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Seasonal hydrological forecasting for Java, Indonesia: a comparison of skill between ECMWF S4, ESP and ESP-ENSO based streamflow forecasts

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The availability of a skillful seasonal streamflow forecast may positively affect rice production on the island of Java, Indonesia. For that purpose, three forecasting approaches have been tested for skill. ESP and ESP-ENSO are climatology based forecasting approaches, where the latter is further conditioned on an ENSO index. The ECMWF-S4 system provides dynamic precipitation forecasts. The resulting forecasts were tested for skill. In all cases, skill is relatively modest. ESP-ENSO forecast skill trumps that of ESP, which, in turn is higher than that of the ECMWF-S4 based forecasts. Some recommendations are made for further understanding forecast skill, and for approaches that may lead to skill improvements.