

Major Land Resource Area 048B

Southern Rocky Mountain Parks and Valleys

Accessed: 05/01/2026

Description

This area is in Colorado (96 percent) and Wyoming (4 percent). It makes up about 2,325 square miles (6,020 square kilometers). The town of Walden, in the northern part of this MLRA, is in a wide valley locally known as North Park. The town of Kremmling is in a valley locally known as Middle Park. The town of Hartsel, in the center of the southern part of the MLRA, is in a broad intermontane basin locally known as South Park. The northern part is bordered by the Medicine Bow, Routt, and Arapaho National Forests, and the southern part is bordered by the San Isabel and Pike National Forests. The Arapaho National Wildlife Refuge is directly south of the town of Walden. This area is within the Southern Rocky Mountains Province of the Rocky Mountain System. It consists of nearly level to rolling mountain parks and valleys and a few narrow mountain ridges. It occurs as two separate parts in the center of the Southern Rockies. The southern half of the northern part is on the west side of the Continental Divide, and the rest of the MLRA is on the east side of the divide. Elevation ranges from 7,850 to 10,850 feet (2,395 to 3,310 meters). The head waters of North Platte River leaves Colorado and enters Wyoming in the northern half of the northern part of the MLRA (North Park). The headwaters of Colorado River is in the southern half of the northern part of the MLRA (Middle Park). The headwaters of South Platte River is in the southern part of the MLRA (South Park). The mountain valleys and parks that are characteristic of this MLRA are surrounded by high mountain peaks of the adjacent Southern Rocky Mountains MLRA (48A). Steep slopes give rise to steep-gradient streams that can move cobbles and gravel from the mountain slopes down into the valleys. The coarse textured sediments on the surface of this area were deposited by either glacial meltwater or present-day rivers. Buried deep beneath the sediments is a complex of sedimentary and igneous rocks. Residuum from sedimentary rocks is on the steeper slopes that were not covered by alluvium and glacial outwash. The average annual precipitation is mainly 10 to 16 inches (255 to 405 millimeters), but it is as high as 28 inches (710 millimeters) at the higher elevations that border the Southern Rocky Mountains MLRA. Precipitation generally increases with elevation. Rainfall occurs as high-intensity, convective thunderstorms during the growing season. About half of the annual precipitation falls as snow. Soil moisture is unevenly distributed within short distances because of snowdrifts. The amount of precipitation is highly influenced by rain shadows. The surrounding peaks receive most of the precipitation as storm systems traverse the area. The average annual temperature is 35 to 42 degrees F (1 to 6 degrees C). The freeze-free period averages 95 days and ranges from 70 to 120 days, decreasing in length with elevation. The dominant soil order in this MLRA is Mollisols. Alfisols are of lesser extent. The soils are very shallow to deep, generally well drained, and loamy or clayey and have mixed or smectitic mineralogy. The soil temperature regime is dominantly cryic, but it is frigid in some small areas, primarily on south- or west-facing slopes. The soil moisture regime is mainly ustic, but a marginal aridic regime has been identified in areas where the average annual precipitation is less than about 12 inches (305 millimeters). The most extensive great group is Argicryolls (Hodden, Lucky, Parlin, Tiagos, and Cabin series), which commonly formed in outwash and slope alluvium on outwash terraces, fan remnants, hills, and mountain slopes. Haplocryolls (Redcloud and Tealson series) formed in outwash and slope alluvium on outwash terraces, valley side slopes, hills, and ridges. Haplocryalfs (Gebson and Harsha series) formed in slope alluvium and outwash on outwash terraces, fan remnants, hills, ridges, and mountain slopes. Cryaquolls (Dobrow and Randman series) formed in alluvium on stream terraces and flood plains.

Ecological site keys

MLRA 48B Ecological Site Key

1a. Site receives extra water beyond normal precipitation through high water table, riparian area, or run-in water.

2a. Site is influenced by salts.

3a. Soils are > 60" deep, surface textures are loam and fine sandy loam, subsurface fine textured, water table 20-30" (March-September). ... R048BY221CO – Dry Salt Flat

3b. Not as above.

4a. Soils are > 60" deep, water table 0-10" (April-August only), fine textures soils. ... R048BY224CO – Dry Salt Playa

4b. Not as above.

5a. Soils are > 60" deep, water table 20-60", surface textures clay loam or silty clay loam, fine textures subsurface soils. ...

R048BY265CO – Salt Meadow

5b. Not as above. Unclassified.

2b. Site not influenced by salts.

6a. Precipitation zone is 16-20", water table is 0-24". ... R048BY241CO – Mountain Meadow

6b. Not as above.

7a. Precipitation is 12-16", water table is 12-20". ... R048BY268CO – Dry Flood Plain Step

7b. Not as Above.

8a. Precipitation is 12-16"; water table is below 60", site is in a run-in position and receives extra water during precipitation events. ... R048BY280CO – Dry Mountain Swale

8b. Not as above. Unclassified.

1b. Site receives no extra water beyond normal precipitation.

9a. Site receives 9-12" annual precipitation - Semidesert Climate Zone

10a. Site is influenced by salts, soil depth 60+" with fine textured subsurface. ... R048BY261CO – Salt Flats

10b. Not as above.

11a. Soil depth 20-40", fine-loamy soils with sandy loam or sandy clay loam textures. ... R048BY270CO – Valley Bench

11b. Not as above. Unclassified.

9b. Site receives 12-16" annual precipitation - Dry Mountain/Dry Climate Zone

12a. Soils are < 20" in depth, loamy/loamy skeletal in texture. ... R048BY232CO – Dry Shallow Loam

12b. Soils are ? 20" in depth.

13a. Sandy, sandy-skeletal family soils, soils > 60". ... R048BY272CO – Sandy Bench

13b. Not as above.

14a. Soils are fine or clayey-skeletal family.

15a. Soils are clayey-skeletal family; > 40" in depth; surface texture very gravelly, gravelly or very cobbly loam or very sandy loam. Unclassified. Refer to MLRA 48A Key for Colorado.

15b. Not as above.

16a. Fine family soils, 20-60+" in depth; surface texture loam or clay; found on hills, ridges, alluvial fans and terraces. ... R048BY296CO – Claypan

16b. Not as above. Unclassified. Refer to MLRA 48A Key for Colorado.

14b. Not as above.

17a. Fine loamy family soils.

18a. Loamy-skeletal family soils; ? 30% slope; ? 40 inches deep; soil surface texture sandy loam or very cobbly sandy loam; located in South Park. ... R048BY227CO – Dry Loamy Slopes

18b. Not as above.

19a. Fine-loamy family soils, greater than 20" deep, soil surface loam or sandy loam; South Park only. ... R048BY225CO – Mountain Loam 10-16 PZ South Park

19b. Not as above.

20a. Fine-loamy family soils, 20-60+" in depth; surface texture loam, located in North & Middle Park. ... R048BY231CO – Dry Mountain Loam

20b. Not as above. Unclassified. Refer to MLRA 48A Key for Colorado.

17b. Not as above.

21a. Loamy-skeletal family soils (? 35% rock fragments in the control section).

22a. Site is located in South Park.

23a. ? 30% slope, ? 40" deep, soil surface texture sandy loam and very cobbly sandy loam. ...

R048BY227CO – Dry Loamy Slopes

23b. Not as above.

24a. Surface texture gravelly loam, very cobbly, extremely cobbly or very gravelly sandy loam; ? 20 inches in depth; occurs on fans and terraces.

24b. Not as above. Unclassified.

22b. Not as above. Unclassified.

21b. Not as above. Unclassified.

10c. Site receives more than 16" annual precipitation - Mountain Climate Zone

25a. Loamy family soils; soils ? 20 inches in depth. ... R048BY235CO – Dry Exposure

25b. Not as above: Soils > 20" in depth.

26a. Soils are fine-loamy family.

27a. Fine-Loamy soils ?60" deep; located in South Park. ... R048BY222CO – Loamy Park

27b. Not as above. Unclassified. Refer to MLRA 48A Key for Colorado.

26 Not as above.

28a. Soils are loamy-skeletal family (? 35% rock fragments in the control section).

29a. Soil surface textures, stony or cobbly loam extremely stony, gravelly or very gravelly sandy loam or very cobbly sandy loam; ? 60 inches deep; located in North and Middle Park. ... R048BY237CO – Stony Loam

29b. Not as above.

30a. Surface texture gravelly loam, very cobbly, extremely cobbly or very gravelly sandy loam; ? 20 inches deep; located in South Park. ... R048BY291CO – Loamy Glacial Outwash

30b. Not as above. Unclassified. Refer to MLRA 48A Key for Colorado.

28b. Not as above. Unclassified. Refer to MLRA 48A Key for Colorado.