, (34 participants)</li> <li>▪ Meteorological Training Course (started Nov. 2011 with 37 participants)</li> <li>▪ Seminar on Government Radio Operator's Certification (GROC) for the Southern Luzon PAGASA Regional Services Administration, August 10-13 (11 participants)</li> <li>▪ Seminar of Government Radio Operators Certification (GROC) for the Visayas PAGASA Regional Services Division, Cebu Business Hotel, Cebu City, Oct. 5-8 (25 participants)</li> <li>▪ Seminar of Government Radio Operators Certification (GROC) for the Mindanao PAGASA Regional Services Division, Davao Crown Regency Residence, October 11-15 (26 participants)</li> </ul> </li> <li>• 1<sup>st</sup> APEC Center for Typhoon &amp; Society Workshop entitled "Management of Typhoon and Heavy Rain Related Disasters, May 25-27 (35 participants)</li> <li>• WMO Workshop on Human Resources Management of NMHSs for Asia (RA II) and South West Pacific (RA V) Countries at Crowne Plaza Manila Galleria, Oct. 17-21 (32 participants)</li> </ul>

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<p>c. Provision of Support Services</p> <p>1. Conduct of and Participation in Scientific &amp; Technical Conferences &amp; Meetings Including Membership in International &amp; National Scientific Organizations</p>	<p><b><u>Supported Scholars:</u></b></p> <ul style="list-style-type: none"> <li>• Seminars/Trainings attended: <ul style="list-style-type: none"> <li>- 20 local seminars/trainings with 20 participants</li> <li>- 20 foreign seminars/trainings with 20 participants</li> </ul> </li> <li>• 1,000 library users assisted</li> </ul> <p>Conduct of and participation in scientific meetings/activities and linkages to acquire new techniques for improving and upgrading agency services as well as membership in the WMO &amp; affiliations in the ASEAN-COST, ASGMG, UNEP, UNDP, FAO, UNESCO, ICAO, ESCAP and IUGG</p>	<ul style="list-style-type: none"> <li>▪ Training on Microcontroller-Based System Design and Development, WFFC, Dec. 6-9 (14 participants)</li> </ul> <p>3 Full Scholars, M.S. in Meteorology Zin Mie Mie Sein (Myanmar); Kanda Durage Sujeewa (Sri Lanka); Prethika Madhawe Jayakody (Sri Lanka)</p> <p>3 Partial Scholars, (2 M.S. in Meteorology, 1 in M.S. in Agricultural Met.) Aldczar Aurelio; Bernie de Leon (Sandwich Program to Taiwan), Bernadeth Lucillo</p> <p>67 local seminars/trainings attended with 228 participants 62 foreign fellowships acquired with 92 local participants</p> <p>2,385 library users assisted</p> <p><i>Scientific and technical meetings/conferences represented and participated in to enhance linkages, promote cooperation and collaboration with other UN agencies and WMO member countries:</i></p> <ul style="list-style-type: none"> <li>• 43<sup>rd</sup> Session of the Typhoon Committee, Jeju Island, Republic of Korea, January 17-22, 2011</li> <li>• Training Course on Downscaling Techniques for the AWCI Climate Change Assessment and Adaptation (CCAA) Study, Hiroshima University of Japan, March 11-12, 2011</li> <li>• Global Terrestrial Network Hydrology Meeting, Hiroshima University of Japan, March 13, 2011</li> <li>• 7th Integrated Global Water Cycle Observation Meeting, Hiroshima University of Japan, March 14-15, 2011</li> <li>• 5th GEOSS Asia-Pacific Symposium, Hiroshima University of Japan, March 16-18, 2011</li> <li>• Asia Pacific Economic Cooperation (APEC) Typhoon Symposium (APTS), Taipei, Taiwan, April 10-14, 2011</li> <li>• Working Meeting for Typhoon Committee (TC) Cross-Cutting Project of Urban Flood Risk Management (URFM), Beijing, China, April 4-5, 2011</li> <li>• United Nations Framework Convention on Climate Change (UNFCCC) Bangkok, Thailand, April 3-8, 2011</li> <li>• Urban Flood Risk Management (UFRM) Good Practice City Visiting, Beijing, China, May 18-20</li> <li>• 16th World Meteorological Congress (Cg-XVI), Geneva, Switzerland, May 16-28</li> </ul>



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<p>2. Implementation of Philippine-PAGASA Participation in Regional Scientific Experiments/Studies and Other Inter-Agency Projects</p>	<p>Participation and provision of necessary expertise in regional scientific experiments &amp; studies such as in Global Climate Change Programme, Joint Ocean Cruises (WOCE), Typhoon Committee (TC), Southeast Asean Center for Atmospheric and Marine Prediction (SEACAMP), International Geosphere and Biosphere Program (IGBP), South China Sea Monsoon Experiment (SCSMEX), Global Climate Observing System (GCOS), Intergovernmental Oceanic Committee (IOC), Wind Energy Development Project and other inter-agency activities</p>	<ul style="list-style-type: none"> <li>• Extended Hydrological Prediction Workshop, Melbourne, Australia, July 7-9</li> <li>• 33rd Meeting of the ASEAN Sub-Committee on Meteorology and geophysics (SCMG), Brunei, Darusalam, Oct. 18-21</li> <li>• Regional Climate Issues in Developing Countries Workshop, and The World Climate Research Program (WCRP) Open Science Conference, Colorado, USA, Oct. 24-28</li> <li>• 3rd Manila Economic and Cultural Office-Taipei Economic and Cultural Office (MECO-TECO)-Joint Science and Technology Commission Meeting (JSTC), Taiwan, Oct. 25-27</li> <li>• Asia-Pacific Climate Change Adaptation Forum 2011, Thailand, Oct. 27-28</li> <li>• Regional Conference on French Technologies in Meteorology, Indonesia, Nov. 22-25</li> <li>• Training Seminar of Application of Seasonal Forecast GPV Data to Seasonal Forecast Products, Tokyo, Japan, January18-21, 2011</li> <li>• The Dobson Data Quality Workshop, Czech Republic, February14-18, 2011</li> <li>• Post Disaster Engineering Survey, Queensland, Australia, February 20 - March 3, 200</li> <li>• Regional Workshop Hydro-Meteorological Hazard Risk Reduction and Climate Change Adaptation for Coastal and Small Island Communities, Jakarta, Indonesia, March 01-03, 2011</li> <li>• IMGW Workshop for WMO Information and Public Affairs (IPA) Focal Points of Regional Association VI and Regional Focal Points of other Regions, Poland, March 9-11, 2011</li> <li>• 5<sup>th</sup> Global Earth Observation System of Systems (GEOSS) Asia-Pacific Symposium, Japan, March16-18, 2011</li> <li>• Presentation on Monsoon Studies, Tokyo, Japan, March 21-27, 2011</li> <li>• International Training Course on Microwave Remote Sensing and its Application, Center for Space Science and Technology Education in Asia and the Pacific (CSSTEAP), India, April 4-29, 2011</li> <li>• Training Program on Information and Communication Technologies for Meteorological Services , Korea, April 21-May 4, 2011</li> <li>• Seminar on Economic Development and Climate Change for Asian and European Countries, Beijing, China, April 21-May 4, 2011</li> <li>• Workshop on Advisory Body on ASEAN Plan of Action in Science and Technology, Bandung, Indonesia, May 3-4, 2011</li> </ul>

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		<ul style="list-style-type: none"> <li>• Regional Climate Workshop on Modeling Climate Change Variability in Southeast Asia, Singapore Meteorological Services Division, Singapore, May 10-12, 2011</li> <li>• Assessment System of Flood Control Measures (ASFCM) Workshop</li> <li>• Training Workshop on Severe Weather Forecasting, Hong Kong, July 4-15</li> <li>• Climate R<sup>3</sup> Pilot Phase Workshop, Australia, July 18-20</li> <li>• APEC Workshop on Facing the Abnormal Flood Disaster: New Vision for APEC Member Economies, Da Nang, Vietnam, July 28-29</li> <li>• Workshop on Inter-comparison of Flood Forecasting Models-Decision Making for their Selection and Application, Koblenz, Germany, Sept. 14-16</li> <li>• Establishment of an Early Warning and Monitoring System for Disaster Mitigation in Metro Manila (Flood Forecasting), South Korea, Sept. 18-Oct. 1</li> <li>• International Training Course on Applications of Satellite Data and Products in Meteorology, Bogor, Indonesia, Sept. 19-27</li> <li>• 43<sup>rd</sup> Session of the UNESCAP/ WMO Typhoon Committee Roving Seminar 2011-Heavy Rain and Flood Hazards Associated with Landfalling Tropical Cyclones, Petaling Jaya, Malaysia, Sept. 20-23</li> <li>• Workshop on Multi-Model Ensemble Seasonal Prediction Over South East Asia, Singapore, Sept. 20-23</li> <li>• International Workshop on CORDEX-East Asia, Jeju Island, South Korea, Sept. 21-24</li> <li>• Training Workshop on Operational Climate Prediction for South East Asia, Citeko Bogor, Indonesia, Sept. 27-Oct. 7</li> <li>• Collaborative Scientific with the Geoscience Australia (GA) (Greater Metro Manila Area Risk Assessment Project), Australia, Sept. 26- Oct. 7</li> <li>• Seventh TCP/JCOMM Workshop on Storm Surge and Wave Forecasting, China, Oct. 10-14</li> <li>• Monsoon Heavy Rainfall Workshop, China, Oct. 12-14</li> <li>• International Training Course on Agrometeorology, Oct. 14-Nov.4</li> <li>• Training workshop on Mesoscale Numerical Weather Prediction, Malaysia, Oct. 16-29APEC Climate Symposium 2011: Harnessing and Using Climate Information for Decision Making, Hawaii, USA, Oct. 17-20</li> <li>• International Workshop on Rapid Changes in Tropical Cyclone Intensity and Movement, China, Oct. 18-20</li> <li>• Regional Workshop on the Use of Space Technology for Human Health Improvement, Iran, Oct. 23-26</li> <li>• Regional Workshop and Training Course on Flood Forecasting and Warning, China, Oct. 24-28</li> </ul>

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<p>3. Participation in the Inter-Agency Natural Disaster Prevention and Preparedness Activities</p>	<p>Participation in inter-agency projects concerned with the planning and implementation of the national program for disaster preparedness and prevention as well as in the conduct of post-disaster surveys</p>	<ul style="list-style-type: none"> <li>• RA V Regional Seminar on Climate Services, Solomon Islands, Nov. 1-4</li> <li>• Asia Pacific Economic Cooperation (APEC) Research Center for Typhoon and Society (ACTS) 2<sup>nd</sup> Workshop entitled “Typhoon and Landslide Disaster: Prevention, Mitigation and Social Resilience Capacity Building”, Taiwan, Nov. 2-4</li> <li>• Typhoon Climate Center (TCC) Training Seminar on One-month Forecast Products, Japan, Nov. 7-9</li> <li>• Integrated Workshop “Damage Assessment Methodology and Pre-Assessment of Typhoon Landfall Impact”, Vietnam, Nov. 7-11</li> <li>• Twelfth Joint Meeting for the Seasonal Prediction of East Asian Winter Monsoon, Japan, Nov. 10-11</li> <li>• CIMO Training Workshop on Metrology for the English-speaking countries of Region V (South-West Pacific), Australia, Nov. 21-25</li> <li>• International Training Workshop on Implementing Competency Assessment for Aeronautical Meteorological Personnel, Hong Kong, China, Dec. 5-9</li> <li>• National Steering Committee (NSC) of the SEI Project entitled “Strengthening the Capacity of Science and Mathematics, Teachers on Disaster Management and Mitigation, Sulu Hotel, January 20</li> <li>• Planning Workshop for Disaster Risk Reduction in Marikina, Sentrong Pangkultura ng Marikina, March 17</li> <li>• Presentation of the research project entitled “People-Centered Early Warning System Research”, by Oxfam with funding support from AusAID at Conference Room, Rizal Capitol Building, Antipolo City, March 24</li> <li>• Seminar/Training on “Emergency Information and Communication Techniques” conducted by the Telecoms Sans Frontieres (TSF) in partnership with the National Disaster Risk Reduction and Management Council (NDRRMC), Office of Civil Defense (OCD), Camp Aguinaldo, Quezon City, March 21-25</li> <li>• Attended the Symposium entitled “From Theory to Practice: A Forum on Geohazard” PHIVOLCS, UP Diliman, March 30</li> <li>• Resource speaker in the preparation of Disaster Manual of the Philippine National Police, Camp Crame, Quezon City, April 14</li> <li>• Attended the GMMA Seminar Series: Supporting Risk Analysis for Flood and Tropical Cyclone (Severe Wind) and Exposure Database Development, Asturias Plaza Hotel, Pasig City, May 2-6</li> <li>• Resilience Project for GMMA READY Project and Risk Analysis, OCD Camp Aguinaldo, Quezon City, June 9</li> </ul>

PROGRAMS/ACTIVITIES/PROJECTS	TARGETS (January to December, 2011)	ACTUAL ACCOMPLISHMENTS (January to December, 2011)
<p>d. Installation, Repair and Maintenance of Telemetry Multiplex System for Flood Forecasting and Warning Covering Pampanga, Agno, Bicol and Cagayan (PABC) River Basins</p>	<ul style="list-style-type: none"> <li>• 14,200 station-days of PABC real-time (telemetered) rainfall and water level data acquired at Weather and Flood Forecasting Center (WFFC) and 15,300 station-days at River Centers acquired in real-time (hourly/3 hourly) for hydrologic (flood) forecasting.</li> <li>• 32 regular preventive and 4 emergency corrective maintenance of PABC basins telemetry systems</li> </ul>	<ul style="list-style-type: none"> <li>• Second Meeting of the Inter-Agency Task Force on the Formulation of the National Disaster Risk Reduction and Management Plan, NDRRMC Conference Room, Camp Aguinaldo, Quezon City, June 14</li> <li>• National Steering Committee Meeting on the “Strengthening the Capacity of Science and Mathematics Teacher on Disaster Risk Reduction and Management, SEI, June 21</li> <li>• Round Table discussion on the formulation of local DRRM plan of DILG, NCR, Mandaluyong City, July 13, 2011</li> <li>• Consultation Meeting for the UNICEF Country Programme on Disaster Risk Reduction, Crown Plaza Hotel, July 22, 2011</li> <li>• Disaster Management Summit for Metro Manila, Pasay City, August 25, 2011</li> <li>• NDRRMC Projects Communication Planning, SBMA, Olongapo City, August 31-September 2, 2011</li> <li>• “Building Community Resilience and Strengthening Local Government Capacities for Recovery and Disaster Risk Management”, OCD, Camp Aguinaldo, September 15, 2011</li> <li>• Training on Environmental Impact Assessment, Integrating Disaster Risk Reduction and Climate Change, Environmental and Management Bureau, Quezon City, Oct. 6-7, 2011</li> <li>• Training on Gender Responsive on DRRM, NDCP, Camp Aguinaldo, Quezon City, Oct. 21, 2011</li> <li>• Meeting of the key stakeholders of the Office of Civil Defense on “Disaster Risk Reduction and Management Program” Holiday Inn Hotel, Clark, Pampanga, Nov. 5, 2011</li> <li>• Meeting at the office of Sen. Angara to discuss the project on “Establishment of Aurora Disaster Risk Reduction and Management Training Center, Dec. 5, 2011</li> </ul> <p>14,202 station-days at River Centers</p> <p>12,510 station-days at Center Office</p> <p>Conducted 31 regular check-ups and 7 emergency corrective maintenance</p>

PROGRAMS/ACTIVITIES/PROJECTS	TARGETS (January to December, 2011)	ACTUAL ACCOMPLISHMENTS (January to December, 2011)
<p><b>III. OPERATIONS</b></p> <p>a. Weather and Flood Forecasting and Geophysical and Astronomical Services</p> <p>1. Typhoon Warning and Weather Services, Including the Operation of Meteorological Communication and Regional Forecast Centers and the Provision of Numerical Weather Prediction Techniques and Analysis</p>	<p><b>Number of Weather Forecasts/Warnings and other Information Packages Prepared and Issued:</b></p> <ul style="list-style-type: none"> <li>▪ 730 Public Weather forecasts</li> <li>▪ 730 Shipping forecasts</li> <li>▪ Tropical Cyclone:</li> </ul> <p>Note:  TD - Tropical Depression  TS - Tropical Storm  TY - Typhoon</p> <ul style="list-style-type: none"> <li>- Advisories/Recommendations (as need arises)</li> <li>- 193 Bulletins</li> <li>- 225 International Warnings</li> <li>- Hourly updates (as need arises)</li> </ul> <ul style="list-style-type: none"> <li>• 35,040 Aviation weather forecasts &amp; flight enroute documentations</li> <li>• 365 Special weather forecasts for selected Asian cities/Philippine cities/municipalities (as need arises)</li> <li>• Special forecasts for selected provinces (Mt. Pinatubo lahar-affected areas, Mt. Mayon and other selected areas) (as need arises)</li> <li>• Gale warnings/weather advisories for extreme weather system (as need arises)</li> <li>• Clients received forecasts thru telephone/facsimile/autofax/e-mail/voice server (As need arises)</li> </ul>	<p>730 Public weather forecasts  730 Shipping forecasts  19 TC entered the PAR  <i>TD Amang (April 3-4), TS Bebang (May 6-11), TY Chedeng (May 22-28), TS Dodong (June 9-10), TS Egay (June 16-20), TS Falcon (June 21-24), TD Goring (July 9-10), TD Hanna (June 15-16), TY Ineng (July 17), TS Juaning (July 25-28), TY Kabayan (July 28-Aug. 4), TD Lando (July 31-Aug. 1), TY Mina (Aug. 21-29), TS Nonoy (Sept. 8), TD Onyok (Sept. 12-13), Ty Pedring (Sept. 24-28), TY Quiel (Sept. 28-Oct. 2), TS Ramon (Oct. 10-14), TS Sendong (Dec. 15-18)</i></p> <p>95 Advisories  221 Severe Weather Bulletin  258 International Warning  610 Hourly Updates</p> <p>36,659 Aviation weather forecasts &amp; flight enroute documentations</p> <p>365 weather forecasts issued</p> <p>365 forecasts</p> <p>374 warnings</p> <p>286,339 clients</p>

PROGRAMS/ACTIVITIES/PROJECTS	TARGETS (January to December, 2011)	ACTUAL ACCOMPLISHMENTS (January to December, 2011)
<p>2. Flood Forecasting and Hydrometeorological Services</p>	<ul style="list-style-type: none"> <li>• 18,313 weather maps plotted and analyzed</li> <li>• 1,460 Incorporation of MSL pressure, wind charts, satellite picture in public and shipping weather forecasts</li> <li>• 6,570 Public &amp; shipping weather forecasts/charts/satellite images incorporated in PAGASA Website</li> <li>• Advisory/warning/bulletin incorporated in PAGASA Web page <i>(as need arises)</i></li> <li>• 120 Pampanga, Agno, Bicol and Cagayan (PABC) river basins flood bulletin prepared/ issued</li> <li>• 120 General flood advisories for some non-telemetered river basins</li> <li>• 1,408 Daily hydrological forecasts for PABC river basins</li> </ul> <p><b>Hydromet/hydrologic predictions and other information provided:</b></p> <ul style="list-style-type: none"> <li>• 120 Rainfall Intensity Duration Frequency (RIDF)</li> <li>• 400 Station-months of PABC &amp; Metro Manila real-time (telemetered) hydro data primary processed</li> <li>• 1,500 station-months of synoptic, hydromet and PABC short-duration hydro data primary processed</li> <li>• Students/visitors on public information/education drive on flood disaster and other related topics</li> <li>• Drills conducted</li> </ul> <p><b>Community-Based Early Warning System (CBFEWS) – READY Project</b></p> <p><b>Community-Based Early Warning System (CBFFWS) – READY Project</b></p>	<p>12,041 weather maps <i>Remarks: Automated use of World Area Forecast System (WAFS)</i> 1,460 forecasts/charts/satellite images incorporated in PAGASA Website</p> <p>6,570 forecasts/charts/satellite images incorporated in PAGASA Website</p> <p>777 advisories/warnings/bulletins incorporated in PAGASA Web page</p> <p>200 flood bulletins issued at PRB-43; ARB-41; BRB-45; CRB-71</p> <p>2,078 general flood advisories issued: <i>CAR-83; Region I-90; Region II-61, Region III-139; NCR-9; Region IVA-139; Region IVB-163; Region V-199; Region VI-106; Region VII-99; Region VIII-213; Region IX-99; Region X-107; Region XI-144; Region XII-96; Region XIII-221, ARMM-10</i></p> <p>1,230 hydrological forecasts</p> <p>93 stations/sheets to 56 clients Income Generated ₱ 37,000.00</p> <p>479 station-months of digitized rainfall charts</p> <p>1,537 station-months of digitized rainfall charts</p> <p>In-house - 280 students/visitors On-Site – 1,051 students/visitors</p> <p>2 flood drills conducted with 210 of participants</p> <p>Revisit on provinces where CBFEWS was installed UNDP READY - Surigao del Sur, Surigao del Norte, Leyte, Southern Leyte, Zambales, Laguna, Ilocos Sur, Northern Samar and Cavite), KOICA - 3, others - LGU initiated CBFEWS</p> <ul style="list-style-type: none"> <li>• Conducted Flood Drill in target areas of CBK Dams on a joint activity with CBK, PAGASA, NPC, OCD, LGUs and other stakeholders.</li> </ul>

PROGRAMS/ACTIVITIES/PROJECTS	TARGETS (January to December, 2011)	ACTUAL ACCOMPLISHMENTS (January to December, 2011)
<p>3. Operation and Maintenance of Flood Forecasting and Warning System for Dam Operation Project I Covering Pantabangan and Angat Dam</p> <p>4. Operation and Maintenance of Flood Forecasting and Warning System for Dam Operation Project II Covering Binga, Ambuklao San Roque and Magat Dams</p> <p>5. Operation and Maintenance of Astronomical Observatories/ Planetarium including the Provision of Standard Time Services</p>	<p><b>Hazard Mapping</b></p> <ul style="list-style-type: none"> <li>• 4 Flood bulletins/warning information for Angat / Pantabangan Dam</li> <li>• 1,200 Station-days of hourly hydro raw data of Angat and Pantabangan dams acquired in real-time</li> <li>• 60 Station-months of Angat/ Pantabangan dam operations real-time (telemetered) hydro data primary processed</li> </ul> <p>3 Flood bulletins/warning information for Binga/ Ambuklao/San Roque and Magat Dam Operation</p> <p>3 Flood bulletins/warning information for Magat Dam Operation</p> <ul style="list-style-type: none"> <li>• 800 station-days hourly hydro raw data of Binga/Ambuklao/San Roque and Magat dams acquired in real-time</li> <li>• 60 station-months of Binga/Ambuklao &amp; Magat dam operations real-time (telemetered) hydro data primary processed</li> </ul> <ul style="list-style-type: none"> <li>• Dissemination of 9,100 time of 24-hour telephone time checks to the general public</li> <li>• Synchronized time in all TV stations in Metro Manila with the observatory clock using the telephone/internet</li> </ul>	<ul style="list-style-type: none"> <li>• Conducted Flood Drill for information dissemination for dam discharge along target areas in Magat dam participated by NIA officials, Japan representative and LGUs.</li> <li>• Participated in the Dam Discharge Dissemination Drill for Angat dam.</li> <li>• Participated in the Flood Drill at Pantabangan dam last Sept. 18, 2011.</li> </ul> <ul style="list-style-type: none"> <li>• Flood Hazard Mapping <ul style="list-style-type: none"> <li>▪ Report writing, editing and digitization of flood hazard maps of Isabela, Cagayan and Abra are on-going.</li> </ul> </li> <li>• Storm Surge Hazard Mapping <ul style="list-style-type: none"> <li>▪ Completed first field work in Catanduanes province.</li> <li>▪ 2<sup>nd</sup> field work for Ilocos Sur was completed.</li> </ul> </li> </ul> <p>9 flood bulletin/warning information</p> <p>1,527 station-days</p> <p>91.6 station-months</p> <p>6 flood bulletins/warning information</p> <p>10 flood bulletins/warning information</p> <p>1,409 station-days</p> <p>109.6 station months</p> <p>9,408 time check requests disseminated thru telephone to Metro Manila</p> <p>Time monitoring on a weekly basis undertaken every <b>Monday</b> to DOST, Office of the Administrator and other divisions of PAGASA and other institutions</p>

PROGRAMS/ACTIVITIES/PROJECTS	TARGETS (January to December, 2011)	ACTUAL ACCOMPLISHMENTS (January to December, 2011)
	<ul style="list-style-type: none"> <li>• Dissemination of 50 time signals to PAGASA Synoptic Stations</li> <li>• No. of information packages disseminated</li> </ul> <p><b>Promotion of Astronomy: (Every February)</b></p> <ul style="list-style-type: none"> <li>• Celebration of National Astronomy Week (every February) <ul style="list-style-type: none"> <li>- Accommodation of 100 students on stargazing &amp; telescoping sessions at the PAGASA Observatory</li> <li>- Free planetarium shows to 1,200 students and visitors</li> </ul> </li> <li>- Free planetarium on tour package for 2 schools in Luzon. Tour package include mobile planetarium shows, telescoping and stargazing sessions</li> <li>• Mobile Planetarium lectures/stargazing/telescoping on Tour to schools in Luzon (<i>as per request</i>)</li> <li>• Accommodation of 15,000 visitors to planetarium lectures &amp; shows at Central Office</li> <li>• Viewers to stargazing &amp; telescoping sessions at U.P. Astronomical Observatory using the 45-cm telescope (upon request)</li> <li>• Astronomical publications information <ul style="list-style-type: none"> <li>- for commercialization and dissemination of complimentary copies</li> </ul> </li> <li>• 12 Press Releases on different astronomical events disseminated</li> <li>• Attendance to court hearings, as friends of the court (<i>upon receipt of sub-phoena</i>)</li> <li>• Astronomical observations: <ul style="list-style-type: none"> <li>▪ 230 sunspots</li> <li>▪ 55 lunar occultation</li> <li>▪ 5 meteor shower</li> <li>▪ 3 eclipse</li> </ul> </li> </ul>	<p>249 time signals transmitted to stations</p> <p>228 sets (8 pcs per set)</p> <p>140 students accommodated at the Observatory</p> <p>572 students and visitors from 6 schools were accommodated for Planetarium shows</p> <p>1,965 students and visitors from 3 schools</p> <p>16,100 visitors in 24 schools Income Generated ₱ 60,000.00</p> <p>17,659 students and science teachers in 144 schools accommodated for planetarium lectures/shows on Astronomy Income Generated ₱ 63,900.00</p> <p>1,245 visitors from 5 schools accommodated on stargazing/telescoping sessions (including non-payee) Income Generated ₱ 15,725.00</p> <p>360 publications sold and 492 complimentary copies disseminated Income Generated: ₱ 29,350</p> <p>12 Press releases issued on astronomical events</p> <p>None</p> <p>Astronomical observations conducted:</p> <ul style="list-style-type: none"> <li>▪ 178 sunspots</li> <li>▪ 17 lunar occultation</li> <li>▪ 8 meteor shower with 24 observations</li> <li>▪ 3 eclipse</li> </ul>



PROGRAMS/ACTIVITIES/PROJECTS	TARGETS (January to December, 2011)	ACTUAL ACCOMPLISHMENTS (January to December, 2011)
<p>b. Observation and Acquisition of Data for Atmospheric-Geophysical and Allied Sciences</p> <p>1. Observation, Measurement, Recording and Reporting of Atmospheric, Geophysical &amp; Astronomical Data including the Operation &amp; Maintenance of Surface &amp; Upper Air Observation Network</p>	<ul style="list-style-type: none"> <li>• Sunshine duration &amp; global radiation data</li> <li>• Provision of solar radiation data to researchers</li> <li>• Calibration of 160 assorted meteorological instrument for various customers and for PAGASA</li> </ul> <p><b>Weather Observations Conducted and Reported in Real-Time:</b></p> <ul style="list-style-type: none"> <li>• 156,220 Surface/Synoptic observations</li> <li>• 2,190 Upper-Air observations</li> <li>• 18,250 Agromet observations</li> <li>• 83,160 Aeronautical observations</li> </ul> <p><b>Operated and Maintained Network of Observing Stations:</b></p> <ul style="list-style-type: none"> <li>• 58 Surface synoptic stations</li> <li>• 6 Upper-Air stations</li> <li>• 25 Agromet stations</li> <li>• 17 Aeronautical stations</li> <li>• 88 Climat/Rain stations</li> <li>• 150 AWS</li> <li>• 2 MTSDP Relay stations</li> </ul> <p><b>Extension Services:</b></p>	<p>Observed global radiation data 334 days and sunshine duration data 365 days</p> <p>Data provided to 33 researchers Income Generated: ₱ 36,900.00 Repaired and calibrated 224 assorted meteorological instruments for various clients and 140 for PAGASA Income Generated ₱ 140,395.00</p> <p>145,210 observations</p> <p>1,980 observations <i>Remarks: Malfunctioning of Legaspi Upper-Air system, Puerto Princesa Upper-Air under repair since April 23 due to defective transformer and hydrogen gas generator set, Mactan Upper-air no observation from Jan. 21-Feb. 15 due to defective equipment.</i></p> <p>17,558 agromet observations</p> <p>95,614 observations</p> <p>58 Surface synoptic stations</p> <p>6 Upper-Air stations</p> <p>25 Agromet stations</p> <p>17 Aeronautical stations</p> <p>88 Climat/Rain stations</p> <p>149 AWS</p> <p>2 MTSDP Relay stations</p>

PROGRAMS/ACTIVITIES/PROJECTS	TARGETS (January to December, 2011)	ACTUAL ACCOMPLISHMENTS (January to December, 2011)
<p>2. Operations of Upgraded Geostationary Meteorological Satellite Receiving System Acquired Under the 1988 Grant-in-Aid Program of Japan</p> <p>3. Operation and Maintenance of Weather Surveillance Radar Network</p>	<ul style="list-style-type: none"> <li>• Participants to lectures in DPP-IEC related trainings, seminars and workshops (<i>demand-driven</i>)</li> <li>• Students/visitors at field stations lectured/ briefed on weather/natural disaster prevention/agency services (<i>demand-driven</i>)</li> <li>• Local/public weather forecasts &amp; warnings disseminated (<i>as need arises</i>)</li> <li>• 400 Weather certifications</li> <li>• 21,228 Satellite data acquired from MTSAT, NOAA/FY-ID, Feng Yun and MODIS</li> <li>• 3,200 Images processed, pre-process level 1b to HDF &amp; other products (<i>as need arises</i>)</li> <li>• 21,228 Processed set data archived</li> <li>• 8,760 Processed hourly satellite data uploaded to PAGASA website and to Weather Information Network for Media presentation</li> <li>• Lectures conducted to students/visitors (<i>as need arises</i>)</li> <li>• 15,200 Weather information (weather forecast, warnings &amp; bulletins) disseminated</li> <li>• Assists researchers in satellite data extraction and interpretation (<i>as need arises</i>)</li> <li>• 2,190 Radar observations conducted</li> <li>• Radar stations operated &amp; maintained</li> </ul>	<p>62,110 participants</p> <p>126,432 students/visitors</p> <p>151,310 local/public weather forecasts &amp; warnings disseminated</p> <p>1,159 weather certifications issued Income Generated ₱ 1,080,564.00</p> <p>21,228 satellite data images</p> <p>3,200 satellite data images</p> <p>21,228 set of data archived</p> <p>8,760 satellite data files</p> <p>50 lectures conducted to students/visitors</p> <p>15,200 weather information</p> <p>56 researchers assisted</p> <p>8,659 radar observations conducted Remarks: Hourly observation during inclement weather</p> <p>7 radar stations Subic, Hinatuan, Tagaytay, Cebu, Baler, Baguio, Aparri, Guian</p>

PROGRAMS/ACTIVITIES/PROJECTS	TARGETS (January to December, 2011)	ACTUAL ACCOMPLISHMENTS (January to December, 2011)
<p>c. Research on Atmospheric-Geophysical and Allied Sciences Research</p> <p>1. Atmospheric, Geophysical Astronomical and Space Sciences Research</p>	<ul style="list-style-type: none"> <li>• Doppler Radar Network Program implemented</li> </ul> <p>Basic and applied researches/studies conducted for applications and utilization in improving meteorological, hydrological &amp; space sciences activities</p>	<ul style="list-style-type: none"> <li>- Northern Luzon - PRSD: Monitored the construction of Radar building in Aparri.</li> <li>- Southern Luzon - PRSD: Monitored the implementation of the JICA-Virac Doppler Radar Project assisted in the relocation of old Japan Radar parts to Daet, Camarines Norte and Guiuan, Eastern Samar.</li> <li>- Visayas - PRSD: Supervised the repair of minor civil works at Cebu Radar building.</li> </ul> <p><b>Four (4) Researches / Studies / Projects Conducted:</b></p> <p>1. <u>Enhancing Risk Analysis Capacities for Flood, Tropical Cyclone Severe Wind and Earthquake for GMMA (Phase 1 - Taqui City, Metro Manila)</u></p> <ul style="list-style-type: none"> <li>• Started data gathering of historical cyclones, tropical cyclone impact data and other related data - 26%</li> <li>• Geoscience Australia (GA) provided the updated Tropical Cyclone Risk Model (TCRM) Configuration Editor using IB Tracks data set for historical events</li> <li>• Submitted the list of Training requirements for the project</li> <li>• Workshop was conducted at the Astoria Hotel on Tropical Cyclone Severe Wind Risk Analysis Project</li> <li>• “Technical Working Group Workshop on Exposure Database Development for Greater Metro Manila Area (GMMA)”, PHIVOLCS, Quezon City, July 4-8, 2011</li> <li>• Local training on Site Exposure Modelling (topographic, terrain and shielding multiplier)</li> <li>• Actual work on Site Exposure Multipliers Modelling in Canberra, Australia</li> <li>• USE of GA’s TCRM Model for hazard assessment and assessing the impact of all tropical cyclones including tropical events (Frank, Juan, Reming, Milenyo, Ondoy, Juan and Pedring)</li> <li>• Generated the Regional Wind Hazard Map for the different Return Periods (subject for validation using the observed wind speed)</li> <li>• Signed Memorandum of Agreement (MOA) with UPD-ICE, PHIVOLCS and PAGASA for the project “Development of Vulnerability Curves of Key Building Types in the Greater Metro Manila, Philippines”</li> <li>• Acquisition of software (GIS and ENVI0 and hardware</li> <li>• Requested LIDAR (DSM and DEM) data from NAMRIA</li> <li>• Submitted the 2012 Annual Work and Financial Plan</li> </ul>

PROGRAMS/ACTIVITIES/PROJECTS	TARGETS (January to December, 2011)	ACTUAL ACCOMPLISHMENTS (January to December, 2011)
		<ul style="list-style-type: none"> <li>• Conducted post disaster survey and compiled TC damage survey data for Ty Pedring (Int'l. Name: NESAT)</li> <li>2. <u>Enhancement of the Infrared Look-Up Table for Rainfall Estimation Using Mactan and Legaspi Stations</u> <ul style="list-style-type: none"> <li>• Computed the mean temperature and height for Legaspi (1991-2006) 8 years using Legaspi station data</li> <li>• Compiled, converted word data to excel data to come up with statistics for Legaspi station for the month of November 2012 (standard levels) using Wyoming data.</li> <li>• Compiled, converted word data to excel data to come up with statistics from September 15-December 31, 2010 for Mactan station.</li> <li>• Compiled flooding event data that occurred on March 16, 2011 to be used for verification.</li> <li>• Gathered two news reports in flooding, landslides and heavy rains that happened in Leyte. Verified one day (March 16) DOST-PAGASA Automatic Weather Station (DPAWS) rainfall data using the observed rainfall in LSU-Leyte, Gamay, Camotes Island, Siargao, La Granja, Tandag and Antique rainfall</li> <li>• Encoded the Mactan upper-air data from 1990-1994 (0000Z &amp; 1200Z)</li> <li>• Studied DPAWS rainfall data and consulted databank (thru Ms. Thelma Cinco) for data verification</li> <li>• Compiled satellite images for TS Bebang</li> <li>• Presented samples of satellite, upper-air and METAR charts/graphs to Weather Forecasting Section</li> <li>• Transposed/processed data of Mactan station for the year (Jan. to July)</li> <li>• Prepared the Final Draft Report (90%)</li> </ul> </li> <li>3. <u>The Upper Air Sounding and Stability Indices of Tanay, Rizal for Rainfall Estimation</u> <ul style="list-style-type: none"> <li>• Compiled 17 Upper-air sounding methods for Dec. 1-31, 2010</li> <li>• E-archived 542 observations for Precipitable Water Vapor from January 2010 - March 2011.</li> <li>• Compiled rainfall data collected from the different station from the period December 15, 2010 to March 2011.</li> <li>• Protocols must be set-up in reporting problems encountered for Upper Air Sounding (e.g. no signal, balloon burst, etc.)</li> <li>• Extracted 3-hourly rainfall data of Tanay for November 2010.</li> <li>• Extracted precipitable water of Tanay upper-air from February to May 2011 with 114 cases.</li> </ul> </li> </ul>

PROGRAMS/ACTIVITIES/PROJECTS	TARGETS (January to December, 2011)	ACTUAL ACCOMPLISHMENTS (January to December, 2011)
	<ul style="list-style-type: none"> <li>• Calibration of 160 assorted meteorological instrument for various customers and for PAGASA</li> </ul>	<ul style="list-style-type: none"> <li>• Prepared in excel form the upper-air data of Tanay station from April 1-30, May 1-31, and June 1-30, 2011.</li> <li>• DPAWS RR Verification - TS Bebing for 10 station and on May 18 on reported flooding (4 stations)</li> <li>• Extracted precipitable water of Tanay upper-air with 287 cases in 2010.</li> <li>• Generated database on standard pressure level (daily temperature, dew point, wind direction and speed) for 2011</li> <li>• Compiled the Upper-Air data of Tanay Station – Aug, Oct, Nov, and Dec 2011</li> <li>• Compiled stability indices for January-December 2011</li> <li>• Verified statistics of standard Pressure Levels for Tanay Station (Jan-July 2011 except for the month of March).</li> <li>• Started the verification of Stability indices (6 stations in Metro Manila) against actual rainfall).</li> </ul> <p>4. <u>Enhancing PAGASA's Impact and Risk Assessment Capability for Severe Wind Associated with Tropical Cyclone, Pilot Area: Legaspi City</u> (Joint Project of RDTD and CAD)</p> <ul style="list-style-type: none"> <li>• Conducted official travel to various coastal municipalities in Albay, (Legaspi City, Daraga, Malinao, Tiwi, Santo Domingo, Malilipot, Bacacay, and Tabaco City) to coordinate with the Local Government Units (LGUs) and to gather socio-economic and other related data for exposure database (including datasets on tropical cyclone severe wind impacts) and to conduct preliminary reconnaissance survey.</li> <li>• Encoded/Archived data gathered (10%).</li> <li>• Conducted preliminary run using TCRM model.</li> <li>• GA provided the updated TCRM Configuration Editor for historical events and Run TCRM for the occurrence of Ty Chedeng, TD Egay, and TS Falcon.</li> <li>• Validate/verify Rmax values used in TCRM during the passage of Typhoon Basyang of 2010 and Super Typhoon Juan of 2010 using the Rmax values archived from the JTWC best track dataset.</li> <li>• Started GIS mapping activities (26%).</li> <li>• Completed the Regional Return Period Wind Speed at different return periods</li> <li>• This project will be using the fragility curve that will be developed for GMMA for Severe Wind Impact Modelling</li> </ul> <p>Repaired and calibrated 224 assorted meteorological instruments for various clients and 140 for PAGASA Income Generated: ₱ 140,395.00</p>

PROGRAMS/ACTIVITIES/PROJECTS	TARGETS (January to December, 2011)	ACTUAL ACCOMPLISHMENTS (January to December, 2011)
<p>2. Weather Modification Activities and NATURAL DISASTER REDUCTION Including the Payment of P25,000 for the Flying Pay of Personnel (on flying status) Undertaking Aerial Flights, Equivalent to 25% of the Base Pay; PROVIDED, that Flying Pay shall be Given to Personnel Who Have Logged More Than 10 Flying Hours A Month</p> <p>3. Conduct of NATURAL DISASTER Researches, Pursuant to Section 10 of PD 78</p>	<ul style="list-style-type: none"> <li>• Information and Education Campaign (IEC) Program on Disaster Management/ Natural Hazards Trainings/ Workshops (as Resource Person)</li> <li>• Special Tropical Cyclone Reconnaissance Information and Damage Evaluation (STRIDE) <ul style="list-style-type: none"> <li>- Conducts ground truth verification and damage assessment during and after the passage of tropical cyclones and other meteorological hazards</li> <li>- Duty of STRIDE team members at the Forecasting Center, OCD, Camp Aguinaldo during inclement weather</li> </ul> </li> </ul> <p>Operational researches/studies on tropical cyclones and other natural disaster-causing phenomena and comprehensive hazard/ vulnerability and risk assessment conducted</p>	<ul style="list-style-type: none"> <li>• Conducted lectures to 28,651 students &amp; teachers at WFFC</li> <li>• Conducted lectures on natural hazards and weather outlook to 9,848 participants at different occasions and venue</li> <li>• Conducted flood survey at Region XI and CARAGA on Jan. 4-9</li> <li>• Conducted post survey at Virac, Catanduanes after the passage of Ty Bebeng on May 11-15</li> <li>• Conducted Ground Truth Verification during the passage of Ty Chedeng on May 25-27 in Central Luzon</li> <li>• Conducted survey on reported Storm Surge occurrence in Ilocos Sur and Pangasinan on Sept. 30-Oct.2</li> <li>• Rendered duty and served as Weather Briefer at NDRRMC, OCD Camp Aguinaldo during inclement weather and during OPLAN Kaluluwa and OPLAN Ligtas Kapaskuhan</li> </ul> <p><b>Five (5) Researches / Studies / Projects Conducted:</b></p> <ol style="list-style-type: none"> <li>1. A Study of the 10-year (2001-2010) Variability of Rainfall and Tropical Cyclones during Southwest Monsoon in the Philippines <ul style="list-style-type: none"> <li>• Organized a capsule proposal of the project</li> <li>• Requested 10-year rainfall data of western Luzon stations from Climate Data Section</li> <li>• Studied how to use GENSTAT for statistical analysis</li> <li>• Completed the 10-year rainfall data of 8 stations into excel format for statistical analysis</li> <li>• Prepared time-series of rainfall for 2001</li> <li>• 10-year (2001-2010) daily rainfall at 10 Western Luzon stations for the months of May-September were extracted and plotted in a time series</li> <li>• Remarks: Temporarily stopped (August, 2011) to give way to a new project, "A Study of Thunderstorm Forecasting at selected Areas in the Philippines"</li> </ul> </li> <li>2. Investigation of the Empirical Evidences of Health Vulnerabilities in Marginalized Communities in Metro Manila as Affected by Climate Change <ul style="list-style-type: none"> <li>• Compilation of population density information for Metro Manila for the period 1980-2007</li> <li>• Gathered/encoded 18 months health data from San Lazaro Hospital</li> <li>• Archived soft copy of maps of Quezon City and Manila</li> <li>• Edited/encoded health data (100% completed)</li> </ul> </li> </ol>

PROGRAMS/ACTIVITIES/PROJECTS	TARGETS (January to December, 2011)	ACTUAL ACCOMPLISHMENTS (January to December, 2011)
<p>4. Agro-Climatic Research and Farm Weather Services and Climate Variability and Climate Change Studies</p>	<p>Climate change studies activities</p>	<ul style="list-style-type: none"> <li>• Health data extraction/archiving (1980-2010 at 5-year intervals) at San Lazaro Hospital (100% completed)</li> <li>• Remarks: Temporarily on hold since July, 2011 to give way to rainfall forecasting research</li> </ul> <p>3. Studying the Impact of Climate Variability on Entomological Activity in Central Luzon</p> <ul style="list-style-type: none"> <li>• Insect pest data collection and identification continued.</li> <li>• Inspection and maintenance of light trap for insect pest data collection</li> <li>• Total of 19 months data of insect pest were compiled.</li> </ul> <p>4. Long Term Monitoring of Climate Impact on Agricultural Pest</p> <ul style="list-style-type: none"> <li>• Shelved since April</li> </ul> <p>5. A Study of Thunderstorm Forecasting at Selected Areas in the Philippines</p> <ul style="list-style-type: none"> <li>• Gathered Upper-Air or radiosonde data at Tanay, Legaspi and Laoag stations for 2001-2005 and 2007-2008.</li> <li>• Encoded the radiosonde data (Jan-Sept 2011) in computer database.</li> </ul> <p><b>Three (3) Researches / Studies / Projects Conducted:</b></p> <p>1. Climate-Based Information Support System for Management of Angat-Umiray Reservoir</p> <ul style="list-style-type: none"> <li>• Provided briefing to Manila Water Inc. concerned personnel on the use and application of the AWS</li> <li>• Monitoring and maintenance of AWS</li> <li>• Analyzed atmospheric pattern that influenced the Angat River inflow</li> <li>• Prepared and submitted forecast inflow (Angat River) for JAS Season</li> <li>• Attended meeting and provided Climate Information used as input for Angat Dam operations.</li> <li>• Completed, December 2011 (Final report being prepared)</li> </ul> <p>2. Philippine Climate Change Adaptation Project (PhilCCAP) / World Bank</p> <ul style="list-style-type: none"> <li>• Submission of the following required preparatory documents to DA: <ul style="list-style-type: none"> <li>- Global Work and Financial Plan</li> <li>- Terms of Reference of 4 Consultants for the PAGASA Component</li> <li>- Procurement list of equipment to be purchased under the project</li> </ul> </li> <li>• Participated in the following activities: <ul style="list-style-type: none"> <li>- Writeshop on Climate Field School module development which was spearheaded by the ATI</li> <li>- Workshop conducted in the two project sites (Tuguegarao and Iloilo)</li> <li>- Discussion on the complementation of activities and data needs of partners in the project</li> </ul> </li> </ul>

PROGRAMS/ACTIVITIES/PROJECTS	TARGETS (January to December, 2011)	ACTUAL ACCOMPLISHMENTS (January to December, 2011)
		<p>3. MDGF 1656: JP on Strengthening the Philippines' Institutional Capacity to Adapt to Climate Change</p> <ul style="list-style-type: none"> <li>• Generated climate baselines and scenarios for 2020 and 2050 using PRECIS for 3 emission scenarios A1B, A2 and B1 for 43++ provinces</li> <li>• Final report on the result of downscaling completed using PRECIS.</li> <li>• Enhanced downscaling through the acquisition of CCAM and also improved downscaling time due to the acquisition of cluster computing system which cut the running time from 10 months to months</li> <li>• Enhanced capacities of PAGASA personnel on climate change scenario generation, climate, weather and flood forecasting through the various trainings attended</li> <li>• Installed 4 AWS in the project sites (Lagawe, Tabaco, Sorsogon and Albay) - 100% completed</li> <li>• Facilitated / Conducted 4 Trainor's Training on Climate Variability / Change for PAGASA-DOST Chief Meteorological Officers and Personnel <ul style="list-style-type: none"> <li>▪ PRSD-Mindanao - Aug. 25 in Butuan City</li> <li>▪ PRSD-Visayas - Sept. 19 in Cebu City</li> <li>▪ PRSD-Southern Luzon - Nov. 11 in Legaspi City</li> <li>▪ PRSD-NCR - Dec. 9 in Antipolo City</li> </ul> </li> <li>• Training on the use and interpretation of AWS data in project sites</li> <li>• Modules on Climate variability and change developed (Modules were distributed to the participants of the training).</li> <li>• Enhanced weather forecasting through the acquisition of additional automatic weather stations</li> <li>• Enhanced skills through trainings attended; hardware and software acquired for climate modelling, weather and flood forecasting</li> <li>• IEC program and materials on Climate Change</li> <li>• 2 fact sheets on climate scenarios produced and distributed in various events such as trainings, fora, conventions, workshops, exhibits, seminars, by schools, LGUs, NGAs among others</li> <li>• Continuing capacity development activities related to flood, climate, and weather forecasting</li> </ul>



PROGRAMS/ACTIVITIES/PROJECTS	TARGETS (January to December, 2011)	ACTUAL ACCOMPLISHMENTS (January to December, 2011)
<p><b>B. PROJECTS</b></p> <p>I. Locally-funded Projects</p> <p>a. Repair and rehabilitation of weather stations</p> <p>b. Renovation of Radar Building (Aparri, Cagayan) Region II</p> <p>II. Foreign-assisted Projects</p> <p>a. Improvement of Flood Forecasting and Warning System in the Pampanga and Agno River Basins - JICA Grant Phase I - Pampanga River Basin Phase II - Agno River Basin</p> <p>b. Strengthening of Flood Forecasting and Warning System for Dam Operation (FFWSDO) - JICA Grant TCP</p>	<p>Repair/rehabilitation of General Santos, Weather &amp; Flood Forecasting Center, Science Garden, Iloilo, Palawan, Tampakan, Alabat, Laoag, San Jose, BSU La Trinidad, Benguet</p> <p>Renovation of Radar Building</p> <p>Strengthen the capability of PAGASA, NPC and NIA on dam operation thru the conduct of different activities relative to the project.</p>	<p>Repaired /rehabilitated of General Santos, Weather &amp; Flood Forecasting Center, Science Garden, Iloilo, Palawan, Tampakan, Alabat, Laoag, San Jose, BSU La Trinidad, Benguet</p> <p>Prepared / submitted IPP for the rehabilitation of the old radar building and personnel quarters including dismantling of old radar equipment</p> <p>Inaugurated on April 8, 2011 (Fully operational). It was attended by His Excellency, Pres. Benigno S. Aquino.</p> <ul style="list-style-type: none"> <li>• Conducted Joint Mid-Term Review on February 14-19, 2011.</li> <li>• Conducted 4<sup>th</sup> and 5<sup>th</sup> Joint Coordination Meeting (JCC) &amp; TWG on February 24 and July 28, respectively</li> <li>• Conducted hydrographic surveys, discharge measurement and completed flood modeling, database preparation for San Roque &amp; Magat dams</li> <li>• Conducted Flood Drill in San Roque Dam</li> <li>• Attended training in Japan (Hydrology &amp; Meteorology - 4 personnel; Telecommunications - 3 personnel)</li> <li>• Procured equipment (water level sensors, etc.)</li> <li>• Installations of staff gauges in San Roque, Ambuklao, Binga, Magat, Angat, Pantabangan, Masiway, and Ipo dams</li> <li>• Transfer of supervisory equipment from Binga to San Roque</li> <li>• Conducted the Stakeholders Consultation Meeting on the Flood Forecasting and Warning System of Angat River Basin on July 14 at PDRRMC Office, Provincial Capitol Cmpd., Malolos, Bulacan</li> <li>• Conducted the Stakeholders Consultation Meeting on the FFWS of Pampanga River Basin on September 8 at the Conference Room, NIA Pantabangan Dam Office, Nueva Ecija</li> <li>• Conducted 4<sup>th</sup> Workshop for the JICA-TCP on Dam Operation on September 22 at PAGASA Amihan Conference Room</li> <li>• Installed staff gauges downstream of Angat, Binga / Ambuklao and Magat Dam</li> </ul>

PROGRAMS/ACTIVITIES/PROJECTS	TARGETS (January to December, 2011)	ACTUAL ACCOMPLISHMENTS (January to December, 2011)
c. Improvement of Flood Forecasting and Warning System for Magat and Downstream Communities (FFWSDO) - NoRAD Grant	Address issues and concerns on the issuances of timely and accurate flood forecasts and warnings in the Cagayan River Basin and the effective operation of the Magat Dam spillway for the safety of the communities in the downstream area.	<ul style="list-style-type: none"> <li>• Conducted Technical Meeting with ASTI and NVE Expert, and Magat Dam Authorities on 25-27 April, respectively.</li> <li>• Implementation of the project is on hold while waiting for the assessment report coming from NVE.</li> <li>• Visit to the various telemetry facilities of the Cagayan River Basin (26-28 April 2011).</li> <li>• Made courtesy call of Mr. Moen of NVE, together with Mr. Rodolfo Azanza and Mr. Bjorn, from SN Power.</li> </ul>
d. Improvement of Meteorological Radar System - JICA Grant	<ol style="list-style-type: none"> <li>1. Renovation of old structure for observer's quarter and construction of new building/tower at Virac (2010-2011), Aparri (2011-2012), and Guiuan (2012-2013).</li> <li>2. Removal and transfer of equipment and acquisition and operation of new Doppler radar at Virac (2010-2011), Aparri (2011-2012), and Guiuan (2012-2013).</li> <li>3. VSAT connectivity at Virac (2011), Guiuan (2012), and Guiuan (2013).</li> </ol>	<ol style="list-style-type: none"> <li>1. Building and tower construction (Virac - 100% completed; Aparri - 41% completed; Guiuan - building construction to start on April 2012)</li> <li>2. Equipment manufacturing, procurement and installation (Virac - 100% completed; Aparri - 51% completed; Guiuan - to start on May 2012)</li> <li>3. Virac VSAT connectivity and data links - 100% completed; Aparri - scheduled on August to November 2012; Guiuan - scheduled on 2013</li> </ol>
e. Improvement of Capabilities to Cope with Natural Disasters Caused by Climate Change (JICS)	The project proposal has been submitted to the Department of Finance and forwarded to Embassy of Japan for review.	--
f. Establishment of Early Warning and Response System for Disaster Mitigation in Metro Manila (Pasig-Marikina River Basin) KOICA	<ul style="list-style-type: none"> <li>• KOICA design team has visited the study area for the installation of monitoring equipment and facilities.</li> <li>• Project implementation will start in the 2nd quarter of 2011.</li> </ul>	<ul style="list-style-type: none"> <li>• Monitoring and assistance to Pasig-Marikina system establishment <ul style="list-style-type: none"> <li>- Permitting and civil works - 100% completed</li> <li>- Equipment manufacturing, procurement, installation and calibration - 100% completed</li> <li>- Communication and data links - 100% completed</li> </ul> </li> <li>• Overseas and local trainings on flood forecasting system and data communication system including workshops - 100% completed</li> <li>• Testing is on-going (4 AWS, 10 ARG, 10 WLS, 20 Warning posts and 6 Enhanced Disaster Risk Reduction Offices)</li> <li>• Turnover is first week of February 2012; Awareness activities are scheduled on February to April</li> <li>• Tentative inauguration is on May 2012</li> </ul>