



# PRS92

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**Newsletter**

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National Mapping and Resource Information Authority  
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## Funds released for integration of other ENR datasets

NAMRIA Administrator Diony A. Ventura has approved the funds for the integration of other ENR datasets of the Land Management Sectors (LMS) and Forest Management Sectors (FMS), and ordered the release of the fifty percent of the funding support for 2008 of the regional offices of the Department of Environment and Natural Resources (DENR). The funds also include ten percent of the total regional budget for Information, Education, and Communication (IEC) activities.

Each regional office has signed a Memorandum of Agreement (MOA) with NAMRIA which specifies the roles and responsibilities for the conduct of the project. The stipulations in the MOA were discussed between the DENR regional representatives and NAMRIA during the last Program Review and Analysis (PRA) for the Philippine Reference System of 1992 (PRS92) on 06 August 2008.



*Administrator Ventura presides over the PRA for PRS92*

All regional offices are expected to complete within the year after the MOA signing their target activities such as region-wide datasets inventory, field validation, data gathering, encoding and metadata entry, and preparation of project report for the FMS. The target activities also include connection survey and encoding or conversion of land data for the LMS.

## PRS92 launched in La Union



*Up-front from left: La Union Community ENR Officer Ms. Raquel A. Lopez, Provincial ENR Officer Policarpo A. Najera, RTD Barcelo, Provincial Administrator Tilan, Congressman Ortega, RED Arciaga, Director Papa, Commander Ho, and LMS Surveys Division OIC Joel I. Eden*

The launching of the PRS92 project in this province was held on 26 September 2008 at the Diego Silang Hall, Provincial Capitol, San Fernando City. In attendance were key officials and representatives from the city, municipality, provincial governments, and the DENR regional office.

First District Representative Victor F. Ortega graced the ceremony along with DENR Regional Executive Director (RED) Constancio M. Arciaga and Regional Technical Director (RTD) Atty. Crizaldy M. Barcelo. Undersecretary Diony A. Ventura, NAMRIA Administrator, was represented by Information Management Department Director Linda SD. Papa, who presented the PRS92 project, and Hydrography Department Chief-of-Staff Commander Romeo I. Ho.

Congressman Ortega expressed his support of PRS92, which he described as "a well-meant project of DENR and NAMRIA." "I am convinced of it," he said, "and hopefully it will resolve, or make it easier to resolve, the problems of private landowners and political boundaries." He urged the local government units (LGUs) to champion PRS92 "because this can be a very essential program during our lifetime."

The signing of the respective memoranda of understanding for the *Adopt-a-Mojon* program capped the launching ceremony. The concerned areas were the city government of San Fernando and the municipalities of Bagulin, Bangar, Burgos, Luna, Naguilian, Rosario, San Gabriel, and Santo Tomas. Also highlighting the affair was the distribution of previously signed

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## NAMRIA acquires high-end gravimeter



*The CG-5 Autograv gravimeter*

NAMRIA purchased a CG-5 Autograv system from Scintrex Limited of Canada. The instrument is one of the most versatile and advanced gravity systems for microgravity applications. It is a microprocessor-based automated gravity meter that has a measurement range of over 8000 mGals without resetting and a reading resolution of 0.001 mGal. This enables the Autograv to be used for both detailed field investigations and large-scale

regional or geodetic surveys. It has also a Global Positioning System (GPS) receiver that allows the user to read the grid reference point for each station coordinate.

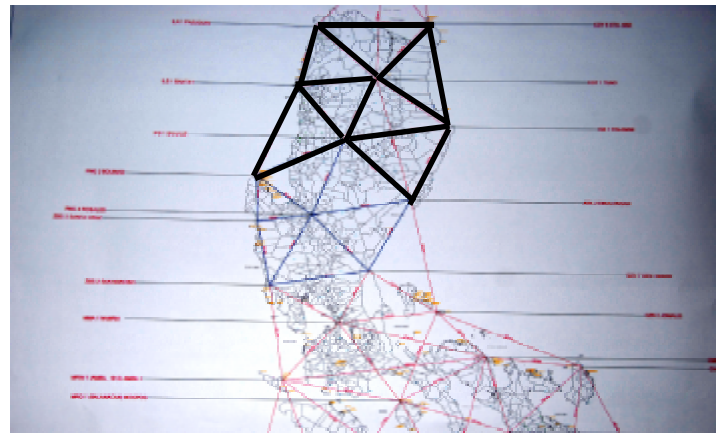
One of the components of PRS92 is the Geodetic Network Development (GND). Under GND, it has two sub-components, the horizontal and the vertical reference network. A geodetic reference system always refers to the horizontal and vertical components. The gravity survey, tide measurements, and geodetic leveling are the vertical components. The gravity survey will enable the definition of a geoid model for the Philippines, which in turn could determine heights above mean sea level using GPS. A critical activity to define a geoid model is the gravity survey of various gravity stations and benchmarks. NAMRIA targets to re-survey and re-establish 80 gravity base stations in order to determine the local gravity values in defining the country's geoid model.

## NAMRIA observes additional Zero-Order GCPs

Five more zero-order geodetic control points (GCPs) were upgraded from the first order. These are the CGY117, ILN1, ILS17, ISB1, and CGY60 respectively located in Santa Ana, Cagayan; Pasuquin, Ilocos Norte; Bantay, Ilocos Sur; Palanan, Isabela; and Tuao, Cagayan.

The zero-order points will have an accuracy of less than 10 parts per million with a nominal spacing of approximately 100 kilometers between GCPs of the network. The network will be useful in monitoring the dynamics of the current geodetic datum (PRS92) and its relative accuracy on the regional (Asian Region) scale.

There are now 13 zero-order GCPs in the country.



*Locations of the five zero-order GCPs*

### *PRS92 launched... from page 1*

*Adopt-a-Mojon* MOUs with the municipalities of Agoo, Aringay, Bacnotan, Balaoan, Bauang, Caba, Pugo, San Juan, Santol, Sudipen, and Tubao. Through the key local government and environment officials, each city/municipality was presented

with an orthoimage of La Union, an administrative map of the Philippines, and a centennial calendar.

In his message, RED Arciaga encouraged the active participation of the citizens, especially the local officials, in carrying out PRS92 in order that "our land titling program will be accelerated."

Provincial Administrator Dr. Geoffrey S. Tilan gave the response in behalf of the province. He requested the local officials to abide by the signed MOU and to make PRS92 one of their legacies. He also voiced the perennial concern of coastal municipalities with regard to the municipal water boundaries. He spoke of the need for NAMRIA to help address the matter of commercial fishers adversely affecting the livelihood of fisherfolk.

In closing, RTD Barcelo thanked all the delegates for participating in the ceremony and expressed the hope for the concerted and successful PRS92 implementation in La Union.



*MOU signing of key officials on the Adopt-a-Mojon program*



## Updates on PRS92 Data Integration component



*Recovery of reference monuments in Bataan*

The NAMRIA PRS92 Task Group is presently undertaking the Cadastral Data Transformation for the Provinces of Bataan and Aurora in Region III. This is in compliance with the agreements reached during the PRA held at the New Horizon Hotel in Mandaluyong on 12-13 March 2008. To complete the cadastral data transformation for the entire region, NAMRIA

will assist the regions in undertaking the following activities: encoding and quality control of cadastral datasets, recovery and GPS observation of reference monuments, derivation of local transformation parameters, and ground validation of derived parameters.

The Data Integration Task Group gathered cadastral datasets from the regional office and from the Lands Management Bureau to facilitate the data encoding and recovery of control points. As of 30 September 2008, 4,114 lots from the Province of Bataan and 13,984 lots from the Province of Aurora were already encoded. Quality control of the encoded lot data is ongoing.

The recovery of reference monuments has started in the two provinces in preparation for the GPS observations and derivation of transformation parameters. Said activity is in coordination with the DENR-LMS and the LGUs. To date, NAMRIA has completed recovery in the municipalities of Abucay and Balanga in Bataan. A team is currently conducting the same activity in the municipalities of Baler and Ma. Aurora in Aurora.

All outputs of the activities will be officially transmitted to DENR Region III and will form part of the regional ENR database.

## Philippine Active Geodetic Network updated

NAMRIA is spearheading the establishment of the Philippine Active Geodetic Network (AGN) as part of the implementation of the PRS92 Project. As envisioned, the AGN will be composed of stations strategically located all over the country which continuously provide geographic data.

To date, all six Active Geodetic Stations (AGS) have already been set up: four are roof-based (NAMRIA Main Building in Taguig, Urdaneta City Hall in Pangasinan, Registry of Deeds Building in Tagaytay, and Basa Air Base in Floridablanca, Pampanga) while two are ground-based (Nueva Ecija University of Science and Technology in Cabanatuan City and 415<sup>th</sup> Police Provincial Mobile Group in Candelaria, Quezon). All six are ready for interconnection to the network.

For the Data and Control Center (DCC), the installation of the Center's ICT requirements has been completed. Support systems needed in the operation and maintenance of the DCC, such as fire suppression and access control systems, have already been configured and tested.

The AGN staff, meanwhile, is undergoing training in the various operations of the DCC. They are also conducting research and development on the different applications of AGN to maximize the utilization of the facilities. Coordination is in progress for possible partnerships with agencies such as the Philippine Institute of Volcanology and Seismology and the Philippine Atmospheric, Geophysical, and Astronomical Services Administration.

Preliminary works for the FY2008 targets are already under way. Different teams were deployed from July to August 2008 to conduct reconnaissance and GPS observation on the pre-selected sites. Coordination is ongoing with possible hosts of the 16 AGS.



*AGS located in Candelaria, Quezon*

## LGUs oriented on PRS92

The PRS92 project was presented to the local government officials and staff of the city of Antipolo and the municipal mayors of the provinces of Aurora and Bataan in separate occasions. The main objectives of the IEC activity were to inform the local executives on the PRS92 activities and secure their cooperation to ensure the safety of the survey teams in the recovery survey conducted by NAMRIA in their locality. NAMRIA targeted this year to recover at least 10 GCPs (Bureau of Lands Location Monuments, Municipal Boundary Monuments, and *Barangay* Boundary Monuments) for the concerned areas. This is necessary for the integration and data transformation into PRS92 of their old surveys and maps.

The LGUs were also introduced to the *Adopt-a-Mojon* Project which is a nationwide DENR-NAMRIA initiative for the

sustainable utilization of the PRS92 through the adoption of its GCPs. It enlists the participation of the stakeholders to preserve and protect the PRS92 GCPs marked by “mojons” and advocates the significance of GCPs to resource management and land administration.

The IEC in Antipolo City was conducted on 10 July 2008 at the city hall. The PRS92 presentation was conducted during the special meeting of the Mayors League of Aurora on 21 July 2008 in Baler, and during the regular meeting of the Mayors League of Bataan on 29 July 2008 in Abucay.



*NAMRIA Hydrography Department Assistant Director Enrique Macaspac informs the local officials of Antipolo City on the importance of PRS92.*



*NAMRIA IEC staff led by Commander Ho with local officials of Aurora province (top photo). IEC activity in Bataan (lower photo).*

## GNIS component trains regional offices

In support of the development, implementation, and enhancement of the Geodetic Network Information System (GNIS), and the Land Survey Database Management System (LSDMS), the GNIS component conducted technical retrainings on the enhanced systems for its users in the DENR regional offices. Aside from users retraining, other activities included the installation of updated GNIS and LSDMS; database updating; discussion on LSDMS importing; and hands-on importing of cadastral project stored in MS Excel files to LSDMS. The GNIS component technical staff conducted the retraining in Manila on 22 July for Regions IV-A and IV-B; in Pampanga on 24-25 July for Region III; in La Union on 27-30 July for Region I; in Baguio City on 30 July-02 August for the Cordillera Administrative Region; in Tuguegarao City on 12-15 August for Region II; in Legazpi City on 31 July-02 August for Region V; in Butuan City, Tacloban City, and South Cotabato on 03-06 August for CARAGA and Regions VIII and XII; in Iloilo, Cagayan de Oro City, and Davao City on 10-13 August for Regions VI, X, and XI; and in Cebu City on

13-16 August for Region VII. The trainings aimed to enhance the skills of the regional staff in the performance of their assigned tasks in the implementation of the PRS92 project.



*Technical training held in Legazpi City for Region V participants*