



Introduction of the WMO Integrated Processing and Prediction System

The WMO Infrastructure is an international coordination mechanism for sharing observations and information among WMO Members, comprising 193 countries and territories, to support their meteorological, climatic, hydrological, marine and related environmental services. It consists of three pillars - WIGOS (WMO Integrated Global Observing System) for observations, WIS (WMO Information System) for data sharing and WIPPS (WMO Integrated Processing and Prediction System) for prediction. WIPPS has set up more than 30 activities to cover a wide range of application areas of from weather through climate to ocean predictions. These activities are classified into three categories: general-purpose activities to provide real-time analyses and predictions required for a wide range of enduses, specialized activities to provide products tailored for a specific type of application or user community and non-real-time coordination activities to provide consistent presentations of results of verification and monitoring needed for appropriate use of WIPPS products, while not providing real-time forecasts. More than 140 centres hosting these activities timely provide to WMO Members defined set of products that are considered as essential information for their services. In terms of the ocean prediction, two activities are established: one is global numerical ocean prediction and another one is numerical ocean wave prediction. Centres in various countries have been designated to carry out these activities. In addition, WMO approved to establish new activities for global numerical storm surge prediction and marine emergency response. WMO actively welcome Centres that can conduct these marine-related activities for WMO Members. Meanwhile, an ocean model is also considered as an important component of Earth system prediction. More than 10 Designated Centres also provide products of sub-seasonal, seasonal and annual to decadal predictions. These Centres operate numerical Earth system models coupling atmospheric and ocean models to produce these products. Ocean models are quite important since the performance of ocean models affects the quality of these products. WIPPS is a worldwide network of operational centres operated by WMO Members. WMO Members and relevant operational organizations access and utilize prediction products, including ocean predictions, through WIPPS.

Yuki Honda, Sarah Grimes, Albert Fischer and Nir Stav, World Meteorological Organization