



## **Possible Influences of the Madden-Julian Oscillation on Global Fire**

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Possible influences of the Madden-Julian Oscillation (MJO) on global wildfire are investigated. Glob fire potential and activities are measured by the Nesterov Index (NI), fire danger index (FDI), fire number (FN), and burned area (BA) from the output of a process-based fire regime model (SPITFIRE). The MJO is described using the Real-Time Multivariate MJO (RMM) index. Eight MJO phases defined by the RMM index correspond to different longitudinal locations of positive and negative anomalies in its rainfall as it propagates eastward from the Indian to Pacific Oceans. Phase 0 is defined as periods without MJO signals. Potential influences of the MJO on global fire are demonstrated as the differences of the four fire parameters between each of the eight MJO phases and phase 0. Statistically significant (at the 95% confidence level) differences are identified in various MJO phases in the following regions: tropical Africa, the Amazonia, Siberia, western Russia, and North America. Potential implications and caveats of these signals are discussed.