

# *West Virginia's Climate*

## THE COCORAHS 'STATE CLIMATES' SERIES

### West Virginia's "Wild and Wonderful" Climate

By Kevin Law, State Climatologist and CoCoRaHS State Coordinator

West Virginia, for being a relatively small state (only 24,077 square miles), has more distinctive climates than many realize. This is largely because the state possesses two "panhandles." The northern panhandle extends north of Pittsburgh, PA, and the eastern panhandle that extends approximately 50 miles from Washington, DC. In addition, the southernmost point is only 70 miles from North Carolina, while the westernmost point extends further west than Port Huron, MI. The regional "ambiguity" is why West Virginia is often referred to as "the most northern of the southern states, the most southern of the northern states, and the most western of the eastern states". The large east-west and north-south coverage (along with the Allegheny Mountains running north-to-south along the eastern two-thirds of the state) create the distinctive climates.

The "Mountain State" is not entirely covered by the mountains. In fact, the elevation varies from 247 feet near Harper's Ferry in the eastern panhandle to 4,863 feet at Spruce Knob. The elevation gradually increases from the Ohio River toward the east. From the peaks of the Alleghenies eastward, the elevation drops quickly into the Shenandoah and Potomac Valleys. The precipitation pattern follows the topography of the state. Annual precipitation totals range from near 40" near the Ohio River to approximately 62" on the western mountain slopes. A "rain shadow" exists in the eastern panhandle where approximately 30" falls.

Annual average temperatures range from the upper 50's in the southern coalfields to the mid-40's in the mountains. The relatively cool mountain temperatures allow an abundant amount of snow to fall. In fact, some of the highest snowfall totals east of the Mississippi River fall in the West Virginia mountains. Over 100" annually fall on the highest mountain peaks. The winter of 2009-2010 was exceptional in these areas, producing well over 200" of snow, with over 100" falling in the month of February alone at a few stations. This would break monthly snow records set in 1977. During the 1959-60 winter, Kumbrabow State Forest reported 301.4". Other state snowfall records include the single storm accumulation of 57" at Pickens, during the infamous "Great Appalachian Storm of 1950" and the 24-hour snowfall of 35" that fell in Flat Top in 1998. However, this is not representative of much of the state as the lowlands have mild winters when it comes to snowfall. The southwest region near Huntington averages only between 12"-24" annually due to the low elevation and southern location. Snowfall totals gradually increase toward the northeast due to the orographic uplift of the mountains. Elkins (elevation 1,927 feet), which is located on the western slopes of the Alleghenies, receives just over 60" of snow annually.

Not only is the precipitation relatively heavy in the mountains, but it is often very cloudy throughout much of the year. Elkins and Beckley report annually 212 and 210 days, respectively, of heavy cloud cover. Elkins is the second cloudiest location east of the Mississippi River — behind Mt. Washington. These cities compare with some of the notoriously cloudy locations such as Seattle and Portland.

For more information about the climate of West Virginia please visit: <http://www.marshall.edu/met/>