Quantitative Precipitation Forecasts (QPF) in FFGS

HYDROLOGIC RESEARCH CENTER

Southeastern Asia – Oceania FFG Planning Workshop
3 February 2016
Rainfall Data Processing
- Quality Control
- Merging
- Bias Adjustment

Real-time Precipitation Inputs
- Satellite Rainfall Radar (as available)
- Gauge (as available)

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Gauge (as available)

Temperature

Evapotranspiration (Climatological)

Spatial GIS Data Analyses
- Basin Delineation
- Parameter Estimation (Terrain, LULC, soils, streams)

Snow Cover

Soil Moisture Model

Threshold Runoff Model

Snow Model

Flash Flood Guidance Model

Flash Flood Guidance

Flash Flood

Rainfall Forecasts (Mesoscale Model)

Rainfall Forecasts

Forecaster Input

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QPF-Relevant Forecaster Interface Fields
Operations and Validation

Forecaster Adjustments/Warnings

FFG - Diagnostic

Model Precipitation Forecast - Prognostic

Local Data

Database

GIS Analysis Tools

Forecaster

Regional Product Dissemination System

National Warning Dissemination System

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Validation – Mesoscale Model

• Forecast precipitation averaged over basins (MAP) against radar/sat/gauge merged MAP product (Frequency of Occurrence of Prec > Threshold over historical record) for rainfall durations of 1, 3, 6, 24 hours.

• If persistent bias is found for certain regions apply post processing bias adjustment before estimating FFFT.