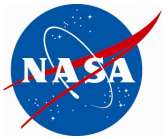
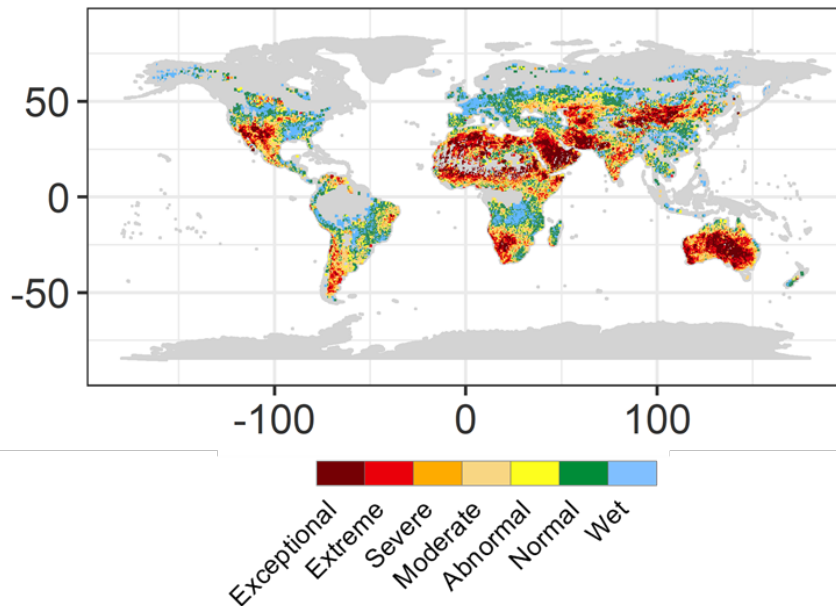


Global Agricultural Drought Monitoring in Near-Real-Time using SMAP



2018-06-02



Global agricultural drought severity measured in terms of soil moisture stress for 2nd June 2018.

Problem:

Agricultural drought monitoring is limited by lack of long term observations and understanding of effective soil drydown processes from farmers' field, county, region, continent, to global scales.

Finding:

Using multi-year SMAP data, characteristics soil moisture drydown at SMAP footprint scale can be parameterized using canonical forms. SMAP-derived drydown provide effective soil water retention and hydraulic parameters, which can be used to calculate plant stress due to emergent drought conditions in near-real time globally.

Impact: Improved understanding of effective soil drydown processes at remote sensing footprint scales under biophysical heterogeneity and seasonality. Near-real-time global monitoring of emergent drought conditions, leading to mitigation strategies.