

SENATE BILL NO. 398

INTRODUCED BY B. GILLESPIE

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A BILL FOR AN ACT ENTITLED: "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:

NEW SECTION. **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,

1 Toole, and Valley.

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

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

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

11 (7) For the purpose of the use of the Montana plane coordinate system (MTPCS), the most recent
12 system of plane coordinates that has been established by the national geodetic survey (NGS), or a successor,
13 that is based on the North American terrestrial reference frame of 2022 (NATRF2022), or a successor, and the
14 national spatial reference system (NSRS), or a successor, and known as the state plane coordinate system
15 (SPCS), or a successor, for defining and stating the geographic positions or locations of points within the state
16 must be known as the "Montana plane coordinate system".

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

19 **"70-22-203. Use of x- and y-coordinates.** (1) For the Montana coordinate system NAD 27, the plane
20 coordinate values for a point on the earth's surface used to express the geographic position or location of such
21 point in the appropriate zone of this system ~~shall~~must consist of two distances expressed in terms of a United
22 States survey foot and decimals of a foot.

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

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

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

14 **"70-22-205. Technical description of zones.** For the purposes of more precisely defining the
15 Montana coordinate systems NAD 27, ~~and~~ NAD 83, and MTPCS, the following description by the ~~national~~
16 ~~ocean survey~~ national oceanic and atmospheric administration/national geodetic survey (formerly the United
17 States coast and geodetic survey) is adopted:

18 (1) The Montana coordinate system NAD 27, north zone, is a Lambert conformal projection of the
19 Clarke spheroid of 1866, having standard parallels at north latitudes 47° 51' and 48° 43', along which parallels
20 the scale ~~shall~~ must be exact. The origin of coordinates is at the intersection of the meridian 109° 30' west of
21 Greenwich and the parallel 47° 00' north latitude. This origin is given the coordinates: x = 2,000,000 feet and y
22 = 0 feet.

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

28 (3) The Montana coordinate system NAD 27, south zone, is a Lambert conformal projection of the

1 Clarke spheroid of 1866, having standard parallels at north latitudes 44° 52' and 46° 24', along which parallels
 2 the scale ~~shall~~must be exact. The origin of coordinates is at the intersection of the meridian 109° 30' west of
 3 Greenwich and the parallel 44° 00' north latitude. This origin is given the coordinates: x = 2,000,000 feet and y
 4 = 0 feet.

5 (4) The Montana coordinate system NAD 83 is a Lambert conformal conic projection of the GRS
 6 80 (Geodetic Reference System 1980) ellipsoid, having standard parallels of north latitudes 45° 00' and 49° 00',
 7 along which parallels the scale ~~shall~~must be exact. The origin of coordinates is at the intersection of the
 8 meridian 109° 30' west of Greenwich and the parallel 44° 15' north latitude. This origin is given the coordinates:
 9 x = 600,000 meters and y = 0 meters.

10 (5) The Montana plane coordinate system must be the state plane coordinate system of 2022
 11 (SPCS2022) or its most recent successor as defined by the national geodetic survey or its successor agency."
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13 **Section 5.** Section 70-22-206, MCA, is amended to read:

14 **"70-22-206. Conformity to standards required for use of coordinates in recorded instrument.**

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

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

