



AN ACT REVISING LAWS RELATED TO COORDINATE SYSTEMS; LIMITING THE USE OF MONTANA COORDINATE SYSTEM NAD 83; ADOPTING THE MONTANA PLANE COORDINATE SYSTEM; AND AMENDING SECTIONS 70-22-201, 70-22-203, 70-22-205, 70-22-206, AND 70-22-207, MCA.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF MONTANA:

**Section 1. 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 1 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.

**Section 2.** Section 70-22-201, MCA, is amended to read:

**"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 from now on 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 that has been established by the national geodetic survey (NGS), or a successor, that is based on the North American terrestrial reference frame of 2022 (NATRF2022), or a successor, and the national spatial reference system (NSRS), or a successor, and known as the state plane coordinate system (SPCS), or a successor, for defining and stating the geographic positions or locations of points within the state must be known as the "Montana plane coordinate system".

**Section 3.** Section 70-22-203, MCA, is amended to read:

**"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~~ must 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~~ must 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~~ must be used. The unit of measure ~~shall~~ must 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 coordinate" or "x-coordinate", ~~shall~~ must give the position in an east-and-west direction from the y-axis; the other, to be known as the "north coordinate" or "y-coordinate", ~~shall~~ must give the position in a north-and-south direction from the x-axis. The y-axis of any zone must be parallel with the central meridian of that zone. The x-axis of any zone must be at a right angle to the central meridian of that zone. These coordinates ~~shall~~ must be made to depend ~~upon~~ on 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 as defined and promulgated by the national ocean survey national oceanic and atmospheric administration /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 system systems."

**Section 4.** Section 70-22-205, MCA, is amended to read:

**"70-22-205. Technical description of zones.** For the purposes of more precisely defining the Montana coordinate systems NAD 27, ~~and~~ NAD 83, and MTPCS, 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~~ must 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~~ must 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~~must 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~~must 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 must be the state plane coordinate system of 2022 (SPCS2022) or its most recent successor as defined by the national geodetic survey or its successor agency."

**Section 5.** Section 70-22-206, MCA, is amended to read:

**"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 ~~typed 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 presented 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 ~~first-order or higher accuracy control stations used in the survey, the specific NAD 83 datum adjustment tag of the coordinates used, and the type of equipment and methods used to perform the survey.~~ specific realization of the reference frame or datum of the coordinates, including the coordinate epoch date if applicable, along with the type of equipment and methods used to perform the survey and tie it to the NSRS."

**Section 6.** Section 70-22-207, MCA, is amended to read:

**"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~~must be limited to coordinates based on the Montana coordinate systems as defined in this part."

**Section 7. Codification instruction.** [Section 1] is intended to be codified as an integral part of Title 70, chapter 22, part 2, and the provisions of Title 70, chapter 22, part 2, apply to [section 1].

- END -

I hereby certify that the within bill,  
SB 398, originated in the Senate.

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Secretary of the Senate

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President of the Senate

Signed this \_\_\_\_\_ day  
of \_\_\_\_\_, 2023.

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Speaker of the House

Signed this \_\_\_\_\_ day  
of \_\_\_\_\_, 2023.

SENATE BILL NO. 398

INTRODUCED BY B. GILLESPIE

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