

# Canaan Valley Record Low Temperature

## TS-100 Aspirated Radiation Shield



### Introduction:

Virginia Tech University maintains a research weather station in Canaan Valley, West Virginia. On January 22, 2022, the weather station recorded a temperature of  $-30.7^{\circ}\text{F}$ , which is the lowest officially recognized temperature ever measured in the valley. The previous record was  $-27^{\circ}\text{F}$  on January 21, 1985. The temperature in Canaan Valley has been recorded since 1944.

### Set Up:

The research weather station resides in the undeveloped northern end of Canaan Valley at an elevation of 3,150 feet. The valley floor is flat and high with an average elevation of about 3,200 feet. Canaan Valley is the highest large valley in eastern North America and is 10 miles long by 5 miles wide (50 square miles). The valley is a “cold sink” or “frost hollow” and traps cold air on calm evenings with dry air and snow cover.

The research weather station is professionally sited, equipped, and maintained by Virginia Tech instructor David Carroll. The weather station contains an Apogee aspirated radiation shield to help measure temperature in the valley. Although the station is relatively new, it has been officially recognized by the National Weather Service on several mornings in 2022 for recording the lowest temperature in the contiguous United States of America.

### Conclusion:

David Carroll and other local climate experts believe the station has the potential to set a new all-time extreme low record temperature for West Virginia. The current lowest West Virginia temperature is  $-37^{\circ}\text{F}$ , set in Lewisburg on December 30, 1917.

### Application Summary

#### Summary:

An Apogee aspirated radiation shield measured the lowest official temperature recorded at a research weather station in Canaan Valley, West Virginia National Wildlife Refuge.

#### Apogee Sensor Used:

TS-100 aspirated radiation shield

#### Organization:

Virginia Tech University research weather station

#### Location:

Canaan Valley, West Virginia  
National Wildlife Refuge

#### Point of Contact:

David Carroll

#### News Articles

West Virginia's Canaan Valley plummets to minus-31, setting record low for region