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The HyperHydro (H^2) experiment for comparing different large-scale models at various resolutions

Edwin Sutanudjaja and the HyperHydro Team
Utrecht University, Physical Geography, Utrecht, Netherlands (e.h.sutanudjaja@uu.nl)

HyperHydro ($http://www.hyperhydro.org/$) is an open network of scientists with the objective of simulating large-scale terrestrial hydrology and water resources at hyper-resolution (Wood et al., 2011, DOI: 10.1029/2010WR010090; Bierkens et al., 2014, DOI: 10.1002/hyp.10391). Within the HyperHydro network, a modeling workshop was held at Utrecht University, the Netherlands, on 9-12 June 2015. The goal of the workshop was to start the HyperHydro (H^2) experiment for comparing different large-scale hydrological models, at different spatial resolutions, from 50 km to 1 km. Model simulation results (e.g. discharge, soil moisture, evaporation, snow, groundwater depth, etc.) are evaluated to available observation data and compared across various models and resolutions.

At EGU 2016, we would like to present the latest results of this inter-comparison experiment. We also invite participation from the hydrology community on this experiment. Up to now, the models compared are CLM, LISFLOOD, mHM, ParFlow-CLM, PCR-GLOBWB, TerrSysMP, VIC, WaterGAP, and wflow. As initial test-beds, we mainly focus on two river basins: San Joaquin/California (82000 km^2) and Rhine (185000 km^2). Moreover, comparison at a larger region, such for the CONUS (Contiguous-US) domain, is also explored and presented.