Warm episode relationships Dec.-Feb.

Schematic of precipitation and temperature regions during DJF El Niño

Cold episode relationships DJF

Schematic of precipitation and temperature regions during DJF La Niña

Composite of “Above & Below - Normal” precipitation and temperature probabilities for DJF associated with La Niña (min. 10 NINO3 DJF 1950-1994)
Pacific - North American sector
Response to El Niño

La Niña: opposite sign to a first approximation
(but weaker, esp. over N. America)

**Mid-latitude response:**
barotropic, same sign through depth of troposphere

**Tropical response:**
baroclinic, opposite sign at low levels

Refs: J.M. Wallace et al 1998,
K. Trenberth et al 1998
Response to ENSO: storm tracks and subtropical jet

Climatological jet
Jet extension during El Niño
Climatological region of large variance of high-frequency (HF) transients (storm tracks)
El Niño anomaly of HF transient variance
La Niña anomaly of HF transient variance