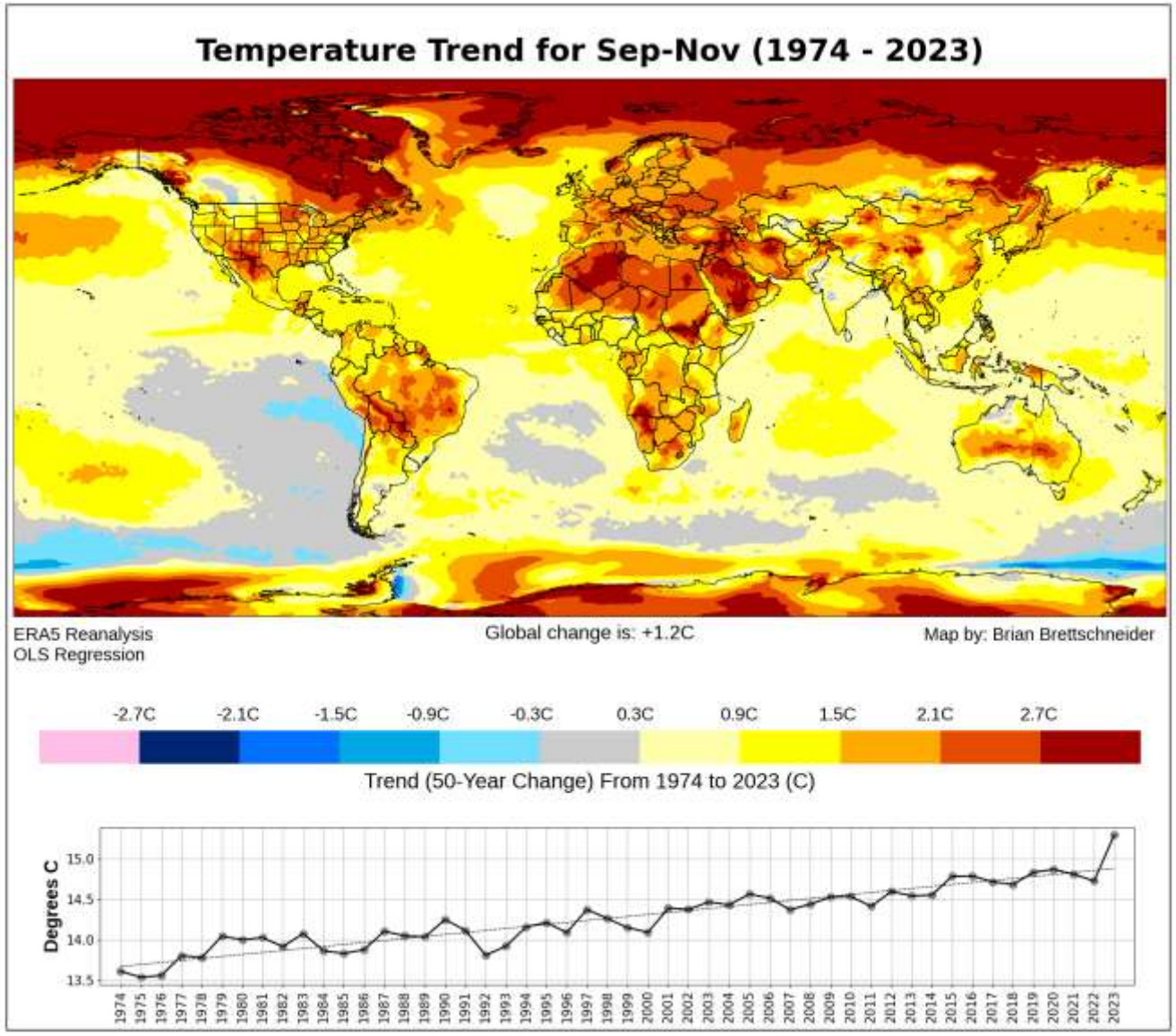
Trends

Note: if a specific trend has not been run before, it can take 6-10 minutes to run. Once a trend has been run, a NetCDF is saved and is used in subsequent runs and will take < 1 minute. If, for example, a Sep-Nov 1974-2023 trend is run for Europe, the NetCDF is saved for the entire globe. If you run a Sep-Nov 1974-2023 trend afterward for Alaska, it will already have the necessary NetCDF and will run quickly. Remember that when crossing the year (e.g., Dec-Feb), the target year uses the Feb year but the start year will use the Dec year. A Dec-Feb 1974-75 to 2023-24 will use 2024 as the analysis year but 1974 as the start year. It is still a 50-year run.

Global Sep-Nov 1974-2023 Temperature Trend

Be careful when choosing the time period - especially the start year
Map units were chosen as metric and the interval manually chosen as 0.6C
No other map elements were added



Select Map Area (1-10): 1

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 1:35)
9 = U.S. Pacific Islands (time: 0:30 to 1:25)
10 = Country, State, Province, or Box (all Plate Carree)
Global
Countries (e.g., Country New Zealand)
States (e.g., State New York)
Canada provinces/territories (e.g., Canada Manitoba)
Box, N. Lat, S. Lat, W. Lon, E. Lon (Example: Box,45,25,-120,-50)

Select Map Type (1-9): 6

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 1974

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

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) ☐

Last month to start evaluation (e.g., 2 for Feb): 11

Number of months (up to 12) to evaluate (e.g., 3 for Dec-Feb): 3

Year of last month for assessment: 2023

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.

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

Central Longitude (Arctic Only) 0
(Used for Map Type options 2 and 3 above)

ENSO Section Only ONI Min -5.0 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) ☑

[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.)

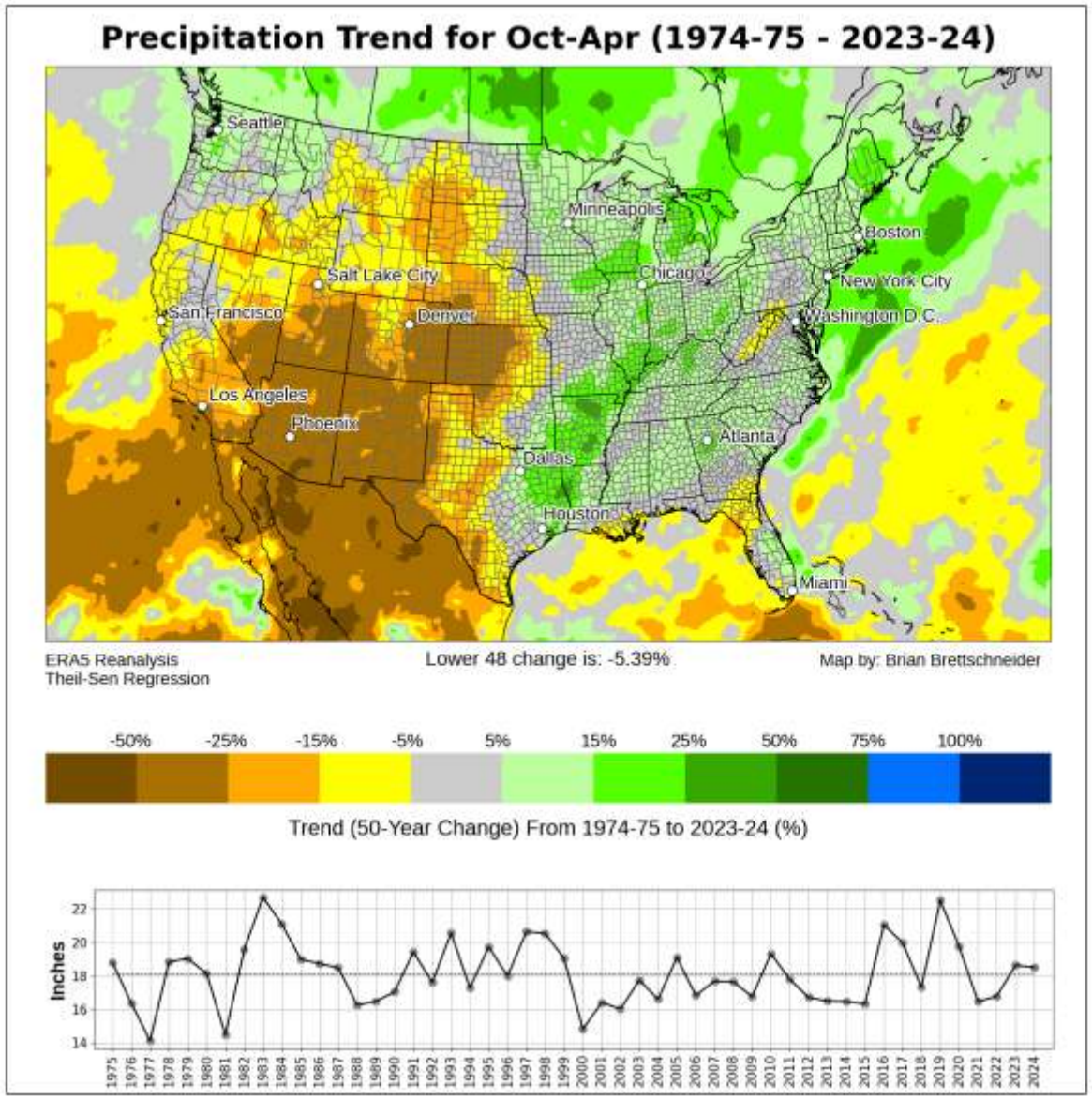
Dark Mode : ☐

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)

U.S. and Canada Oct-April 1974-75 to 2023-24 Precipitation Trend

Be careful when choosing the time period – note that 1974 was chosen as the start year
Map units were automatically chosen as a percent change (same for snowfall)
States, Canada provinces, and counties added



Select Map Area (1-10): 3

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 1:35)
9 = U.S. Pacific Islands (time: 0:30 to 1:25)
10 = Country, State, Province, or Box (all Plate Carree)
Country India
Countries (e.g., Country New Zealand)
States (e.g., State New York)
Canada provinces/territories (e.g., Canada Manitoba)
Box, N. Lat, S. Lat, W. Lon, E. Lon (Example: Box,45,25,-120,-50)

Select Map Type (1-9): 6

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: 1974

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): 2

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) ☐

Last month to start evaluation (e.g., 2 for Feb): 4

Number of months (up to 12) to evaluate (e.g., 3 for Dec-Feb): 7

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.

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

Central Longitude (Arctic Only) 0
(Used for Map Type options 2 and 3 above)

ENSO Section Only ONI Min -5.0 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) ☑

[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): 2

Temp/Wind Departure/Temp Trend Interval 1.0 (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)