

Multi-State Control Point Database Implementation and Geodetic Reference Center Business Plan – Panel Discussion

Rod Collins, Stu Kirkpatrick,
Donna Pitzer, Keith T. Weber, and
RJ Zimmer



Rod Collins

- Insert bio bullets here... photo

Stu Kirkpatrick

- Photo
- Montana State GIS Coordinator
- Chief of the Montana Base Map Service Center, IT Services Division
- More....???

Donna Pitzer

- Insert bio bullets here

Keith T. Weber, GISP

- GIS Director, ISU
- Chair, Idaho Geodetic Control TWG
- PI, Multi-state Planning and Implementation of Geodetic Control Framework Components

RJ Zimmer, PLS

- Professional land surveyor in MT and OR
- GIS Manager for DJ&A, PC
- Chair, Montana Geodetic Control WG

CAP Project Overview

- Multi-state Planning and Implementation of Geodetic Control Framework Components
- CAP 2011 Award (April 2011-March 2012)

Two Primary Objectives

- Extend Montana's existing control point database (MCPD) and application to incorporate two states' data (Montana and Idaho)
- Develop a business plan to establish a Regional Geodetic Reference Center to:
 - manage and sustain the MCPD
 - establish, manage and sustain a real-time GNSS network to improve and streamline geospatial activities

Project Timeline

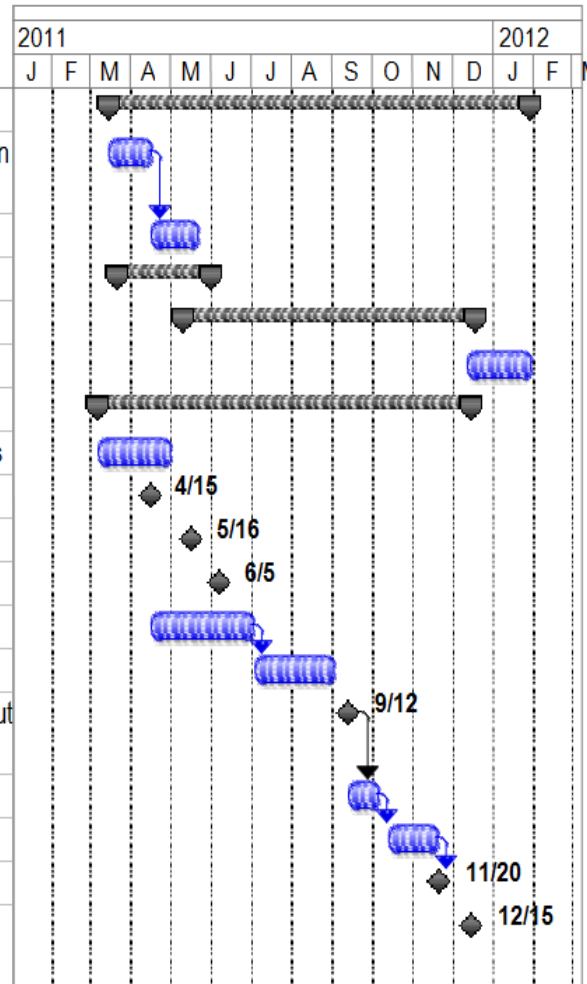
Key Steps

Part 1: Control Point Database & Application

- Conduct joint meeting of Idaho and Montana participants to explain project and gather input
- Standardize database and domains
- Incorporate Idaho control point data
- Modify web application
- Deploy multi-state application

Part 2: Business Planning

- Write scope and engage consultant for business planning services
- Collaborators meeting to initiate business planning (facilitated)
- Conduct second meeting to collect focused input (facilitated)
- Conduct follow-up interviews
- Draft Plan released for review and comment
- First Plan comment period
- Conduct third meeting to share comments and elicit additional input (facilitated)
- Release second draft business plans
- Second Plan comment period
- Final Plan released
- Presentation of business plan and MCPD demo to governance bodies



Learning from our Past...

- Communication is key
 - Between collaborators and investigators
 - Between stakeholders
 - GIS
 - Survey
 - Agriculture
 - Machine control (construction)

Communication is Key

- We will be developing a website for this project...
- And have already put in place, a web-based forum for open discussion
- <http://GeodeticControl.lefora.com/>

Web Forum

Geodeticcontrol Forum

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Geodeticcontrol Forum

A discussion forum for the Multi-state Planning and Implementation of GC Framework Components CAP

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
category name	topics	posts
geodeticcontrol Forum Topics Topics for geodeticcontrol Forum	0	0
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FAQ Browse Frequently Asked Questions about this forum	0	0
Multi-state Control Point Database	1	2
Multi-state Control Point Database topics	1	2
Geodetic Reference Center	0	0
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Founder: webekeit
Members: 2 (**1 online**)
Posts: 2
Founded: 1 day ago
Newest Member:  skirkpatrick


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by webekeit, 2 hours, 36 minutes ago

Under our joint FGDC CAP grant the database and viewer will become the ...
by skirkpatrick, 2 hours, 51 minutes ago

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ZIM MCPD TOUR

Regional Geodetic Reference Center

- Manage and sustain the MCPD
- Establish, manage and sustain a real-time GNSS network to improve and streamline geospatial activities

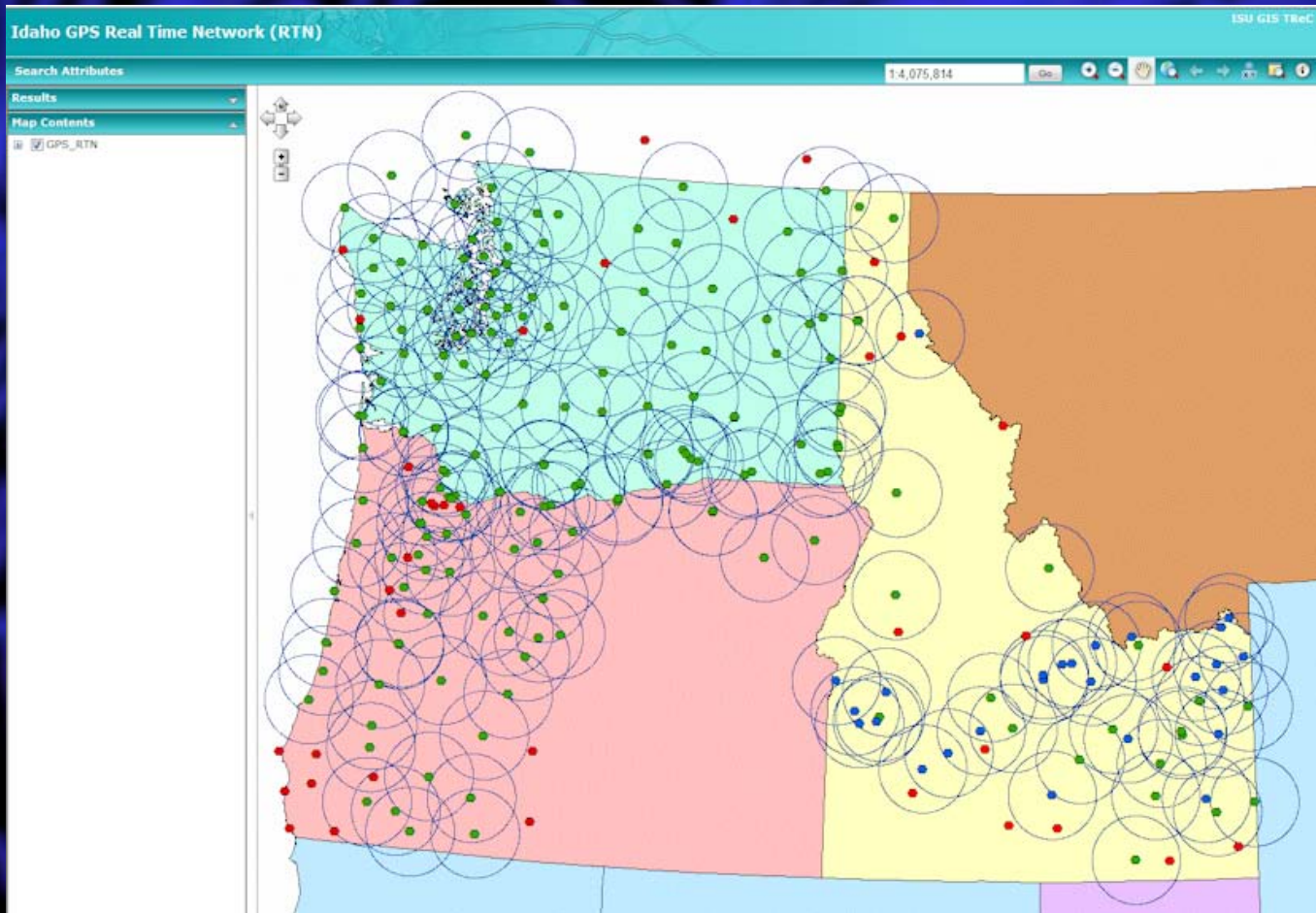
A Bit of History

- RTN efforts in Idaho...
 - Initial efforts began in 2006
 - Led by Maher Wissa, PLS (ISU)
 - More recently
 - GPS RTN group
 - GC TWG

A Real-time GNSS Network

- Uses a processed solution for differential correction in real-time
 - Within the network
 - For compatible receivers with access to the Internet

What Network?



- http://ags.giscenter.isu.edu/GPS_RTN_Service/default.aspx

Compatible Receivers?

- Pretty much any current GPS receiver capable of using RTCM, CMR, CMR+, etc. data
 - Needs a data connection to the Internet
 - Does not include recreational receivers

What are the Benefits?

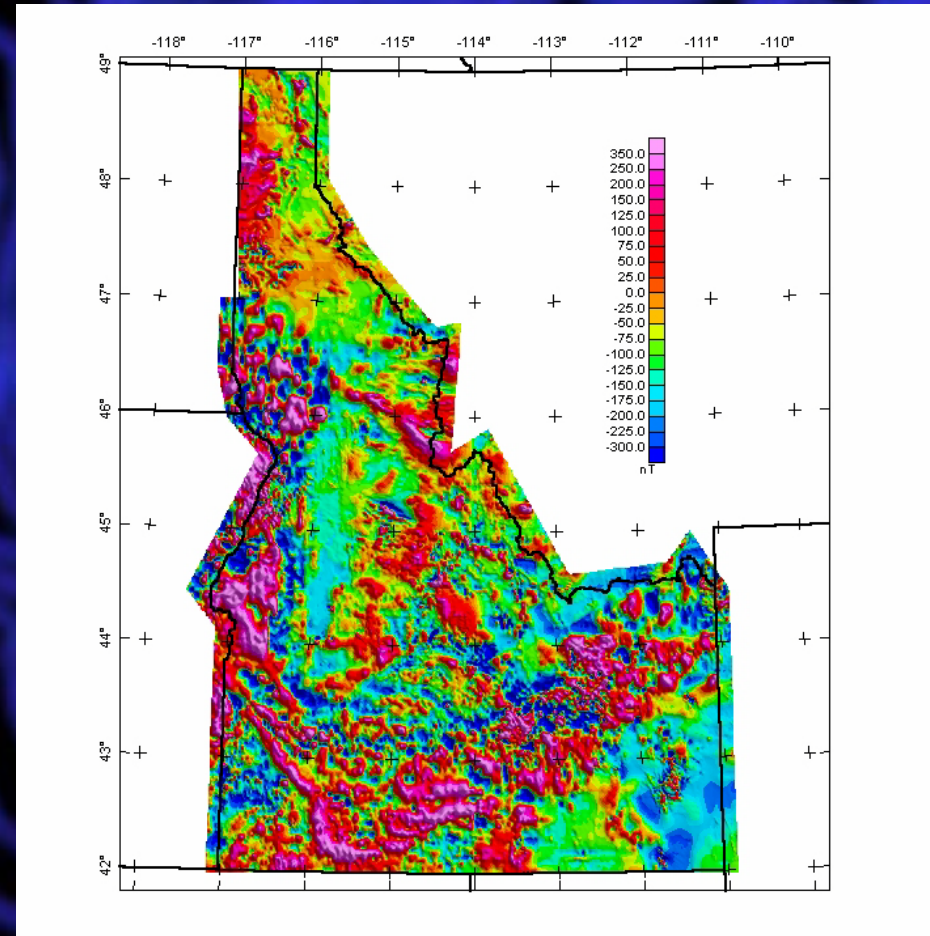
- Many...
 - Cadastral fabric
 - Absolute accuracy vs relative accuracy
 - Base data and imagery
 - Benefit of locating with geoid models (e.g., WGS84)

In Essence...

- Benefit of *locating* with geoid models (e.g., WGS84)
- Relative to ellipsoid models (e.g., NAD27)
 - Increasingly important in areas with much terrain relief
 - And sharply contrasting magnetic/gravity fields

For Example

- Magnetic anomalies map for Idaho
- Note the sharp contrast areas
 - Pink adjacent to blue
- Positional accuracy benefits from *locating* with Geoid models



A Geoid-based System

- GNSS
- Global Navigation Satellite System
 - GPS
 - Galileo
 - Glonass



The Future...

- There is much to do, beginning with a plan to
 - establish,
 - manage
 - and sustain a real-time GNSS network