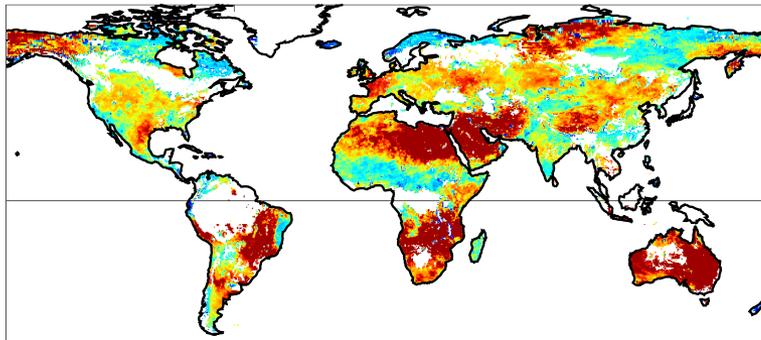
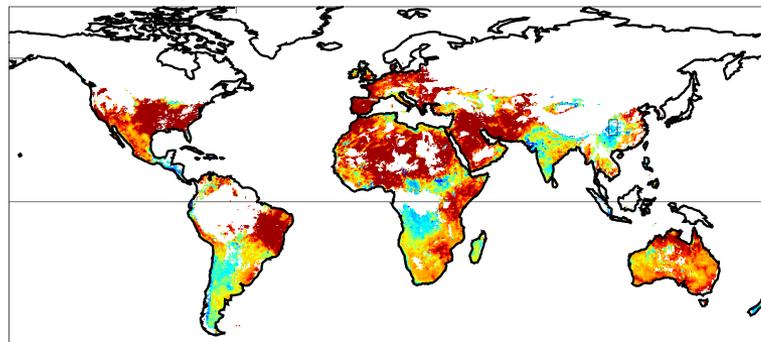


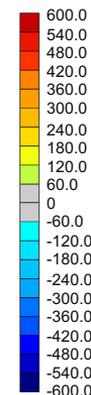
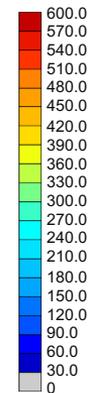
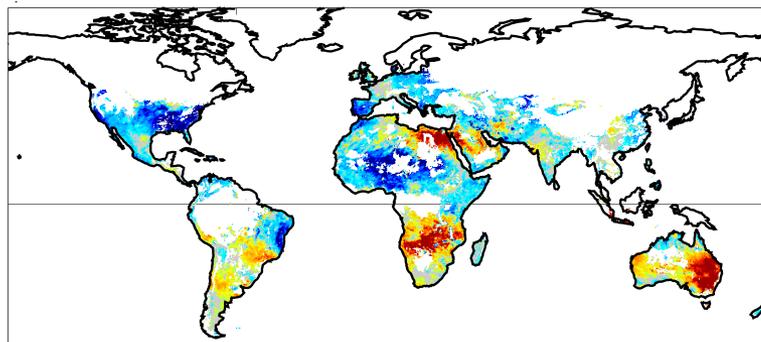
Spatial
Correlation
Length Scale
from
SMAP (km):
MJJAS



Spatial
Correlation
Length Scale
from
SMAP (km):
NDJFM



Differences:
MJJAS minus
NDJFM



Length Scales of Hydrological Variability as Inferred from SMAP Soil Moisture Retrievals

The length scale plotted at a given point represents the distance one can travel from that point and still have similar time variations in soil moisture (with a correlation at or above $1/e$). These length scales were estimated from SMAP near-surface soil moisture data for the Northern Hemisphere warm season (May–September, or MJJAS) (*top*) and cold season (November through March, or NDJFM) (*middle*). Areas of insufficient data are whited out in the plots. The difference between the warm season and cold season length scales (*bottom*) reflects the different character of precipitation in those seasons – warm season precipitation is generally dominated by moist convection, which operates at relatively small spatial scales.