Results from IPWG Japan Validation Site

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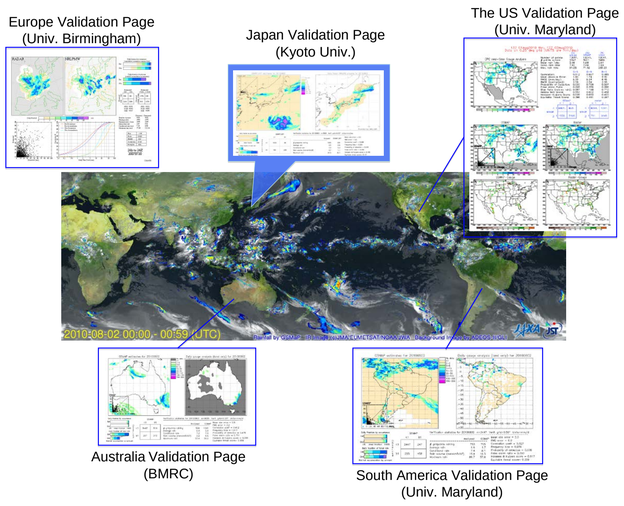
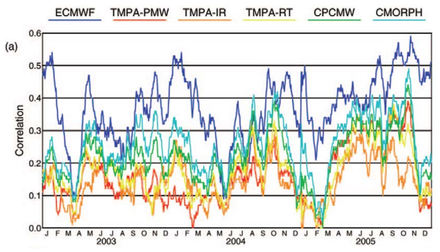
For several years, the IPWG Japan validation site has been producing standard, daily validation metrics for several different products based on satellite algorithms and numerical models in near real time, with reference to a ground radar dataset calibrated by rain gauges. A summary of the results from the archive based on the product that was available at the time of the comparison are given, focusing near real-time satellite products (3B42RT and GSMaP_NRT), and model forecasts (ECMWF, JMA, BOM, and METEOFR).

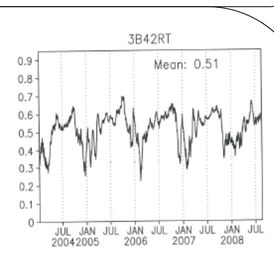
IPWG validation sites



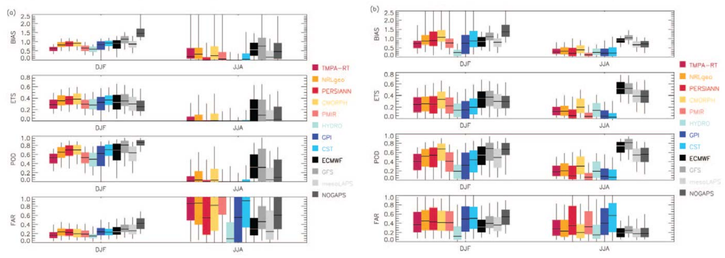
Daily correlation coefficient over the U.K. (Ebert et al. 2007)



Daily correlation coefficient over the conterminous U.S. (Sapiano et al. 2010)

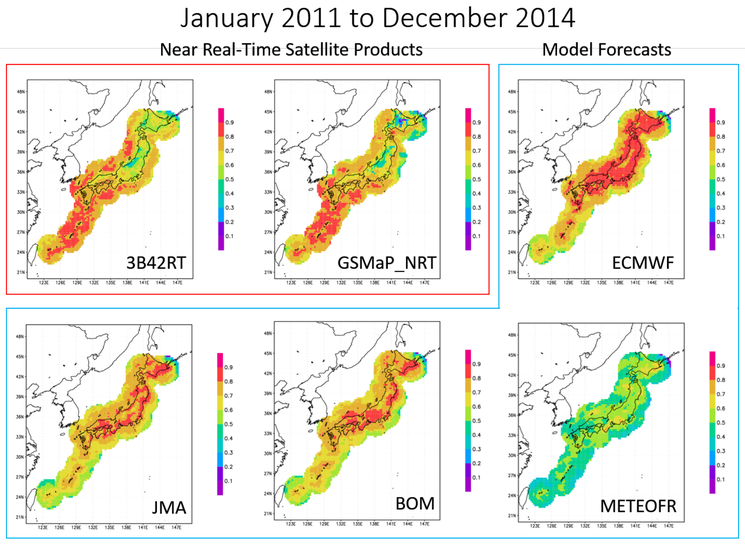


Seasonal performance of the estimated occurrence of rain exceeding 1 mm day^{-1} for (a) Australian Tropics and (b) Australian midlatitudes (Ebert et al. 2007)



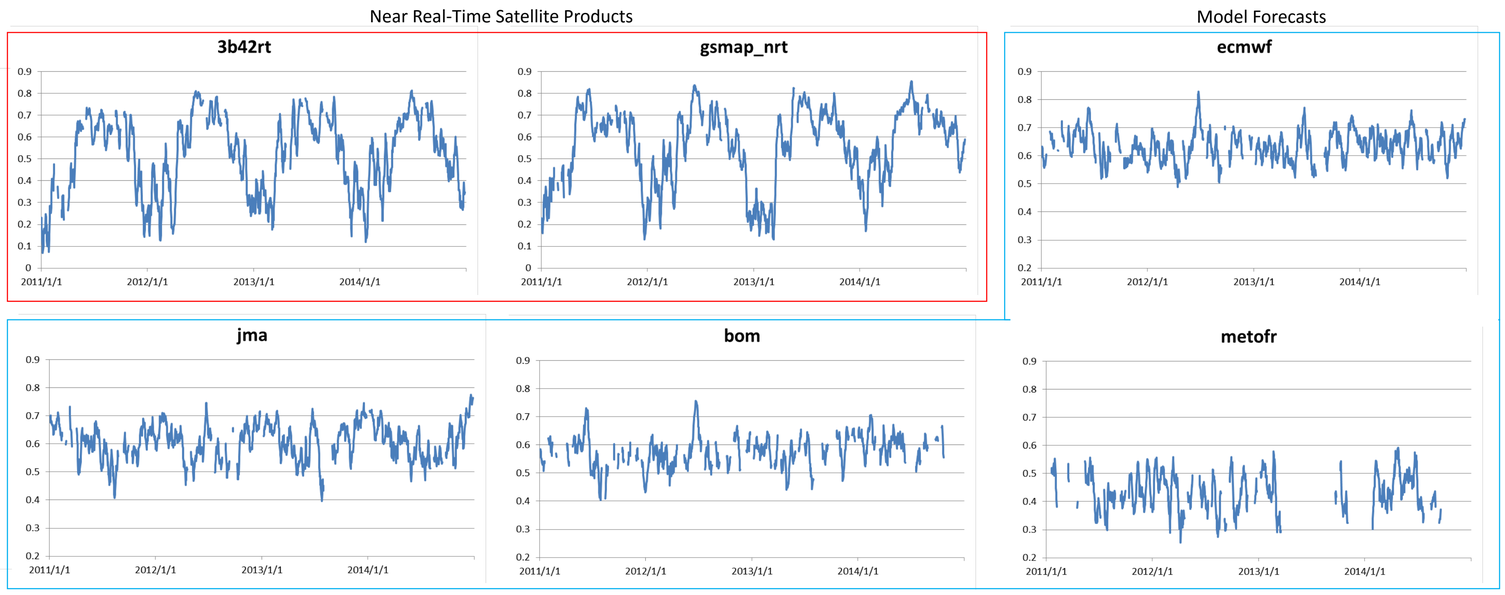
Previous studies using other IPWG validation sites showed that ***the performance of satellite products and model forecasts are out of phase, with the former performing best during the warm season and the latter performing best in the cool season****.*

Correlation Coefficients
January 2011 to December 2014



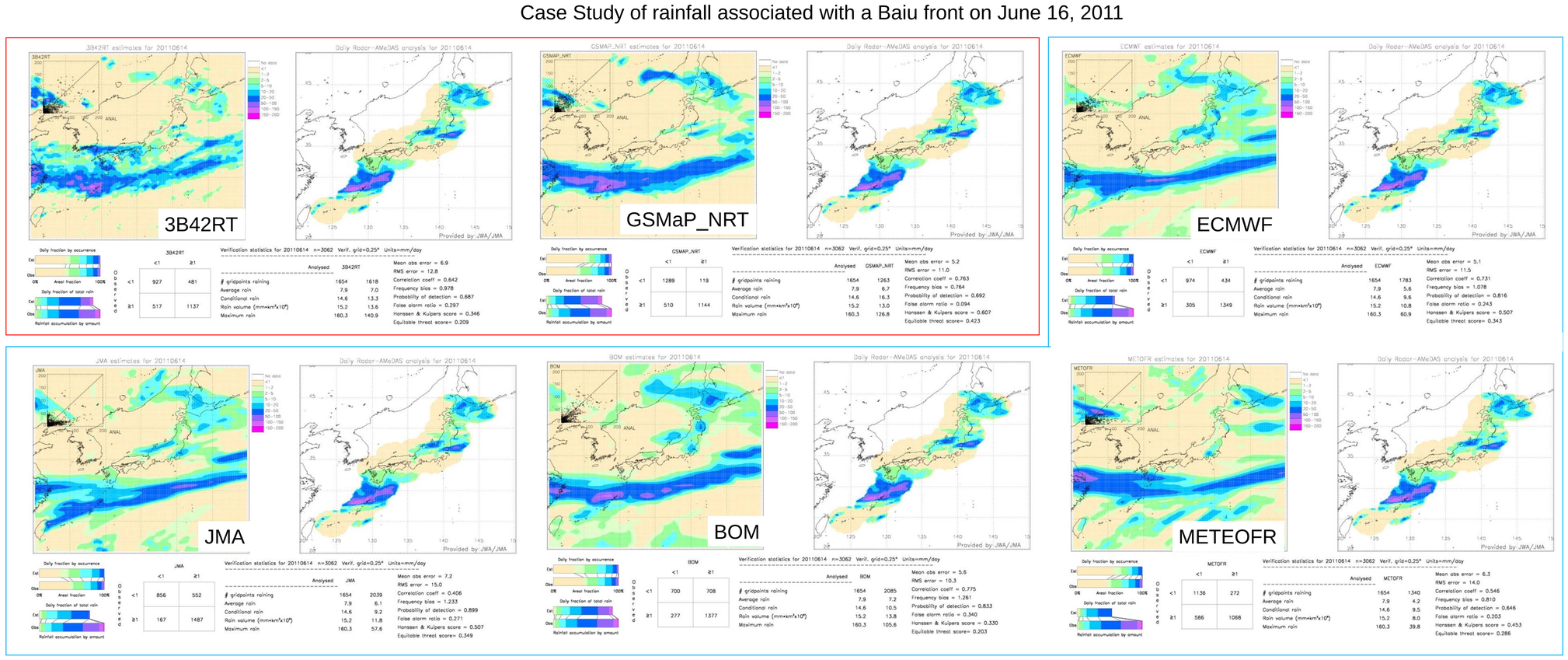
Satellite products perform best over ocean and model forecasts perform best over land.

Time Series of correlation coefficients over Japan



General trends of the performance of satellite products and model forecasts agree with the results from other IPWG site validation, but model forecasts show a stable performance through the year.

Case Study of rainfall associated with a Baiu front on June 16, 2011



Some model forecasts performed better than near real-time satellite products for this case during warm season which had rainfall over ocean.