MOBILE WORKSHOP FOR INSTALLATION, REPAIR AND MAINTENANCE OF THE METEOROLOGICAL STATIONS NETWORK

The weather monitoring service of Cuba consists of 68 meteorological stations in all provinces; equipped with various technologies that mostly have many years of operation, therefore they require constant attention for repair and maintenance. This network has been benefited from strong investment by government and international cooperation, which has strengthened monitoring and forecasting, but also has increased the demand of maintenance and repair.

Meteorological stations by age





Location of the radars and their exploration ratio

Specialists of the Center for Instruments and Methods of Observation (CIMO) of the Institute of Meteorology (INSMET) have the function to perform works related to the complex assembly, maintenance and repair at weather stations, as well as work related to sensors, datalogger connectivity (device for the systematic recording of measurements), optical fiber connection, or the assembly of new equipment, among other activities.



Technicians of the Provincial Meteorological Center are responsible for less complex work, for which tools and inputs were acquired according to these functions.

Maintenance works in meteorological stations





A mobile workshop in the installation of a portable weather station

This material has been made in the framework of the project: "Improvement of the hydro-meteorological Early Warning Systems to increase disaster preparedness and to reduce vulnerability of the population living in the affected provinces by Hurricane Sandy (Cuba)"; implemented by the United Nations Development Programme (UNDP) and the Action Plan for the Caribbean from the European Commission's Disaster-Preparedness Programme (DIPECHO). Contacts: Civil Defence Headquarters | (537) 8640000 -. Meteorological Institute (INSMET, Cuba): Pablo De Varona De Varona | pablo.varona@insmet.cu -. National Institute of Hydrological Resources (INRH): Argelio Fernández Richelme | argelio@hidro.cu -. Hazard, Vulnerability and Risk Group (PVR Group), Environment Agency (AMA): Herminia Serrano Méndez | herminia@ama.cu -. UN Habitat, Cuba: Marilyn Fernández Pérez | marilyn.fernandez@undp.org -. UNDP, Cuba: Rosendo Mesias González | rosendo.mesias@undp.org -. www.undp.org.cu | www.crmi-undp.org | www.eird.org

For the operational maintenance of the station network by CIMO specialists, it is necessary to have an adequate transportation to allow the transfer to the stations, many of them located in inaccessible places. The vehicle must be provided with adequate tools to proceed with the assembly and maintenance.

Mobile workshop for installation, maintenance and repair of meteorological stations





Software check with laptops in the meteorological stations

Under the project "Strengthening of the Early Warning System for extreme weather events in the eastern provinces" of the Office of Disaster Preparedness of the Department of Humanitarian Aid of the European Commission (DIPECHO), implemented by the United Nations Development Programme (UNDP), a conveyance was purchased with mechanical properties allowing safe transfer of specialists to any station on the network, even to those hard to reach because of its location and roads condition.

The *all-terrain* vehicle was equipped with tools for machining (drilling, welding, threads, cuts), electricity (voltmeters, ammeters, and oscilloscope) and for checking lines and communications equipment. This range of instruments ensures installation works of new equipment, checking quality parameters, maintenance and minor repairs.



Besides, laptops were acquired to ensure that specialists can check and install *software* in the visited stations.

The acquisition and implementation of this **mobile workshop** responds to the objective of increasing the capacity of weather monitoring in Cuba, which possesses highly qualified human resources in developing *software* and *hardware* for the installation of meteorological and satellite stations and enables the provision of a higher quality service to maintain the vitality of the network.