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Installing a 127mm standard rain gauge

1. Site Selection

- **Choose an Open Area:** The rain gauge should be placed in an open space, away from trees, buildings, or other structures that could block or alter the amount of rainfall. The distance from any obstacle should be at least twice the height of that obstacle.
- **Avoid Slopes:** Install the gauge on a flat, level surface to ensure accurate readings.
- **Accessibility:** Ensure the location is easily accessible for routine checks and maintenance.

2. Ground Preparation

- **Clear the Area:** Remove any debris, vegetation, or objects that might interfere with rainfall collection.
- **Prepare the Ground Surface:** Level the ground where you plan to install the rain gauge to prevent tilting.

3. Setting up the PVC Stand

- **Mounting Stand:** You can use a mounting stand to elevate the gauge. The height should be such that the opening of the funnel is at least 75cm above the ground for standard measurements, but it may be adjusted based on specific requirements.
- **Dig a Hole:** Place at least 25cms of the PVC stand in the hole ensuring that the height outside the hole up to the opening of the funnel is 75cm.
- **Position the Stand:** Ensure the stand is perfectly vertical. Use a spirit level to check this. A tilted gauge can lead to inaccurate measurements.
- Fill the inside of the PVC stand with non-compressing sand up to about 80% full.

4. Installation of the Rain Gauge

- **Assemble the Rain Gauge:** If the rain gauge comes in separate components (funnel, measuring cylinder, outer casing).
- **Position the Gauge Vertically Inside the PVC Stand:** Ensure the rain gauge is perfectly vertical. Use a spirit level to check this. A tilted gauge can lead to inaccurate measurements.

5. Secure the Gauge

- **Anchor the Stand:** If using a stand or platform, anchor it securely to the ground using stakes or sand.
- **Stabilize the Gauge:** Ensure the gauge is stable and will not be knocked over by wind or animals.

6. Mark and Record the Installation Location

- **Label the Site:** It is useful to mark the location and record the GPS coordinates if needed, especially if it will serve as a formal observation site.
- **Record Details:** Note down the installation date, exact location, and height above ground level.

7. Testing and Calibration

- **Test the Gauge:** Pour a known quantity of water into the funnel to check that it drains correctly into the measuring cylinder.
- **Calibration Check:** Verify that the measuring cylinder's scale is accurate.

8. Maintenance and Observation

- **Regular Cleaning:** Keep the funnel and measuring cylinder clean from debris like leaves, dirt, or insects.
- **Check for Obstructions:** Periodically inspect the area around the gauge for new obstructions like growing plants or structures.