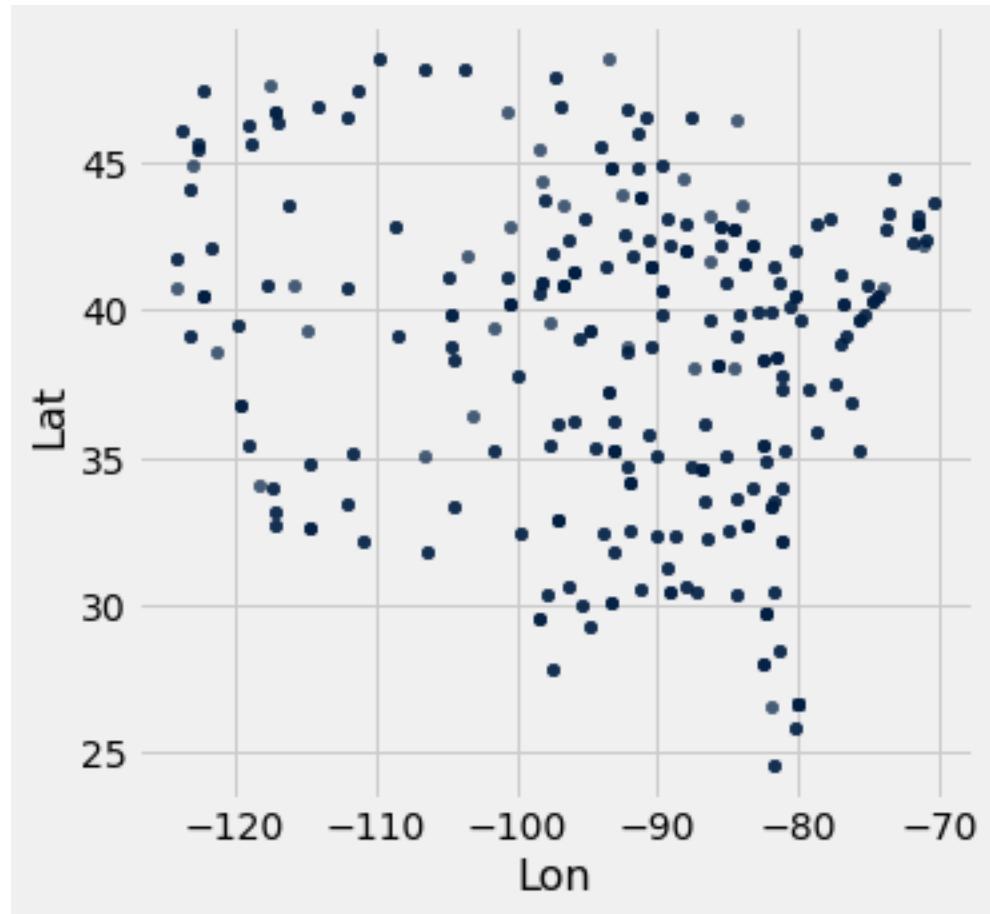


**Question 1.1.1:** In the cell below, produce a scatter plot that plots the latitude and longitude of every city in the `cities` table so that the result places northern cities at the top and western cities at the left.

*Note:* It's okay to plot the same point multiple times!

```
In [3]: cities.scatter("Lon", "Lat") # SOLUTION
```

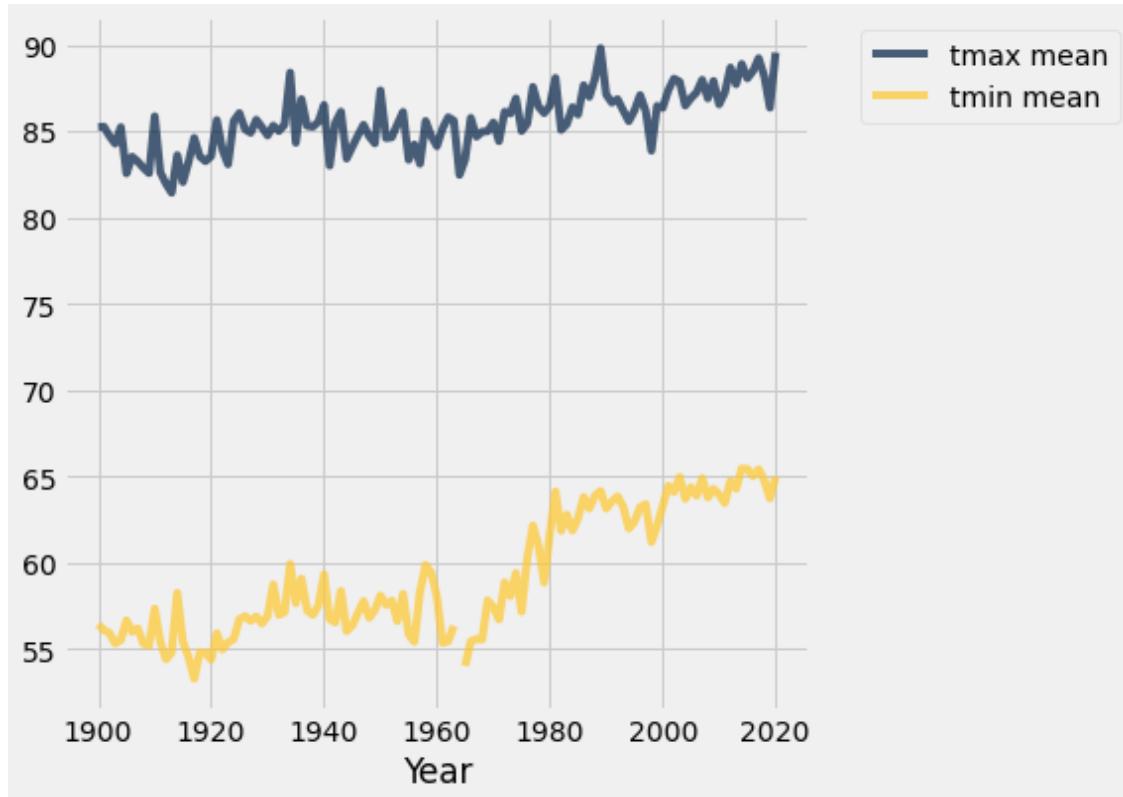




**Question 1.2.3:** Using the `phoenix` table, create an overlaid line plot of the **average maximum temperature** and **average minimum temperature** for each year between 1900 and 2020 (inclusive).

*Hint:* To draw a line plot with more than one line, call `plot` on the column label of the x-axis values and all other columns will be treated as y-axis values.

```
In [38]: phoenix.select('Year', 'tmax', 'tmin').group("Year", np.mean).where('Year', are.between_or_equal_to(1900, 2020))
```





**Question 2.3.** First, define the table `drought`. It should contain one row per year and the following two columns: - "Label": Denotes if a year is part of a "drought" year or an "other" year - "Precipitation": The sum of the total precipitation in 13 Southwest cities that year

Then, construct an overlaid histogram of two observed distributions: the total precipitation in drought years and the total precipitation in other years.

*Note:* Use the provided `bins` when creating your histogram, and do not re-assign the `southwest` table. Feel free to use as many lines as you need!

*Hint:* The optional `group` argument in a certain function might be helpful!

```
In [63]: bins = np.arange(85, 215+1, 13)
drought = totals.with_column('Label', totals.apply(drought_label, 'Year')).select('Label', 'Precipitation')
drought.hist("Precipitation", group="Label", bins=bins, unit='inch') # SOLUTION
```

