



Application of Hydrometeorological Information for Short-term and Long-term Water Resources Management over Ungauged Basin in Korea

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In 2014, three major governmental organizations that are Korea Meteorological Administration (KMA), K-water, and Korea Rural Community Corporation have been established the Hydrometeorological Cooperation Center (HCC) to accomplish more effective water management for scarcely gauged river basins, where data are uncertain or non-consistent. To manage the optimal drought and flood control over the ungauged river, HCC aims to interconnect between weather observations and forecasting information, and hydrological model over sparse regions with limited observations sites in Korean peninsula. In this study, long-term forecasting ensemble models so called Global Seasonal forecast system version 5 (GloSea5): a high-resolution seasonal forecast system, provided by KMA was used in order to produce drought outlook. GloSea5 ensemble model prediction provides predicted drought information for 1 and 3 months ahead with drought index including Standardized Precipitation Index (SPI3) and Palmer Drought Severity Index (PDSI). Also, Global Precipitation Measurement and Global Climate Observation Measurement - Water1 satellites data products are used to estimate rainfall and soil moisture contents over the ungauged region.