Milestone I

SCI 310 Geostatistics & Data Analysis

Southern New Hampshire University

Kristi Weydemuller

***Meteorological Question:***

What relationship does the increasing temperatures have on snow fall in Lead, Rapid City, and Interior SD?

***Area of Investigation:***

I will be investigating several weather stations in and around the above cities, to determine if an increase in July heat as had an effect on the frequency and amount of snowfall within the month of December over the past 2 years.

***State Data:***

I will be analyzing the state of South Dakota, which is generally divided in half between the   Mountain Time Zone UTC-7 (West) and the Central Time Zone UTC-6 (East) and is known for a broad range of temperature extremes; this is due to the state being located a long distance away from the cooling effects of our ocean.  The state experiences very cold and dry winters with an average January temperature in the Northeast that spans from 12° F to a little more than 25°F in the Southwest. The summers are fairly humid with average July temperatures of 64° F or less, to more than 75°F.  The amount of snowfall differs throughout the state with the largest amount falling in the city of Lead located in the western part of the state at close to 200 inches per year and the least amount of 28 inches in the southwestern part of the state within the city of Interior.

***Description of the data fields and locations:***

South Dakota is located within climate division 39 which, covers the Northwest, North Central, Northeast, Black Hills, Southwest, Central, East Central, South Central, and Southeast. The stations I’ve chosen are as follows: Rapid City Regional Airport, Black Hills Airport Clyde Ice Field (Spearfish), Philip Airport, Madison Municipal ARPT, Winner Regional ARPT, Sioux Falls 14 NNE, Aberdeen Regional ARPT, Huron Regional ARPT, Joe Foss Field ARPT, Watertown Municipal ARPT, Ellsworth AFB, Pierre Regional ARPT, Aberdeen 35 WNW, Custer County ARPT, Buffalo , Pine Ridge ARPT, Mobridge Municipal ARPT, Faith Municipal ARPT, Buffalo 13 ESE, Pierre 24 S, Brookings Municipal ARPT , Chan Gurney Municipal ARPT, Chamberlain Municipal ARPT, Mitchell Municipal ARPT.

All of my chosen stations capture daily readings of PRCP, TMAX, and TMIN, as well as the type of weather. While only a select number capture daily SNOW and SNWD.  I’ll be able to obtain most of my data from the chosen station located in Spearfish is the closest one to the city of Lead which has the largest amount of annual snow fall, and the Philip station is the closest to the city of Interior with the least amount of snowfall and Rapid City because its located in-between the other two stations.  The data required will be the average daily temperatures (July) and snowfall averages (December) from 2018 to 2020 which I can access via NOAA.

Sources Cited

Geology.com. 2021. *Map of South Dakota Cities - South Dakota Road Map*. [online] Available at: <https://geology.com/cities-map/south-dakota.shtml> [Accessed 11 July 2021].

Noaa.gov. 2021. *National Oceanic and Atmospheric Administration*. [online] Available at: <https://www.noaa.gov/> [Accessed 11 July 2021].

Statesummaries.ncics.org. 2019. *South Dakota - State Summaries 2019*. [online] Available at: <https://statesummaries.ncics.org/chapter/sd/> [Accessed 16 July 2021].