

Montana Code Annotated 2021
TITLE 70. PROPERTY
CHAPTER 22. CORNER RECORDATION ACT SURVEYS AND COORDINATES

Part 2. Montana Coordinate System

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Part 2

70-22-201. Coordinate systems adopted -- designation -- division of state into zones. (1) The North American datum systems of plane coordinates that have been established by the ~~national ocean survey~~ **national oceanic and atmospheric administration**/national geodetic survey (formerly the United States coast and geodetic survey) or a successor for defining and stating the positions or locations of points on the surface of the earth within the state of Montana are hereafter to be known and designated as the "Montana coordinate system NAD 27," ~~and~~ the "Montana coordinate system NAD 83," ~~and the~~ **"Montana plane coordinate system"**.

(2) For the purpose of the use of the Montana coordinate system NAD 27, the state is divided into a north zone and a central zone and a south zone as provided in subsections (3) through (5).

(3) The area now included in the following counties shall constitute the north zone: Blaine, Chouteau, Daniels, Flathead, Glacier, Hill, Liberty, Lincoln, Phillips, Pondera, Roosevelt, Sheridan, Teton, Toole, and Valley.

(4) The area now included in the following counties shall constitute the central zone: Cascade, Dawson, Fergus, Garfield, Judith Basin, Lake, Lewis and Clark, McCone, Meagher, Mineral, Missoula, Petroleum, Powell, Prairie, Richland, Sanders, and Wibaux.

(5) The area now included in the following counties shall constitute the south zone: Beaverhead, Big Horn, Broadwater, Carbon, Carter, Custer, Deer Lodge, Fallon, Gallatin, Golden Valley, Granite, Jefferson, Madison, Musselshell, Park, Powder River, Ravalli, Rosebud, Silver Bow, Stillwater, Sweet Grass, Treasure, Wheatland, and Yellowstone.

(6) For the purpose of the use of the Montana coordinate system NAD 83, the state is a single zone.

(7) For the purpose of the use of the **Montana plane coordinate system (MTPCS)**, the most recent system of plane coordinates which has been established by the national geodetic survey or a successor (NGS), based on the north american terrestrial reference frame of 2022 (NATRF2022) or a successor and the national spatial reference system or a successor (NSRS), and known as the state plane coordinate system or a successor (SPCS), for defining and stating the geographic positions or locations of points within the State of Montana shall be known as the **"Montana plane coordinate system."**

History: En. Sec. 1, Ch. 232, L. 1965; amd. Sec. 1, Ch. 73, L. 1975; R.C.M. 1947, 67-2011; amd. Sec. 1, Ch. 137, L. 1987.

70-22-202. (No change)

70-22-203. Use of x- and y-coordinates. (1) For the Montana coordinate system NAD 27, the plane

coordinate values for a point on the earth's surface used to express the geographic position or location of such point in the appropriate zone of this system shall consist of two distances expressed in terms of a United States survey foot and decimals of a foot.

(2) For the Montana coordinate system NAD 83 **and all later Montana plane coordinate systems**, the plane coordinate values for a point on the earth's surface used to express the geographic position or location of such point in the zone shall consist of two distances expressed in either meters and decimals of a meter or in feet and decimals of a foot. The international conversion value (1 foot equals 0.3048 meters exactly) shall be used. The unit of measure shall be clearly stated when the coordinate values are expressed.

(3) One of the distances used to express a position or location, to be known as the "East or x-coordinate", shall give the position in an east-and-west direction **from the y axis**; the other, to be known as the "North or y-coordinate", shall give the position in a north-and-south direction **from the x axis**. **The y axis of any zone shall be parallel with the central meridian of that zone. The x axis of any zone shall be at a right angle to the central meridian of that zone.** These coordinates shall be made to depend upon and conform to plane rectangular coordinate values **derived from the NSRS for the monumented points of the North American horizontal geodetic control network** as **published defined and promulgated** by the national ocean ~~survey~~service/national geodetic survey or its successors and whose plane coordinates have been computed on the systems designated by this part. Any ~~such~~ station **with coordinates referenced to the NSRS** may be used for establishing a survey connection to **either the** Montana coordinate systems.

History: En. Sec. 3, Ch. 232, L. 1965; R.C.M. 1947, 67-2013; amd. Sec. 3, Ch. 137, L. 1987.

70-22-204. (No Change)

70-22-205. Technical description of zones. For purposes of more precisely defining the Montana coordinate systems NAD 27 and NAD 83, the following description by the ~~national ocean survey national oceanic and atmospheric administration~~/national geodetic survey (formerly the United States coast and geodetic survey) is adopted:

(1) The Montana coordinate system NAD 27, north zone, is a Lambert conformal projection of the Clarke spheroid of 1866, having standard parallels at north latitudes 47° 51' and 48° 43', along which parallels the scale shall be exact. The origin of coordinates is at the intersection of the meridian 109° 30' west of Greenwich and the parallel 47° 00' north latitude. This origin is given the coordinates: x = 2,000,000 feet and y = 0 feet.

(2) The Montana coordinate system NAD 27, central zone, is a Lambert conformal projection of the Clarke spheroid of 1866, having standard parallels at north latitudes 46° 27' and 47° 53', along which parallels the scale shall be exact. The origin of coordinates is at the intersection of the meridian 109° 30' west of Greenwich and the parallel 45° 50' north latitude. This origin is given the coordinates: x = 2,000,000 feet and y = 0 feet.

(3) The Montana coordinate system NAD 27, south zone, is a Lambert conformal projection of the Clarke spheroid of 1866, having standard parallels at north latitudes 44° 52' and 46° 24', along which parallels the scale shall be exact. The origin of coordinates is at the intersection of the meridian 109° 30' west of Greenwich and the parallel 44° 00' north latitude. This origin is given the coordinates: x = 2,000,000 feet and y = 0 feet.

(4) The Montana coordinate system NAD 83 is a Lambert conformal conic projection of the GRS 80 (Geodetic Reference System 1980) ellipsoid, having standard parallels of north latitudes 45° 00' and 49° 00', along which parallels the scale shall be exact. The origin of coordinates is at the intersection of the meridian 109° 30' west of Greenwich and the parallel 44° 15' north latitude. This origin is given the coordinates: x = 600,000 meters and y = 0 meters.

(5) **The Montana plane coordinate system shall be the state plane coordinate system or its successors as defined by the national geodetic survey or its successors beginning with the State Plane Coordinate System of 2022 (SPCS2022) or the most recent successor.**

History: En. Sec. 5, Ch. 232, L. 1965; amd. Sec. 2, Ch. 73, L. 1975; R.C.M. 1947, 67-2015; amd. Sec. 5, Ch. 137, L. 1987.

70-22-206. Conformity to standards required for use of coordinates in recorded instrument.

Coordinates based on the ~~Montana coordinate system NAD 83~~ Montana coordinate systems purporting to define the position of a point on a land boundary may not be presented to be recorded in any public land records or deed records unless the coordinates have been ~~tied to or originated from monumented first-order or higher accuracy horizontal control points that are adjusted to and published as part of~~ determined with respect to the national spatial reference system (NSRS) at an accuracy consistent with the relative accuracy of the land boundary as ~~prepresented in the recorded instrument~~. Public land or deed records presented for recording that purport to define the position of a point on a land boundary based on coordinates from the ~~Montana coordinate system NAD 83~~ Montana coordinate systems must contain a statement that identifies the ~~specific realization of the reference frame or datum of the coordinates, including the coordinate epoch date if applicable, along with first-order or higher accuracy control stations used in~~ the type of equipment and methods used to perform the survey and tie it to the NSRS, ~~the specific NAD 83 datum adjustment tag of the coordinates used, and the type of equipment and methods used to perform the survey.~~

History: En. Sec. 6, Ch. 232, L. 1965; R.C.M. 1947, 67-2016; amd. Sec. 6, Ch. 137, L. 1987; amd. Sec. 1, Ch. 494, L. 2001.

70-22-207. Use of term Montana coordinate system limited. The use of the term "Montana coordinate system NAD 27 north, central, or south zone" or "Montana coordinate system NAD 83" or "~~Montana plane coordinate system~~" on any map, report of survey, or other document shall be limited to coordinates based on the Montana coordinate systems as defined in this part.

History: En. Sec. 7, Ch. 232, L. 1965; R.C.M. 1947, 67-2017; amd. Sec. 7, Ch. 137, L. 1987.

70-22-208. (No Change)

70-22-209. (No Change)

70-22-210. (No Change)

70-22-211. Limit on use of Montana coordinate system NAD 83. The Montana coordinate system NAD 83 may not be used to define the position of a point on a land boundary for any publicly recorded instrument more than one year after the date that SPCS2022 is adopted by NGS as an official part of the NSRS; the Montana plane coordinate system as defined by NGS or its successors is the sole system to be used after this date.