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Project T5

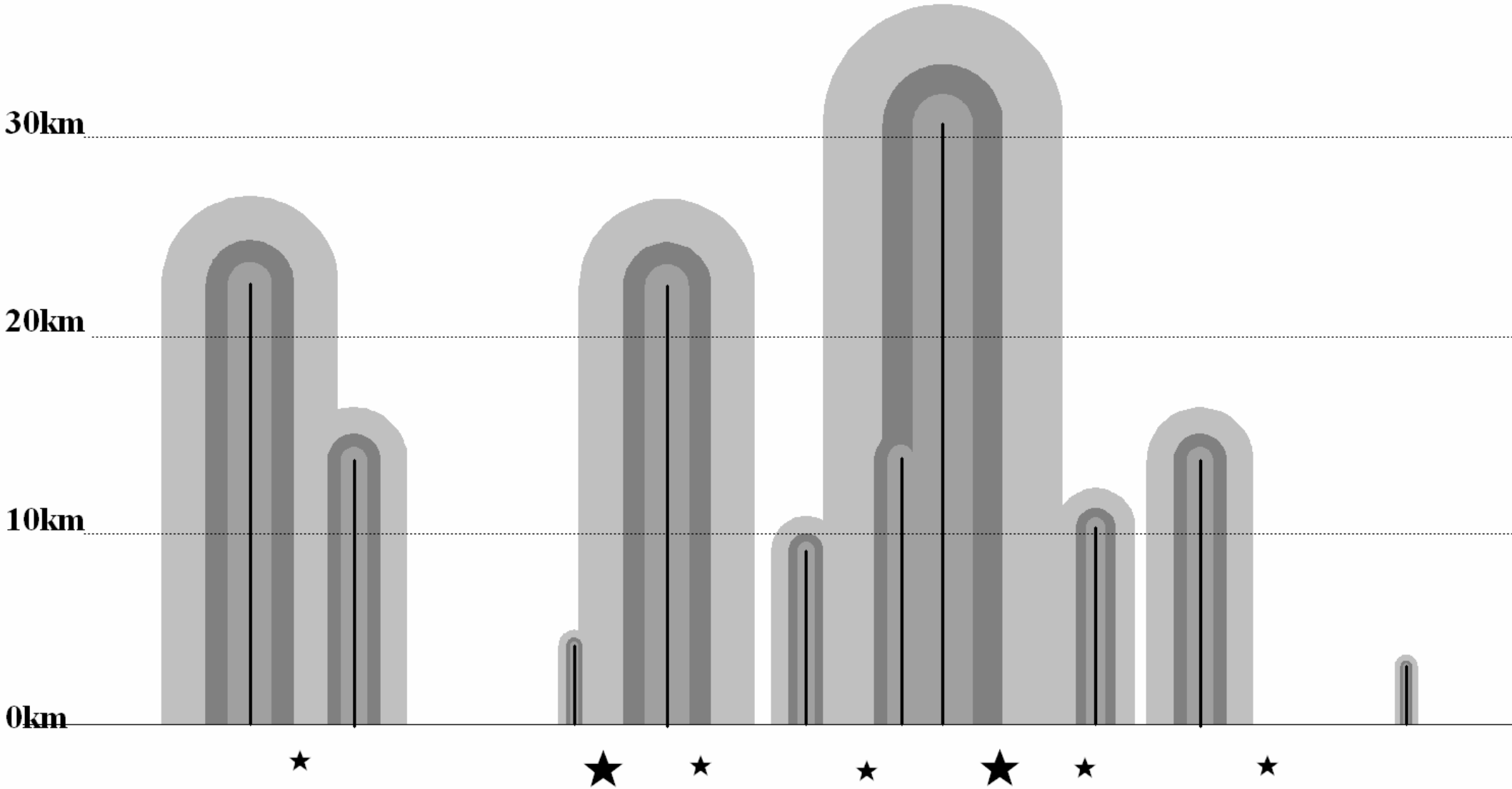
Integration of Potential Field derived architecture maps and mineral deposit datasets in the Tasmanides

Barry Murphy
University of Melbourne

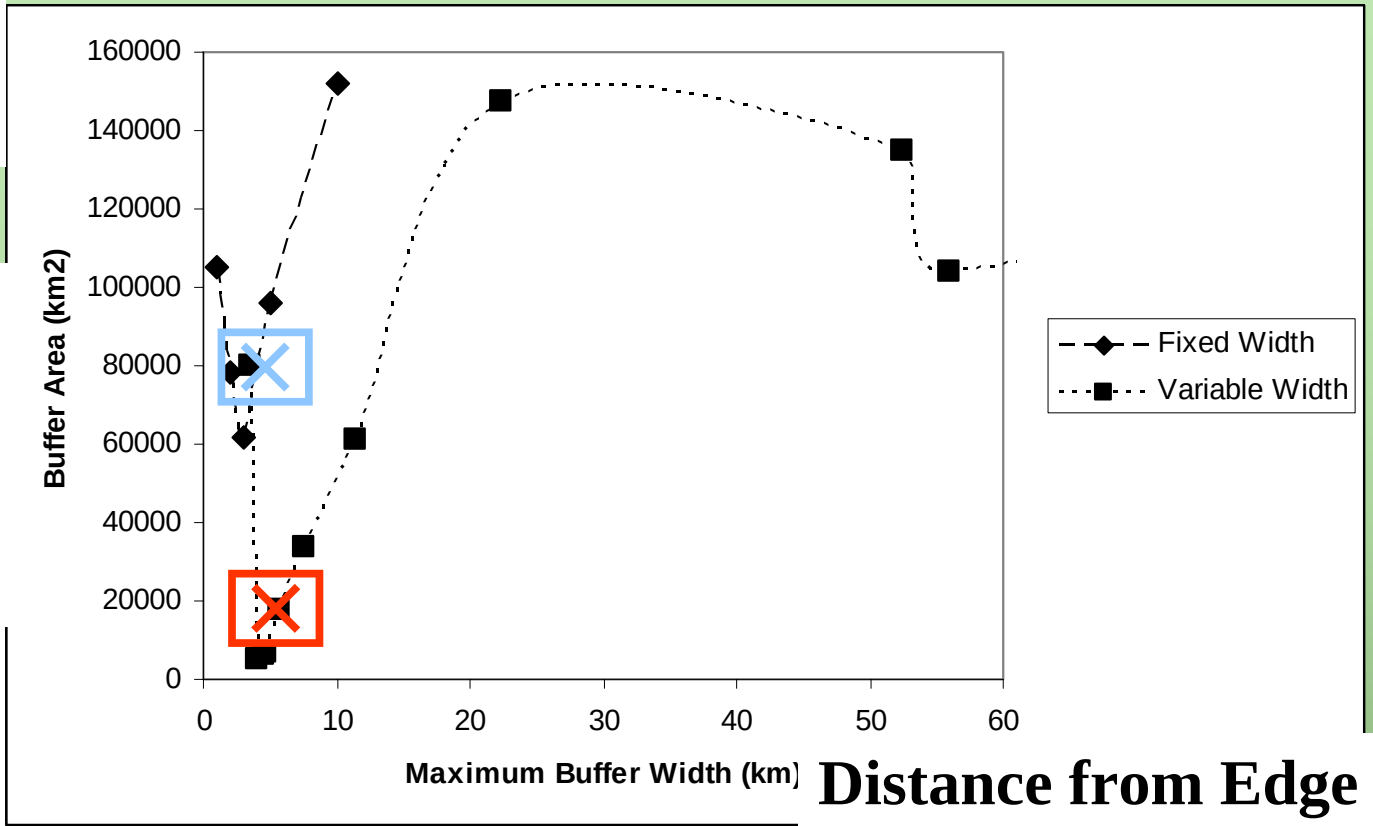
Why?

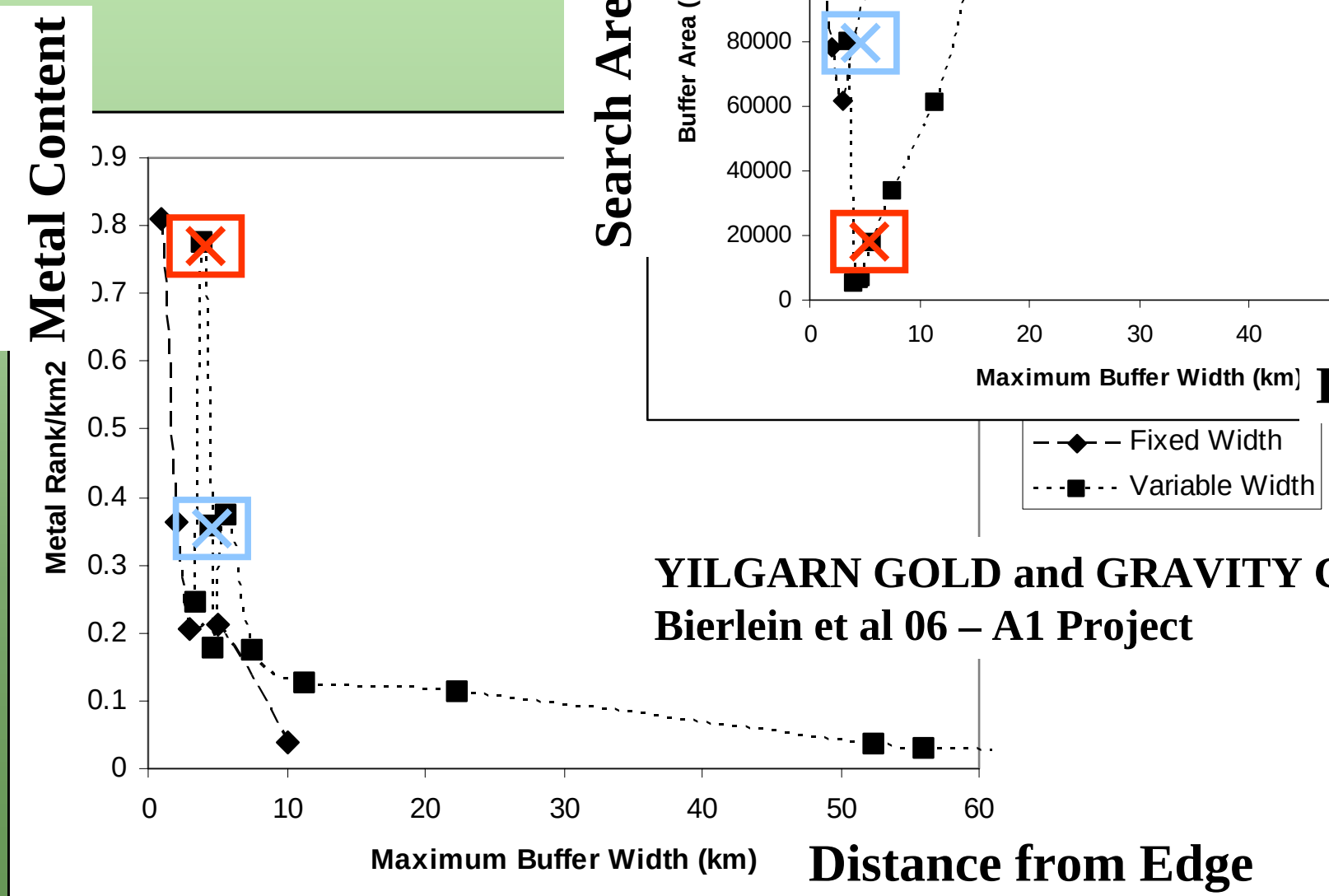
- Why is the orebody *there*?
- Predictions from regional scale data
- Area selection focus
- Potential field gradients may inform us of controls on mineral system of interest
- Length - a useful filter in reducing the search area and increasing chance of discovery
- Look at Methodology - across terranes, and as applied in the Tasmanides
- Try and keep it short…

Fixed vs Variable width buffer analysis



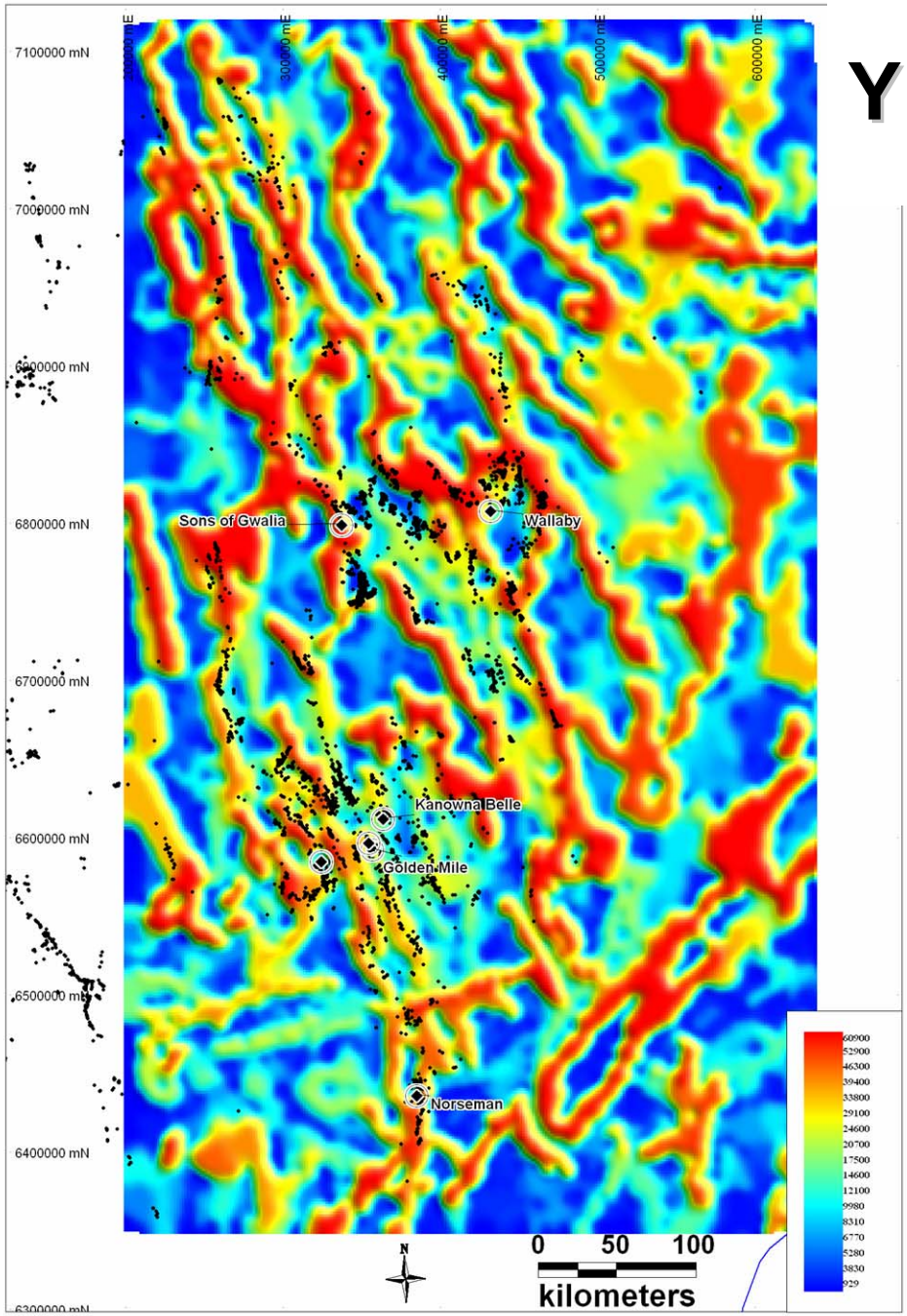
Reduction in Search area
Inc. chance of Discovery

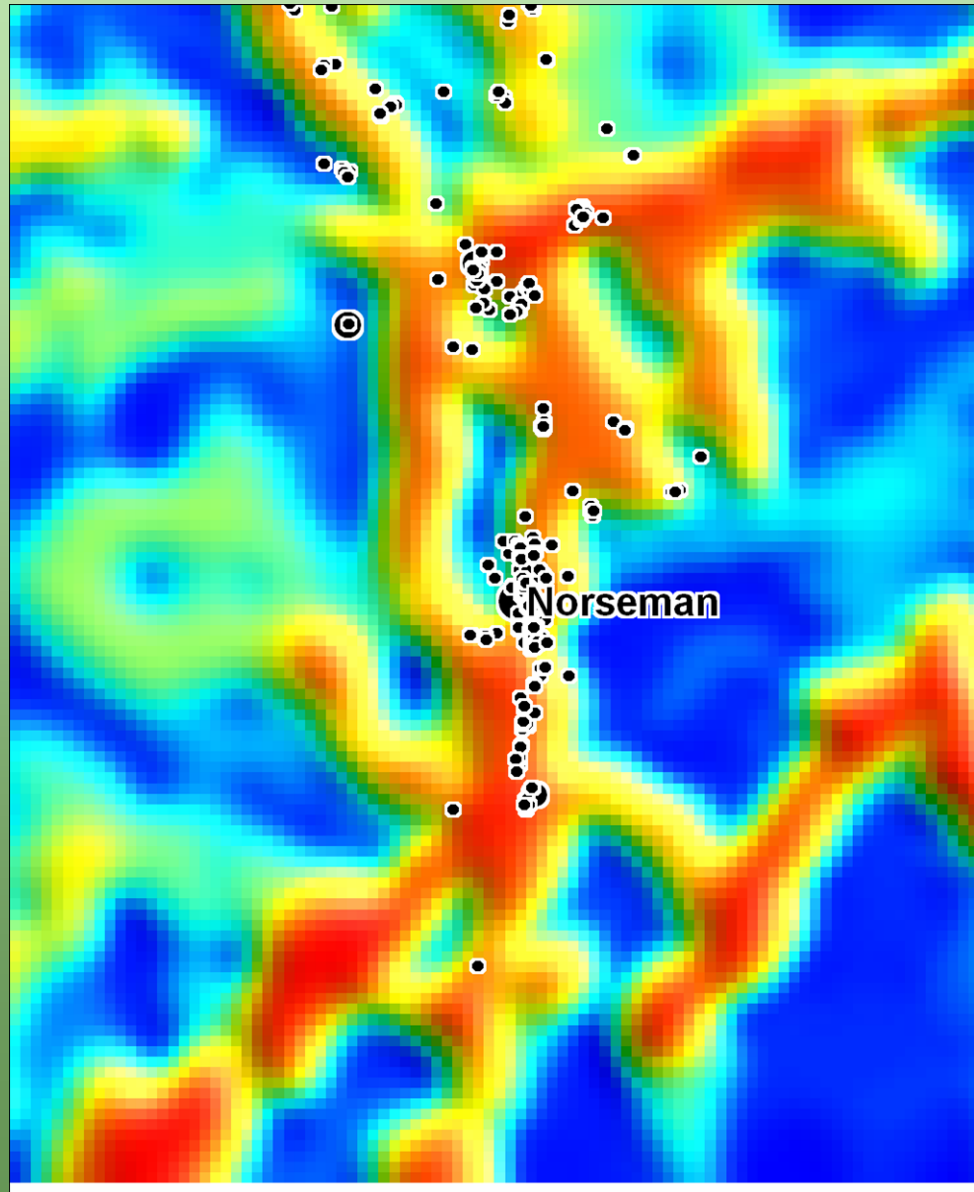




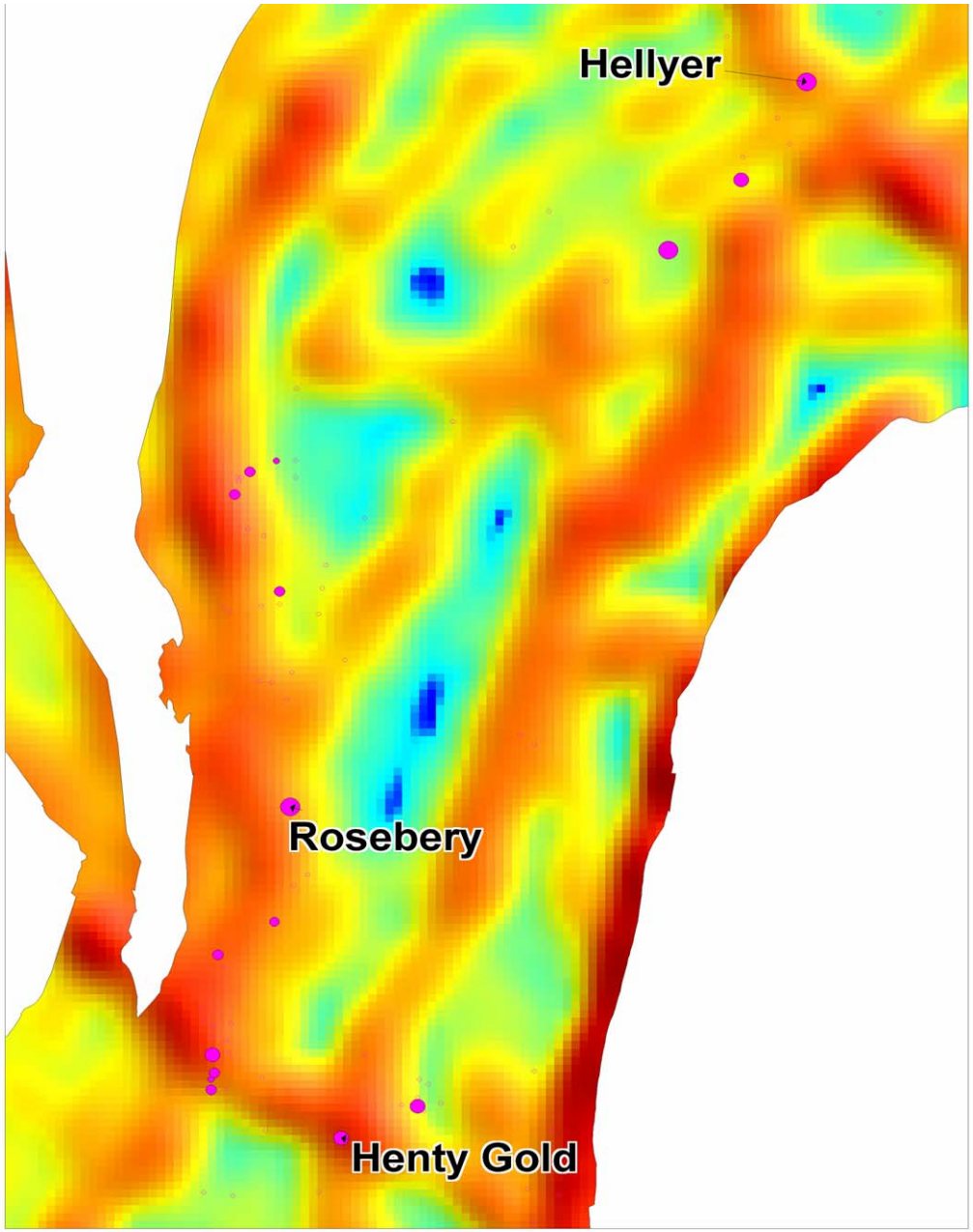
YILGARN GOLD and GRAVITY GRADIENTS
Bierlein et al 06 – A1 Project

Yilgarn Gravity & Gold





“Reduce time and cost to discover” – Ken Fletcher



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W. Tasmanian
VHMS
Edge Length Image

Methodology

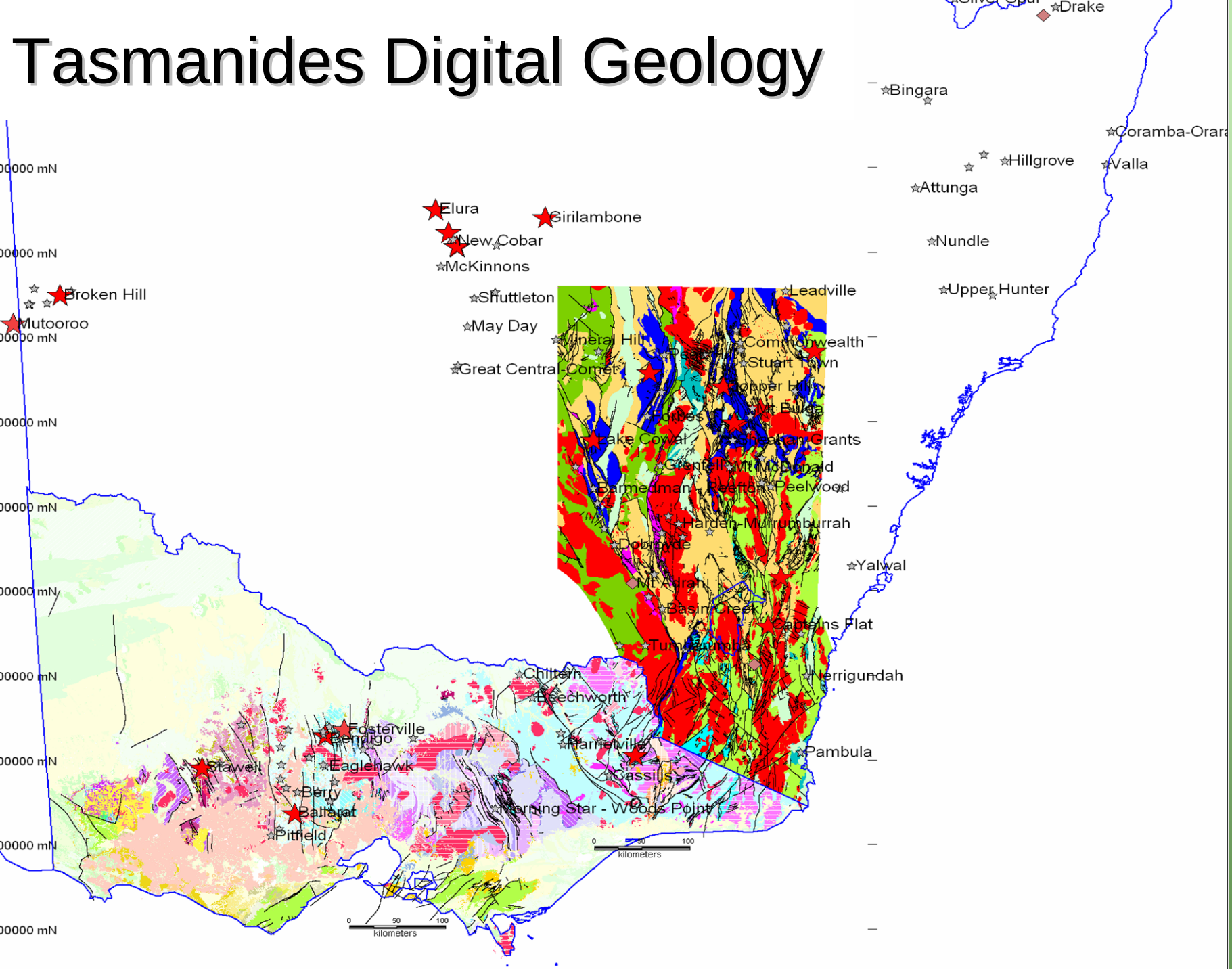
1 - Define Length/Depth distributions - Faults + Worms

2 - Sort existing Deposits by commodity group & size

3 - Spatial associations – buffering technique

4 - Map Architecture and Host rock distributions

Tasmanides Digital Geology



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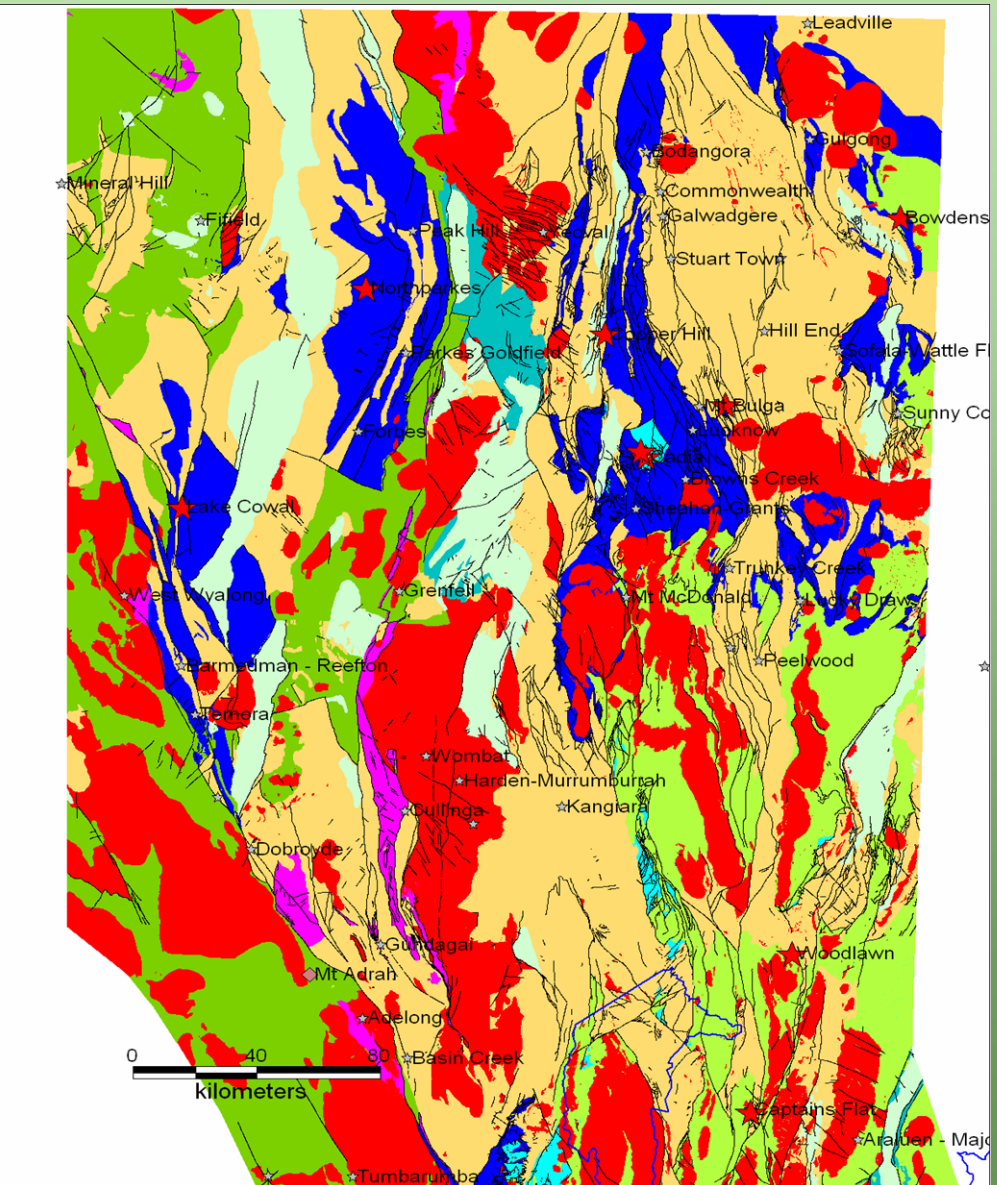
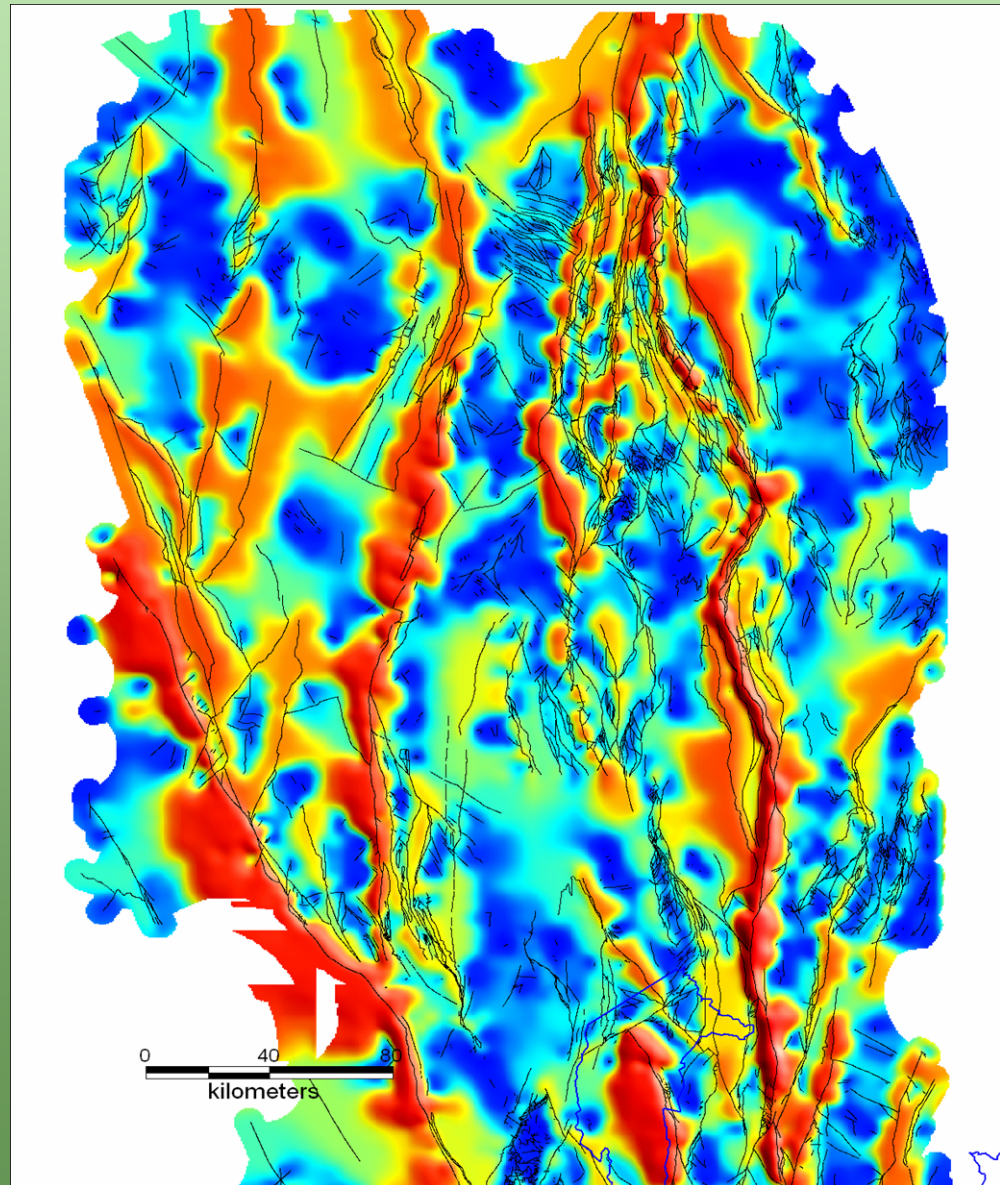
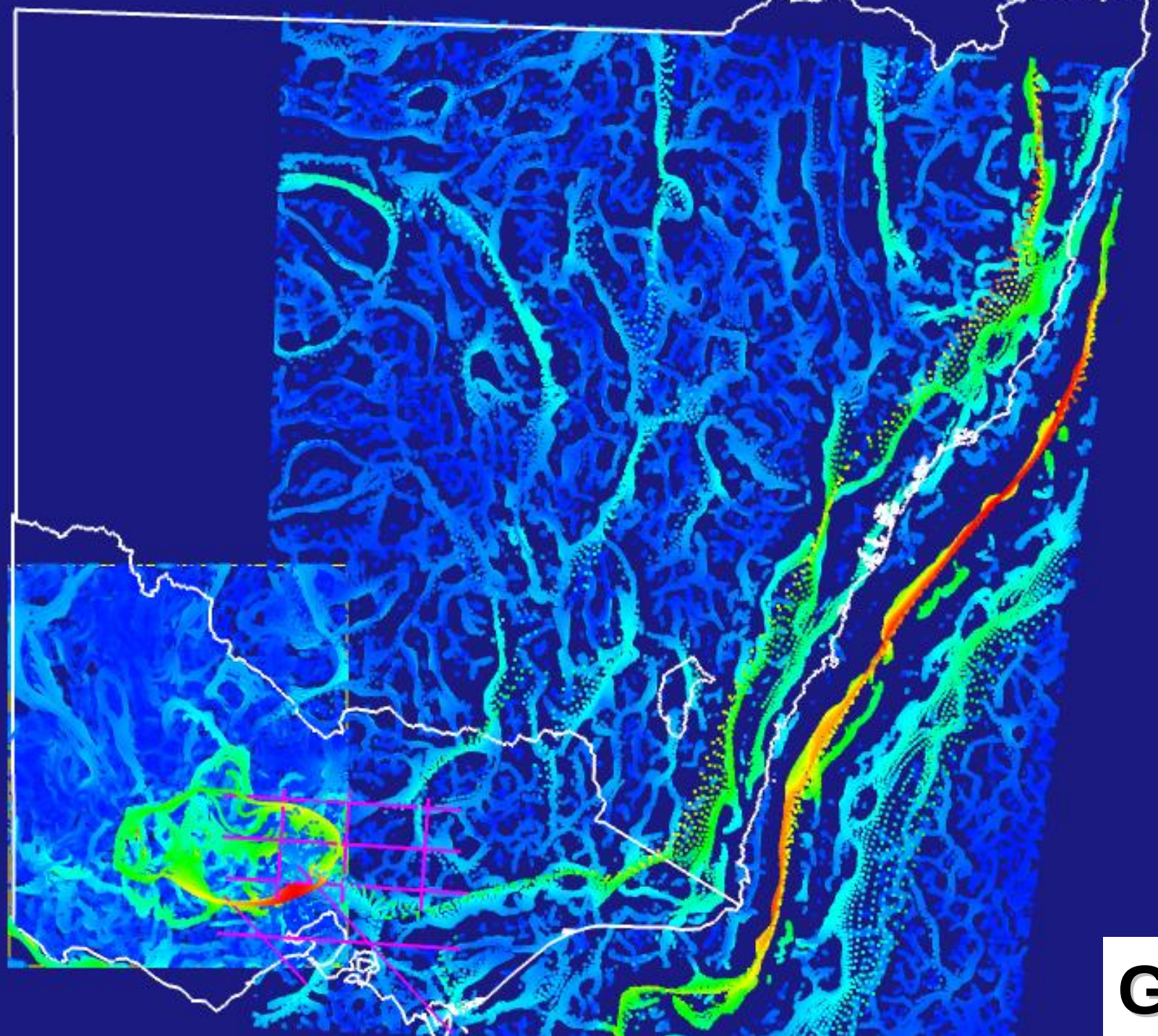
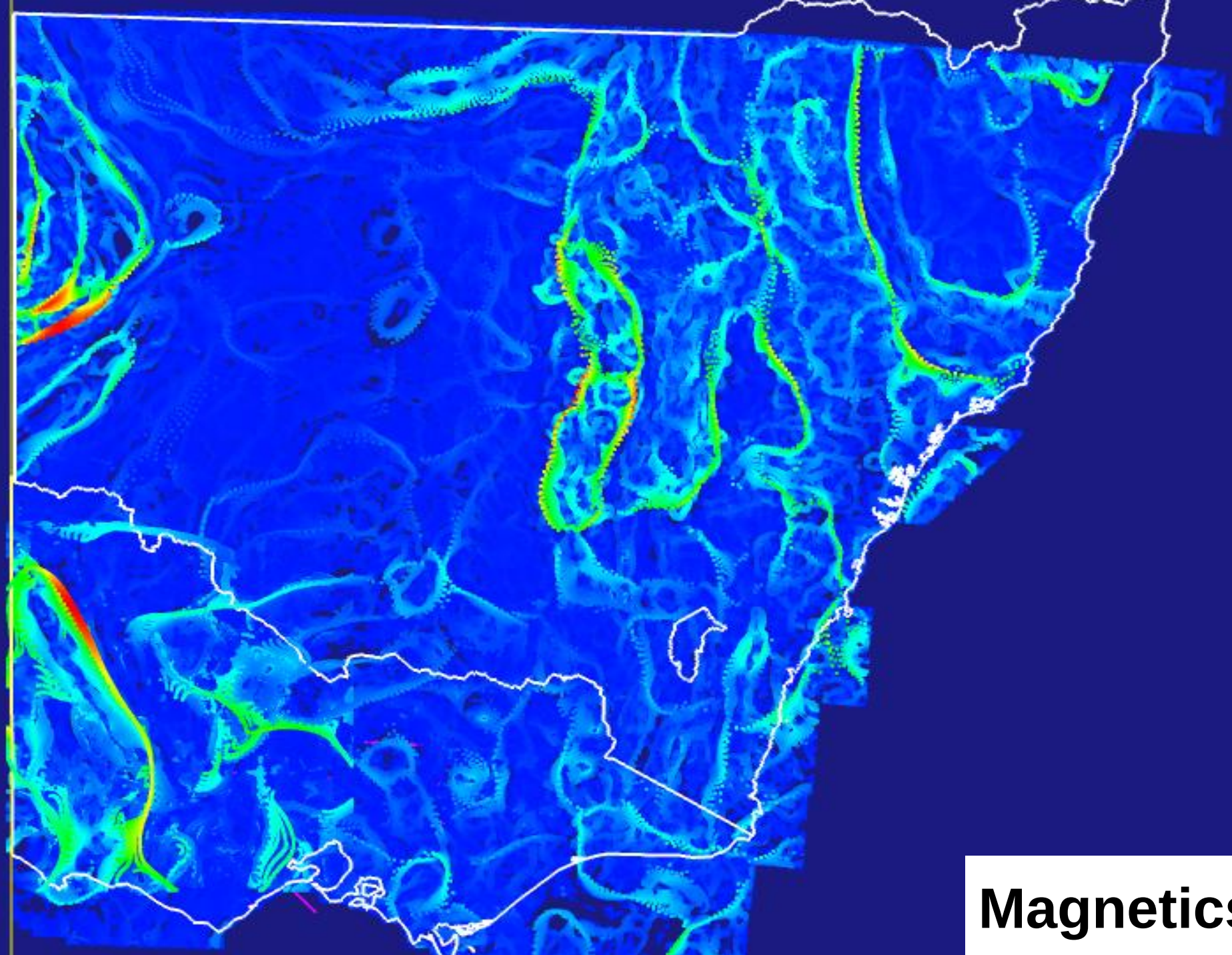
Central Lachlan Geology
Fault Length Image



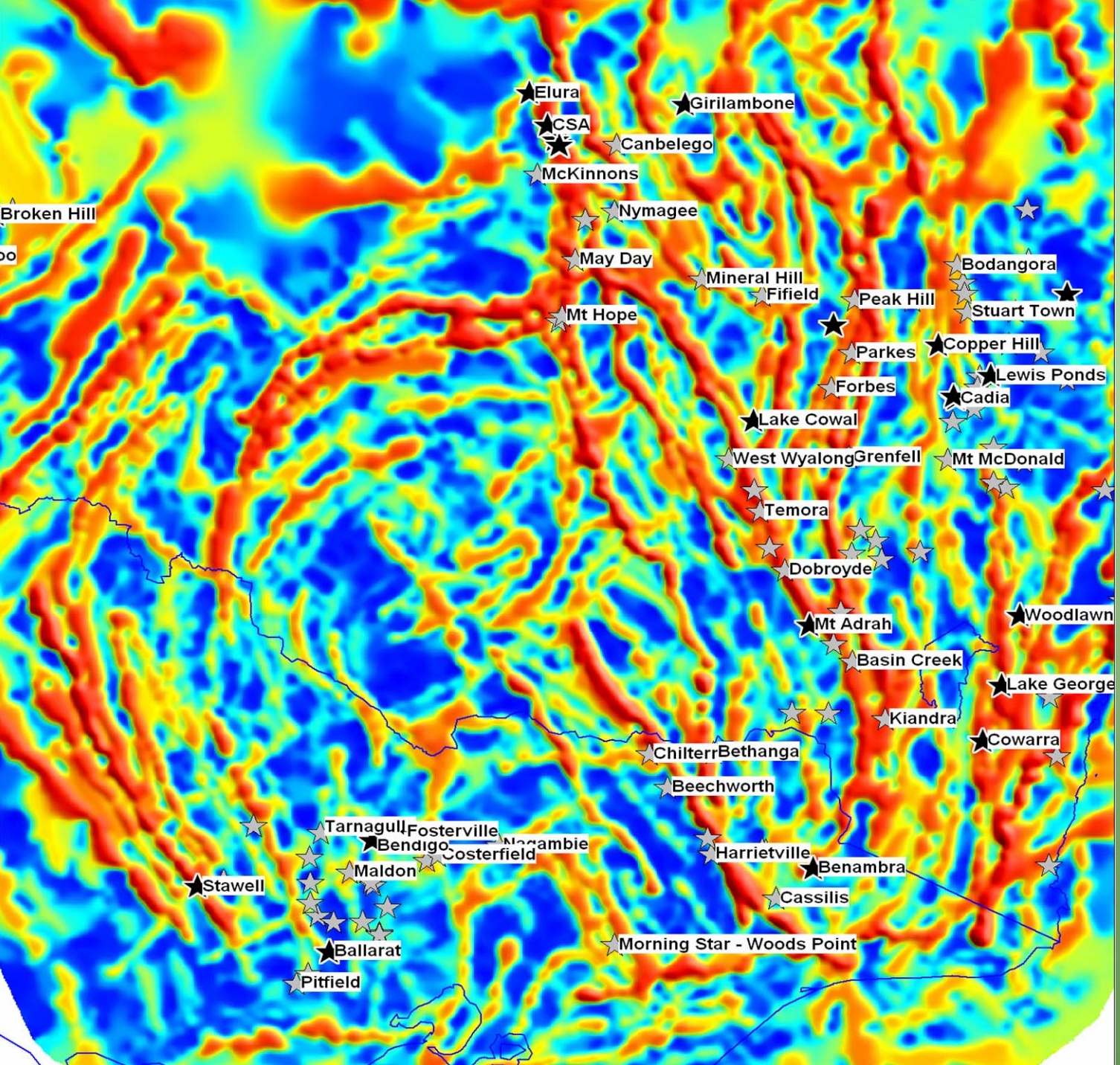




Gravity



Magnetics



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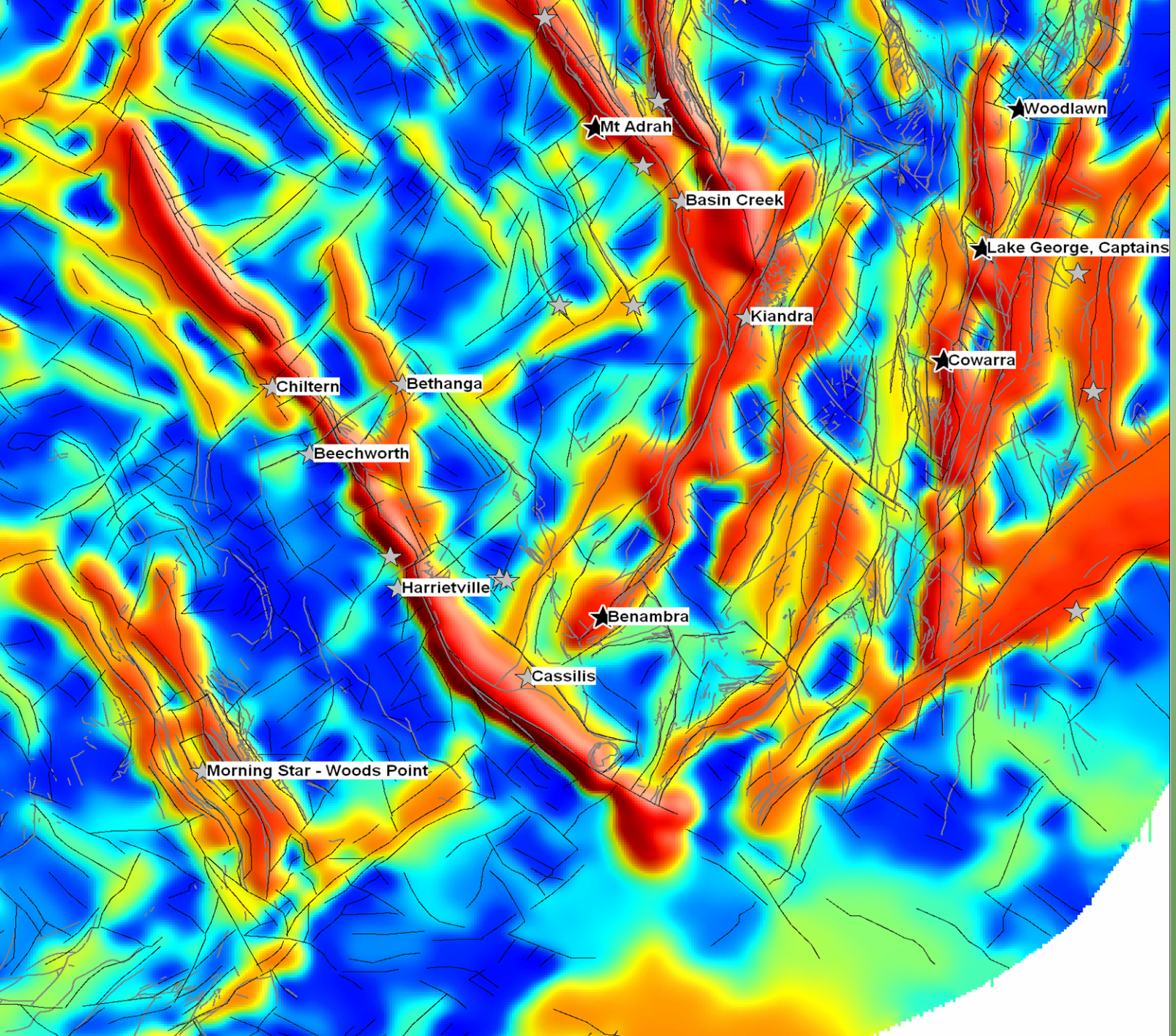
Gravity + Magnetics Length



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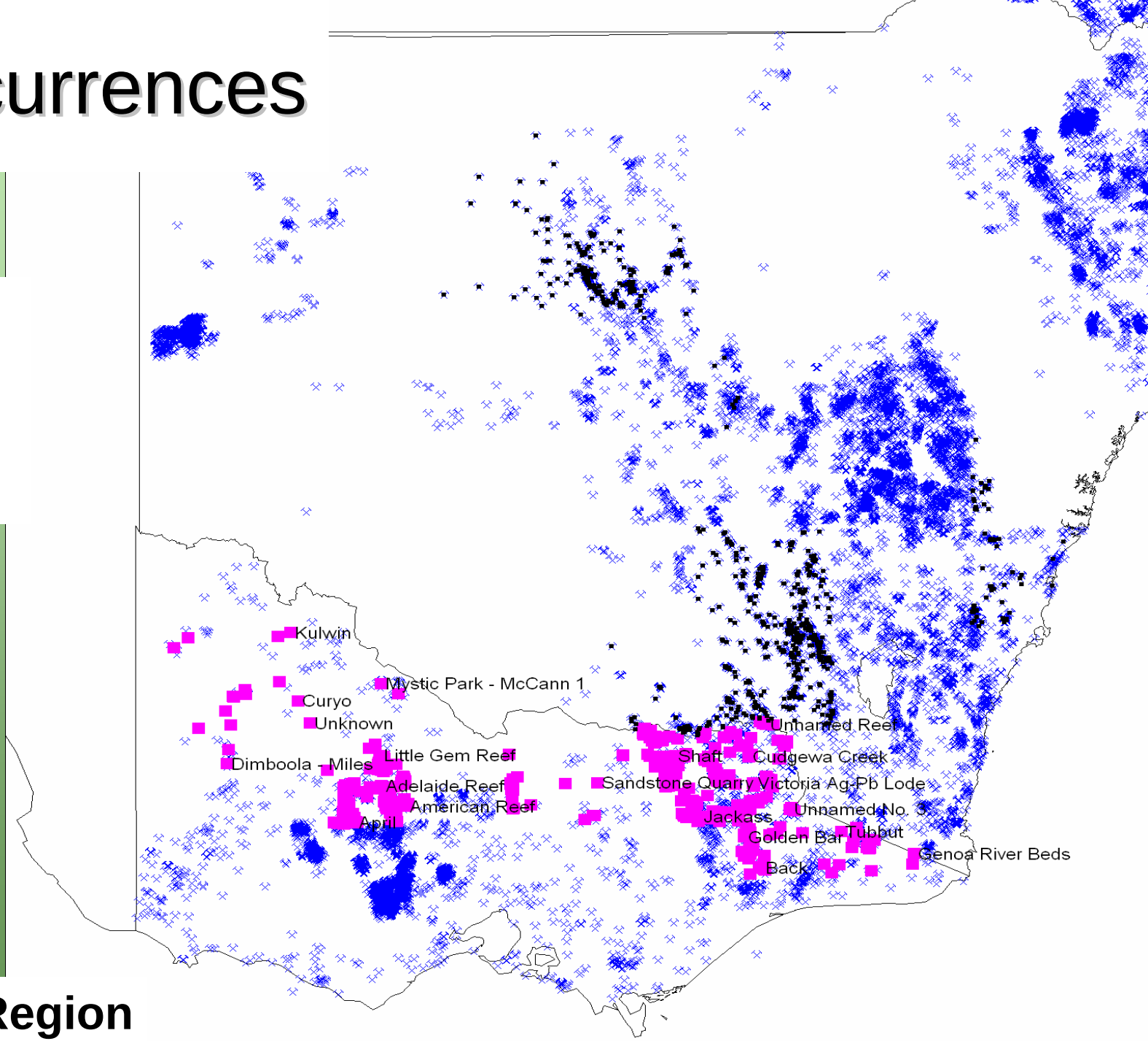
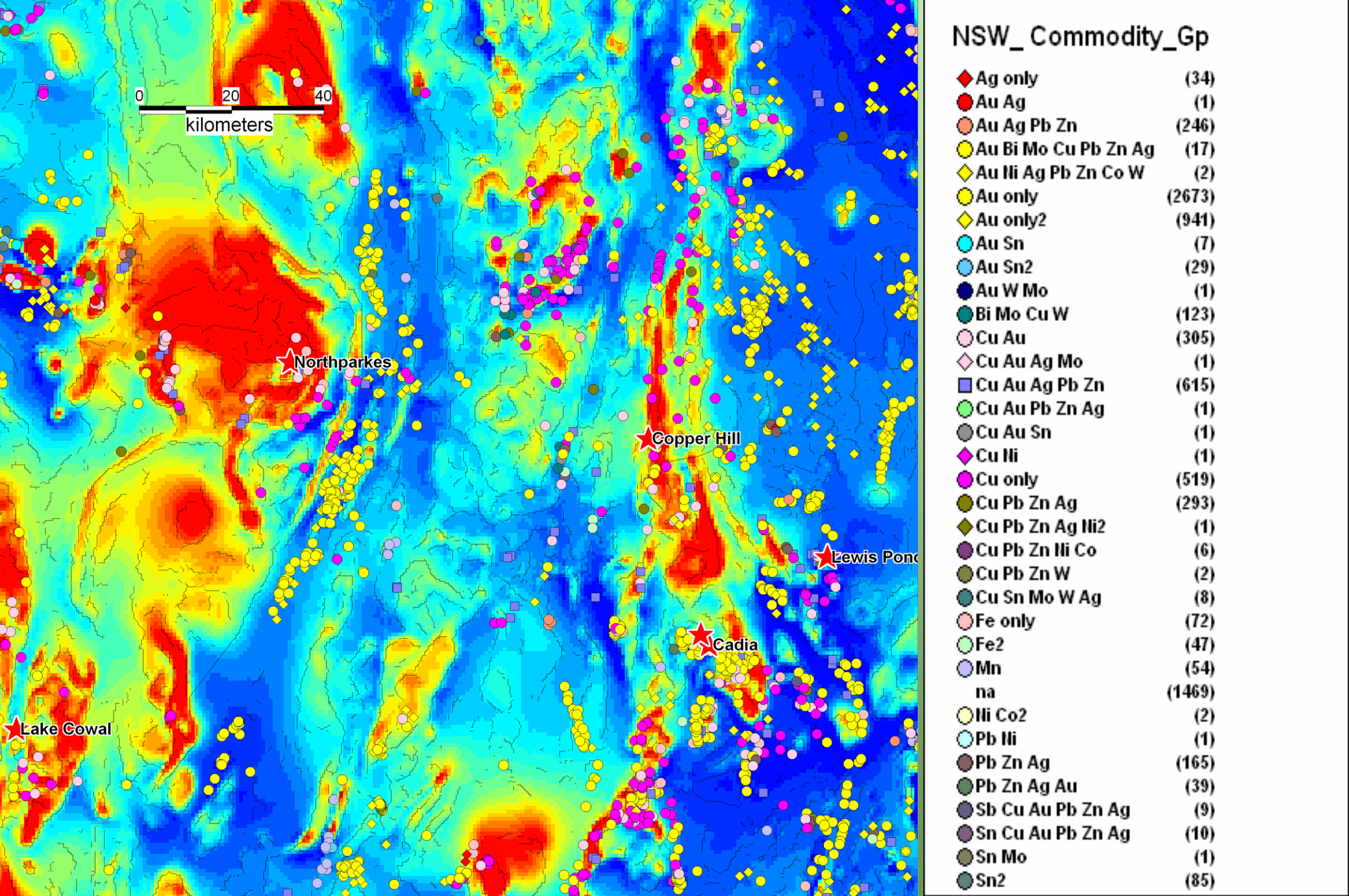
Gravity + Magnetics Length E. Victoria

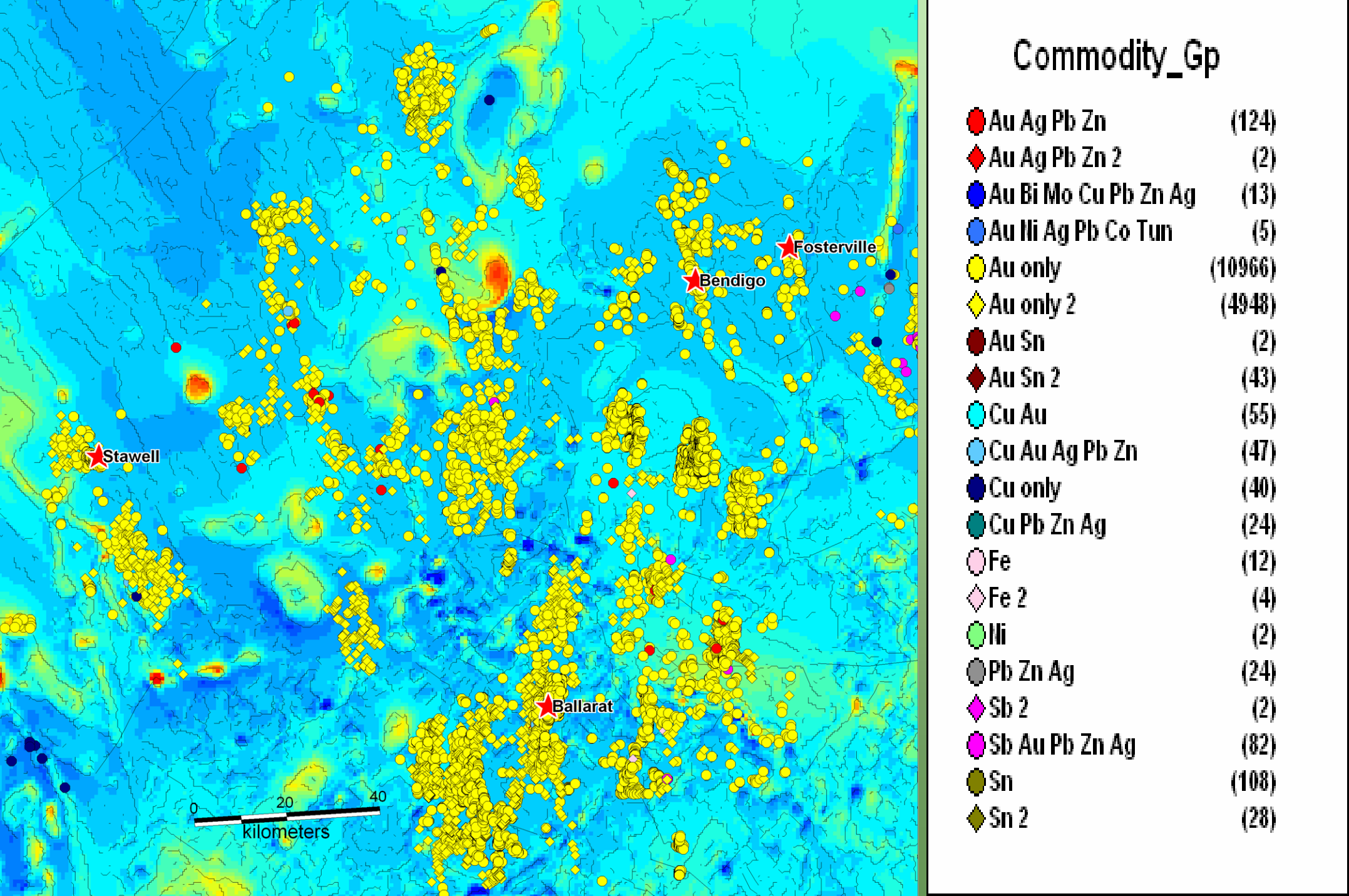
Mineral Occurrences

- **MinSite – GSV**
- **MinView - NSW**
- **Min Occ – GA**

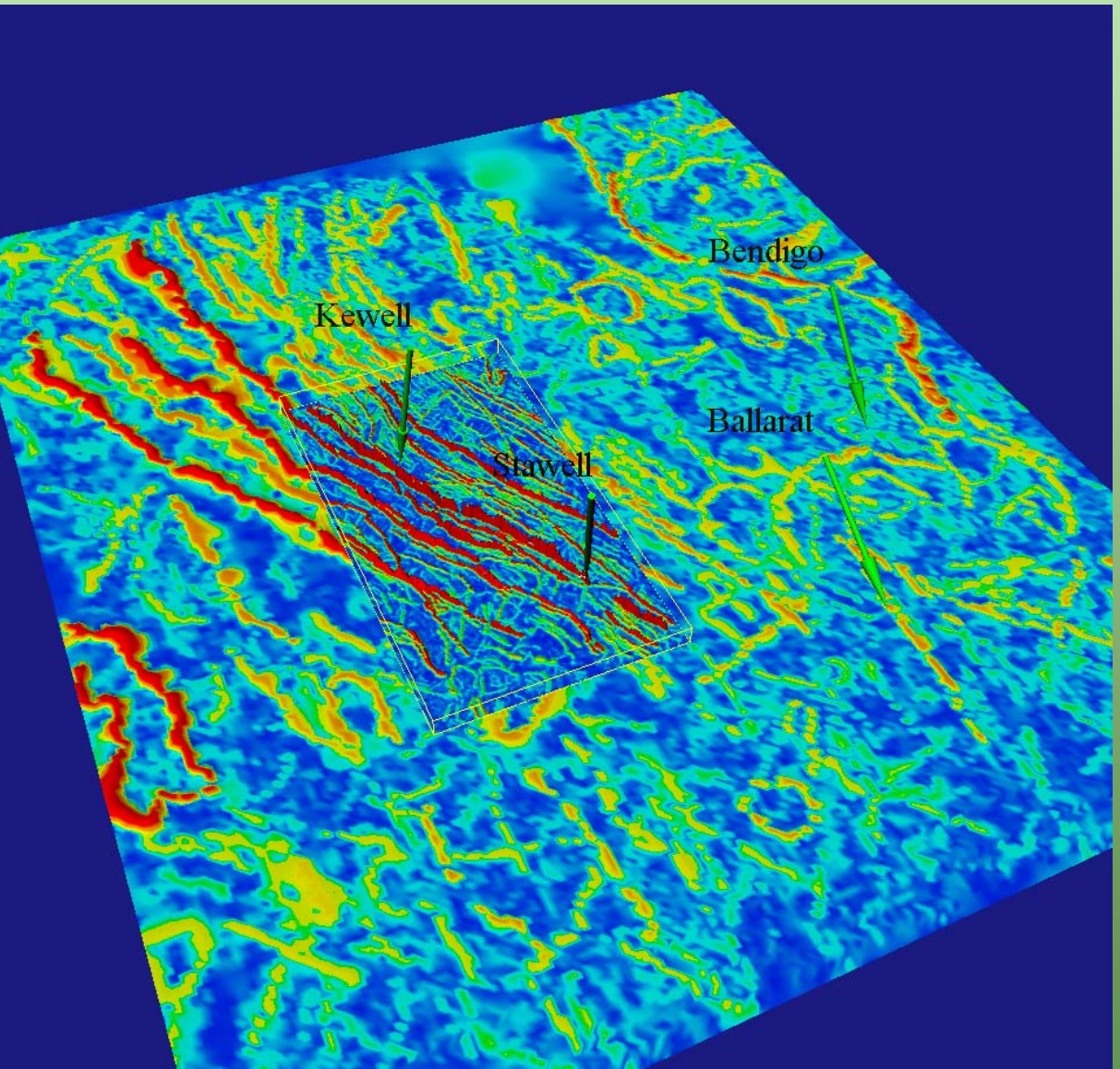


Multi-commodity Region


0
20
40
kilometers
Northparkes
Copper Hill
Lewis Pond
Cadia
Lake Cowal
NSW_ Commodity_Gp
Ag only (34)
Au Ag (1)
Au Ag Pb Zn (246)
Au Bi Mo Cu Pb Zn Ag (17)
Au Ni Ag Pb Zn Co W (2)
Au only (2673)
Au only2 (941)
Au Sn (7)
Au Sn2 (29)
Au W Mo (1)
Bi Mo Cu W (123)
Cu Au (305)
Cu Au Ag Mo (1)
Cu Au Ag Pb Zn (615)
Cu Au Pb Zn Ag (1)
Cu Au Sn (1)
Cu Ni (1)
Cu only (519)
Cu Pb Zn Ag (293)
Cu Pb Zn Ag Ni2 (1)
Cu Pb Zn Ni Co (6)
Cu Pb Zn W (2)
Cu Sn Mo W Ag (8)
Fe only (72)
Fe2 (47)
Mn (54)
na (1469)
Ni Co2 (2)
Pb Ni (1)
Pb Zn Ag (165)
Pb Zn Ag Au (39)
Sb Cu Au Pb Zn Ag (9)
Sn Cu Au Pb Zn Ag (10)
Sn Mo (1)
Sn2 (85)


Fosterville
Bendigo
Stawell
Ballarat
0
20
40
kilometers
Commodity_Gp
Au Ag Pb Zn (124)
Au Ag Pb Zn 2 (2)
Au Bi Mo Cu Pb Zn Ag (13)
Au Ni Ag Pb Co Tun (5)
Au only (10966)
Au only 2 (4948)
Au Sn (2)
Au Sn 2 (43)
Cu Au (55)
Cu Au Ag Pb Zn (47)
Cu only (40)
Cu Pb Zn Ag (24)
Fe (12)
Fe 2 (4)
Ni (2)
Pb Zn Ag (24)
Sb 2 (2)
Sb Au Pb Zn Ag (82)
Sn (108)
Sn 2 (28)

What next…!



- Commodity Groups & Deposit Sizes
- Architecture
- Map Distributions
- Assess predictive aspects – empirical, quantitative
- Twiki data release

W. Victoria
Edge Length Image

Summary

- Predictive value of commoner-garden, readily available regional scale data - RTCD
- Potential field gradients can inform us of controls on mineral system of interest, particularly fault-related plumbing systems

"L e n g t h matters, after all" - anon

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