

# ***Citizen Science with the CoCoRaHS (Community Collaborative Rain, Hail and Snow) Network - ALASKA***

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## ***Historical CoCoRaHS in Alaska***



***First observations:*** Spring 2007, Anchorage area

***Expansion:*** 2009, more locations near Anchorage and parts of western Alaska, Juneau and Ketchikan

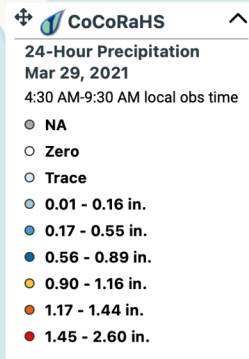
***Two years later (2011):*** western observations stop

***By 2014:*** observations in Fairbanks

# ***Current CoCoRaHS in Alaska***



**New efforts are underway to better  
promote CoCoRaHS in our state  
and to increase the network!**



**Alaska covers a THIRD of  
of the lower 48 states in  
terms of acreage.**

**A good day in Alaska?  
a dozen to two dozen  
observations, clustered in  
the Fairbanks and  
Anchorage areas.**

**Pictured here: March 29,  
2021 (18 observations)**

# *Importance of Snow*

## 1991-2020 U.S. Climate Normals Quick Access

The 2020 U.S. Climate Normals Quick Access tool provides access to data from the most recent version of the U.S. Climate Normals. This iteration of the Normals product provides 30 year averages of temperature, precipitation, and other climate variables measured at more than 15,000 U.S. observation stations from 1991–2020, as well as a set of 15 year supplemental normals for 2006–2020.

### Search Instructions [+]

The screenshot shows the search interface for the 1991-2020 U.S. Climate Normals Quick Access tool. At the top, there are tabs for 'Monthly', 'Daily', 'Hourly', and 'Annual/Seasonal', with 'Monthly' selected. To the right, there are buttons for '30yr' and '15yr'. Below these are radio buttons for 'MAX TEMP (°F)', 'MIN TEMP (°F)', 'AVG TEMP (°F)', 'PRECIP (IN)', and 'SNOW (IN)'. A search box labeled 'find stations by name' is present, with a dropdown menu showing 'US States' and a list of states: Alabama, Alaska, Arizona, Arkansas, California, and Colorado. To the right of the search box, a list of station names is displayed, including ALEXANDER LAKE, ALPINE, ALYESKA, AMBER LAKE, AMERICAN CREEK, ANCHOR RIVER DIVIDE, ANCHORAGE 4.7 SSW, ANCHORAGE FORECAST OFFICE, and ANCHORAGE HILLSIDE.

- Snow covers Alaska regionally for more than 8 months per year and impacts the lives of many Alaskan residents.
- Data is important for planning and for looking at long-term climate trends.
- But data collection is sparse.



# *Importance of Snow*

## 1991-2020 U.S. Climate Normals Quick Access

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### Search Instructions [+]

The screenshot shows the NOAA search interface. At the top, there are tabs for 'Monthly' (selected), 'Daily', 'Hourly', and 'Annual/Seasonal'. To the right, there are buttons for '30yr' (selected) and '15yr'. Below these are five radio buttons for data types: 'MAX TEMP (°F)' (selected), 'MIN TEMP (°F)', 'AVG TEMP (°F)', 'PRECIP (IN)', and 'SNOW (IN)'. A search box labeled 'find stations by name' is present. Below it, a dropdown menu shows 'US States' with a list including Alabama, Alaska (highlighted), Arizona, Arkansas, California, and Colorado. To the right of the dropdown, a list of station names is displayed, including ALEXANDER LAKE, ALPINE, ALYESKA, AMBER LAKE, AMERICAN CREEK, ANCHOR RIVER DIVIDE, ANCHORAGE 4.7 SSW, ANCHORAGE FORECAST OFFICE, and ANCHORAGE HILLSIDE.

- On May 4, 2021, NOAA released new climate normals for the 1991 - 2020 timeframe.
- Selected SNOTEL sites and CoCoRaHS observations were included in these computations, highlighting the importance of this data.

# WHEN TO MEASURE NEW SNOW

- Measure new snowfall as soon as possible after it ends, before settling and melting occur.
- This often will not be at your regular observation time.

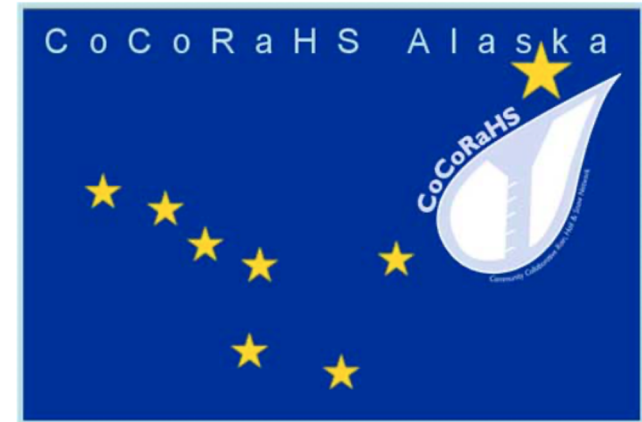
Note that we never measure the depth of the snow in the rain gauge itself. Any frozen precipitation in the rain gauge must first be melted, then measured.



# WHERE TO MEASURE NEW SNOWFALL

1. Find a nice, level place to measure where drifting or melting has not occurred (like a snow board).
2. Slide your snow ruler into snow until it reaches the ground/board surface.
3. Read value on snow ruler (value is always to nearest tenth of an inch, like 3.4 inches).
4. If using snowboard, sweep it clean after taking a snow core. Place the board on top of the new snow.





## ***Challenges to Alaska***

- Daily observation numbers are low – work in progress

## ***Challenges facing Alaskans***

- Extremely cold temperatures in winter for snow sampling, darkness during measurement time
- Snow sampling is more involved/complex
- Financial burden
- **It is frequently windy when the snow falls at typically well below freezing temperatures, and representative measurements are non-trivial (=> snow drift)**

## ***Possible Solutions***



- **Snow sampling training videos, specific to Alaska and Alaskan challenges**
- **Subsidized rain gauges**
- **Potential problem: it's no longer really volunteer**



Doug Wesley, sampling in his backyard in Anchorage



# ***Post-Pandemic Plans***



- **SPRING/SUMMER 2021**
  - **Continue to reach out to schools, libraries, organizations (LEO) and tribal communities, to make contacts**
- **FALL 2021**
  - **Visits and hands-on demonstrations in classrooms, COVID-permitting**

# Contact Information

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## **Alaska Native Villages Regional Coordinator:**

Volunteer position available