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Modeling drought variability in the water scarce Middle East and Southwest Asia

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The ability to simulate drought variability across the water scarce Middle East and Southwest Asia [40-80E,10-45N] is examined in terms of the seasonal precipitation variability simulated in a suite of different atmospheric models forced with observed sea surface temperatures. Several, but not all, of the models are able to capture key circulation changes known to be associated with large-scale forcing of severe drought in the region. Simulation skill also varies across the region. The model differences and skill areas have important implications for seasonal prediction of regional drought, which is explored both in general and for specific regional drought events, including 1999-2001, 2007-2008, and 2014-2015. The societal impact of the drought variability is considered in terms of the occurrence of drought disasters, as recorded in the CRED EM-DAT database.