

Information Technology Resource Management Council (ITRMC)

ENTERPRISE STANDARDS – S4000 GEOGRAPHIC INFORMATION SYSTEMS (GIS) DATA

Category: S4210 – PROJECTION

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I. DEFINITION

1. Map Projection – The transformation and representation of positions from a three-dimensional surface to a two-dimensional surface.
2. Geodetic Datum – Defines the size and shape of the earth and the origin and orientation of the coordinate systems used to map the earth.
3. Universal Transverse Mercator (UTM) – A commonly used map projection in which the unit of measure is meters. The UTM system uses zones of six degrees (6°) of longitude.
4. Idaho State Plane Coordinate System – A projection in which Idaho is divided into three zones.
5. Idaho Transverse Mercator (IDTM) – A single-zone projection system that is widely accepted for use in the State.
6. False Easting – A numeric offset from the point of origin along the X-axis.
7. False Northing – A numeric offset from the point of origin along the Y-axis.
8. Global Positioning System (GPS) – A worldwide radio-navigation system formed from a constellation of twenty-four (24) satellites and their ground tracking stations.

II. RATIONALE

GIS data for statewide coverage is best represented by a single-zone system. Idaho State Plane Coordinate System divides Idaho into three zones. Under the UTM system, Idaho is bisected into two zones. IDTM projects the State in a single zone. IDTM was implemented with a horizontal datum of NAD27 (North American Datum of 1927). North American Datum of 1983 (NAD83) is based on a more accurate earth-model than is NAD27 and its modernization. NAD83 is more compatible with modern survey methods, which use the Global Positioning System (GPS).

III. APPROVED STANDARD(S)

1. Projection Name – Idaho Transverse Mercator NAD83 (IDTM83);
2. Units – Meters;
3. Datum – NAD83;
4. Vertical Datum – NAVD88;
5. Scale Factor – .99960;
6. Central Meridian – -114°00'00";
7. Latitude of Origin – 42°00'00";
8. False Easting – 2500000; and
9. False Northing – 1200000.

IV. JUSTIFICATION

IDTM was developed for use in Idaho to have the whole State under one projection for statewide data. Using the NAD83 datum supports consistency with: 1) federal, local, and tribal partners; 2) original intent of the IDTM projection; and 3) geometric improvements in the NAD83 datum. The False Northing and False Easting parameters were chosen so as to 1) avoid confusion between IDTM and IDTM83 coordinates, and 2) avoid confusion between the projections' respective False Northing and False Easting coordinates.

V. TECHNICAL AND IMPLEMENTATION CONSIDERATIONS

IDTM has been in use in Idaho using NAD27 Datum since 1994. GIS data using the IDTM projection with the NAD27 datum will need to be “re-projected” to convert to the new projection parameters of IDTM83. It is the preferred projection for data exchange, and is appropriate for statewide applications.

VI. REVIEW CYCLE

Twelve (12) Months

VII. TIME LINE

Last Reviewed: March 7, 2007

Last Revised: March 7, 2007

Effective Date: July 20, 2005

VIII. REVISION HISTORY

3/7/07 – Review cycle adjusted to 12 months.