

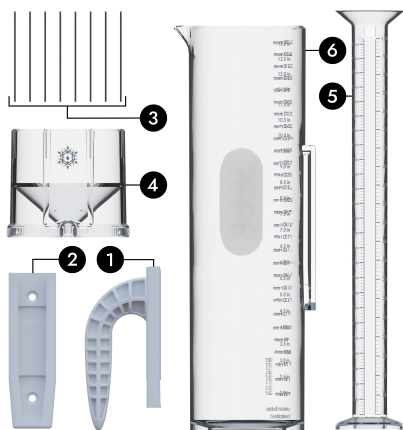
# TROPO Precipitation Gauge - Installation & User Guide



*The most advanced, accurate, easy-to-use, manual all-weather precipitation gauge*

## Included in the box:

Outer Tube, Inner Tube, Cap, Mounting Bracket, Handle, Stainless Steel Bird-Deterrent Rods (8x), 11" Nylon Cable Ties (2x), #14 x 1.5" Phillips Wood Screws (2x), Adhesive Foam, Bubble Level, Cleaning Brush & User Guide.



REFERENCE #	PART #	DESCRIPTION	QUANTITY
1	25919-1	Removable Handle	1
2	25919-2	Mounting Bracket	1
3	25919-6	Bird Deterrent Rod	8
4	25919-3	Funnel Cap	1
5	25919-4	Inner Tube	1
6	25919-5	Outer Tube	1
-	25919-11	Cable Tie	2
-	25919-9	Wood Screw	2
-	25919-10	Adhesive Foam	1
-	25919-13	Bubble Level	1
-	25919-7	Brush	1

## INSTALLATION

### Cable tie option

- Pliers

### Wood screw option

- 5/32" (4 mm) drill bit
- Drill & Phillips screwdriver

**Step 1** Determining gauge location is important to ensure the highest quality precipitation measurements. In open areas, strive to have the gauge at a location twice as far from obstacles as they are high. In developed areas, strive to have the gauge as far from obstacles as they are high. Do not install the gauge near roofs, trees, buildings or other structures that will negatively impact the catchment of the gauge.

**Step 2** Determining gauge height is important to reduce under-catch of precipitation from wind. **In open areas, the top of the gauge should be approximately 2-3 feet (.6 - .9 m) off the ground, whereas in developed areas the top of the gauge should be approximately 5-6 feet (1.5-1.8 m) off the ground.**

**Step 3** Install and/or identify a secure pole or post to mount the gauge to. *PRO TIP: The adjustable Climalytic Pole Mount, available at [store.climalytic.com](http://store.climalytic.com), is a convenient, sturdy and versatile option.*

**Step 4** Install the gauge mount onto a post or a pole with the provided hardware (wood screws or cable ties). In either case, it is important to make sure the mounting bracket is positioned so the top of the installed gauge (without the cap installed in areas with snow) is well above the top of the post/pole to prevent obstruction of precipitation catchment. *PRO TIP: Try to mount the main body of your gauge on the north side of the pole/post to reduce premature fading of the gauge.*

Wooden post installation: A 4"x4" (101 mm x 101 mm) wooden post is recommended.

1. Position the provided bubble level on top of the mounting bracket, then position the bracket in the desired location, making sure it is level.
2. Use a 5/32" (4 mm) drill bit to create pilot holes for the 1.5" wood screws. *PRO TIP: Mark and drill the bottom hole only, proceed to step 3, then using the level, adjust the mount vertically before drilling the top hole and proceeding to step 3.*
3. Screw the mount into place with a Phillips screwdriver, making sure **not to over tighten the screws and crack the mounting bracket**. Place the provided bubble level on top of the mounting bracket to ensure it is level. *PRO TIP: Re-tighten the screws in about a year to ensure a strong hold.*

Pole mount installation: A 1.25" (31.75 mm) diameter metal pole is recommended, but the provided cable tie can accommodate a pole up to approximately 3 inches (76 mm) in diameter. Ensure the pole and bracket are aligned vertically with the provided bubble level. *PRO TIP: Position the level atop the bracket to ensure it is level.*

1. To increase the frictional grip of the mounting bracket to the pole, affix the **adhesive foam strip onto the rounded/back side of the mounting bracket** that will have contact with the pole.
2. Use the provided cable ties to secure the mount to the pole. Using pliers, tighten the cable ties until they are extremely tight. *PRO TIP: Re-tighten the cable ties in a few days to ensure a strong hold, then clip off the ends of the cable ties.*

**Step 5** Slide gauge onto mount and make sure the gauge is level and secure.

**Step 6** (Optional) Press bird deterrent rods into the 8 holes around the cap. *PRO TIP: When the rods are installed, use the funnel atop the inner tube for decanting the outer tube instead of the cap funnel. WARNING: Use care handling the deterrent rods and cap with rods attached to prevent injury.*

## USER GUIDE

This precipitation gauge collects all types of precipitation. Measure rain, or the water equivalent of melted snow, ice/sleet or hail, to the nearest .01 inch or .2 mm. Use the printed increment nearest the **bottom of the meniscus** for the most accurate reading. When more than 1 inch (25.4 mm) of liquid precipitation collects in the inner tube, it overflows into the outer tube where another 12 inches (304.8 mm) of precipitation collects.

*PRO TIP: Safely remove the cap from the outer tube by gently pressing up on the cap's spout protrusion with both thumbs.*

**NOTE: The TROPO is freeze-resistant, if regularly maintained, emptied, and cleaned.** It is recommended to bring the cap & inner tube inside during sub-freezing weather to accurately & effectively catch snow/ice in outer tube.

**Rain** Only use the outer tube measurement labels for ESTIMATING rainfall amounts when the inner tube is inserted AND full until you can carefully measure the water in the outer tube by repeatedly filling and measuring it with the inner tube. *PRO TIP: You can also easily determine the amount of rain by weight using the same technique described below for snow water equivalent (SWE), but instead including the inner tube in the dry weight.*

**Snow** Remove the top cap/funnel and inner tube during periods of snow to allow snow to fall directly into the outer tube so that you can determine the snow water equivalent (SWE) of the “gauge catch.” Allow the snow to melt inside the outer tube, then carefully pour the water into the inner tube to determine the SWE.

*PRO TIP: Pour a pre-measured amount of warm water into the outer tube to expedite the melting process. Remember to measure and subtract the amount of warm water from the total for determining the SWE.*

Alternatively, SWE can very easily and accurately be determined by weight. First, use a scale to determine the weight of the **dry, empty** outer tube; write the weight on the bottom of the outer tube for future reference. When the outer tube contains snow, weigh it and subtract the dry weight of the tube to determine the weight of the snow. **To compute the SWE in inches, divide the weight of snow in grams by 206 or 8.1 for mm.** For example, if the snow weighs 80g, the SWE would be  $80g/206 = 0.39$  inches or  $80g/8.1 = 9.9$  mm. *PRO TIP: Use Climalytic Digital Scale available at [store.climalytic.com](http://store.climalytic.com)*



*PRO TIP: For detailed instructions on making snow measurements, please refer to the Climalytic Snow Board user guide using this QR code or visit [climalytic.com/documentation/snow-board-manual](http://climalytic.com/documentation/snow-board-manual)*

## DATA REPORTING

The data you collect from this gauge is helpful, valuable and important. Please consider joining CoCoRaHS ([cocorahs.org](http://cocorahs.org)) and/or another observer network to share your data with others! You can buy official card stock observation forms from [store.climalytic.com](http://store.climalytic.com) for recording your measurements as well.

## REPLACEMENT PARTS AND SUPPORT

Visit [climalytic.com/tropo](http://climalytic.com/tropo) for installation and operation videos, maintenance suggestions, measuring techniques for other types of precipitation (hail, sleet), tips, and FAQ's. To buy replacement parts, extra parts and other weather instruments, visit [store.climalytic.com](http://store.climalytic.com) or exclusive resellers. Please call, text, email or visit our our contact form at [climalytic.com/contact](http://climalytic.com/contact) with any questions.

**The TROPO gauge is freeze-resistant, IF regularly maintained, emptied, and cleaned.**

Please share a picture of your new gauge on social media and tag us @CLIMALYTIC. Use #cocorahs if you are a CoCoRaHS observer!

**THANK YOU FOR PURCHASING FROM OUR SMALL, FAMILY OWNED AND OPERATED BUSINESS**



Scan for link to online installation & user guide

info@climalytic.com  
(888) 805-0059 (call or text)

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V.2.2 March 31, 2026