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Hiking to the top of New Mexico—Wheeler Peak

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FIGURE 1-View of Wheeler Peak from Taos Ski Valley.



FIGURE 2-Williams Creek along trail.

Rising to an elevation of 13,161 ft, Wheeler Peak is the highest point in New Mexico. This boulder-covered summit, located about 15 miles northeast of Taos in the Sangre de Cristo Mountains, is named after Major George M. Wheeler who led survey expeditions west of the 100th meridian in the 1870s. The area surrounding Wheeler Peak is within the Wheeler Peak Wilderness of the Carson National Forest, a 20,000-acre region set aside to preserve the natural beauty and environment. Motorized vehicles are prohibited in the wilderness, but horses and people are welcome.

The relatively flat-topped peak is located on a narrow, northtrending ridge of contorted Proterozoic gneiss and amphibolite (Lipman and Reed, 1989) dated at more than 1.7 billion years old. These rocks were originally deposited as granite and basalt but were later metamorphosed while deeply buried. Shallow seas covered the area in the Paleozoic. The seas began retreating from the area in the early Mesozoic (Bauer et al., 1991). During the Late Cretaceous–early Tertiary Laramide orogeny, the Proterozoic rocks were thrust southeastward over Phanerozoic rocks. The development of the Rio Grande rift uplifted the mountains to their present elevations mainly within the last 10 million years (Chapin, 1979; Kelley, 1990). Quaternary fault scarps along the mountain front indicate that uplift is continuing (Menges, 1990).

The present-day rugged topography of high peaks and deep valleys developed during the Pleistocene epoch when alpine glaciers filled the valleys with ice to thicknesses over 500 ft. The glaciers scoured out U-shaped valleys and carved arcuate depressions known as cirques at valley heads. Some of these cirques now contain lakes or tarns that are dammed by moraines.

Despite its loftiness, Wheeler Peak is accessible by several wellmaintained hiking trails that are in the moderate to difficult range. These trails begin in forests of Englemann spruce, limber pine, blue spruce and aspen (Knight, 1990). Above 12,000 ft, the alpine tundra begins, dominated by grasses, sedges, lichens, and dwarfed bushes trying to survive the harsh climate that resembles the arctic. The transition from forest to alpine tundra is marked by a progressive dwarfing of trees and a reduction in their number. From the summit, spectacular views of the surrounding high mountain scenery reward the intrepid hiker.

Two popular summit routes start in the Taos Ski Valley. The shortest route, about 8 mi roundtrip, heads up a moderately strenuous trail to Williams Lake, which is situated within a beautiful cirque amphitheater surrounded by sculptured peaks. The trail follows a broad, U-shaped valley and traverses tree-covered glacial tills. Camping is permitted near Williams Lake. From the lake, there is a poorly marked, steep, cross country trail to the summit that is patrolled by ever-alert marmots.

The second route, about 11 mi roundtrip, travels over Proterozoic phyllite and schist to Bull-of-the-Woods Mountain. At about the turn of the century, copper was mined in the area. From Bullof-the-Woods Mountain, the route intersects the ridge trail that leads to the summit. This interesting trail crosses a zone of intensely sheared rock of Early Proterozoic tonolite, quartz monzonite, and gneiss along the narrow ridge of high peaks. Other routes to the summit begin in the Red River valley.

Some of these trails allow the peak to be conquered in one day, but it is strongly suggested to take at least two days and enjoy the high country scenery. No permits are necessary to enter the wilderness area, but it is recommended that hikers stop at the U.S. Forest Service Ranger Station in Taos to check on weather and trail conditions.

References

- Bauer, P. W., Love, J. C., Schilling, J. H., and Taggart, J.E., 1991, The enchanted circle—loop drives from Taos: New Mexico Bureau of Mines and Mineral Resources, Scenic Trip No. 2, 137 pp.
- Chapin, C. E., 1979, Evolution of the Rio Grande rift-a summary; in Riecker, R. E. (ed.), Rio Grande rift: tectonics and magmatism: Washington, D.C., American Geophysical Union, pp. 1-5.
- Kelley, S. A., 1990, Late Mesozoic to Cenozoic cooling history of the Sangre de Cristo Mountains, Colorado and New Mexico: New Mexico Geological Society, Guidebook to 41st Field Conference, pp. 123-132.
- Knight, P. J., 1990, The flora of the Sangre de Cristo Mountains, New Mexico: New
- Mexico Geological Society, Guidebook to 41st Field Conference, pp. 94–95.
 Lipman, P. W., and Reed, J. C., 1989, Geologic map of the Latir volcanic field and adjacent areas, northern New Mexico: U.S. Geological Survey, Miscellaneous Investigations Map I-1907, scale 1:48,000. Menges, C. M., 1990, Late Cenozoic rift tectonics and mountain-front landforms of
- the Sangre de Cristo Mountains near Taos, northern New Mexico: New Mexico Geological Society, Guidebook to 41st Field Conference, pp. 113–122.



FIGURE 5-Wheeler Peak summit from ridge trail.



FIGURE 3-Williams Lake.



FIGURE 6-View west from summit.



FIGURE 4-Marmot sentry.



FIGURE 7-Taos Ski Valley from the top of New Mexico.