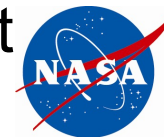


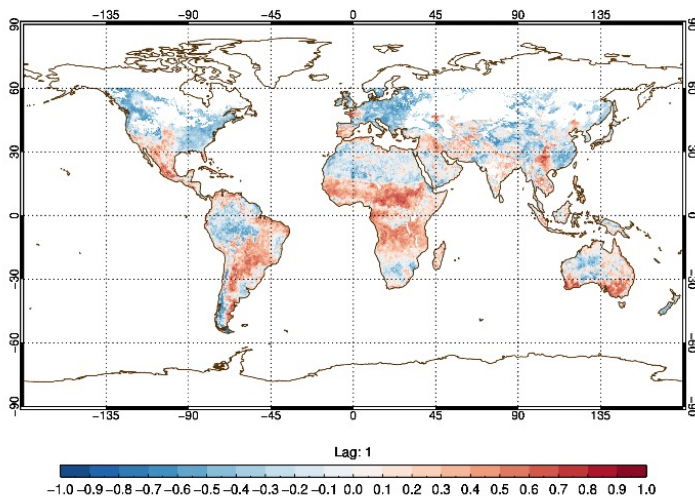


USDA FAS Global Crop Assessment Decision Support System Enhanced Using SMAP Data



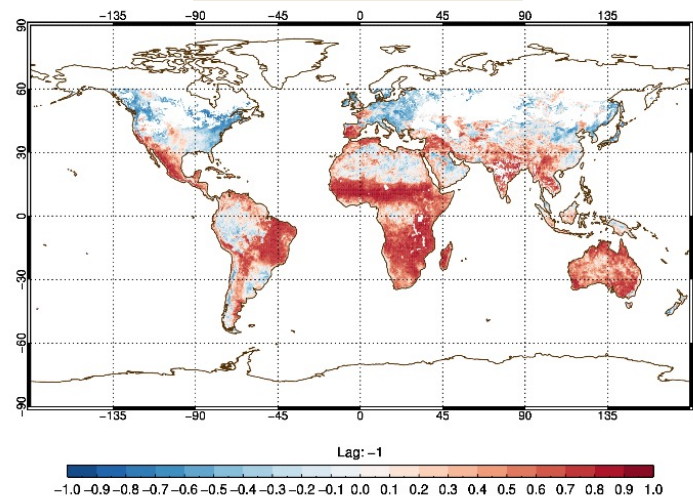
Problem: Long-lead (months ahead) global assessment of food security through prediction of vegetation health

Model-only



Correlation of *current* USDA FAS soil moisture product based on water balance modeling

Model + SMAP



Enhanced correlation observed *after* the assimilation of SMAP L3 retrievals.

Finding: Correlation between *current* monthly soil moisture levels and *future* (+ 1 month) vegetation health (NDVI) increases (more red) with assimilation of SMAP data

Impact: Improved early detection of agricultural drought