# **ENSO Composites**

Note: There are two ways to run the ENSO Composite option. First is to select an ONI range. The second is to manually select a list of years. For each option, two maps are made. An average departure and a count above/below a user-defined threshold (two maps). By default, the average departure is the departure from the long-term trend (define the start year for the trend in the "Ranks / trend start year" box. This essentially detrends the time series – but can be skipped if desired. The above/below option for temperature is compared to the detrended Long-term average and uses the user-specified units. For precipitation, it is above/below the percent of detrended average (100% equals the long-term average. When selecting a list of years, make sure to have no spaces (only a comma) between the years. Use the end year for periods to cross over the new year. No Time series strip is generated. An initial ESNO analysis takes several minutes to run. If an analyses has been previously run, subsequent runs take about 90 seconds.

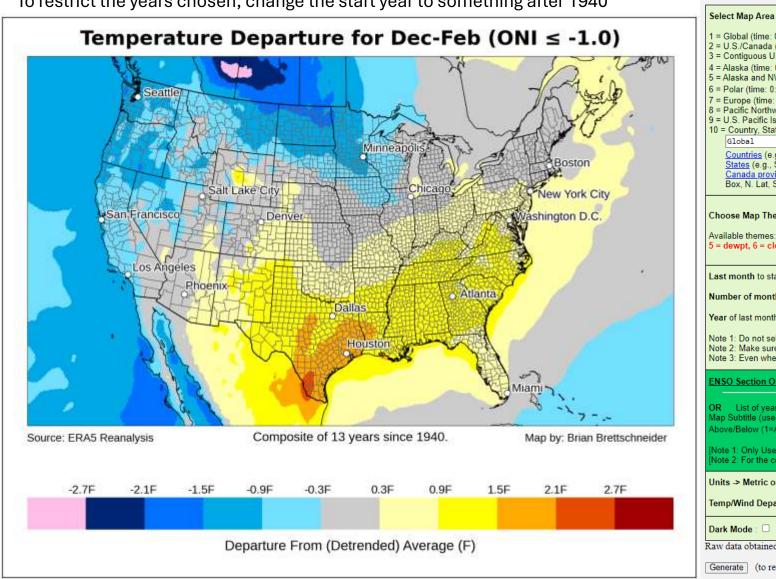
## Contiguous U.S. Dec-Feb Temperature When ONI < -1 (La Nina Winters)

This is the first of two maps generated. The next page has the second map.

Make sure to have the units (for temperature (and wind) chosen and an appropriate mapping interval

This is an average departure from the detrended long-term average (since 1940)

To restrict the years chosen, change the start year to something after 1940



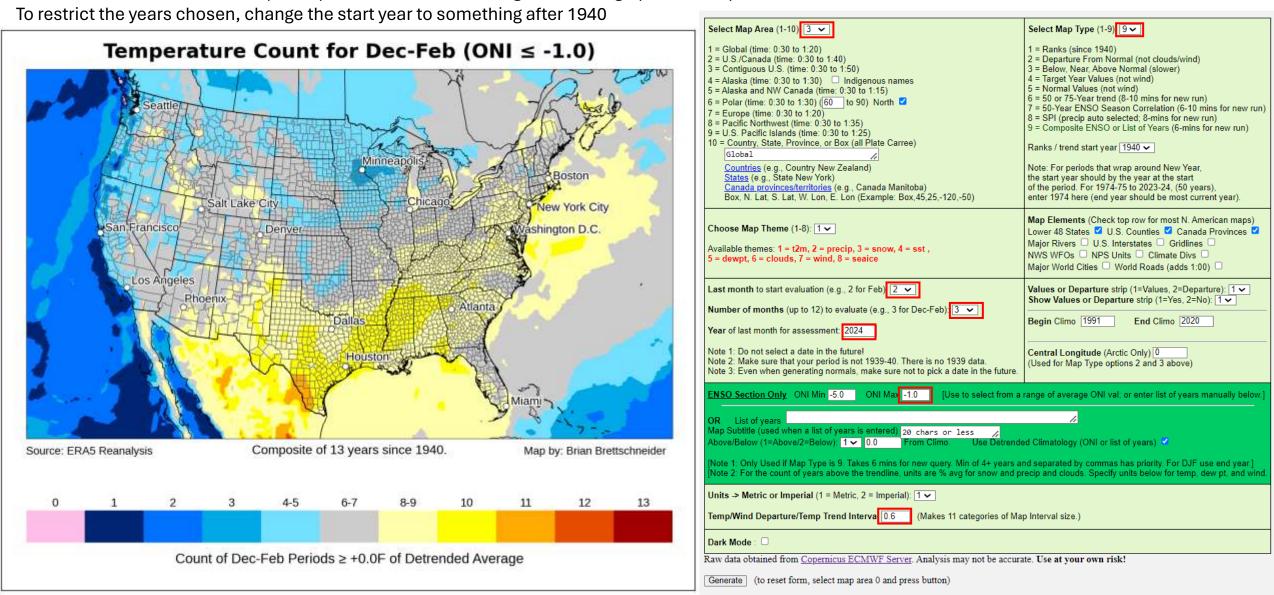
Select Map Area (1-10) 3 V	Select Map Type (1-9) 9	
1 = Global (time: 0:30 to 1:20) 2 = U.S./Canada (time: 0:30 to 1:40) 3 = Contiguous U.S. (time: 0:30 to 1:50) 4 = Alaska (time: 0:30 to 1:30) □ Indigenous names 5 = Alaska and NW Canada (time: 0:30 to 1:15) 6 = Polar (time: 0:30 to 1:30) (60 □ to 90) North  7 = Europe (time: 0:30 to 1:20) 8 = Pacific Northwest (time: 0:30 to 1:25) 9 = U.S. Pacific Islands (time: 0:30 to 1:25) 10 = Country, State, Province, or Box (all Plate Carree) Global	1 = Ranks (since 1940) 2 = Departure From Normal (not clouds/wind) 3 = Below, Near, Above Normal (slower) 4 = Target Year Values (not wind) 5 = Normal Values (not wind) 6 = 50 or 75-Year trend (8-10 mins for new run) 7 = 50-Year ENSO Season Correlation (6-10 mins for new run) 8 = SPI (precip auto selected; 8-mins for new run) 9 = Composite ENSO or List of Years (6-mins for new run) Ranks / trend start year 1940 V  Note: For periods that wrap around New Year, the start year should by the year at the start of the period. For 1974-75 to 2023-24, (50 years), enter 1974 here (end year should be most current year).	
Choose Map Theme (1-8): 1 V  Available themes: 1 = t2m, 2 = precip, 3 = snow, 4 = sst, 5 = dewpt, 6 = clouds, 7 = wind, 8 = seaice	Map Elements (Check top row for most N. American maps) Lower 48 States    U.S. Counties    Gridlines    NWS WFOs    NPS Units    Climate Divs    Major World Cities    World Roads (adds 1:00)	
Number of months (up to 12) to evaluate (e.g., 3 for Dec-Feb):	Values or Departure strip (1=Values, 2=Departure): 1  Show Values or Departure strip (1=Yes, 2=No): 1  Begin Climo 1991 End Climo 2020	
Year of last month for assessment: 2024  Note 1: Do not select a date in the future!  Note 2: Make sure that your period is not 1939-40. There is no 1939 data.  Note 3: Even when generating normals, make sure not to pick a date in the future.	Central Longitude (Arctic Only) 0 (Used for Map Type options 2 and 3 above)	
ENSO Section Only ONI Min -5.0 ONI Max -1.0 [Use to select from a range of average ONI val; or enter list of years manually below.]		
OR List of years  Map Subtitle (used when a list of years is entered)  20 chars or less  Above/Below (1=Above/2=Below): 1   0.0 From Climo. Use Detrended Climatology (ONI or list of years)  [Note 1: Only Used if Map Type is 9. Takes 6 mins for new query. Min of 4+ years and separated by commas has priority. For DJF use end year.]		
[Note 2: For the count of years above the trendline, units are % avg for snow and precip and clouds. Specify units below for temp, dew pt, and wind.		
Units -> Metric or Imperial (1 = Metric, 2 = Imperial): 1 -  Temp/Wind Departure/Temp Trend Interval 0.6 (Makes 11 categories of Map Interval size.)		
Dark Mode :		
Raw data obtained from Copernicus ECMWF Server. Analysis may not be accurate. Use at your own risk!		
Generate (to reset form, select map area 0 and press button)		

## Contiguous U.S. Dec-Feb Temperature When ONI < -1 (La Nina Winters)

This is the second of two maps generated. The previous page has the first map.

Make sure to have the units (for temperature (and wind) chosen and an appropriate mapping interval

This is the count above normal (> 0.0F) from the detrended long-term average (since 1940)



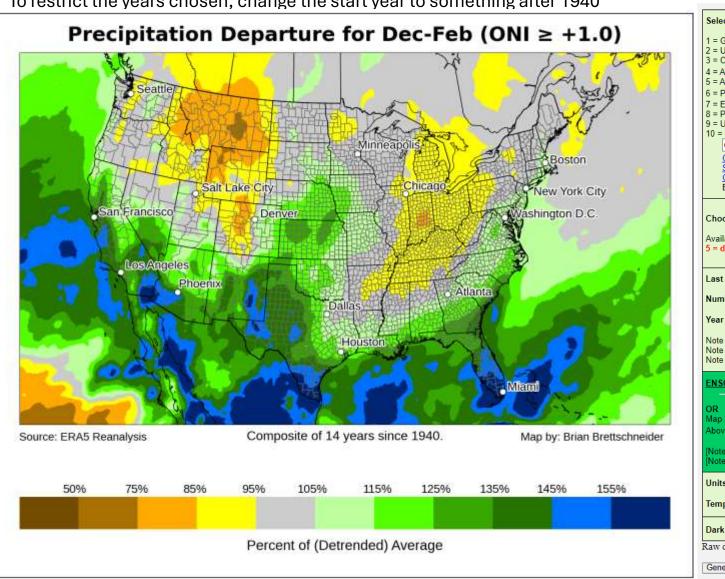
# Contiguous U.S. Dec-Feb Precipitation When ONI >+1 (El Nino Winters)

#### This is the first of two maps generated. The next page has the second map.

The units and mapping interval are automatically chosen for precipitation and snowfall

This is an average departure from the detrended long-term average (since 1940)

To restrict the years chosen, change the start year to something after 1940



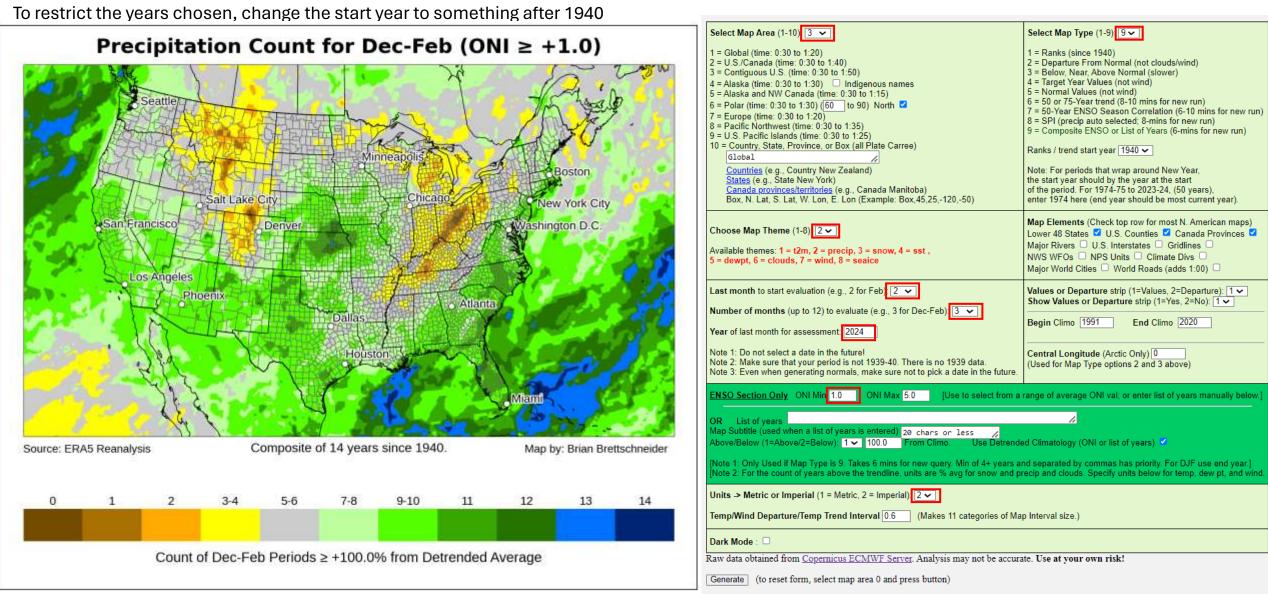
Select Map Area (1-10) 3	Select Map Type (1-9) 9 V	
1 = Global (time: 0:30 to 1:20) 2 = U.S./Canada (time: 0:30 to 1:40) 3 = Contiguous U.S. (time: 0:30 to 1:50) 4 = Alaska (time: 0:30 to 1:30) □ Indigenous names 5 = Alaska and NW Canada (time: 0:30 to 1:15) 6 = Polar (time: 0:30 to 1:30) (60	1 = Ranks (since 1940) 2 = Departure From Normal (not clouds/wind) 3 = Below, Near, Above Normal (slower) 4 = Target Year Values (not wind) 5 = Normal Values (not wind) 6 = 50 or 75-Year trend (8-10 mins for new run) 7 = 50-Year ENSO Season Correlation (6-10 mins for new run) 8 = SPI (precip auto selected; 8-mins for new run) 9 = Composite ENSO or List of Years (6-mins for new run) Ranks / trend start year 1940 V  Note: For periods that wrap around New Year, the start year should by the year at the start of the period. For 1974-75 to 2023-24, (50 years), enter 1974 here (end year should be most current year).	
Choose Map Theme (1-8)  Available themes: 1 = t2m, 2 = precip, 3 = snow, 4 = sst, 5 = dewpt, 6 = clouds, 7 = wind, 8 = seaice	Map Elements (Check top row for most N. American maps) Lower 48 States ☑ U.S. Counties ☑ Canada Provinces ☑ Major Rivers ☐ U.S. Interstates ☐ Gridlines ☐ NWS WFOs ☐ NPS Units ☐ Climate Divs ☐ Major World Cities ☐ World Roads (adds 1:00) ☐	
Number of months (up to 12) to evaluate (e.g., 3 for Dec-Feb)  Year of last month for assessment 2024	Values or Departure strip (1=Values, 2=Departure): 1 v Show Values or Departure strip (1=Yes, 2=No): 1 v  Begin Climo 1991 End Climo 2020	
Note 1: Do not select a date in the future! Note 2: Make sure that your period is not 1939-40. There is no 1939 data. Note 3: Even when generating normals, make sure not to pick a date in the future.	Central Longitude (Arctic Only) 0 (Used for Map Type options 2 and 3 above)	
ENSO Section Only. ONI Min 1.0 ONI Max 5.0 [Use to select from a	range of average ONI val; or enter list of years manually below.]	
OR List of years Map Subtitle (used when a list of years is entered) 20 chars or less Above/Below (1=Above/2=Below): 1 100.0 From Climo. Use Detrended Climatology (ONI or list of years) (Indeed 1: Only Used if Map Type is 9. Takes 6 mins for new query. Min of 4+ years and separated by commas has priority. For DJF use end year.]  [Note 2: For the count of years above the trendline, units are % avg for snow and precip and clouds. Specify units below for temp, dew pt, and wind		
Units -> Metric or Imperial (1 = Metric, 2 = Imperial) 2 -		
Temp/Wind Departure/Temp Trend Interval 0.6 (Makes 11 categories of Map Interval size.)		
Dark Mode :		
Raw data obtained from Copernicus ECMWF Server. Analysis may not be accurate. Use at your own risk!		
Generate (to reset form, select map area 0 and press button)		

# Contiguous U.S. Dec-Feb Precipitation When ONI >+1 (El Nino Winters)

This is the second of two maps generated. The previous page has the first map.

The units and mapping interval are automatically chosen for precipitation and snowfall

This is the count above normal (> 100.0%) from the detrended long-term average (since 1940)



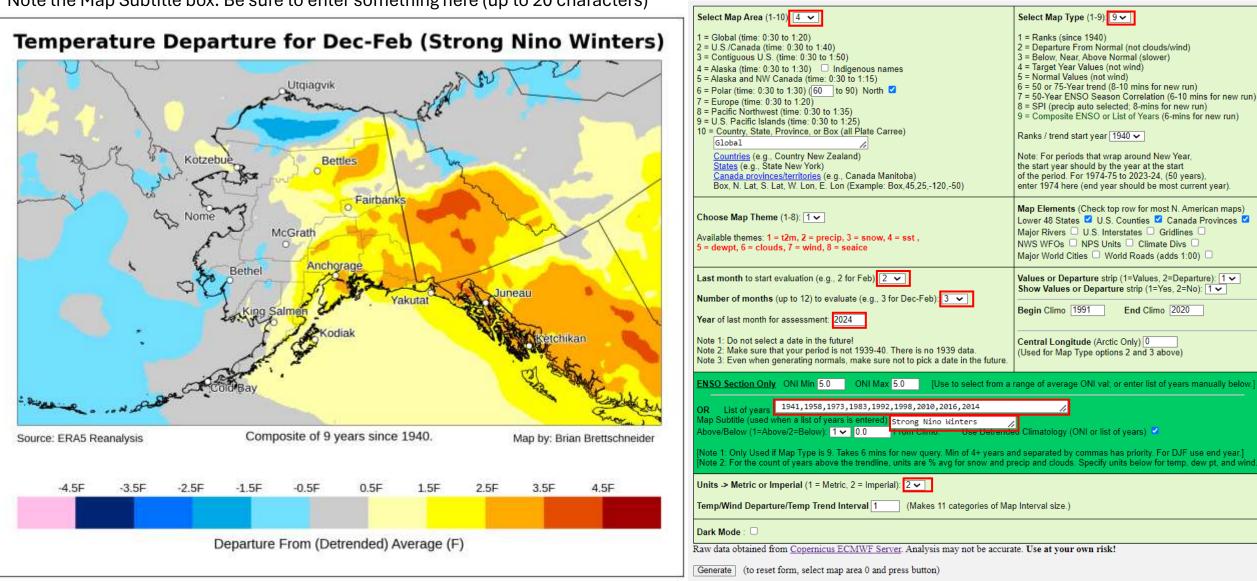
## Alaska Dec-Feb Temperature For A List of Years

This is the first of two maps generated. The next page has the second map.

Make sure to have the units (for temperature (and wind) chosen and an appropriate mapping interval

This is an average departure from the detrended long-term average for the list of years.

Note the Map Subtitle box. Be sure to enter something here (up to 20 characters)



## **Alaska Dec-Feb Temperature For A List of Years**

This is the second of two maps generated. The previous page has the first map.

Make sure to have the units (for temperature (and wind) chosen and an appropriate mapping interval

This is the count above normal (> 0.0F) from the detrended long-term average for the list of years.

Note the Map Subtitle box. Be sure to enter something here (up to 20 characters)

