Title: "Ass2 - US Weather"

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Summary:

This report describes the average temperature of 21 main cities in the US during January 2016 (1-31).

We chose cities from various locations in the US, such that almost every location has a city that represents it (you will see in the map later).

The cities are:

NYC LA Las Vegas

Houston New Orleans Seattle

Albuquerque Cleavland Miami

Chicago Minneapolis Boston

San Francisco Denver Salt Lake City

Frankfort Memphis Des Moines

Oklahoma Boise Atlanta

In order to get our data, we used "The Dark Sky Forecast API": <https://developer.forecast.io/>,

and the library "Rforecastio" from <https://github.com/hrbrmstr/Rforecastio>.

Here you can see an example request for latitude 37.77, longitude -122, date 2016-03-01T12:00:00-0400:

<https://api.forecast.io/forecast/792fc046ce6c4b0077cf634699cdd9fe/37.77,-122,2016-03-01T12:00:00-0400>.

We had 21(cities)\*31(days)=651 records.

For each record, we extracted the daily average temperature.

Our Findings:

1. The next histogram displays the average temperature of all 651 measured days:

.C:\Users\Tomer\Documents\R_Workshop\Ass2\avg_temp.tiff

As you can see, the average is around 7 Celsius degrees (the pink line).

1. C:\Users\Tomer\Documents\R_Workshop\Ass2\by the sea.tiffTemperature difference between cities located by the sea and far from sea:

The left chart displays statistics about average temperature of cities far from see while the right displays statistics about cities by the sea.

As you can see, there is a big temperature difference between those cities, their averages are 0 and 11 accordingly.

1. Temperature difference between north & south cities (the separating latitude is 38):
2. The next map shows temperature scale of all measured cities:

C:\Users\Tomer\Documents\R_Workshop\Ass2\map.tiff