# SYSTEM FOR SHORT-TERM NUMERICAL FORECAST OF WEATHER



Center of Atmospheric Physics - Institute of Meteorology

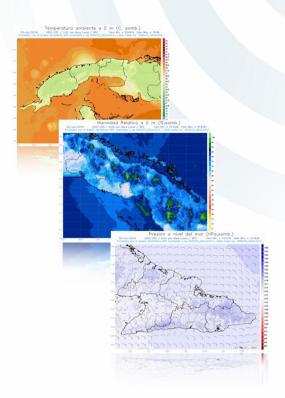
#### **SOCIAL IMPACT**

Weather Numerical Forecast can be used in developing early warning systems and monitoring of meteorological phenomena. This would mitigate the impact of natural disasters that cause loss of human lives and goods.

The main goal of numerical modeling is to develop a system of short-term forecast based on the coupling of models of weather numerical prediction, ocean flows, waves and data acquisition.

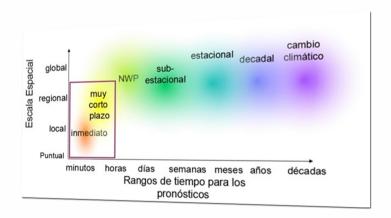






# Short term forecast

The short-term forecast includes immediate forecast of weather phenomena through radar and satellite observations and weather numerical modeling.



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); under the Action Plan for the Caribbean from the European Commission's Disaster-Preparedness Programme (DIPECHO).

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### **WRF Model**

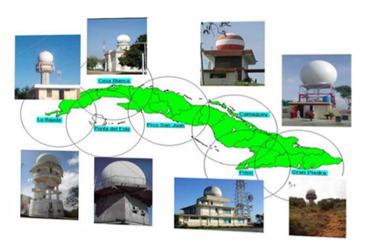
WRF-ARW model is based on the use of advanced numerical methods for solving systems of equations describing the physical processes occurring in the atmosphere. This model has a powerful software engine, and also incorporates the latest advances in the field of weather numerical modeling.

There are four domains for the modeling, with resolutions of 27, 9, 3 and 1km.

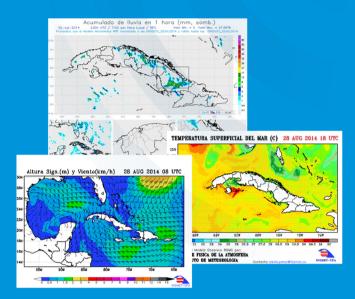
#### **Data Assimilation**

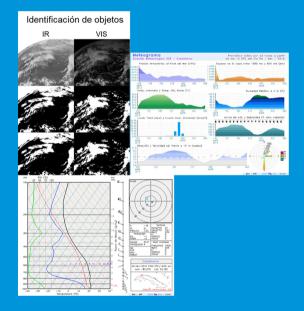
Data from surface stations, soundings, radars and weather satellites are included in the initialization of numerical forecast





## **Products and Services**







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