

CoCoRaHS Ice Accretion Update



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WERA 1012 Meeting
Estes Park, Colorado
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Colorado State University

CoCoRaHS Ice Accretion - History



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Photo: Neil Stuart NWS Albany 1/15/07



Photo: Neil Stuart NWS Albany 12/11/08

CoCoRaHS Ice Accretion - History

My Data Entry : Daily Precipitation Report Form

Precipitation Report Form

Station Number : CO-DN-147 **Submit Data** **Reset**

Station Name : Denver 3.6 NW

* Denotes Required Field

9/18/2012 * **Observation Date** ?

7:00 AM * **Observation Time** ?

0.00 * Rain and Melted Snow to the nearest hundredth inch that has fallen in the gauge during the past 24 hours ?

Yes No **Report was taken at registered location?**

Observation Notes: (This will be available to the public) ?

Ice thickness from freezing rain .3 inches

New Snowfall

NA **Accumulation of new snow in inches to the nearest tenth** ?

CoCoRaHS Ice Accretion – History

Hubbard Brook Ice Storm Experiment NSF Funded

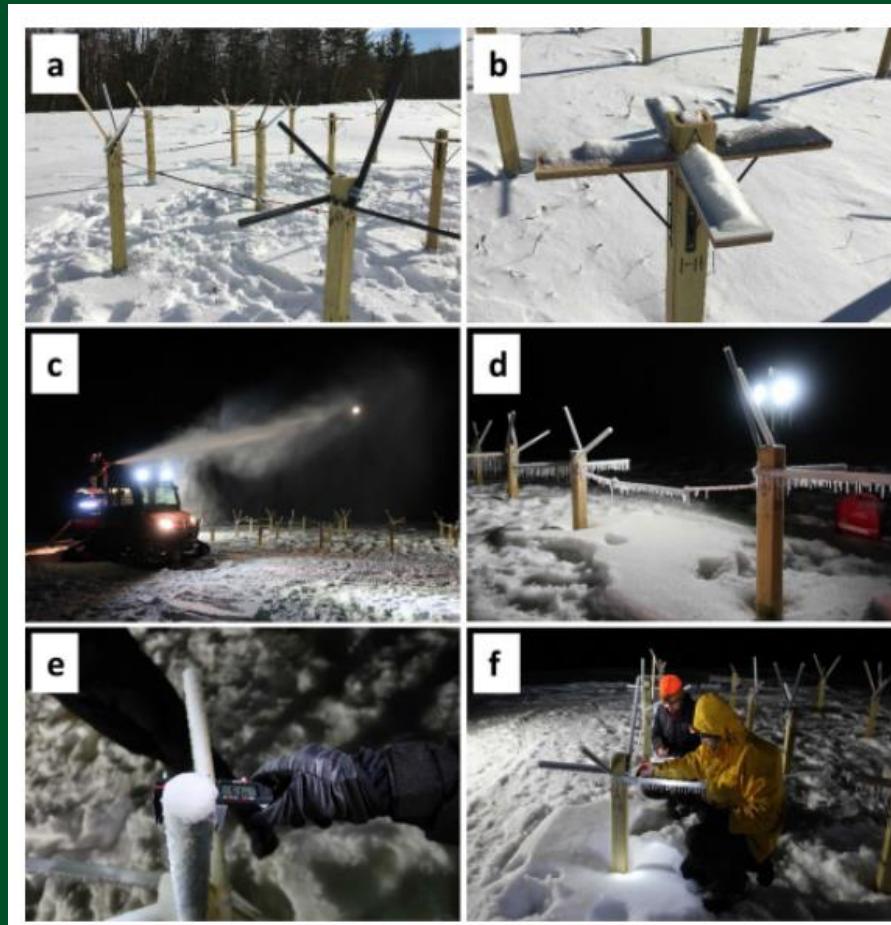


Watch the 3-minute video here:
<https://youtu.be/GrWg9krspXQ>



Hubbard Brook Ice Storm Experiment

AMS Journal of Applied Meteorology and Climatology



Journal link:

<https://journals.ametsoc.org/view/journals/apme/59/9/jamcD190280.xml>

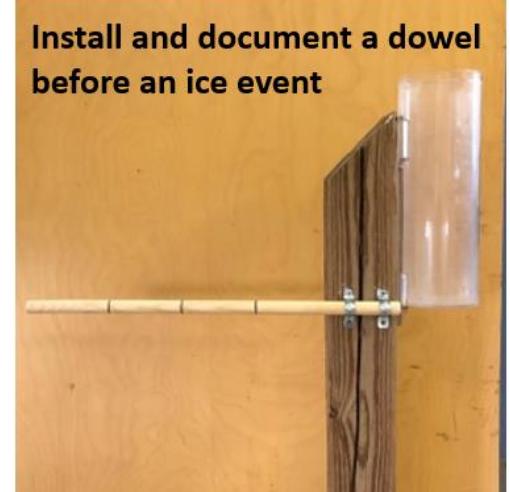
CoCoRaHS Ice Accretion Pilot

New!

Report impacts

Submit photos

Install and document a dowel
before an ice event



Category	Descriptions of Impacts
0	No ice or a trace
1	Enough to be annoying/need scraping off your car. Looks pretty on bushes, shrubs. Dangerous to walk or drive.
2	Shrubs and other non-native shrubbery weighed down, trees manage ok
3	Small tree branches start to bend
4	Small and medium branches bend, a few small branches may fail
5	Birch trees are starting to bend, minor branch damage to weak trees
6	Birch trees sag moderately, small and large limbs start to break, ~5-10% branch loss
7	Birch trees bent nearly completely, ~10-20% branch loss on small and large limbs
8	Moderate to significant tree damage, most trees have some damage

Credit: Jason Shafer, Northern Vermont University-Lyndon



Measure and report ice accretion on branches or other flat objects

CoCoRaHS Ice Accretion Pilot



CoCoRaHS Ice Accretion

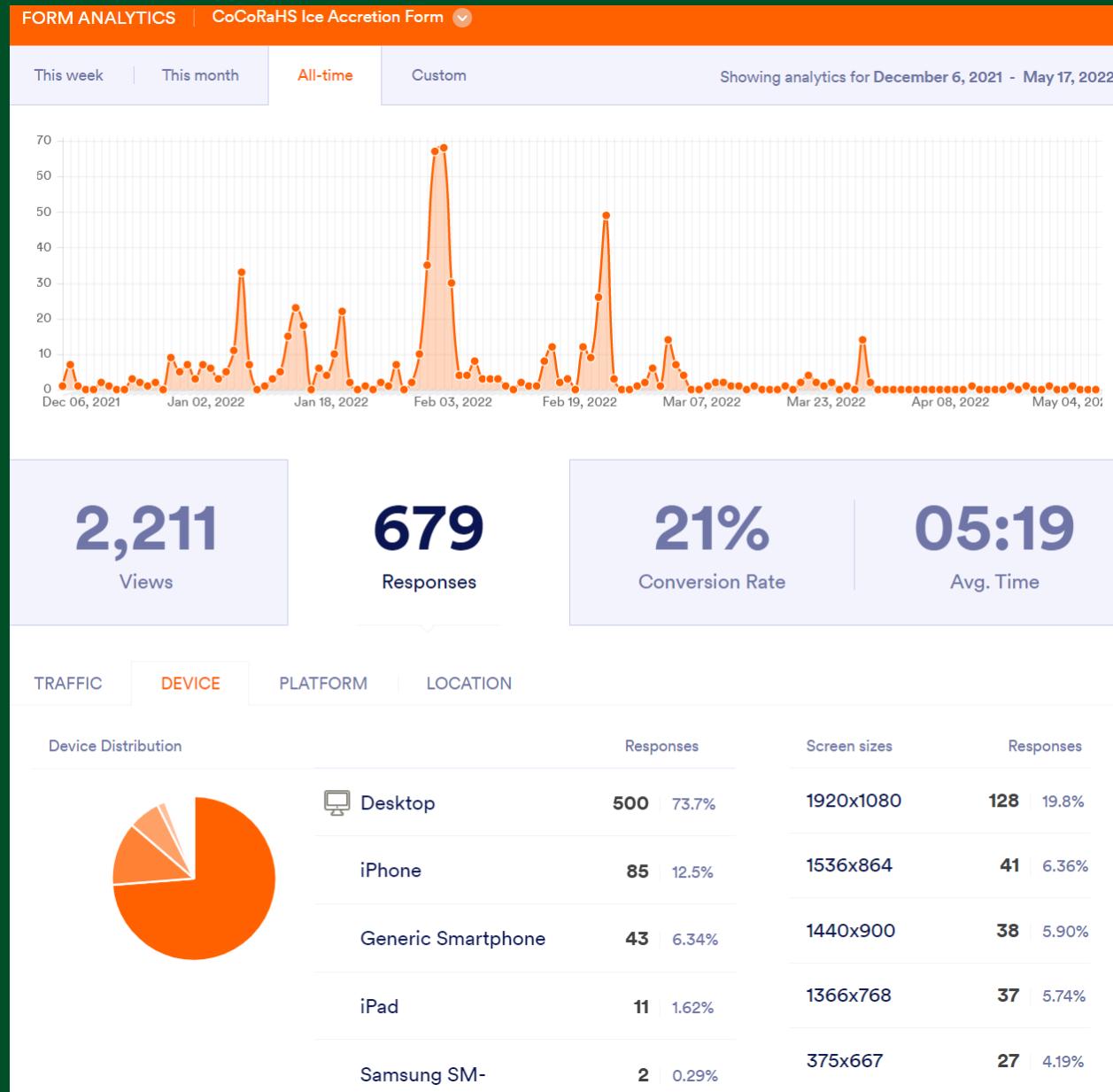
Document ice accretion or freezing rain with optional photo upload! (Photos will NOT be public)

What do you want to do? *

- Document the base thickness of my dowel BEFORE an ice event
- Report ice thickness measured on my dowel AFTER an ice event
- Report ice thickness measured on something else (branch or other flat object)
- I only have photos and no measurements

[Next](#)

CoCoRaHS Ice Accretion Pilot

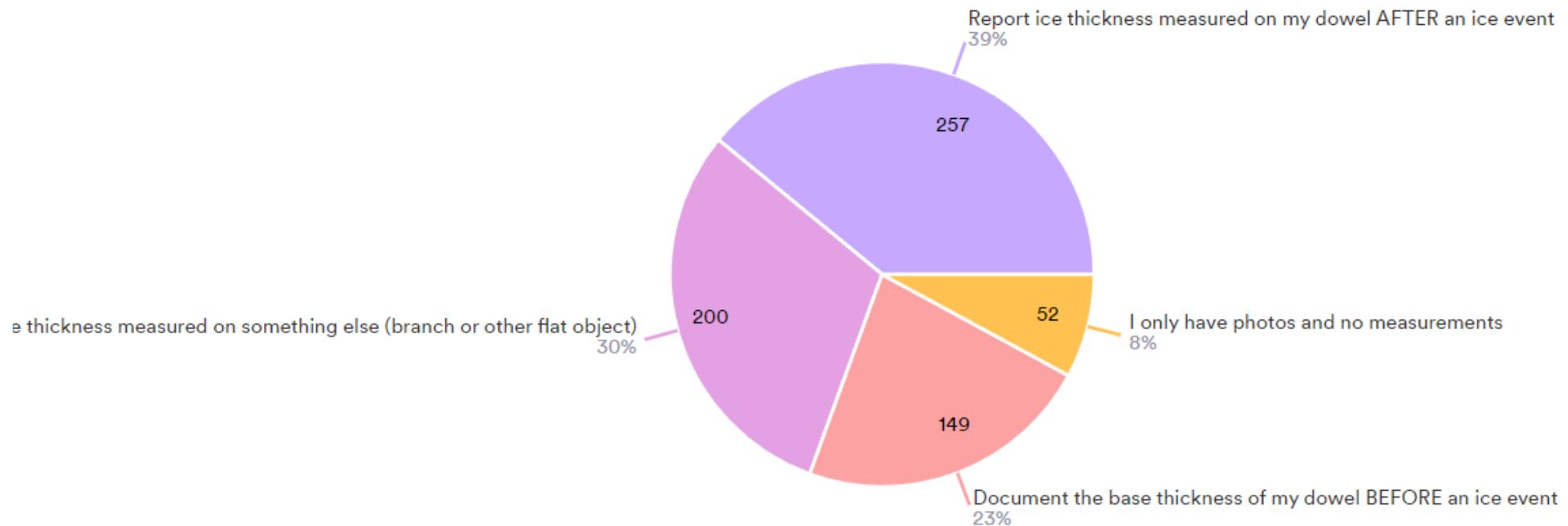


**273 reports included
at least one photo**

CoCoRaHS Ice Accretion Pilot

What do you want to do?

658 Responses



- Report ice thickness measured on my dowel AFTER an ice event
- Report ice thickness measured on something else (branch or other flat object)
- Document the base thickness of my dowel BEFORE an ice event
- I only have photos and no measurements

CoCoRaHS Ice Accretion Pilot

Enter your CoCoRaHS Station Number

652 Responses- 6 Empty

Data	Responses
KY-FR-1	12
PA-BT-47	10
PA-HN-3	7
MO-PT-8	7
OH-FR-111	7
MA-HD-33	6
PA-CN-32	6
NC-YD-5	6
NC-CM-93	6

CoCoRaHS Ice Accretion Pilot

Time of Observation

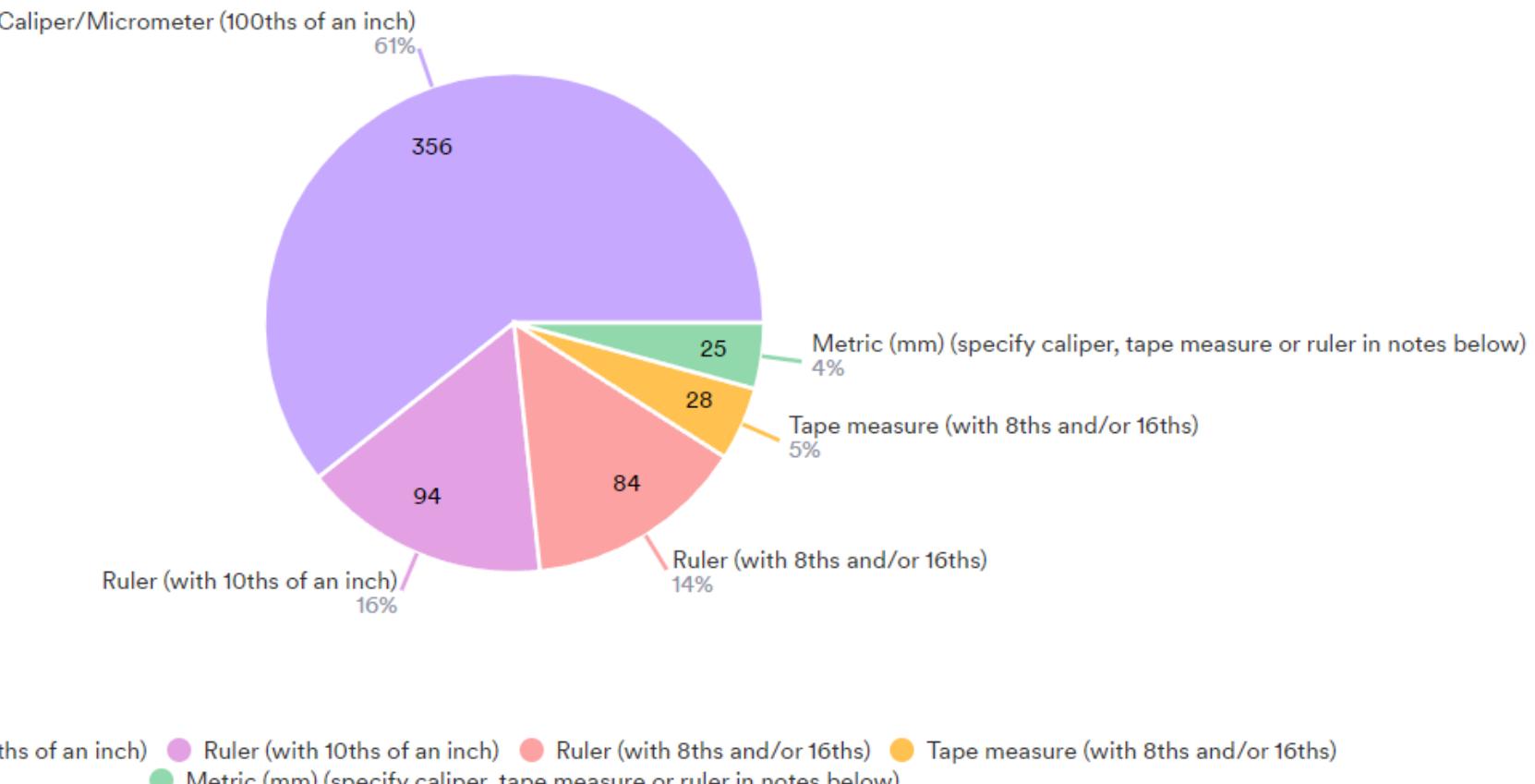
658 Responses

Data	Responses
07:00 AM	146
08:00 AM	67
07:30 AM	25
09:00 AM	22
07:15 AM	16
08:30 AM	15
11:00 AM	15
10:00 AM	11
03:00 PM	9

CoCoRaHS Ice Accretion Pilot

What is your measuring device?

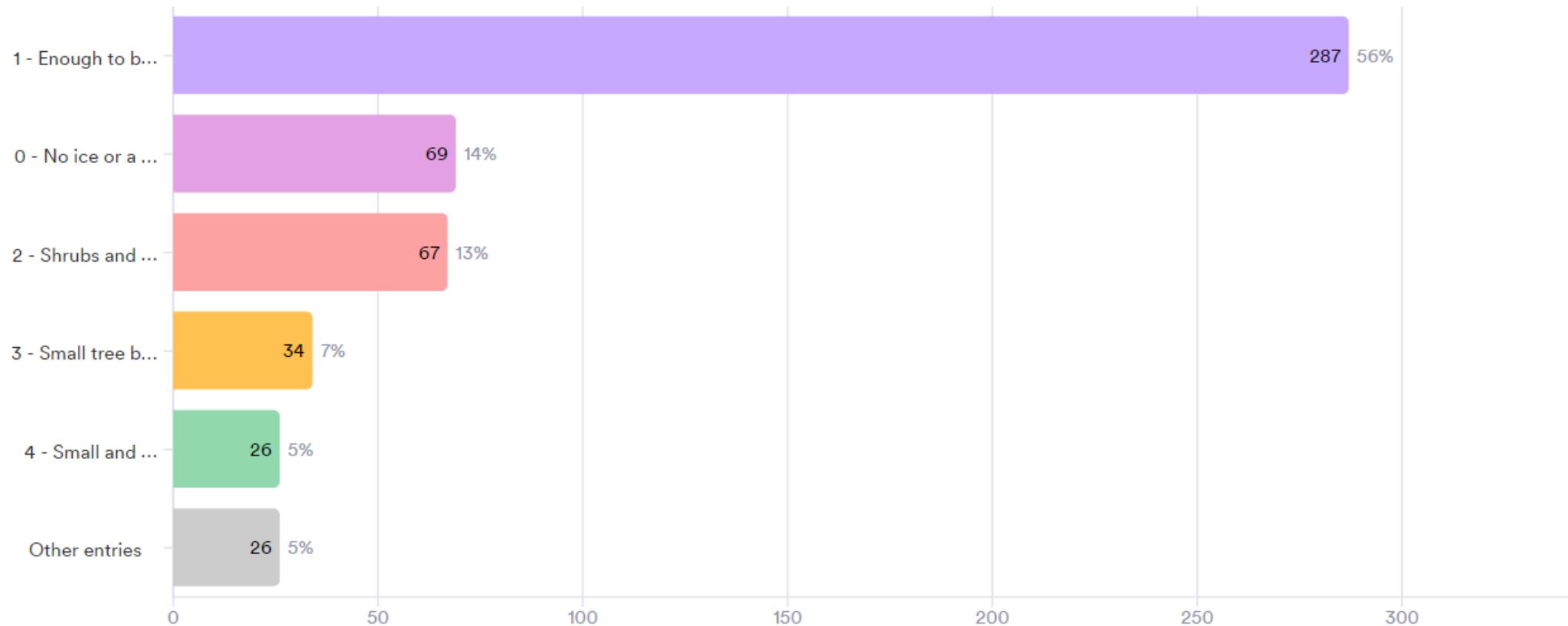
587 Responses- 71 Empty



CoCoRaHS Ice Accretion Pilot

Select an Impact Category

509 Responses- 149 Empty



CoCoRaHS Ice Accretion Pilot

Plans for the future

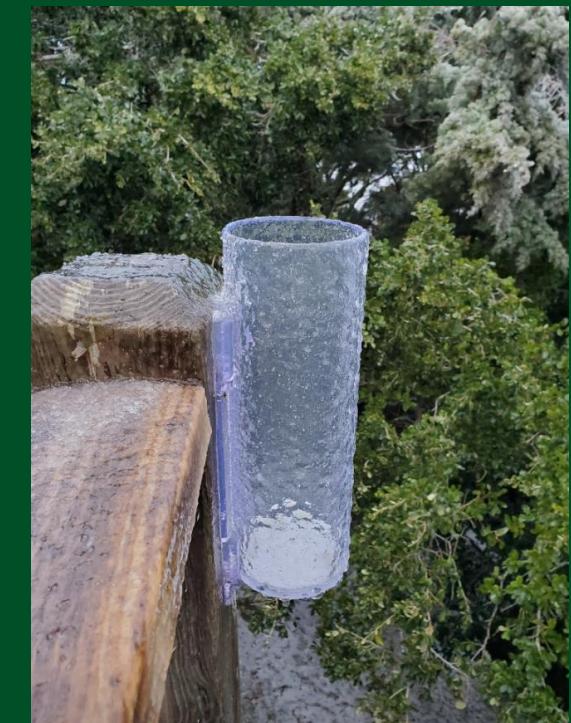
- Convene with coauthors and review the protocol, data and feedback
- Refine the pilot protocol for next season
- Ideally, we will implement a finalized protocol into the CoCoRaHS website and database

CoCoRaHS Ice Accretion Pilot

Main Considerations

- Impact scale for more tree types
- Improvements on descriptions and instructions for radial vs. flat measurements
- Review all volunteer and coordinator feedback
(<https://form.jotform.com/213515317481149>)

THANK YOU



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