Winter:

“Winter” is astronomical winter: 12-21-2018 to 03-19-2019.

Time zones are approximated with longitude boundaries as follows:

Pacific Time: -125 to -114

Mountain Time = -114 to -102

Central Time: 102 to -85.5

Eastern Time: 85.5 to -65

Data is from NASA’s Modern-Era Retrospective analysis for Research and Applications, Version 2 (MERRA-2) [M2T1NXSLV](https://disc.gsfc.nasa.gov/datasets/M2T1NXSLV_5.12.4/summary) dataset, an atmospheric analysis using conventional and satellite data sources with time resolution of 1 hour and spatial resolution of 0.5 ° x 0.625 °.

The data is broken roughly into the four continental US time zones and then subset to include only the hours 8:30AM to 3:30PM in local time. Air temperature at 2 meters is used for temperature. Where temperatures are at or below 50F and windspeed at 10 meters is at or above 3mph, windchill is applied. Windchill is calculated using the python library [MetPy](https://unidata.github.io/MetPy/latest/index.html). Temperatures are then averaged over the entire timespan (8:30AM-3:30PM every day from 12-21-2018 to 03-19-2019).

Filled contour map is generating from this point data using the python library matplotlib’s method contourf(), binned into 10 degree Fahrenheit intervals.

Locations of early adopter schools and school districts are from Google Maps

Data citation

Global Modeling and Assimilation Office (GMAO) (2015), MERRA-2 tavg1\_2d\_slv\_Nx: 2d,1-Hourly, Time-Averaged,Single-Level,Assimilation,Single-Level Diagnostics V5.12.4, Greenbelt, MD, USA, Goddard Earth Sciences Data and Information Services Center (GES DISC), Accessed: [2-19-2021], 10.5067/VJAFPLI1CSIV