

# International Research Project on Sub-seasonal to Seasonal Prediction

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The Sub-seasonal to Seasonal Prediction Project (S2S) is the joint research project between the World Weather Research Programme (WWRP) in World Meteorological Organization (WMO) and the World Climate Research Programme (WCRP), as one of the legacy projects of THORPEX. The main goal of the S2S is to improve forecast skill and understanding on the sub-seasonal to seasonal timescale, and promote its uptake by operational centres and exploitation by the applications community. Specific attention will be paid to the risk of extreme events, including tropical cyclones, droughts, floods, heat waves and the waxing and waning monsoon precipitation. The S2S related information is available at <http://s2sprediction.net>. The S2S International Coordination Office is located at NIMR, Jeju, Republic of Korea.

The research topics of S2S are being organized around a set of six sub-projects; Africa, Monsoons, Extremes, MJO, Verification, and interactions/teleconnections between midlatitudes and tropics.

The S2S Database (<http://software.ecmwf.int/wiki/display/s2s>) is similar to the TIGGE Database (<http://tigge.ecmwf.int/>) and includes near-real time forecasts and re-forecasts from 11 global data centers world wide, to provide ensemble forecast data to the science community with three-week delay, up to 60-day time integration. This research database, hosted at the European Centre for Medium-Range Weather Forecasts (ECMWF) and CMA is now available to the research community from the ECMWF data portal: <http://apps.ecmwf.int/datasets/data/s2s/> with 7 global centres' products (BoM, CMA, ECMWF, JMA, Meteo France, NCEP, Rushdromet).

A current forecast skill for an active MJO event in March 2015, using ensemble forecasts from the S2S database (S2S Museum: [http://gpvjma.ccs.hpcc.jp/S2S/S2S\\_MJO.html](http://gpvjma.ccs.hpcc.jp/S2S/S2S_MJO.html)) will be presented. Most models predicted well in rapid amplification to reach maximum intensity around March 17, 5 days later from the initial time. Some models also show rapid weakening after the peak, which agrees well with the analysis as well. The ensemble mean from each centre shows good performance up to a month. But the spreads in some centres' ensemble products are large after two weeks, which may require improvements.

Under the S2S, there is the Steering Group (SG) to promote the S2S activities. It consists of co-chairs (F. Vitart and A. W. Robertson) and about 10 members in total from both WWRP and WCRP. The Workshop on sub-seasonal to seasonal predictability of Monsoons (<http://s2sprediction.net/workshop>) was held in NIMR in June 2015 and the advanced school and workshop on S2S Prediction and Application to Drought Prediction (<http://indico.ictp.it/event/a14264/>) will be held at ICTP, Trieste, Italy, 23 Nov. to 4 Dec. 2015.

Key words: sub-seasonal prediction, predictability, S2S database

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