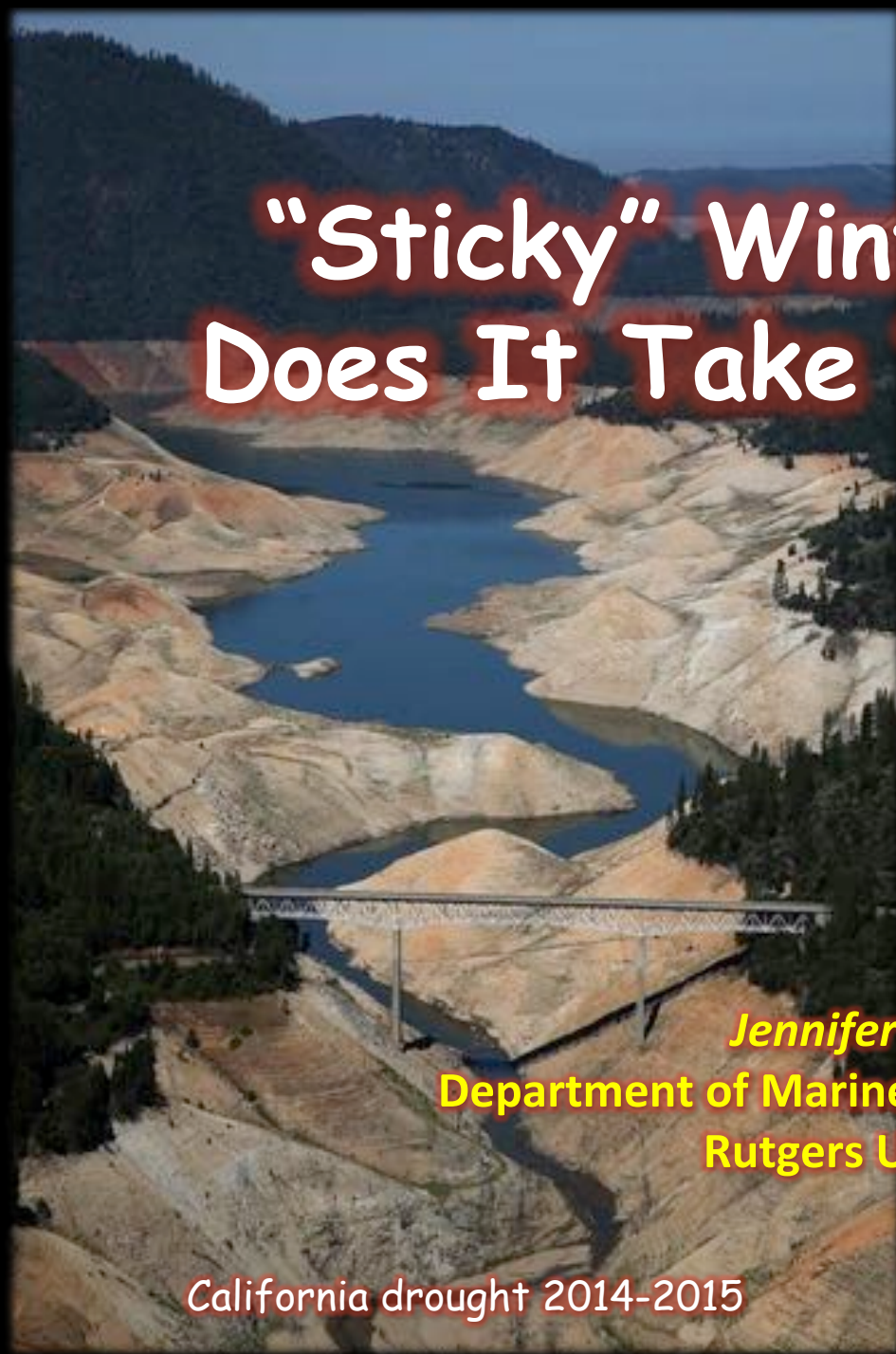
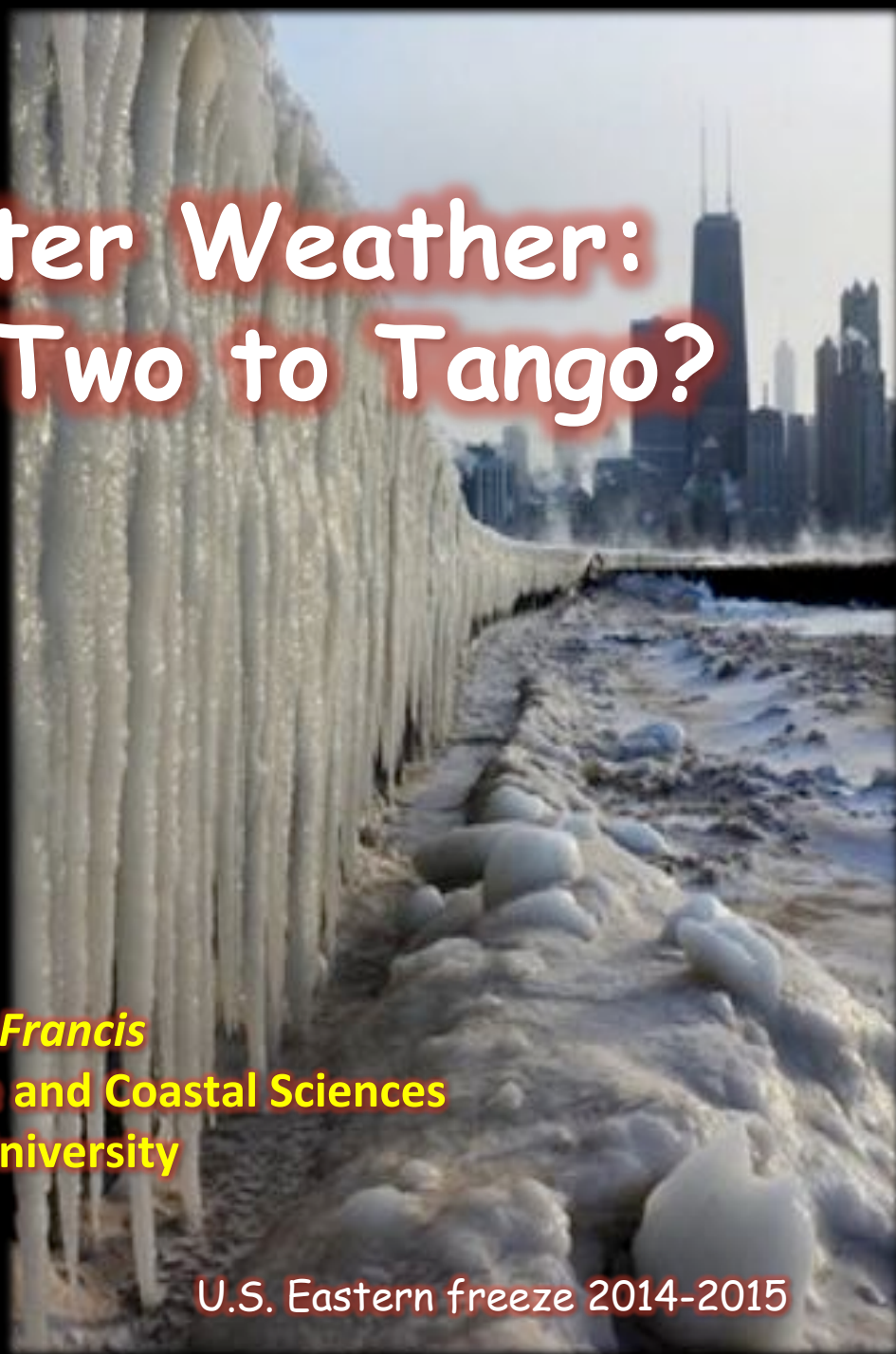


"Sticky" Winter Weather: Does It Take Two to Tango?



California drought 2014-2015

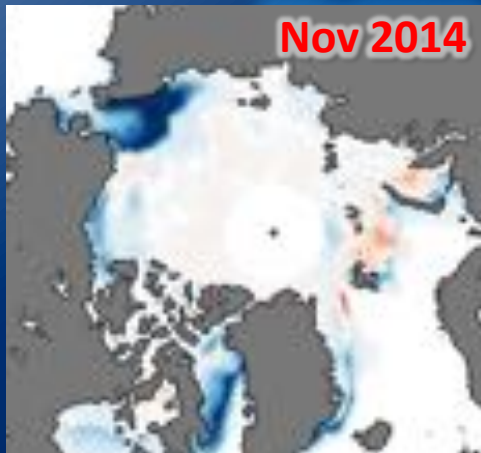
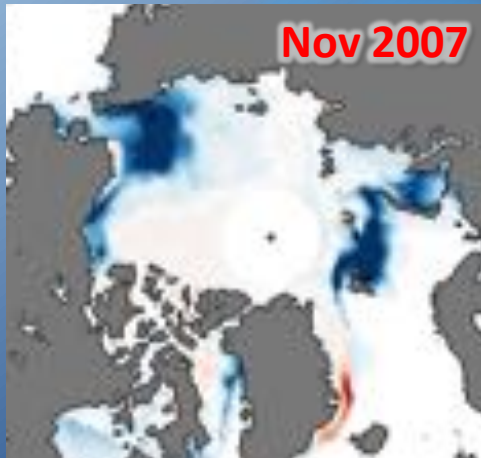


U.S. Eastern freeze 2014-2015

Jennifer Francis
Department of Marine and Coastal Sciences
Rutgers University

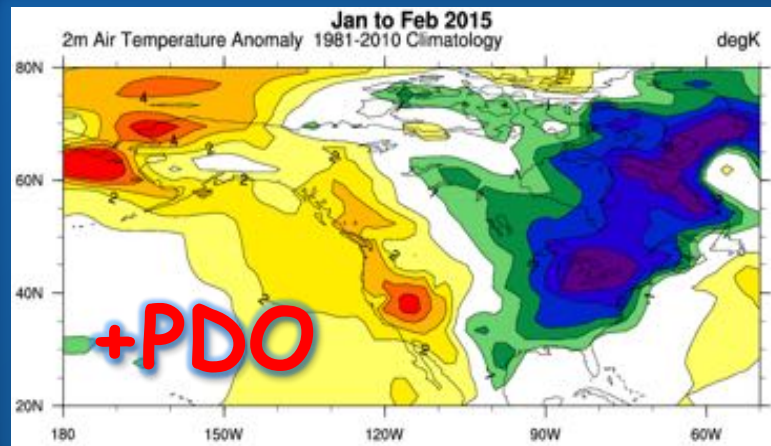
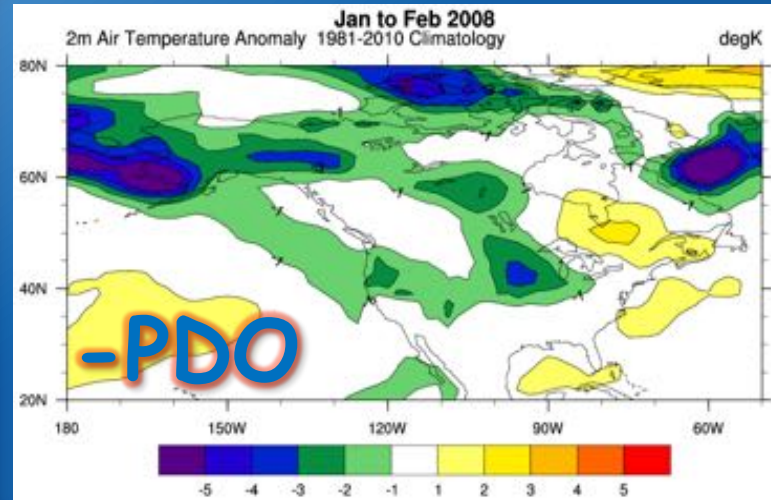
A Tale of Two Winters

Sea ice cover:
differences from normal

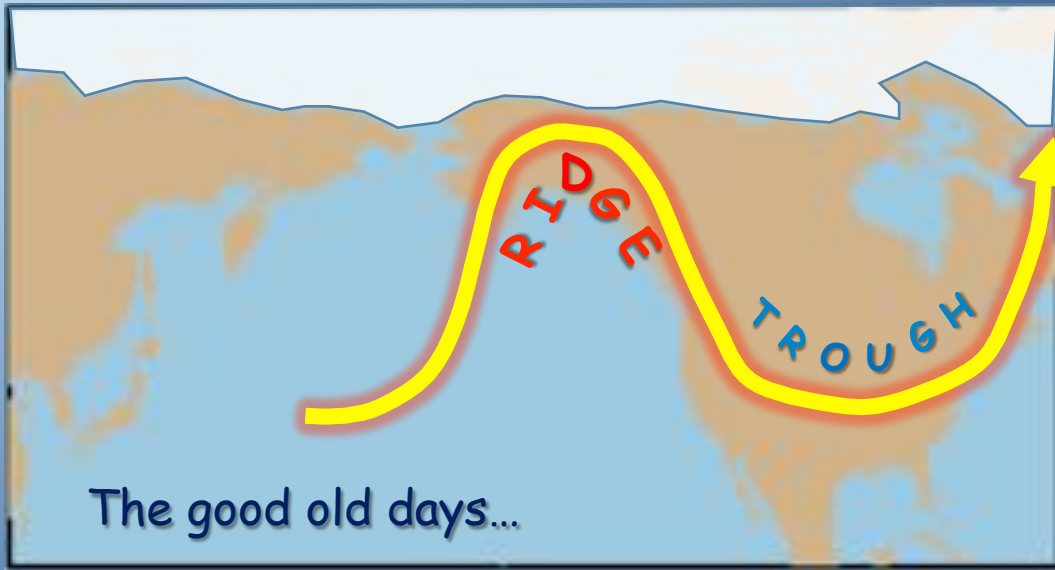


from NSIDC

Air temperature differences



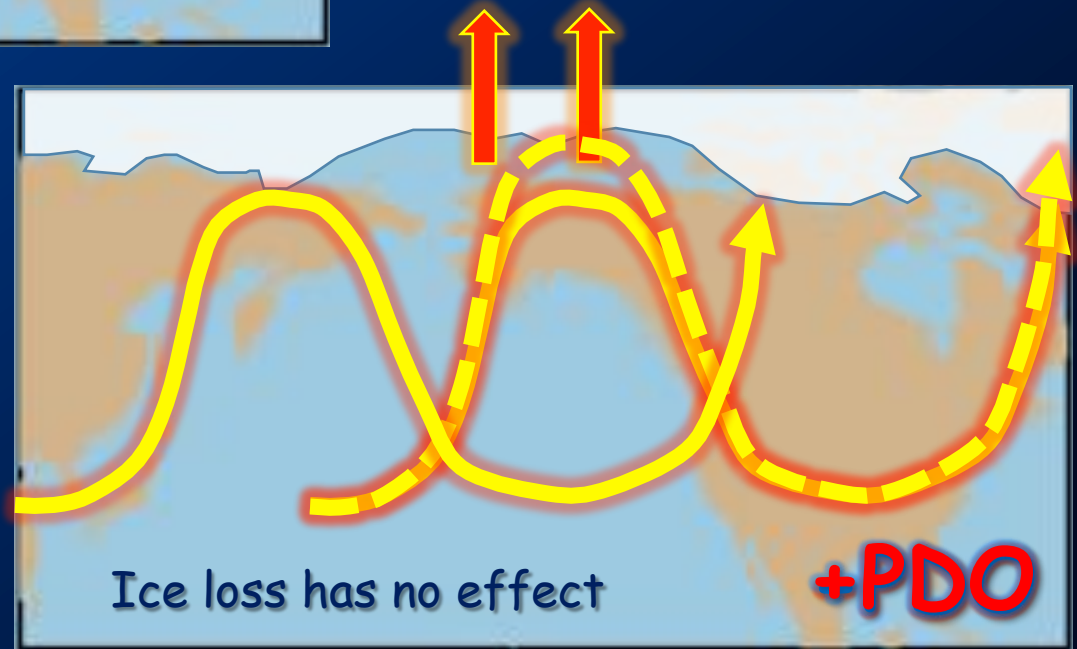
from ESRL.NOAA



The
"It Takes
Two to
Tango"
hypothesis

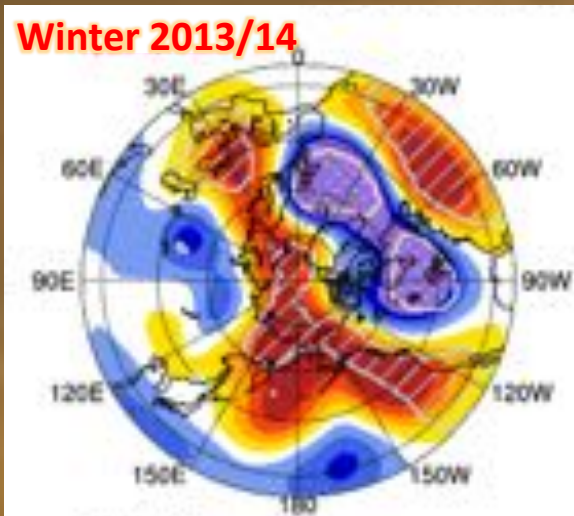
Extra heating intensifies ridge, making it more persistent.

Two necessary factors, neither sufficient alone!!

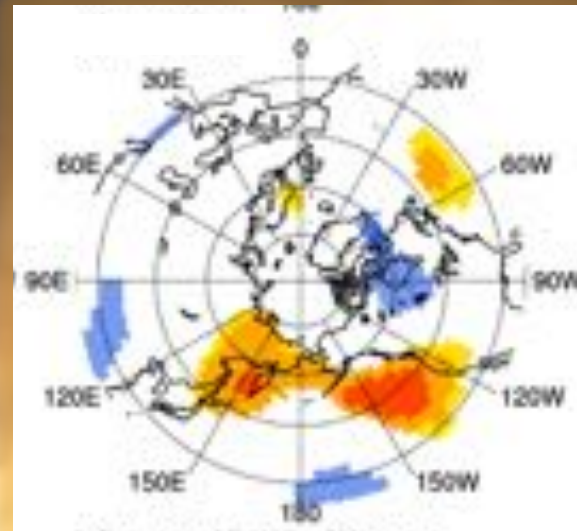


Evidence from the Real World

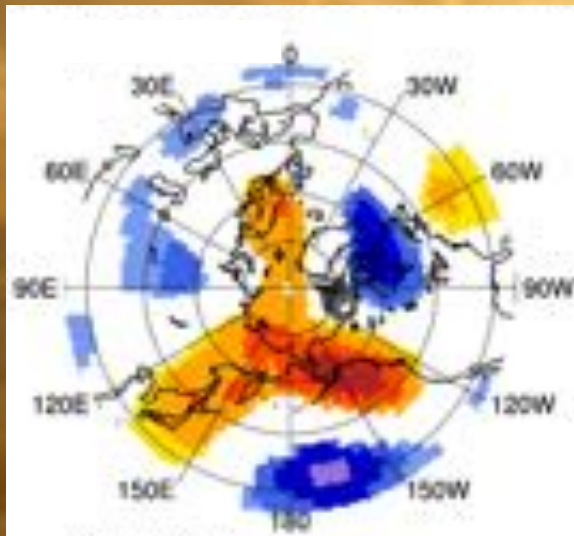
Layer
Heights:
OBS



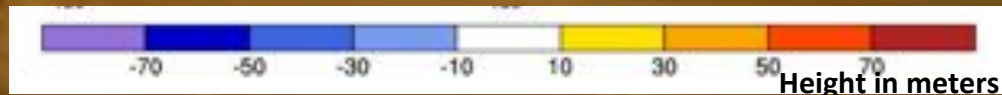
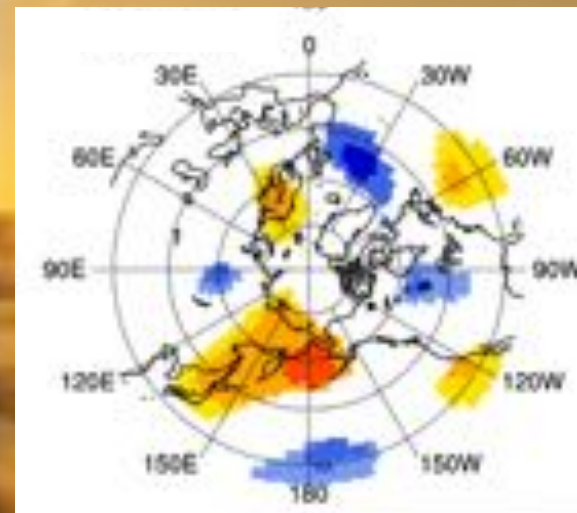
Model
with Pac
SSTs



Model
with Pac
SSTs
AND
Sea Ice



Model
with
Sea Ice



Lee et al,
GRL 2015



2
To
Tango?

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