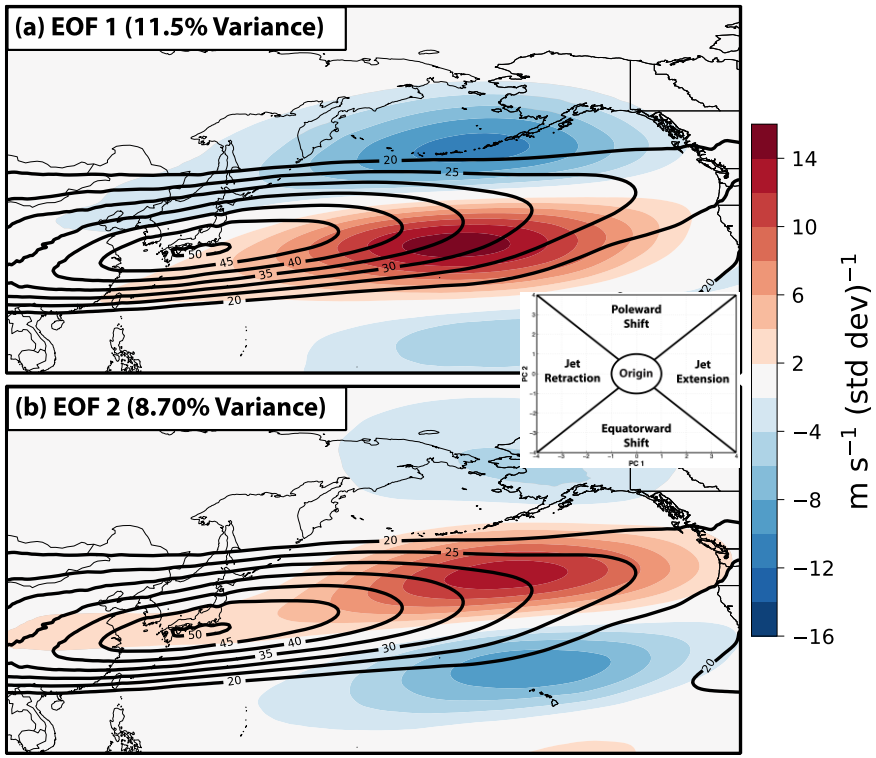
Elevated Land Surface Heat Anomalies as Sources of U.S. Summer Hydroclimate Predictability: E3SMv2 Low-Level Jet and Precursor Event Sensitivities

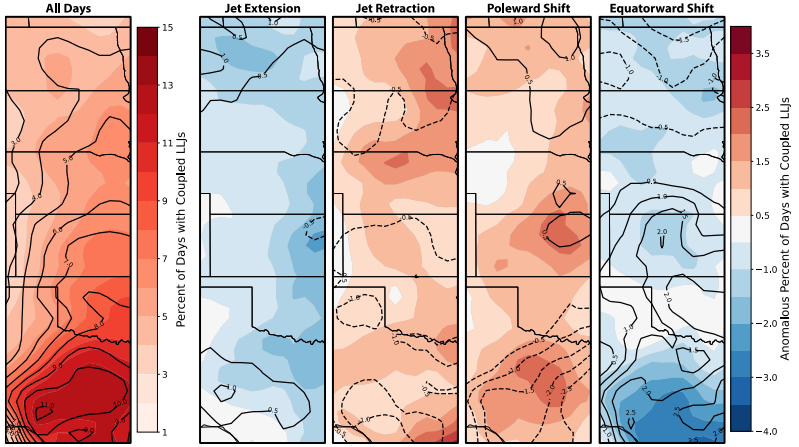
Ryan D. Torn, Qi Tang, Andrew Winters

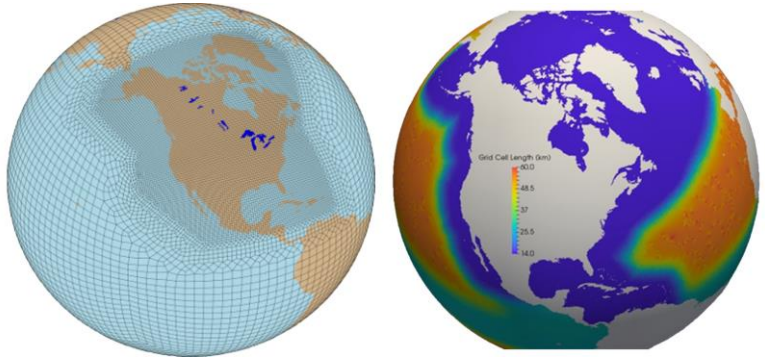
Objectives

1) Identify and diagnose systematic E3SMv2 time-mean model biases in land states, teleconnections
2) Quantify and spatially demarcate E3SMv2 ENSO and PDO-related December–March land surface anomalies in CONUS
3) Understand how elevated surface heating anomalies modulate E3SMv2's representation of the western Asia–North America teleconnection.
4) Evaluate E3SMv2 S2S forecast skill and how elevated anomalies impact forecasts
5) Integrate supporting tools into E3SM Diagnostic Tools

Digital Version of the Poster:







ENSO	PDO		
	0	+1.65σ PDO	-1.65σ PDO
0	●	●	●
-1.65σ EP	●	●	●
+1.65σ EP	●	●	●
-1.65σ CP	●	●	●
+1.65σ CP	●	●	●

T2m	CGT Index		
	2007 (0)	2008 (+1.65σ CGT)	2009 (-1.65σ CGT)
0 westTP, 0 eastTP	●	●	●
0 westTP, -1.65σ eastTP	●	●	●
0 westTP, +1.65σ eastTP	●	●	●
-1.65σ westTP, 0 eastTP	●	●	●
+1.65σ westTP, 0 eastTP	●	●	●
-1.65σ westTP, -1.65σ eastTP	●	●	●
-1.65σ westTP, +1.65σ eastTP	●	●	●
+1.65σ westTP, -1.65σ eastTP	●	●	●
+1.65σ westTP, +1.65σ eastTP	●	●	●