

Idaho Technology Authority (ITA)

ENTERPRISE STANDARDS – S4000 INFORMATION AND DATA

Category: S4210 – SINGLE ZONE COORDINATE SYSTEM FOR GIS DATA

CONTENTS:

- I. [Definition](#)
- II. [Rationale](#)
- III. [Approved Standard\(s\)](#)
- IV. [Approved Product\(s\)](#)
- V. [Justification](#)
- VI. [Technical and Implementation Considerations](#)
- VII. [Emerging Trends and Architectural Directions](#)
- VIII. [Procedure Reference](#)
- IX. [Review Cycle](#)
- X. [Contact Information](#)
[Revision History](#)

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 – $-114^{\circ}00'00''$;
7. Latitude of Origin – $42^{\circ}00'00''$;
8. False Easting – 2500000; and
9. False Northing – 1200000.

IV. APPROVED PRODUCT(S)

There are no approved products for this standard.

V. 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.

VI. 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.

VII. EMERGING TRENDS AND ARCHITECTURAL DIRECTIONS

There are no emerging trends and architectural directions for this standard.

VIII. PROCEDURE REFERENCE

S4210 – Single Zone Coordinate System for GIS Data used on the State of Idaho’s Wide Area Network must comply with the Department of Administration’s “[P1070 – Geographic Information Systems \(GIS\).](#)”

IX. REVIEW CYCLE

Twelve (12) Months

X. CONTACT INFORMATION

For more information, contact the ITA Staff at (208) 332-1876.

REVISION HISTORY

07/01/13 – Changed “ITRMC” to “ITA”.

6/16/09 – Added Approved Products, Emerging Trends and Architectural Directions, and Procedure Reference to this standard and deleted Timeline.

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

2/2/11 – Title changed from “Projection”, also 4000 group title changed from “GIS (Geographic Information Systems) Data”

Effective Date: July 20, 2005