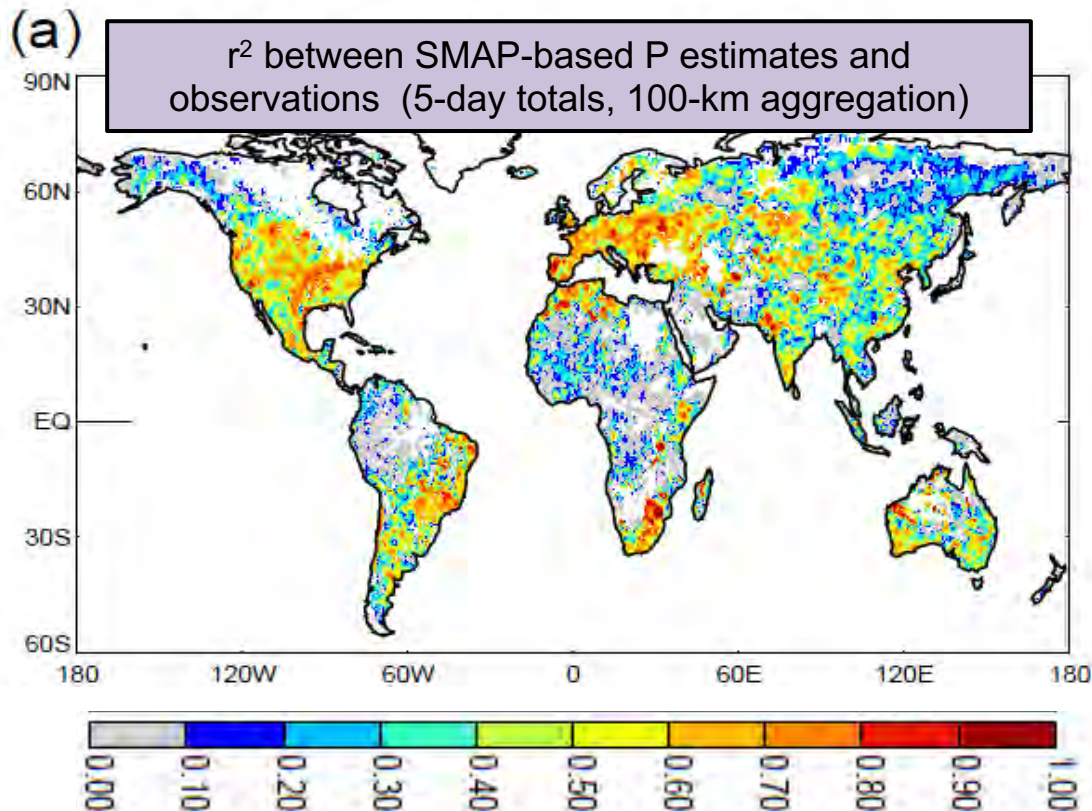# Precipitation and SMAP Soil Moisture Increments

Problem: Every means of quantifying precipitation over land has its limitations. Can SMAP data provide an independent, complementary set of global precipitation estimates?

(a) r² between SMAP-based P estimates and observations (5-day totals, 100-km aggregation)

Finding: Time-increments of SMAP soil moisture can be processed into estimates of precipitation. The skill of these estimates is high where we have good observations for evaluation, suggesting that they can help "fill in the gaps" where traditional precipitation estimates are otherwise unavailable.

Impact: SMAP-based precipitation estimates can arguably be used in conjunction with data from other sources to produce an optimal, multi-source precipitation datasets.