

PRISM Update

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PRISM Climate Group

Northwest Alliance for Computational Science and Engineering

Oregon State University



WERA-1012
18 May 2021
(not in) Estes Park, CO



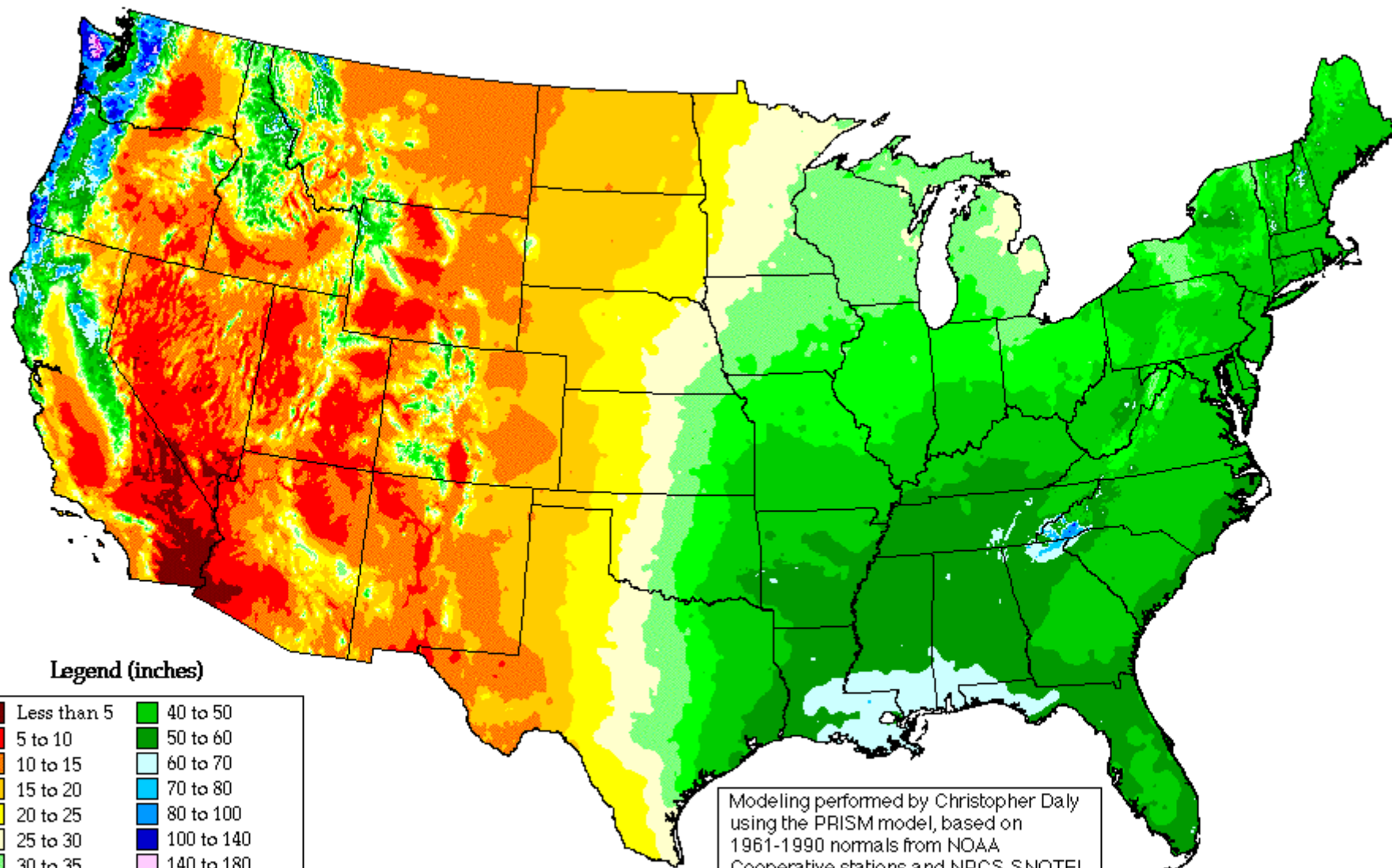
USDA Risk Management Agency

Topics

- New 1991-2020 normals! (In development)
- How are volunteer networks contributing to the PRISM precipitation normals?
- What kinds of changes are we seeing and how do we manage a dynamic data situation?

Annual Average Precipitation

United States of America



Legend (inches)

Less than 5	40 to 50
5 to 10	50 to 60
10 to 15	60 to 70
15 to 20	70 to 80
20 to 25	80 to 100
25 to 30	100 to 140
30 to 35	140 to 180
35 to 40	More than 180

Period: 1961-1990

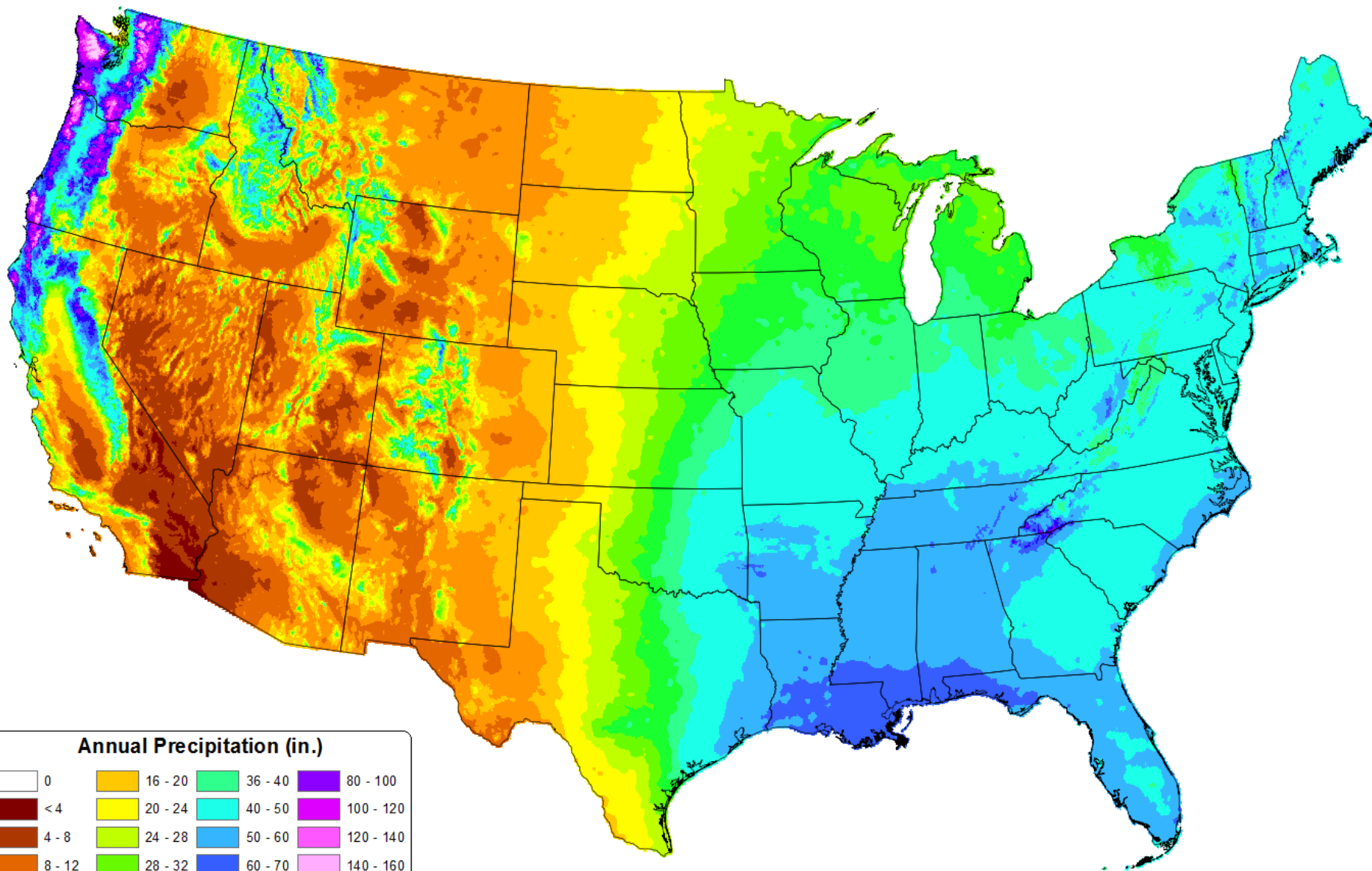
Copyright 2000 by Spatial Climate Analysis
Service, Oregon State University

Modeling performed by Christopher Daly
using the PRISM model, based on
1961-1990 normals from NOAA
Cooperative stations and NRCS SNOTEL
sites. Sponsored by USDA-NRCS Water
and Climate Center, Portland, Oregon.

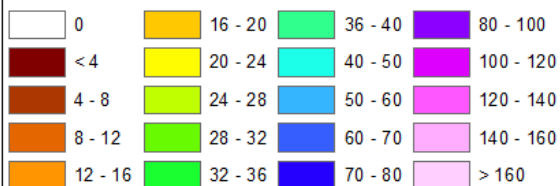
Oregon Climate Service
George Taylor, State Climatologist
(541) 737-5705

30-yr Normal Precipitation: Annual

Period: 1981-2010

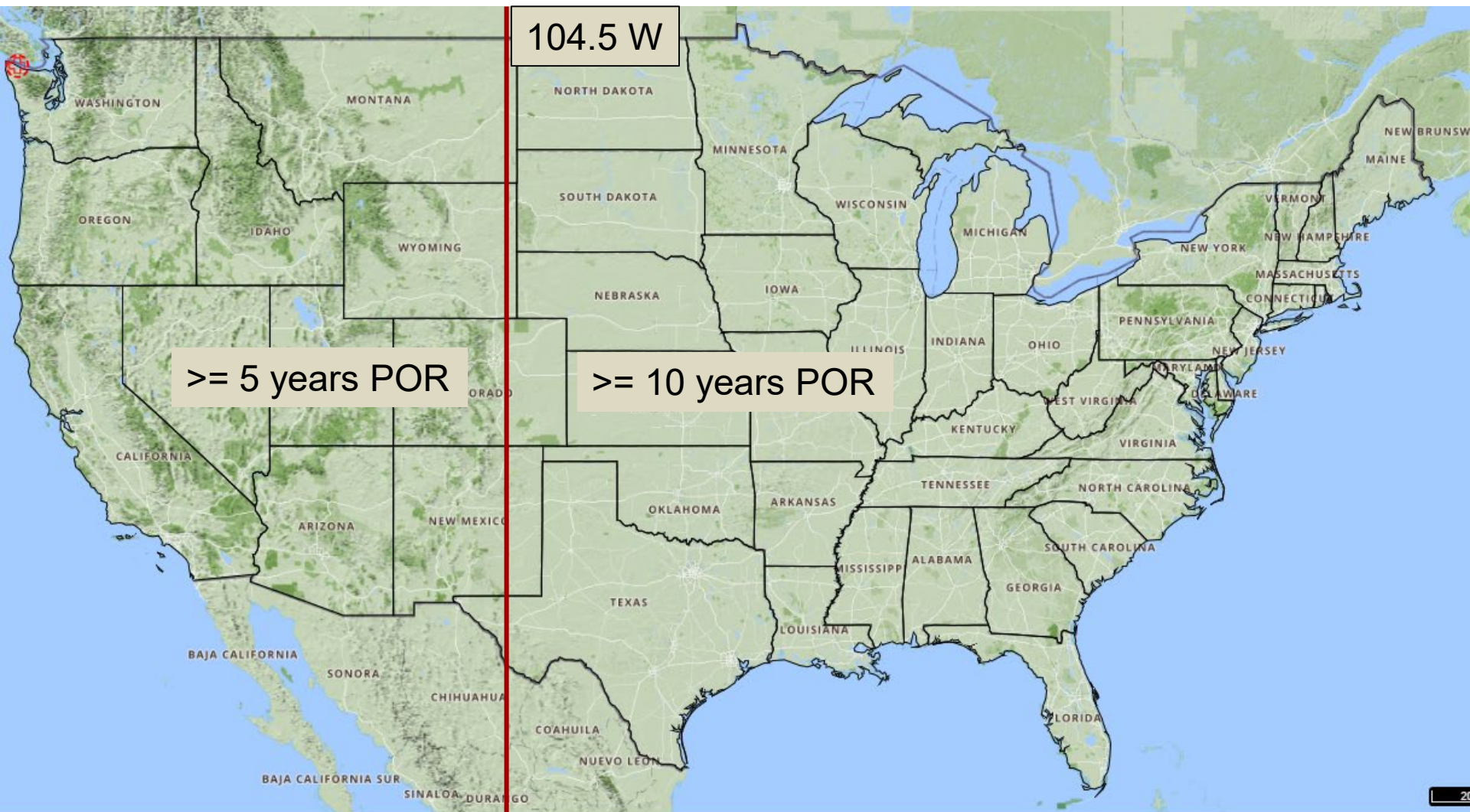


Annual Precipitation (in.)

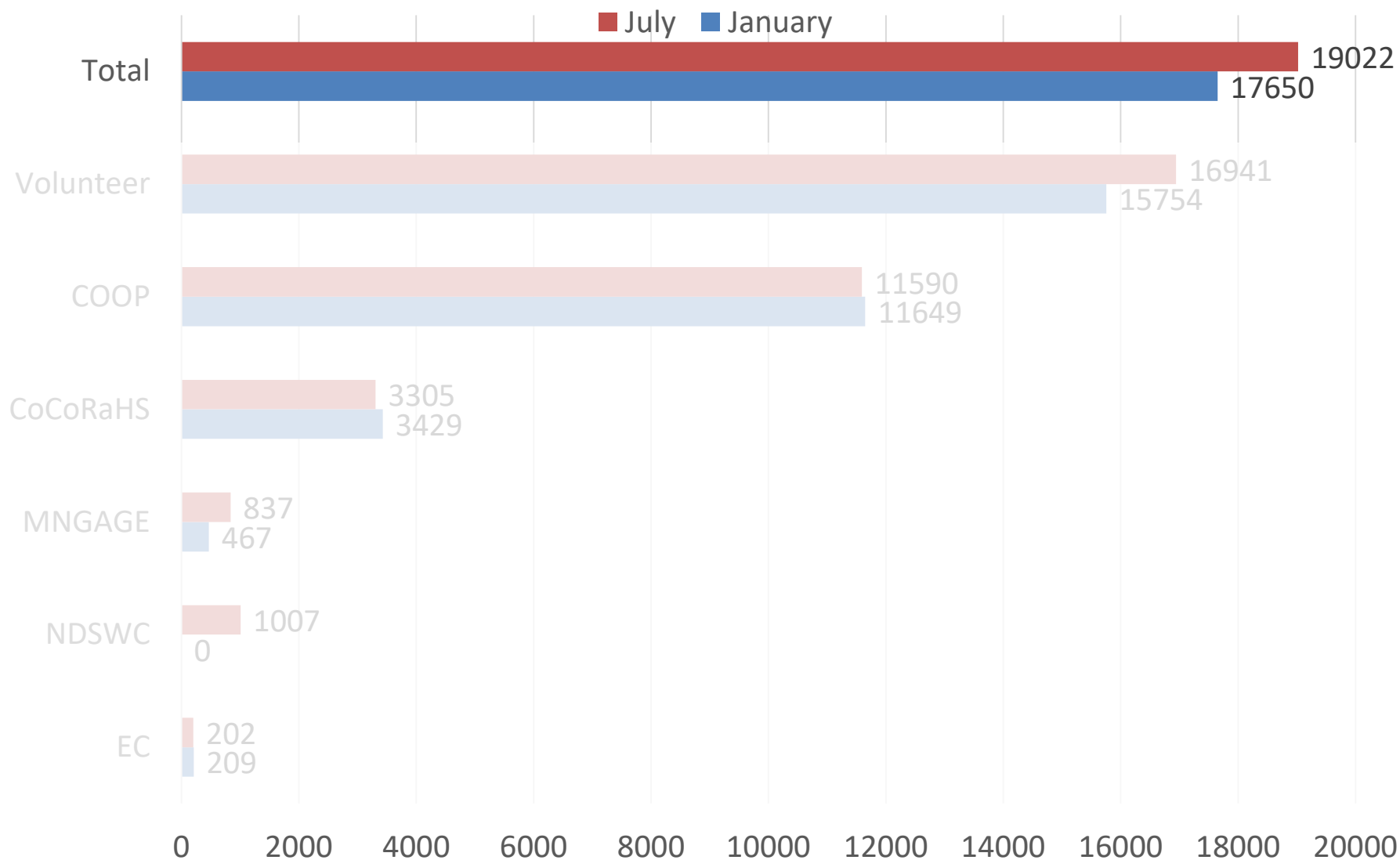


Period of Record Criteria for Inclusion in the 1991-2020 Normals

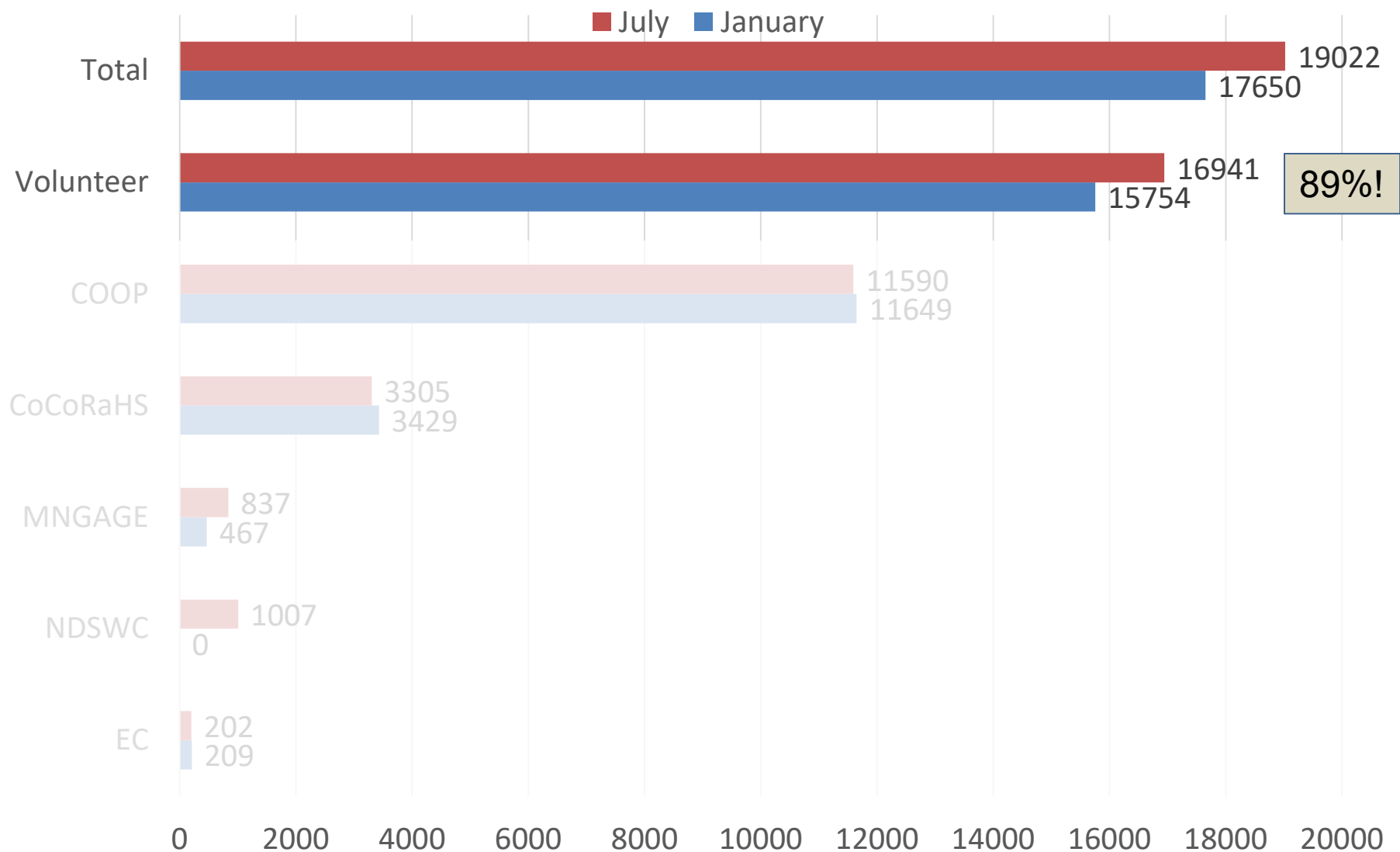
Calculated for Each Month Separately



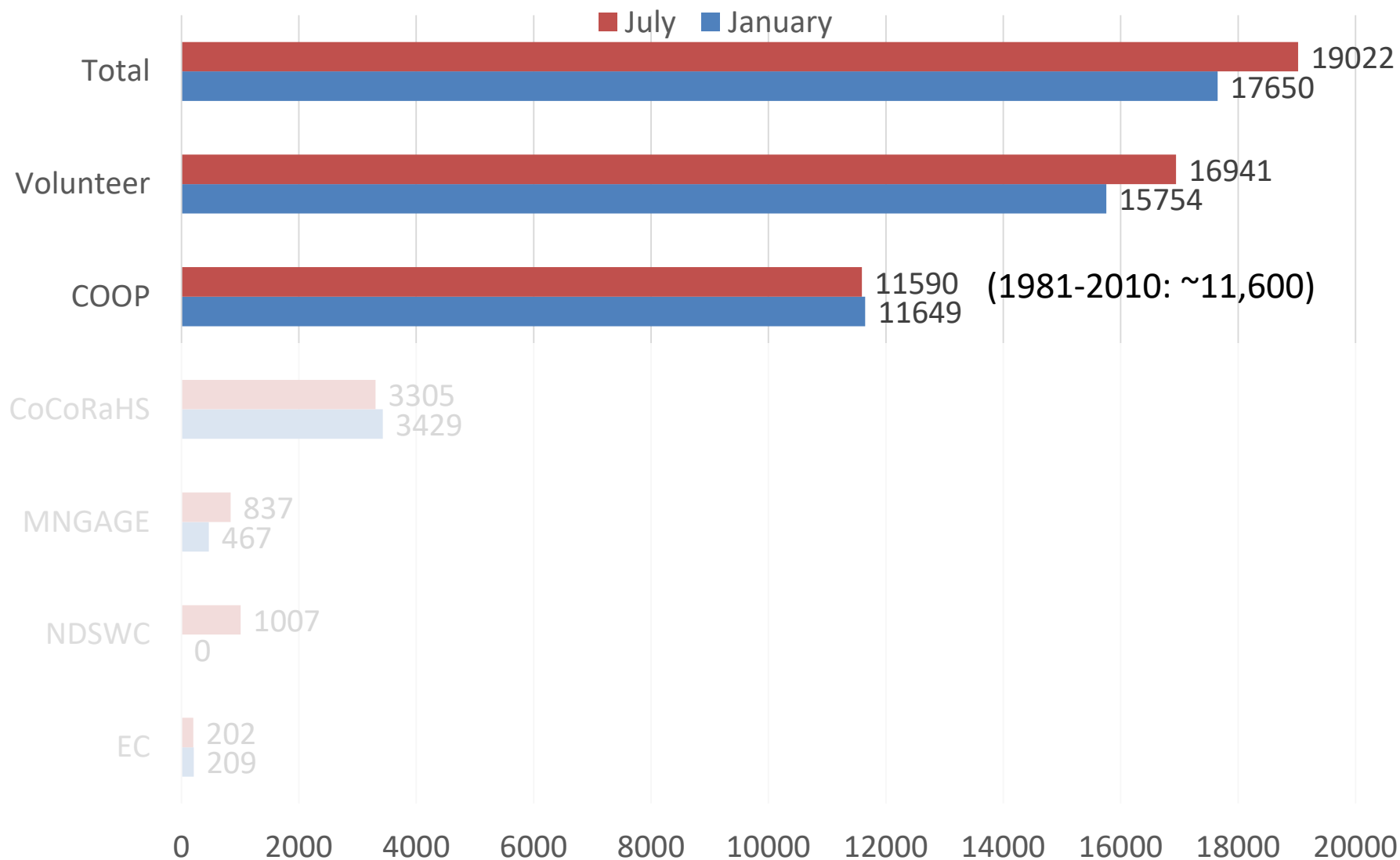
Stations Used in PRISM 1991-2020 Precipitation Normals



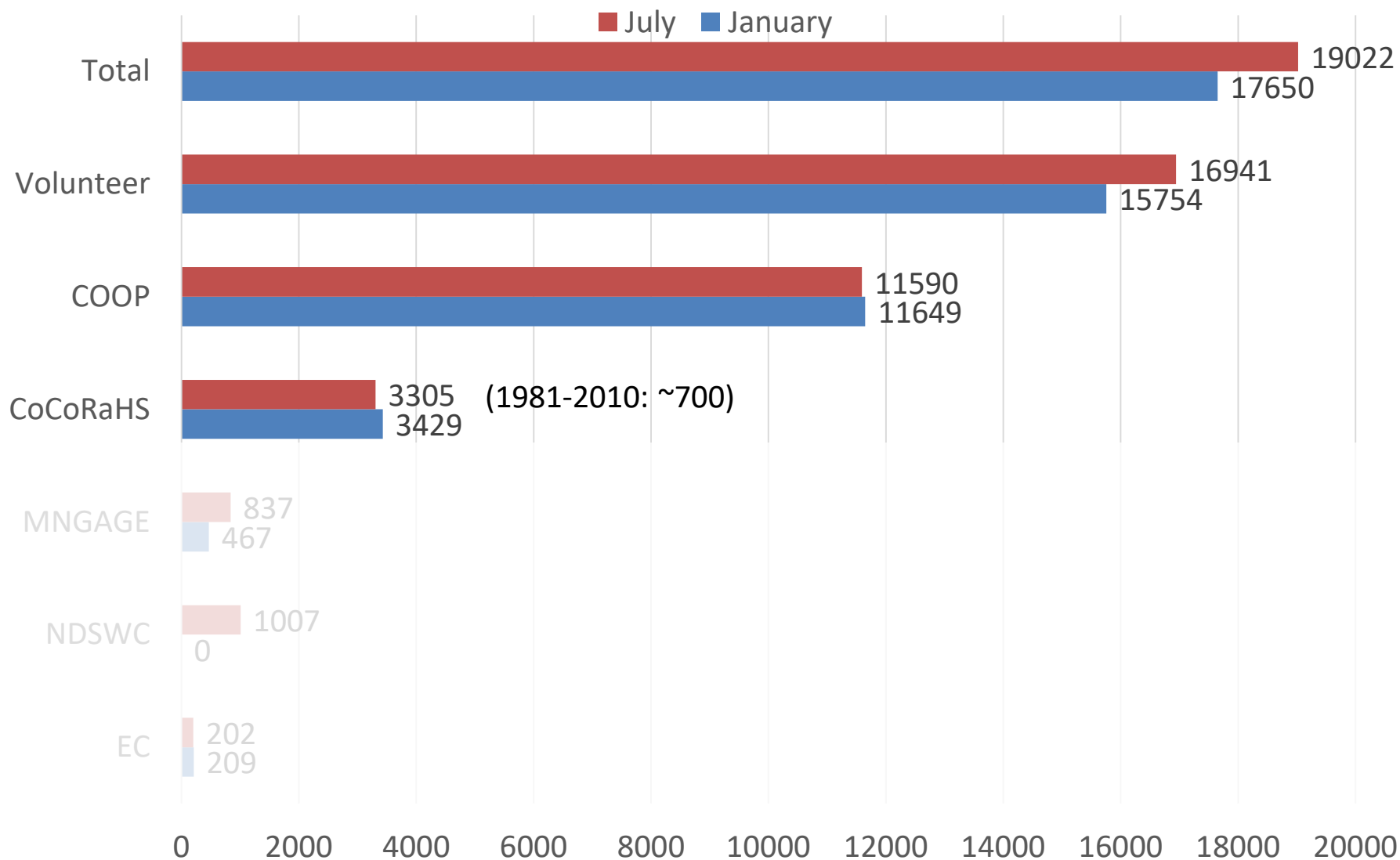
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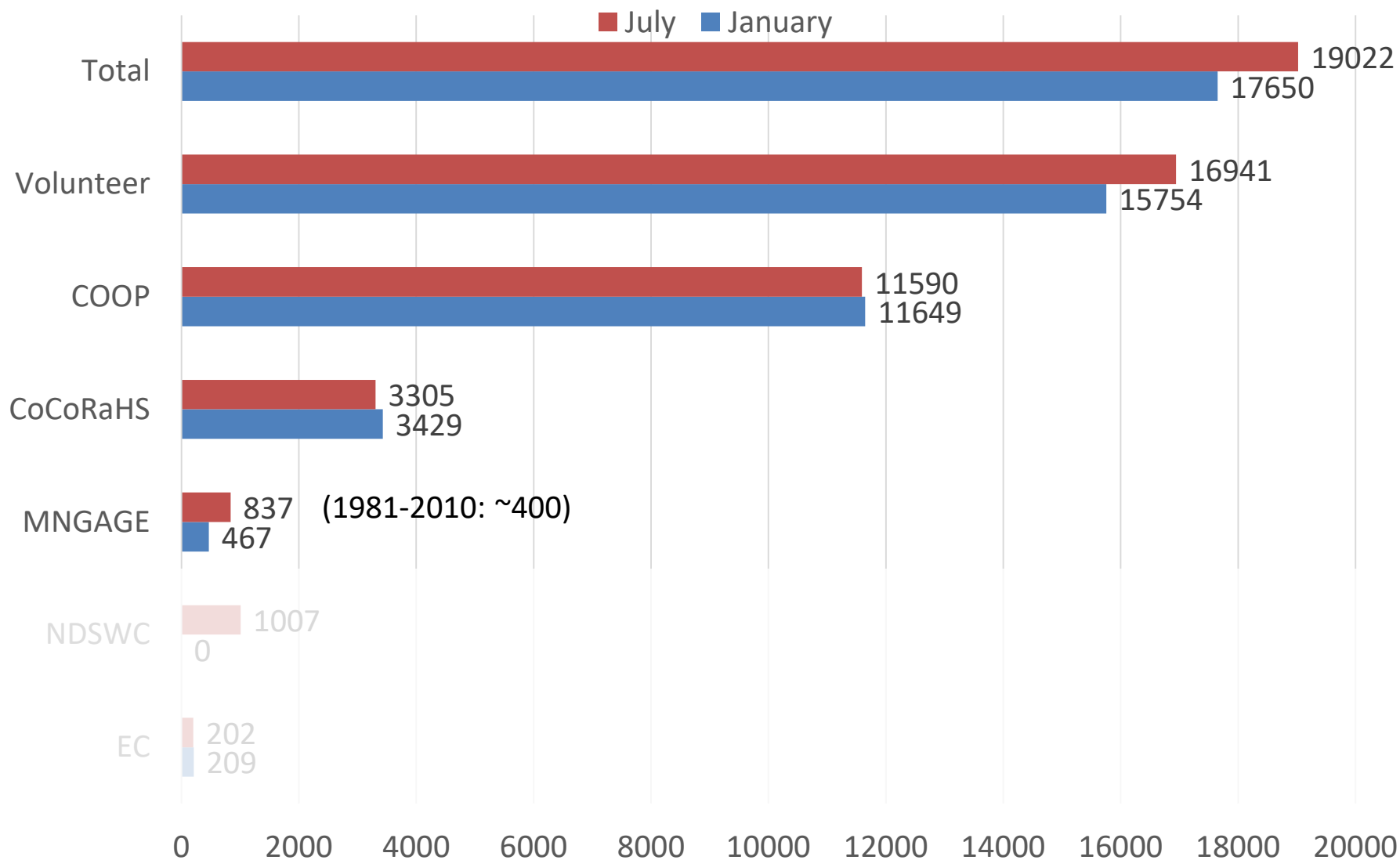
Stations Used in PRISM 1991-2020 Precipitation Normals



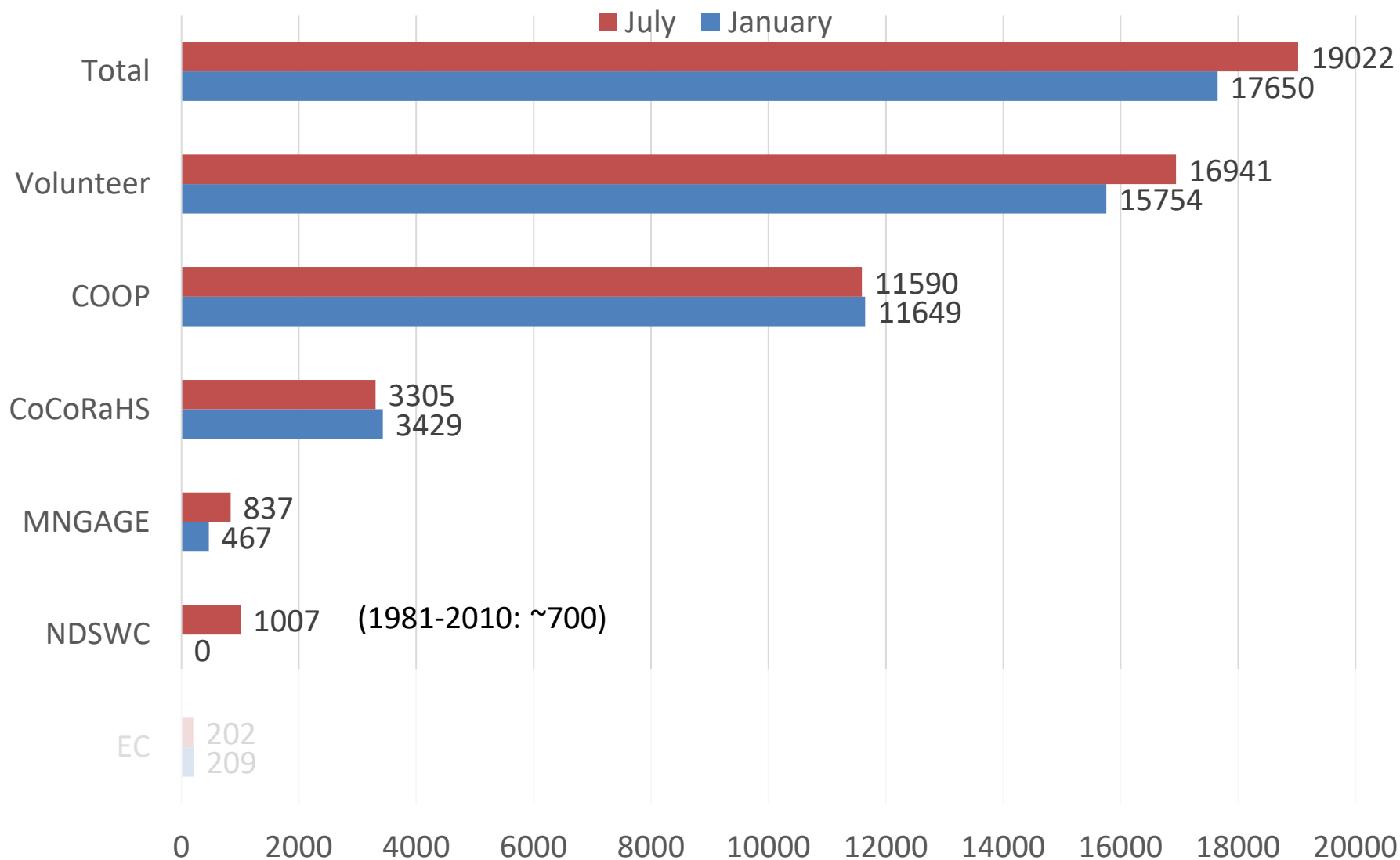
Stations Used in PRISM 1991-2020 Precipitation Normals



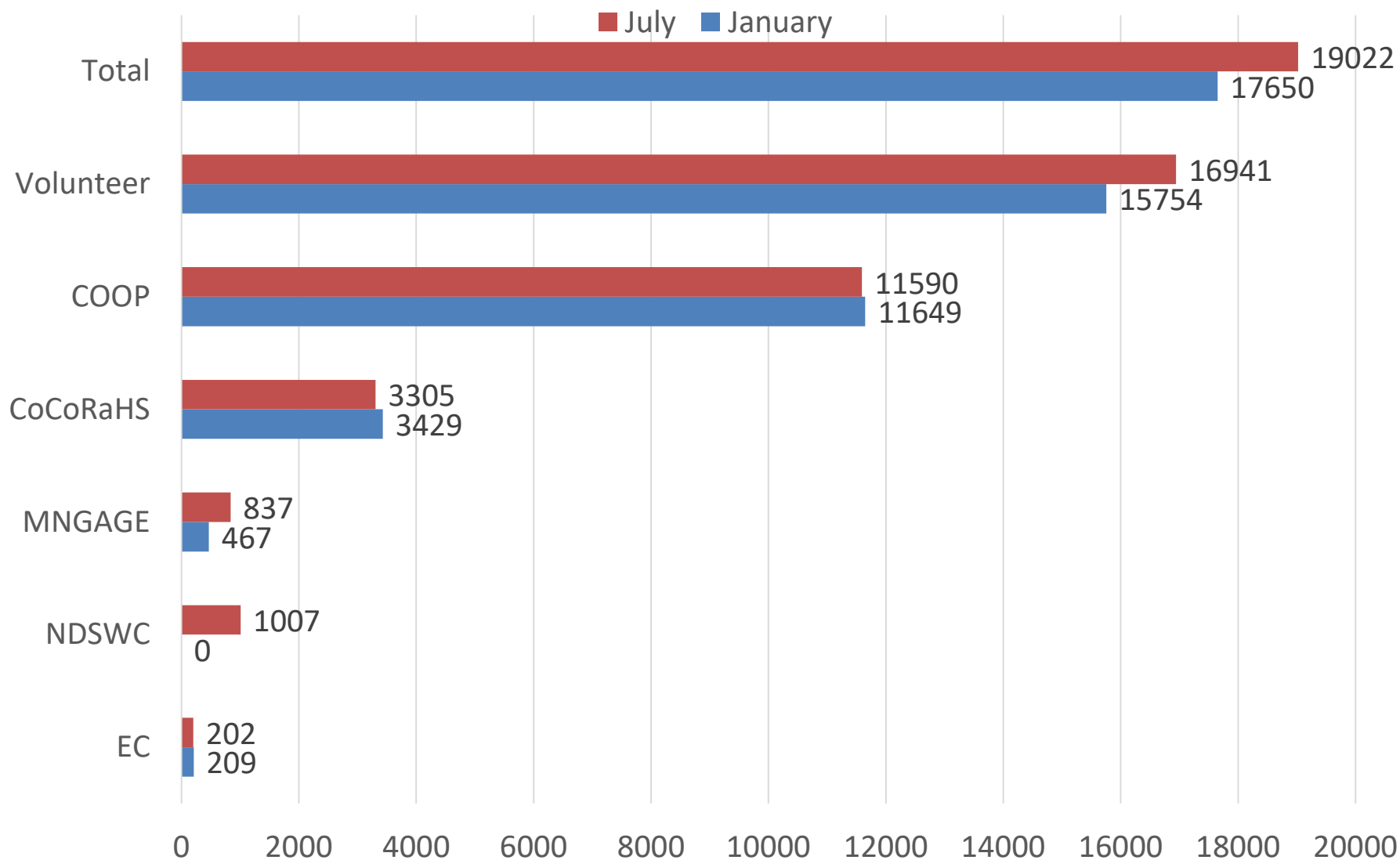
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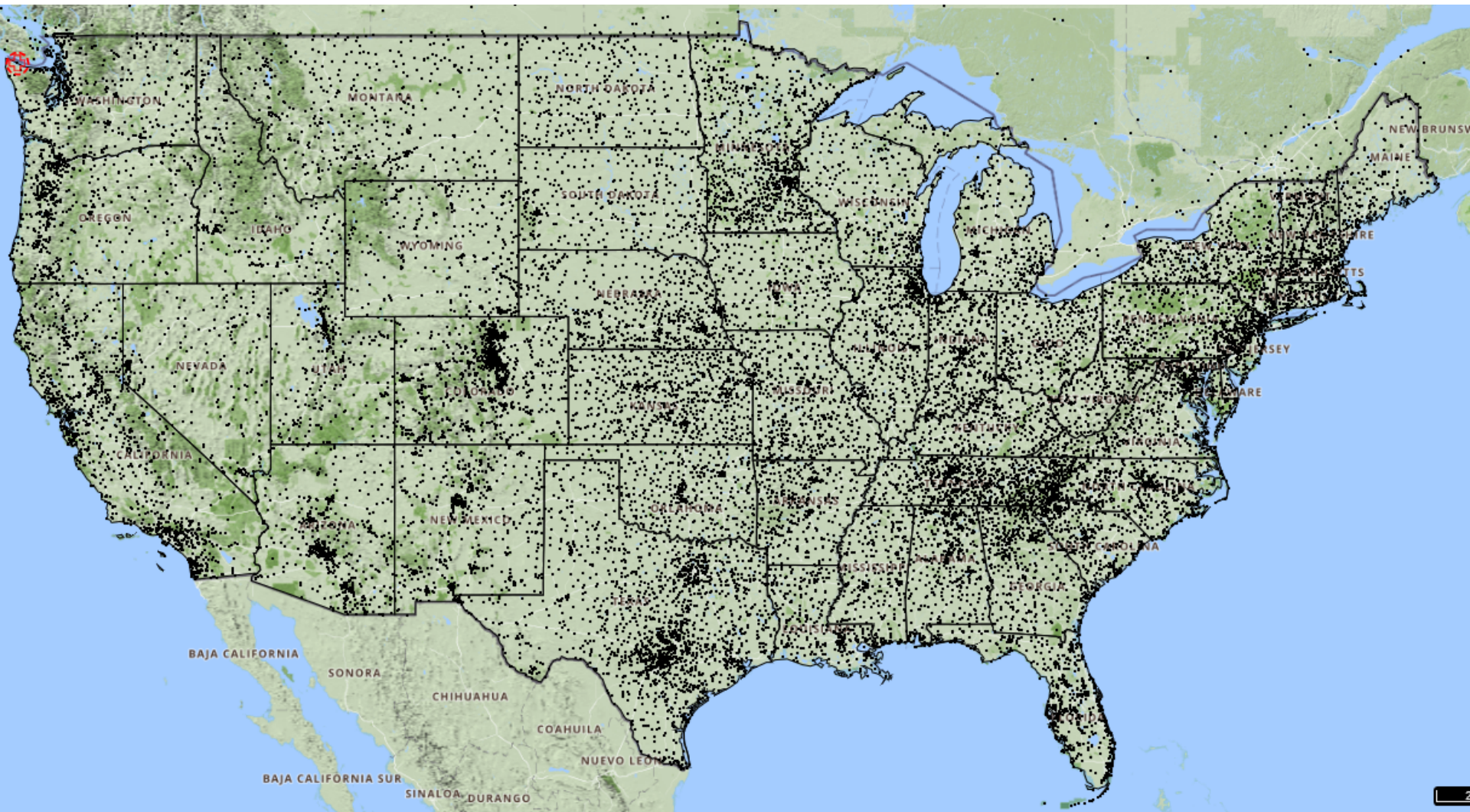
Stations Used in PRISM 1991-2020 Precipitation Normals



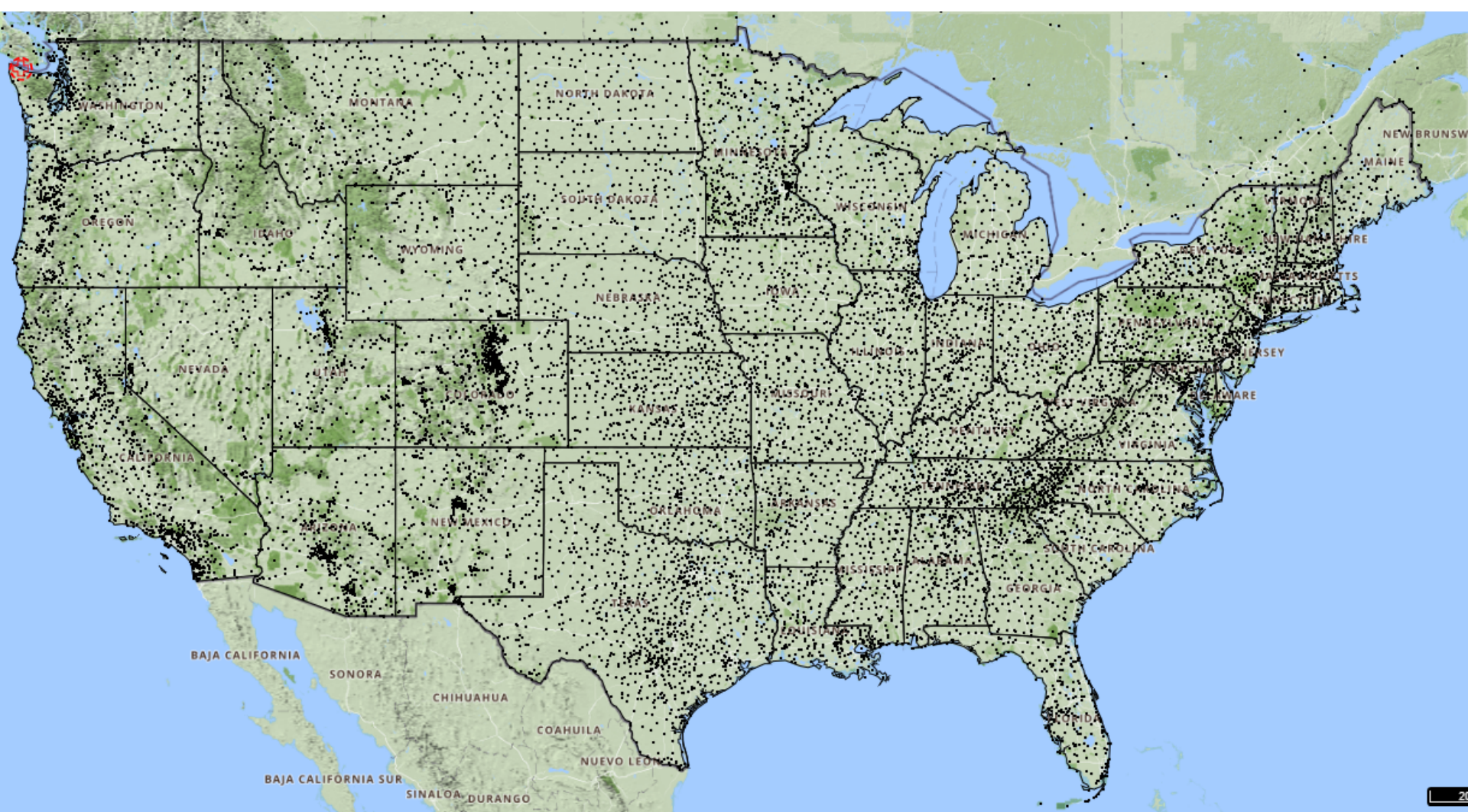
Stations Used in PRISM 1991-2020 Precipitation Normals



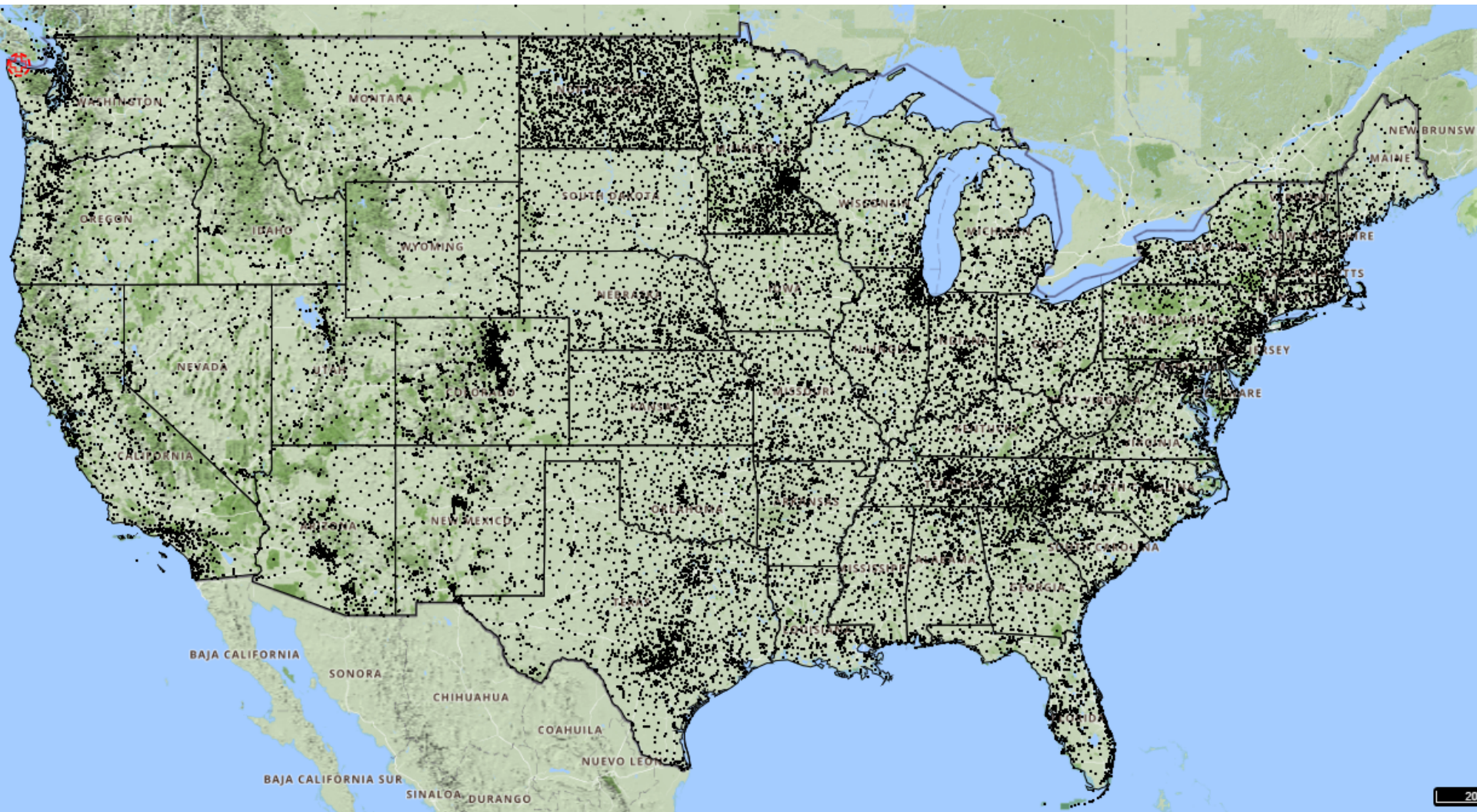
Volunteer Stations with ≥ 3 years POR - January



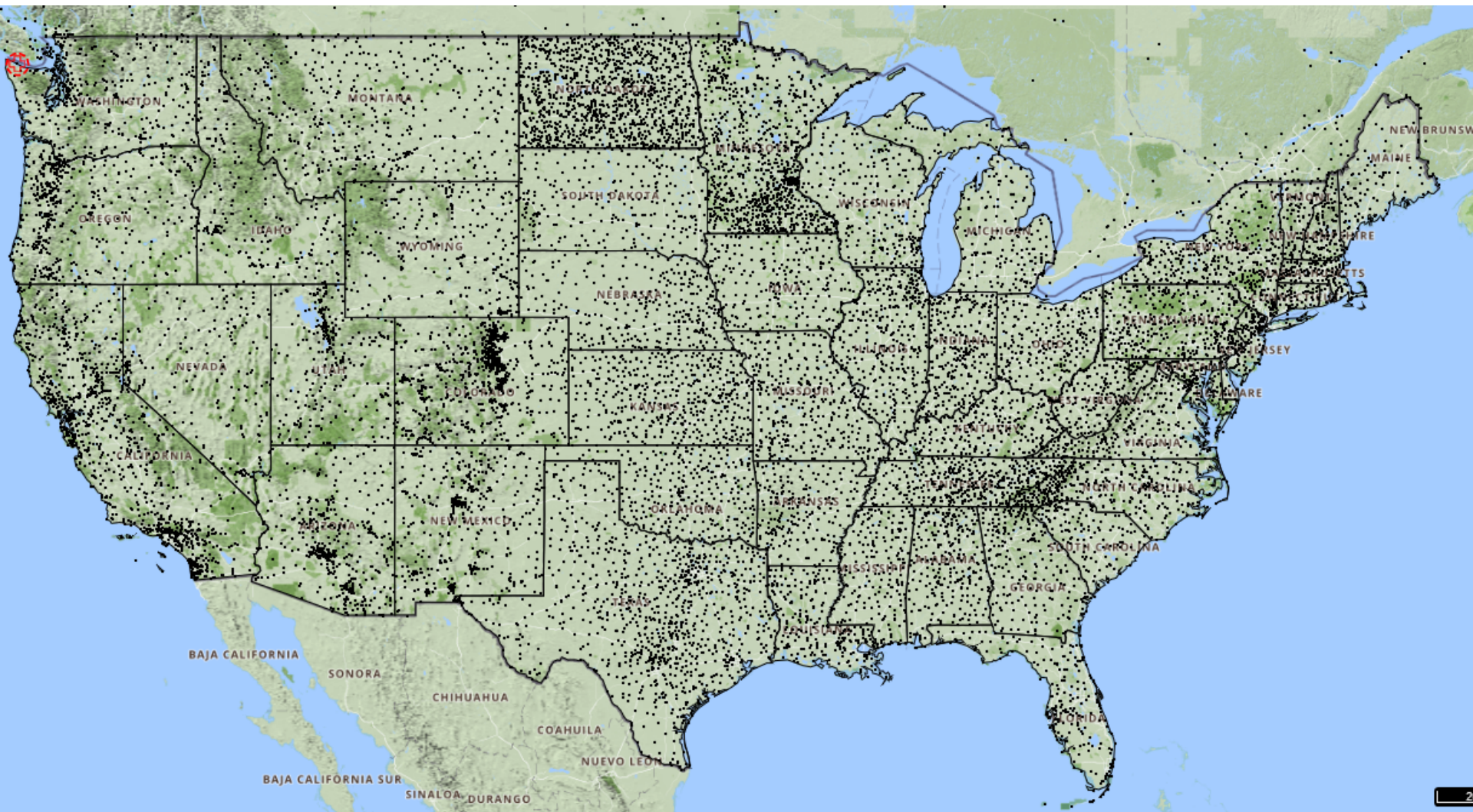
Volunteer Stations Meeting $\geq 5/10$ years POR Criteria - January



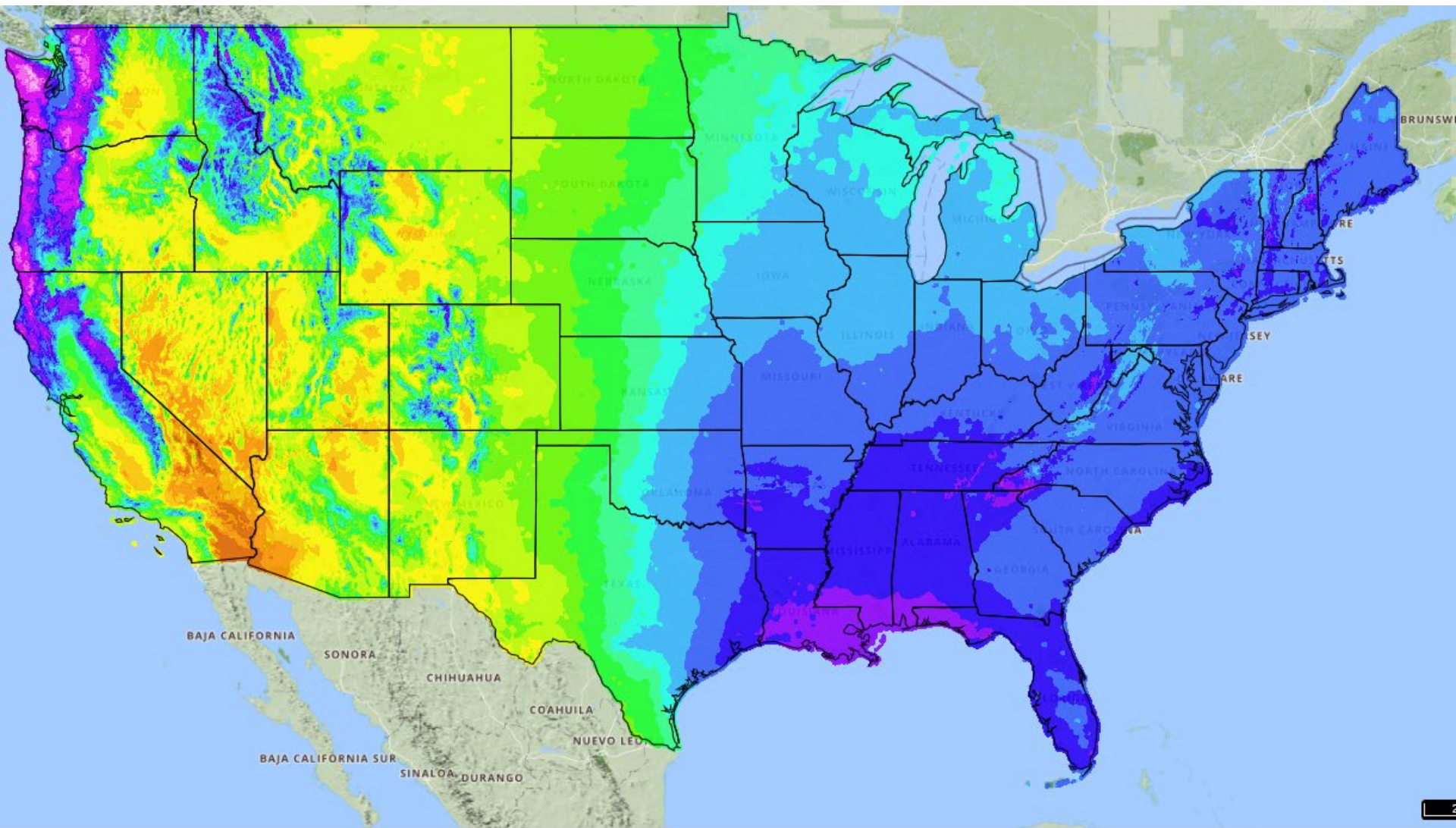
Volunteer Stations with ≥ 3 years POR - July



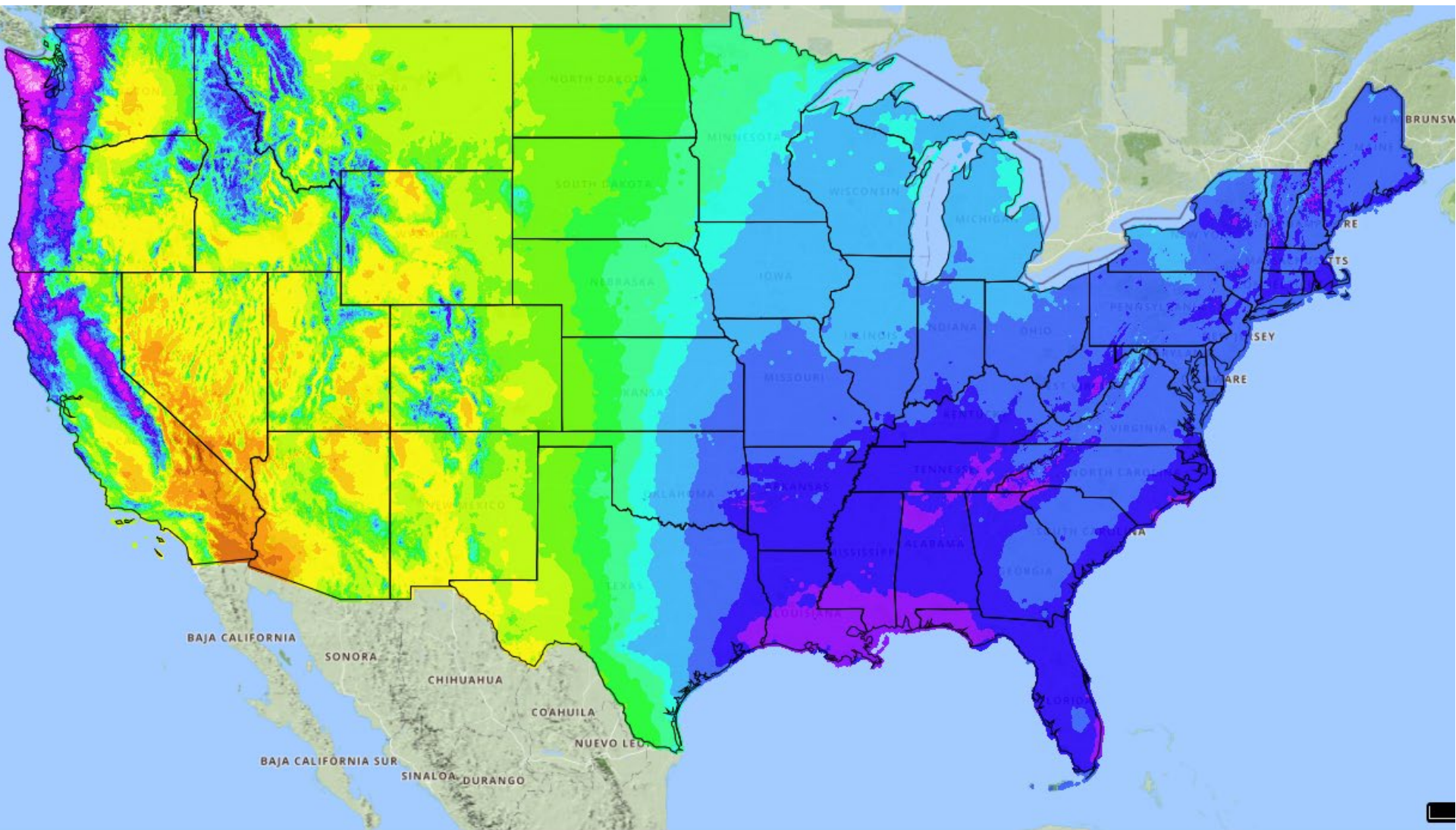
Volunteer Stations Meeting $\geq 5/10$ years POR Criteria - July



PRISM Mean Annual Precipitation: 1981-2010



PRISM Mean Annual Precipitation: 1991-2020



Normals: The Dynamics of Consistency vs Quality



We want to allow normal maps to improve each time with new station data and better mapping methods, while still maintaining consistent features that rely on stations that may have closed

- More stations = better maps
- But small scale map differences between periods cannot always be attributed to climatic variations
- Many important COOP stations have long since closed
- Over 1200 COOP stations lost between 1962 and 1969 (TVA stations)
- Each time, we have to reach further back and adjust those older records to reflect the new period



**Without volunteer precipitation
measurements,
how would we determine our
nation's baseline climatology?**