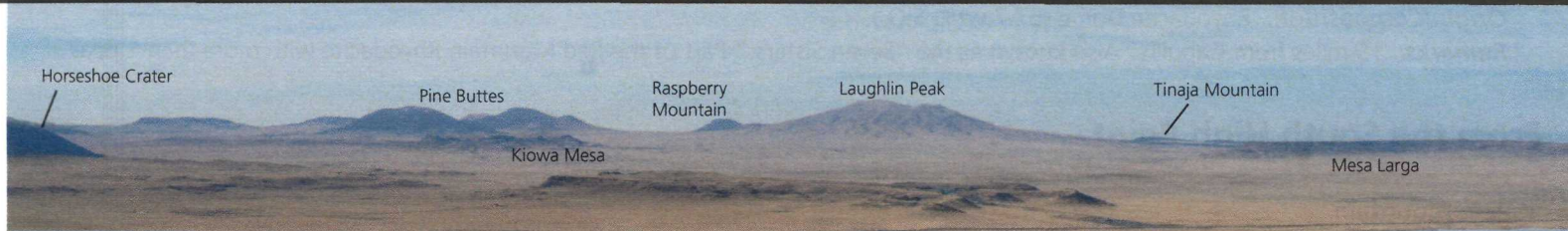


Capulin Volcano

National Monument
National Park Service
US. Department of the Interior



Viewshed Guide of Features Visible from the Top of Capulin Volcano From Parking Lot (north to south)

Johnson Mesa

Age: Raton Phase 7.76 ± 0.017 Ma (Ar-Ar)

Origin/Composition: Basaltic lava flows; vents most likely to the northwest

Remarks: Made up of multiple flows. Largest mesa in the Raton-Clayton Volcanic Field (RCVF) in New Mexico. Excellent example of inverted topography.

Red Mountain

Age: Raton Phase 6-7.4 Ma (K-Ar; Scott, et al, 1990); 7.7-8.1 Ma (K-Ar; Staatz, 1968, 1985)

Origin/Composition: Rhyodacite Dome (68 wt% SiO₂)

Remarks: 13 miles from Capulin. Volcanic dome extruded a highly viscous magma. The type area for the Red Mountain Rhyodacite.

Dale Mountain

Age: Raton Phase 4.03 ± 0.12 Ma (Ar-Ar)

Origin/Composition: Basanite Cinder Cone (44.5 wt% SiO₂)

Remarks: 15.4 miles from Capulin. Low point with radio tower behind Red Mountain.

Towndrow Peak

Age: Raton Phase 5.7-6.4 Ma (K-Ar; Scott, et al, 1990)

Origin/Composition: Rhyodacite Dome (65.2 wt% SiO₂)

Remarks: 17.7 miles from Capulin. Part of the Red Mountain Rhyodacite.

Robinson Peak

Age: Clayton Phase (Muehlberger, et al, 1967)

Origin/Composition: Basanite Cinder Cone (40.7 wt% SiO₂)

Remarks: 3 miles from Capulin. Vent for many basanite lava flows.

Jose Butte

Age: Clayton Phase (Muehlberger, et al, 1967)

Origin/Composition: Basanite Cinder Cone

Remarks: 4.9 miles from Capulin. Vent for numerous basanite lava flows.

Sangre de Cristo Mountains (New Mexico and Colorado)

Age: 80-50 Ma (Laramide Orogeny)

Origin/Composition: Uplifted during the Laramide Orogeny, a major mountain-building event in western North America. Precambrian granites and metamorphic rocks are exposed.

Remarks: Approximately 80 miles from Capulin. Part of the front range of the Rocky Mountains. Wheeler Peak (13,161 feet) is the highest point in New Mexico.

Green Mountain

Age: Raton Phase

Origin/Composition: Rhyodacite Dome (70.6 wt% SiO₂)

Remarks: 16.4 miles from Capulin. Part of the Red Mountain Rhyodacite.

Mesa Larga

Age: Raton Phase 7.28 ± 0.11 Ma (Ar-Ar)

Origin/Composition: Basaltic lava flow

Remarks: 11 miles from Capulin. Elongated flat-topped feature.

Tinaja Mountain

Age: Clayton Phase (Muehlberger, et al, 1967)

Origin/Composition: Capped by lava flows of Clayton basalt.

Remarks: 23 miles from Capulin. Flat-topped butte in the distance directed behind Mesa Larga.

Laughlin Peak

Age: Raton Phase 6.9 ± 0.80 Ma (K-Ar; Scott, et al, 1990)

Origin/Composition: Rhyodacite Dome. Some pumiceous pyroclastic deposits and lahar deposits.

Remarks: 16 miles from Capulin. Also known as "Baldy." Part of the Red Mountain Rhyodacite. Deep gullies are carved into the soft pyroclastic and lahar deposits.

Raspberry Mountain

Age: Raton Phase

Origin/Composition: Rhyodacite Dome (68.0 wt% SiO₂)

Remarks: 19.4 miles from Capulin. Part of the Red Mountain Rhyodacite. Forested peak in the distance behind Laughlin.

Kiowa Mesa

Age: Raton Phase 7.42 ± 0.18 Ma (Ar-Ar)

Origin/Composition: Basaltic Lava Flows

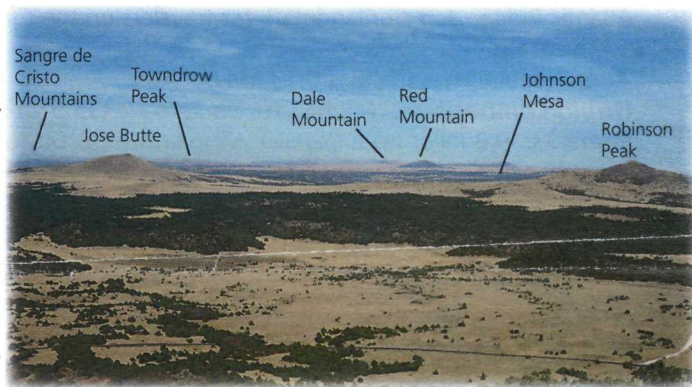
Remarks: 12.3 miles from Capulin. Not a very prominent mesa.

Pine (Timber) Buttes

Age: Raton Phase 7.7 ± 0.5 Ma (K-Ar; Scott, et al, 1990)

Origin/Composition: Middle Pine Butte - Trachyandesite Dome; Eastern and Western Pine Buttes - Rhyodacite Domes

Remarks: 17 miles from Capulin. Rhyodacite domes are part of the Red Mountain Rhyodacite. Andesite ridge of the Middle Pine Butte is 3.58 ± 0.02 (Ar-Ar)



***Notes:** Ma = million years ago (mega annum) All Ar-Ar age determinations are from Stroud, 1996.

Horseshoe Crater

Age: Capulin Phase 0.44 ± 0.08 Ma (Ar-Ar)

Origin/Composition: Xenocrystic basaltic andesite cinder cone

Remarks: 7.7 miles from Capulin. Named for breached crater that has a horseshoe shape when viewed from the west.

Palo Blanca Mountain

Age: Raton Phase

Origin/Composition: Rhyodacite Dome (67.7 wt% SiO₂)

Remarks: 15 miles from Capulin. Also known as the "Seven Sisters." Part of the Red Mountain Rhyodacite with more than 1 peak.

From the South High Point

Malpie Mountain

Age: Capulin Phase (Baldwin and Muehlberger, 1959)

Origin/Composition: Cinder Cone

Remarks: 12 miles from Capulin.

Barela Mountain

Age: Clayton Phase (Baldwin and Muehlberger, 1959)

Origin/Composition: Probably a cinder cone

Remarks: 17 miles from Capulin west of Malpie Mountain with an elevation of 7150 feet.

Sierra Grande

Age: 4.0-2.6 MA (Ar-Ar) - Spans a greater time period than just the Clayton Phase

Origin/Composition: "Andesite Shield" 2-pyroxene andesite (60-62 wt% SiO₂)

Remarks: 7.5 miles from Capulin. Sierra Grande is an unusual volcano as it is composed almost completely of andesitic lava flows. Most andesite volcanoes are composite volcanoes, while shield volcanoes are made up of basaltic lava flows. Sierra Grande is neither a true composite volcano or a true shield volcano and is maybe best called an "andesite shield" volcano. At an elevation of 8720 feet and diameter of 5 miles, it is the largest volcanic edifice of the RCVF.

Rabbit Ears Mountain

Age: Clayton Phase 3.01 ± 0.15 Ma (Ar-Ar)

Origin/Composition: Basaltic cinder cone (deeply eroded)

Remarks: 46 miles from Capulin. At an elevation of 6058 feet, it is the easternmost volcanic vent in the RCVF and land seen beyond Rabbit Ear Mountain is part of Texas. No other Cenozoic volcanic vents are at this latitude between Rabbit Ear Mountain and the Mid-Atlantic Ridge. A major landmark for travelers on the Cimarron Route of the Santa Fe Trail.

Carr Mountain

Age: Capulin Phase 1.68 ± 0.13 Ma (Ar-Ar)

Origin/Composition: Nephelinite cinder cone (35.9 wt% SiO₂)

Remarks: 9.3 miles from Capulin. Also known as Gaylord Mountain. The most highly mafic and alkalic rocks of the RCVF came from this vent. Rocks contain phenocrysts of hauyne, a rare mineral found only in highly ultramafic rocks.



From the North High Point

Black Mesa (Oklahoma)

Age: Raton Phase 4.67 - 5.13 Ma (Ar-Ar)

Origin/Composition: Basaltic lava flows; vents most likely to the northwest

Remarks: 55 miles from Capulin. Highest point in Oklahoma at 4973 feet elevation, this mesa stretches around 45 miles into Colorado, where it is known as "Mesa de Maya." The northeastern most part of the RCVF, it is an excellent example of inverted topography, where lava flows become high points due to erosion of the land around them.

Emery Peak

Age: Capulin Phase 1.8 Ma (K-Ar; Stormer, 1972)

Origin/Composition: Basaltic Cinder Cone

Remarks: 9.2 miles from Capulin

Purvine Mesa

Age: Capulin Phase 0.52 ± 0.13 Ma (Ar-Ar)

Origin/Composition: 4 linear low vents

Remarks: 7.5 miles from Capulin. Not a prominent feature. Younger than Capulin Volcano and a product of the latest volcanic activity in the RCVF (Baldwin and Muehlberger, 1959).

Twin Mountain Quarry

Age: Capulin Phase 0.048 ± 0.014 Ma (Ar-Ar)

Origin/Composition: Elongated basaltic andesite cinder cone. Extensively mined for cinders.

Remarks: 5.3 miles from Capulin. Similar to rocks from Capulin Volcano, this volcano is younger than Capulin and a product of the latest volcanic activity in the RCVF (Baldwin and Muehlberger, 1959).

Baby Capulin

Age: Capulin Phase (younger than Capulin Volcano by looking at stratigraphic relationships)

Origin/Composition: Basaltic Cinder Cone. Fewer phenocrysts than in the basalts from Capulin Volcano.

Remarks: 3 miles from Capulin. Flows from Baby Capulin overlie Capulin Volcano lava flows and flowed approximately 20 miles down the Dry Cimarron River.

Mud Hill

Age: Capulin Phase (older than Capulin Volcano by looking at stratigraphic relationships)

Origin/Composition: Basaltic Tuff Ring or Maar

Remarks: 1.7 miles from Capulin. Formed by a highly explosive eruption caused by the interaction of hot magma with groundwater near the Earth's surface and driven by groundwater flashing to steam (known as a hydrovolcanic or phreatomagmatic eruption). The rock in this tuff ring or maar is tuff and consists of angular fragment of nonvesicular basaltic clasts weakly welded together.

Greenhorn Mountain (Colorado)

Age: Uplift began in the Laramide Orogeny (80-50 Ma)

Origin/Composition: Faulted anticline cored with Precambrian rocks. Paleozoic and Mesozoic rocks exposed on the mountain's flank.

Remarks: 95 miles from Capulin. At an elevation of 12,347 feet, it is the highest peak of the Wet Mountains.

East and West Spanish Peaks (Colorado)

Age: Tertiary (26.6 - 21.4 Ma) (Ar-Ar; Penn, 1999)

Origin/Composition: Shallow intrusion of alkali-rich silicic rock.

Remark: 68 miles from Capulin. At an elevation of 13,610 feet, the Spanish Peaks are known for their radial dikes (thin tabular intrusions which cut across the bedding or layering of the country rock). Dikes can be as wide as 100 feet and as long as 14 miles.

