JMA NWP Strategic Plan Toward 2030

Main Development Issues

**Heavy rain disaster prevention**
- Implementation of the Mesoscale Ensemble Prediction System (MEPS)
- Upgrade of a data assimilation system for the Local Forecast Model (LFM)
- LFM horizontal resolution enhancement to finer than 1 km; improvement of processes related to cumulus convection
- Development of the ensemble prediction system for the LFM
- Use of observation big data for the LFM

Early warning and evacuation; e.g., daytime evacuation before the onset of torrential rain

**Typhoon disaster prevention**
- Global Spectral Model (GSM) resolution enhancement and physical process improvement
- Meso-Scale Model (MSM) physical process improvement
- Development of all-sky satellite data assimilation for the GSM and MSM
- Upgrade of data assimilation methods for the GSM and MSM

Improvement of accuracy in predictions with a several-day lead time to support wide-area evacuation and preparations for large-scale disaster conditions

**Contribution to social and economic activities**
- Resolution enhancement and physical process improvement for an atmosphere-ocean coupled model and ocean model
- Upgrade of chemical transportation models
- Development of hierarchical earth system models and a high-resolution ocean model
- Enhancement of data assimilation system for earth system models to allow incorporation of observation data on more variables such as land surface, ocean, sea ice and aerosols

High-accuracy weather and climate prediction to contribute to socioeconomic activities, including optimization of production and product distribution plans

**Adaptation to global warming**
- Development of a new earth system model to project global warming
- Development of a high-resolution regional climate model
- Upgrade of the earth system model and the regional climate model based on cutting-edge scientific expertise

Contribution to global warming adaptation planning by Japan's central/local governments and other parties based on municipal-level future projection