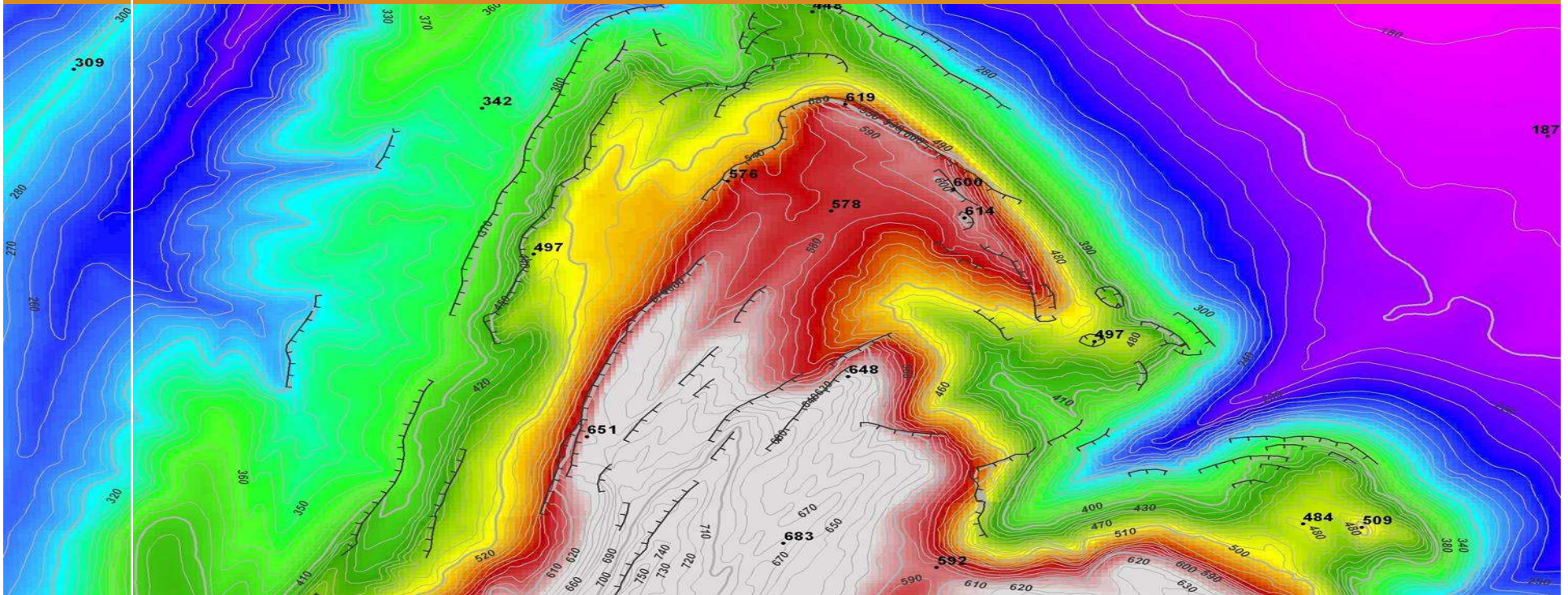


Implementation Issues : Data Analysis and Management



John Gallagher
National Elevation Data Framework Workshop
18th March 2008
The Shine Dome Canberra



Implementation Issues : Data Analysis and Management

Jurisdictional (Victorian) Perspective

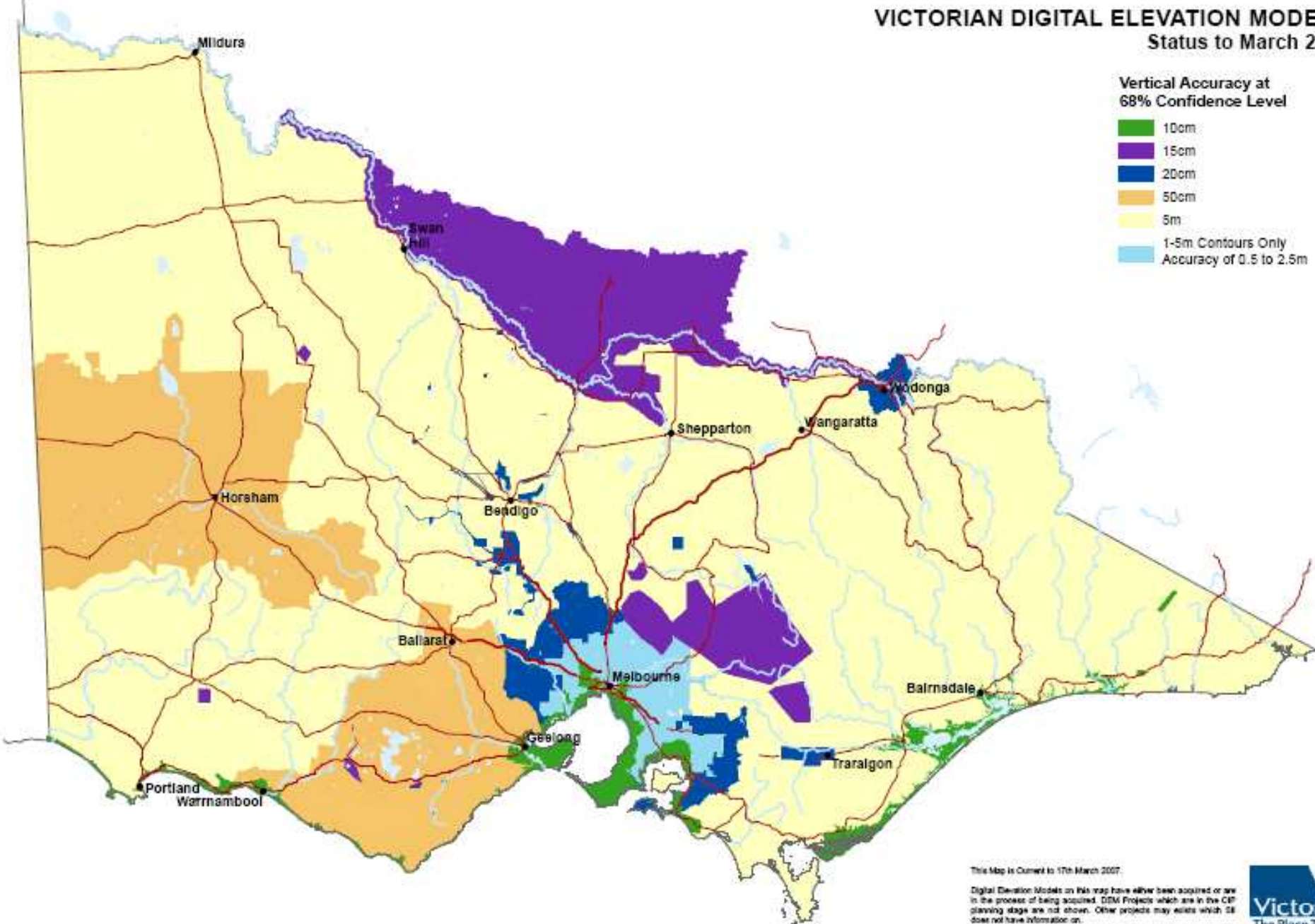
- ▶ Storage and distribution of large datasets
- ▶ Issues with projections and datums
- ▶ Metadata management - Fitness for purpose



VICTORIAN DIGITAL ELEVATION MODELS

Status to March 2008

- Vertical Accuracy at 68% Confidence Level
- 10cm
 - 15cm
 - 20cm
 - 50cm
 - 5m
 - 1-5m Contours Only
 - Accuracy of 0.5 to 2.5m



This Map is Current to 17th March 2007.

Digital Elevation Models on this map have either been acquired or are in the process of being acquired. DEM Projects which are in the CIP planning stage are not shown. Other projects may exist which DE does not have information on.



Data Management

Case Study Hume – Euston LiDAR Project 2001

- ▶ 1.7 million ha
- ▶ LiDAR 20cm Vertical Accuracy
 - ▼ First, Non-ground, Ground return data
 - ▼ Point Density 2.7m
 - ▼ Supplied in 2x2km tiles – over 4500 tiles
 - ▼ 280 GB of data raw XYZI ascii data
 - ▼ Complete tile ground xyzi ASCII (irregular) 20mb
- ▶ Changes in technology - 2007
 - ▼ LiDAR 8-10cm vertical accuracy
 - ▼ 0.8m point density





Data Management

- ▶ Large Volumes of Data
 - ▼ Proprietary storage formats.
- ▶ Height differences between discrete project
 - ▼ Which is correct?
 - ▼ How to measure the difference?
- ▶ Vertical Datum
 - ▼ Localised vs AusGeoid (Port Phillip and Western Port LiDAR Project, Ninety Mile Beach LiDAR Project)
- ▶ Data Supply Issues
 - ▼ Wide range of formats - ESRI, Mapinfo, ASCII, LAS etc.
 - ▼ Projections – Zonal, Geographic, State Projections (Vicgrid94)



Analysis

- ▶ Fitness for Purpose
 - ▼ Requires adequate metadata
- ▶ Speed vs Detail (resolution)
 - ▼ Trade off
- ▶ Broadscale vs Localised
- ▶ Reprojection of data
 - ▼ may cause artificial barriers in a hydrological enforced DTM
- ▶ Education
 - ▼ Resampling & mosaicing techniques