PRIORITY PROGRAM ACCOUNTABILITY REPORT CARD (PPARC)

DEPARTMENT OF SCIENCE AND TECHNOLOGY

PRIORITY PROGRAMS	PROGRAM/ PROJECT BUDGET (FY 2013) in Million PhP	OVERALL RESULTS ASSESSMENT — SERVICE/ PRODUCT RESULTS: FY 2012 ACTUAL ACCOMPLISHMENTS	FY 2013 TARGETS/ MILESTONES	FY 2013 ACTUAL ACCOMPLISHMENTS	RATING
DOST provides central direction, leadership, and coordination of scientific and technological efforts and ensures that the results there from all geared and utilized in areas of maximum economic and social benefits for the people.					
Establishment of the Flood Information Network (FlooedNET) Duration: July 23, 2012 - July 22, 2013	PHP 5		Completed	Data and forecasts available at noah.dost.gov.ph and http://climateX.ph Network of databases and software that automatically interpret data in terms of flood potential Tools developed to aid PAGASA forecasters available at http://climateX.ph/timeseries and http://climateX.ph/sweep	100%
Emergency Distribution of Hydometeorological Devices in Hard-Hit Areas in the Philippines (HYDROMET) Duration: January 1, 2012 - December 31, 2013	PHP 150	Determined deployment sites and coordinated with stakeholders: Table top selection of sites and ocular inspection	List of final deployment sites Installed security fence and pedestals	The DOST Regional Offices in cooperation with PAGASA have completed the approval of the final sites of deployment. Installed security fence and pedestals	100%
Career Guidance Advocacy Program		Reviewed and revised ARG and WLMS design: More streamline data logger and design for combined unit Accomplished purchase requests for the necessary materials and services Assembled 100 ARG and 200 WLMS Installed 3 ARG and 3 WLMS in CDO Conducted IEC last 11/27/2012 in Region X Met with Mindanao Regional Cluster last 10/11/2012 for sustainability discussions	Final design of automated rain gauge (ARG) and water level monitoring sensors (WLMS) Assembled flood monitoring devices Calibrate flood monitoring devices Installation of 600 ARG and 400 WLMS Secure SMS Load Sustainability plan IEC materials Informed stakeholders Archive Hydrometeorological Data 24/7 Uptime of Visualization Tool Education and trainings for Cagayan de Oro, Ilog Hilabangan, Panay, Jalaur, Davao, Cagayan, Bicol, and Ormoc river basins in cooperation with other proponent projects of NOAH Accomplishment Report Project Documentation	The 8 major river basins as well as the flood prone areas as identified by the DOST Regional Offices and Project NOAH Assembled 600 ARGs and 400WLS A new datalogger was designed and updated the firmware. Installed 600 units of ARGs and 400 units WLS Procured necessary load for data transmission Included the sustainability of the devices with stakeholders as one of the topics during the IEC Technical support for other NOAH Components is up 24/7 Conducted IECs for the following regions: CAR, I, II, IV-A, V, VI, VIII, X, XI Real-time archiving of Hydrometeorological data	100%

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DOST provides central direction, leadership, and coordination of scientific and technological efforts and ensures that the results there from all geared and utilized in areas of maximum economic and social benefits for the people.	National DREAM Program (3D LiDAR Mapping) Duration: December 20, 2011 - December 31, 2013		Project 1: LIDAR and SAR Data Acquisition			
			LIDAR Data Acquisition - SAR data of 6 of 18 watersheds acquired	LIDAR Data Acquisition - SAR data of 18 of 18 watersheds acquired	Acquired LIDAR point cloud data of 18 major river floodplains In terms of area: Covered a total of 103,514sq. Km. river basins by SAR Covered a total area of 30,069 sq. km. river basins by LIDAR	100%
				Recovery NAMRIA benchmarks and ground control points Acquisitions of 1 point per square meter or SAR data in 21 watershed areas	Recovered of NAMRIA Benchmarks and Ground Control points Acquired of 1 point per square meter or SAR data in 21 watershed areas	
			Project 2: LIDAR and SAR Data Calibration and Validation			
			River profiling of 6 of 18 floodplains completed	River profiling of 18 of 18 floodplains	Completed River profile (cross-section, hydrometry, bathymetry, profile)	100%
			SAR data validation for 3 of 18 watersheds conducted	Recovery of 18 NAMRIA Benchmarks and Ground Control Points	Recovery of 18 NAMRIA Benchmarks and Ground Control Points	
			Project 3: Digital Elevation Models and Salient Features for Flooding Modeling			
			High resolution flood hazard maps 6 of 18 produced,	High resolution flood hazard maps 18 of 18 produced	Produced Digital Elevation Models (DTM/DSM) for the 18 flood plains and extracted features	100%
			Project 4: Integrating High Resolution Digital Elevation Models (DEMs) into GIS-based Flood Modelling			
			High resolution Digital Elevation Models for watershed (6 of 18) for flood plain (3 of 18) produced	Production of 22 flood simulation models using: 1. Hydrologic Modeling System (HEC-HMS Software) 2. River Analysis System using (HEC-RAS Software) 3. FLO 2D 4. High resolution flood hazard maps	Flood simulation models produced: 1. 14 out of 22 HEC-HMS models 2. 8 out of 22 HEC-RAS models 3. 14 out of 22 FLO 2D models 4. 14 out of 22 flood hazard maps	63%
			Project 5: Training for LIDAR Acquisition and Flood Modeling			
			IEC materials produced (e.g. training manuals, brochures, AVP, printed maps)	Consultation with government, academe and private sectors conducted regarding data access policy	DREAM Report to Stakeholders and Handover of Data to LGUs, academe, researchers, 4th QTR	100%
			Trainings conducted for SUCs(3), LGUs (3), DREAM personnel (11); Researchers and GAs(5)	DREAM Data Products provided to more than 20 institutions (e.g. Congressman Yu, CLSU, LGUs in Davao, Bulacan, Pampanga, Pangasinan, Tarlac, Cagayan de Oro, NDRRMC, etc.)	LiDAR Products Training and Handover of Data Participated in the National Science and Technology Fair and Exhibits Preparation of Manuals	

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Strategic Information and Communication Duration: June 15, 2012 - June 14, 2014		Patrol mobile ap for android	Develop a web portal and monthly bulletins Television and radio interviews	Information, Education and Communication Metro Manila Disaster Summit, 23 July 2012 NOAH Booth display during the 2013 NSTW, 23-27 July 2013	93.75%
		Development of project NOAH communication resources: poster design, brochures etc.	Technical assistance to media/weather reporters of various television networks	Prepared updated NOAH accomplishments as per direct instructions from the OP Presidential Management Staff, 22 July 2013	
		Science for international development conference	Communication resources e.g. posters, brochures, AVP, press releases		
		2012 National Convention of the Liga ng mga Barangat sa Plipinas DOST Initiative on DRRM Climate Change Commission workshop	Conducted Seminars/Workshops/ Local Consultations (6 to 1st year) • Local level DRRMCs • Media • DOSR ROs • Local Officials (high level and operation level)		
		Project NOAH IEC advocacy workshop	Innumerable presentations in both local and foreign consultations / seminars / workshops both for public and private sectors		
EnhancingPhilippine Landslide Hazard Maps with LIDAR and High Resolution Imageries Duration: May 16, 2013 - May 15, 2014		N/A	Document general geophysical profile of provinces for 13 regions -Landslide inventory mapping -Alluvial fan mapping -Debris flow mapping -Shallow landslide mapping -Deep-seated landslide mapping	Review literature on: -Landslide inventory mapping -Alluvial fan mapping -Debris flow mapping -Shallow landslide mapping -Deep-seated landslide mapping	100%
Dynaslope & Senslope (Phase 2) Duration: June 1, 2013 - May 31, 2015		N/A	Refinement of previous design of landslide sensor	Completed design upgrades to the previous system Conducted initial tests for accelerometers and soil moisture sensors Developed calibration procedure for accelerometers	100%
			Development of readout devices for piezometer systems with telemetry	Completing the Design of the Readout Device with Telemetry	
			Manufacturing of refined landslide sensor system for 50 sites	Prepared documents for bidding of manufacturing Engaging of manufacturers to join the bidding process	
			Establish a critical backend to store and manage all the data from sensors	Data management and storage done at Local Servers located on the lab Data from systemnow accessible publicly in the internet through initial free web hosting service	

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				Site reconnaissance and inspection of potential sites in the Philippines	49 out of 30 sites visited and inspected 6 out of 10 sites initially recommended	
				Data ganthering and collection	Continuously collected sensor data at 11 existing sires from previous program Internal levelling off and standardization of mapping procedures	
					Drafting of protocol for implementation and validation of landslide thresholds with LGUs and communities Cosultation with SENSLOPE project re: design improvements for sensors	
	Initiation of System to Identify, Quantify and Map the Storm Surge Threat to Philippine Coasts Duration September 1, 2013 - August 31, 2014		N/A	Refresher course on writing and communication	Technical writing Introduction and basic Latex skills Creating good presentations	100%
				Collect existing data/literature review	Literature review - Storm surge - Storm surge in the Philippines - Conceptual Framework - Parameters for storm surge modeling -Storm surge models - Storms and coastal change	
					Data collected -Parameter of storm surge and inundation modeling -Tide -Storm surge timeline	
				Storm surge modeling -JMA Storm surge model -Delf3D-Flow Model -ADCIRC Model	Tested for applicability	
				Field validation of historical and storm surge reports	Preparation of field work plan 26 priority sites identified	
				Cyclone simulations	98 typhoons simulated in Metro Manila using JMA Storm Surge Model	
				Initiate creation of maximum inundation maps using flood modeling software for different types of cyclones	Preparation of GIS dataset	

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DOST provides central direction, leadership, and coordination of scientific and technological efforts and ensures that the results there from all geared and utilized in areas of maximum economic and social benefits for the people.	Weather Information-Integration for System Enhancement (NOAH-WISE) Duration: March 1, 2013 - February 28, 2015		N/A	Download data to set initial and boundar conditions of WRF model	Downloaded 7-day global forecast at 0.5 degree (55 km) resolution; Has working script for downloading MODIS data	100%
				Run WRF model	Run WRF model using PAGASA configuration	
				Run sensitivity studies and hindcast from reanalysis data to optimize parameter configuration	More sensitivity runs are being done (Aug 8-16, 10-18, 2013; Nov 1-11, 2013 at 6 different configurations	
				Post-processing of model outputs	All parameters in one file (netcdf); Animation of weather forecast; Creation of maps for rainfall and wind data; Extraction of seven parameters from the output; Creation of file which can be compared to AWS data; Enhancement of analytics using IBM Cognos Powerplay to generate multi-dimensional cubes, pre-formatted reports and dashboards for temperature, pressure, and rain value.	
				Design algorithm to integrate model output with climate X output	Extracted data from all available grid points of WRF output (temperature and rainfall)	
				Run WRF-DA and process model outputs	Several WRF runs with data assimilation done using MODIS at different WRF-DA configurations	
				Collect ground network data from PAGASA's weather stations Doppler stations and other AWS	AWS data collection and conversion to little-r format routinely being done; Doppler data in repo but still needs to be decoded; Synoptic data retrieved from PAGASA.	
				Validate and calibrate selected AWS to ensure integrity of data	Data quality control conducted; threshold values defined for various parameters	
				Download and process MODIS data from PAGASA	Extraction of brightness temperature; Creation of true color images	
				Study forecast accuracy validation protocols	Accuracy assessment using IBM SPSS Modeler to match observed data vs forecast in progress; Initial design for rainfall validation being implemented.	
				Explore the use of high performance computing and parallel programming techniques to improve the accuracy and expand the horizon of the weather and flood predictions	Arrival of Blue Gene/P Supercomputers Conducted training for Applications Developer	

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DOST provides central direction, leadership, and coordination of scientific and technological efforts and ensures that the results there from all geared and utilized in areas of maximum economic and social benefits for the people.	Disaster Management using Web-GIS Duration: May 16, 2013 - May 15, 2014		N/A	Web-based and mobile-based platforms (mobile apps) of noah.dost.gov.ph	Started the pre-procurement process for the Mobile Operational Services for System Enhancement (MOSES) tablet kit	100%
				A central active repository of hazards and disaster-related information in the form of a disaster information geodatabase system.	Finalization of the Database Design for the New Version of the NOAH Website Created initial mockup for NOAH website version 2	
				Prototype I of Moses Tablet developed and launched. 70 units for distribution in Metro Manila preferably to barangays and PAGASA Regional Directors	Ongoing research and development and started development for version 2 of NOAH website: - Openlayers 2 / 3 usage and implementation - Geoext2 / Ext4js - Geoserver development - Sphinx documentation software -Twitter Bootstrap	
				Geospatial Analysis	Proposed final Noah 2.0 layout and mock up - Started making the Noah 2.0 website (static only) - Design and enhance architecture for NOAH 2.0 website - Made the database for NOAH 2.0 website designed by GIS - Updated prototype website for landslides data: - debris flow hazard maps - landslide inventory map - alluvial fan maps - stability index maps	
					Updated prototype website for storm surge data: - historical storm surge simulations - PhilRSS look (in progress since additional content to be discussed) - Added spam check Akismet plugin to monitor comments; comments are now collected before approval and display on the page (but not foolproof yet, some comments need manual intervention) - Removed uploader / Author info on articles since it conflicts with the info on the actual writer/owner of the articles	
					Ongoing maintenance on project NOAH blog in assistance with the activities of the NOAH WebGIS info officers: - Temporarily disabled access to blog for a short period due to security issue - Uploaded an article on the blog on Storm surge (ANC interview)	
					Assisted in table data organization for Info officers data - Created new page on NOAH blog for Open File Reports - Set up the Storm Surge website (http://stormsurge.noahsark.webfactional.com) with Marc Tabia '- Set up load balancer (Varnish) for the website - Added storm surge prediction to NOAH and storm surge website - Add location to 4 day weather forecast	

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DOST provides central direction, leadership, and coordination of scientific and technological efforts and ensures that the results there from all geared and utilized in areas of maximum economic and social benefits for the people.	Disaster Management using Web-GIS Duration: May 16, 2013 - May 15, 2014				Collection of GIS Datasets from various Project NOAH Components - Collection of Barangay Base Maps(and Indicative Worst Case Flood Heights) from 251 barangays in Bulacan and Pampanga - Production of Maps - Participation in Bohol Earthquake Assessment Mapping by Project NOAH - Accuracy Assessment of Doppler Radar and Automated Rain Gauges/Automated Weather Stations during Habagat August 2013	100%
					Generation of accumulated Rainfall contours during Habagat August 2013 - Monitoring for Typhoon Santi, Wilma and Zoraida - Monitoring for typhoon Yolanda - Developed software and training modules - Conducted and attended trainings and conferences	
	Development of Hybrid Weather Monitoring System and Production of Weather and Rain Automated Stations (AWS) Duration: January 1, 2012 - December 31, 2013		Delivered all components for satellite communication capability of the AWS unit	Complete the installation of AWS	Installation of remaining AWS in Spratly/PAGASA Island, Municipality of Kalayaan - February 8-12, 2013	100%
				Conduct information and education campaign (IEC) orientation, and workshops to stakeholders	Coordination with the LGUs IEC conducted in the ff provinces: -Pagadian City -Bayog, Zamboanga del Sur -Coron	
			Deployed 66 Broadband Global Area Network (BGAN) units to PAGASA Station	Preparation of IEC materials	Continue preparation of IEC materials such as pamphlets, posters brochures, CDs, etc.	
			Conducted AWS and ARG maintenance in the following localities: Davao City; Infanta, Quezon; Bacolod City; Iloilo; Dumarao, Capiz; Aklan; Bataan	Calibrations of AWS and ARG	Conducted training/ seminar on calibration of instruments AWS	
			Deployed 78 AWS and 92 ARGs	To ensure sustainability of the operations of the deployed AWSs and ARGs need to come up with sustainability plan	Conduct meeting on the preparation of plan.	
			Finalized AWS and ARG users manual			
			Developed visualization tool (http://weather.asti.dost.gov.ph/)			
			Participated in the 33rd APAN Meeting and the NSTW 2012 Conducted meetings on the preparation of sustainability plan			