

A VA Tech University research weather station in Canaan Valley, WV National Wildlife Refuge (NWR) (see image below) recorded the lowest officially recognized temperature ever recorded in Canaan Valley this Saturday morning (1-22-22) of -31°F (-30.7°F to be exact). The previous all-time record low temperature in Canaan Valley's 77-year published temperature record (starting 1944) was -27°F set on January 21, 1985.

This morning was a cold morning across all Canaan Valley's floor. The official published National Weather Service Cooperative station in the southern, more developed end of the valley 6.3 miles southwest of the VA Tech station reported -21°F !

The Canaan Valley NWR VA Tech University research station lies in a flat, open meadow in the wild, untouched northern end of Canaan Valley at an elevation of 3,150 feet.

Canaan Valley is shaped like a huge bath-tub with only one exit where the Blackwater River leaves the valley flowing west towards the Gulf of Mexico. The valley floor is flat and high with an average elevation of about 3,200 feet. It's large in scope at 10 miles long by 5 miles wide (50 square miles). The elevated valley floor is completely surrounded by a rim of ridge-tops that range in elevation from 3,600 to 4,460 feet. Canaan Valley is the highest large valley in eastern North America.

This high elevation and topographic shape make it a classic text-book cold sink. Such places are commonly referred to as "*frost hollows*". Frost hollows catch and pool cold air forming extremely well at night. Clear, calm evenings (no wind) with dry air and snow cover, as was the case this morning in Canaan, aid in cold air formation and pooling



The Canaan Valley NWR VA Tech University research weather station is professionally sited, equipped, and maintained by instructor David Carroll. The station has, in its very short operating life, already been officially recognized by the National Weather Service on several mornings this year for recording the lowest temperature in the contiguous U.S.

The station's manager, VA Tech University instructor David Carroll, and other local climate experts (me included) believe the station has the potential to set a new all-time extreme low record temperature for West Virginia based on the very low temperatures already set in its very short operating life. The current lowest WV temperature officially recognized for West Virginia is -37°F , set in Lewisburg on December 30, 1917.