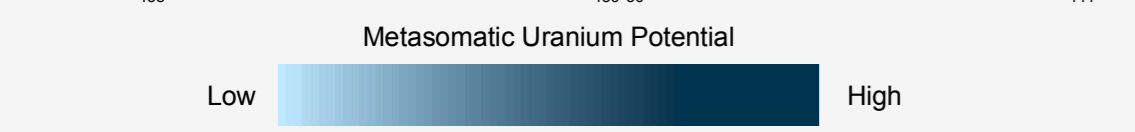
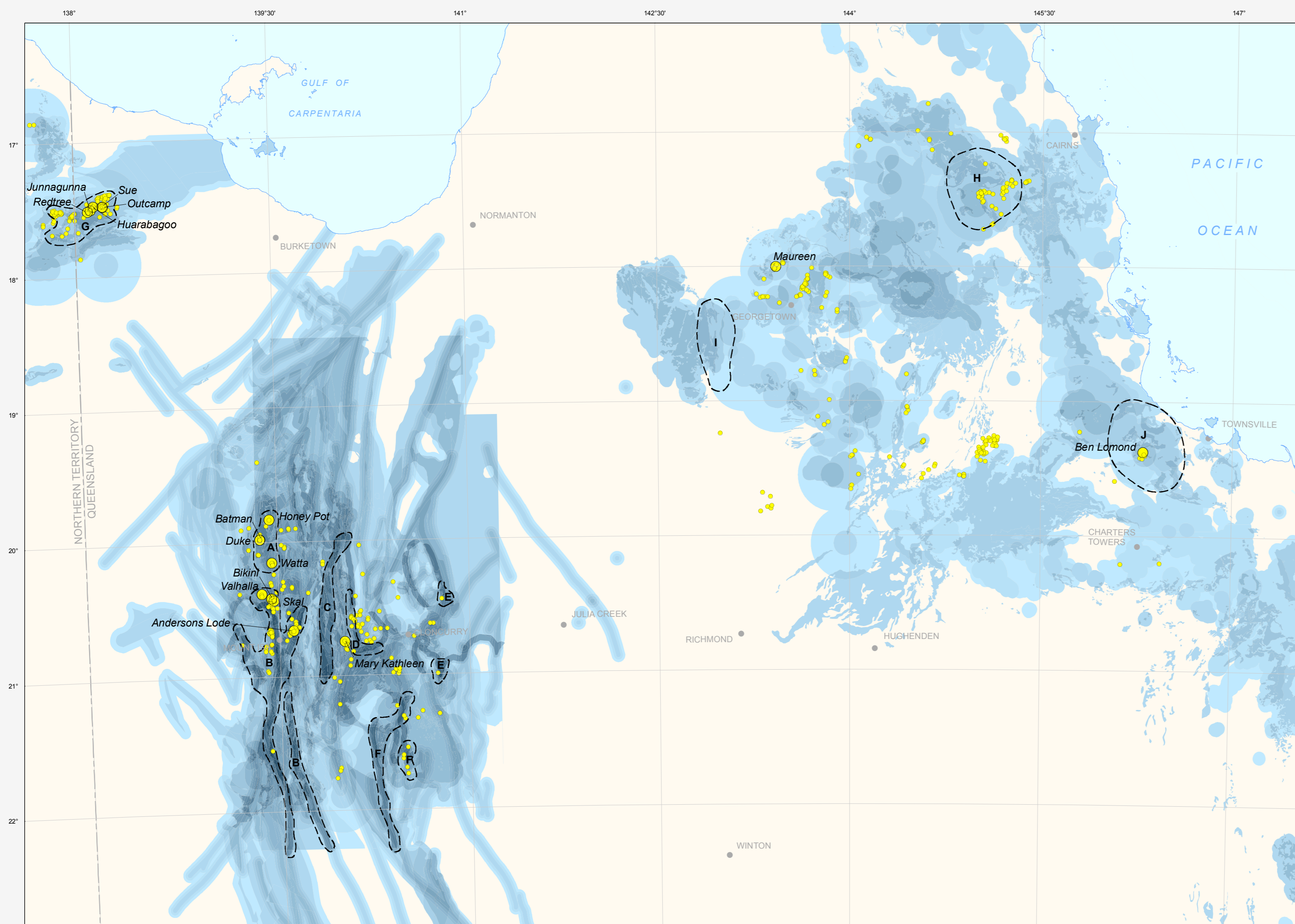


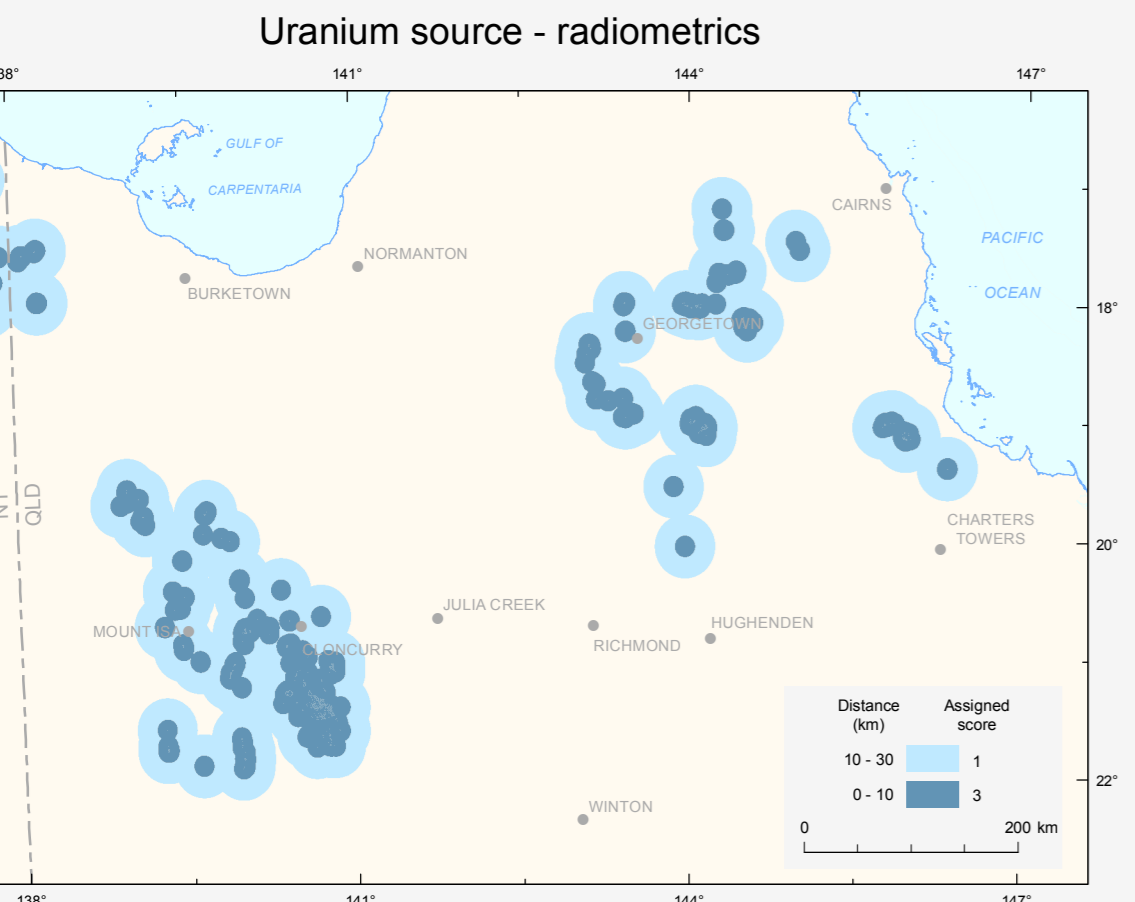
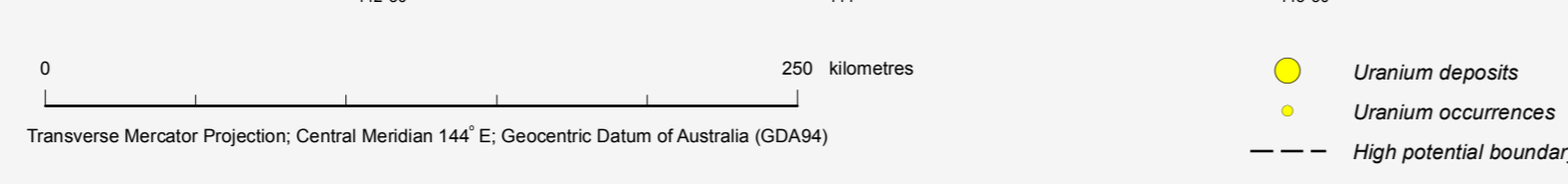
NORTH QUEENSLAND ENERGY SYSTEMS ASSESSMENT METASOMATIC URANIUM POTENTIAL



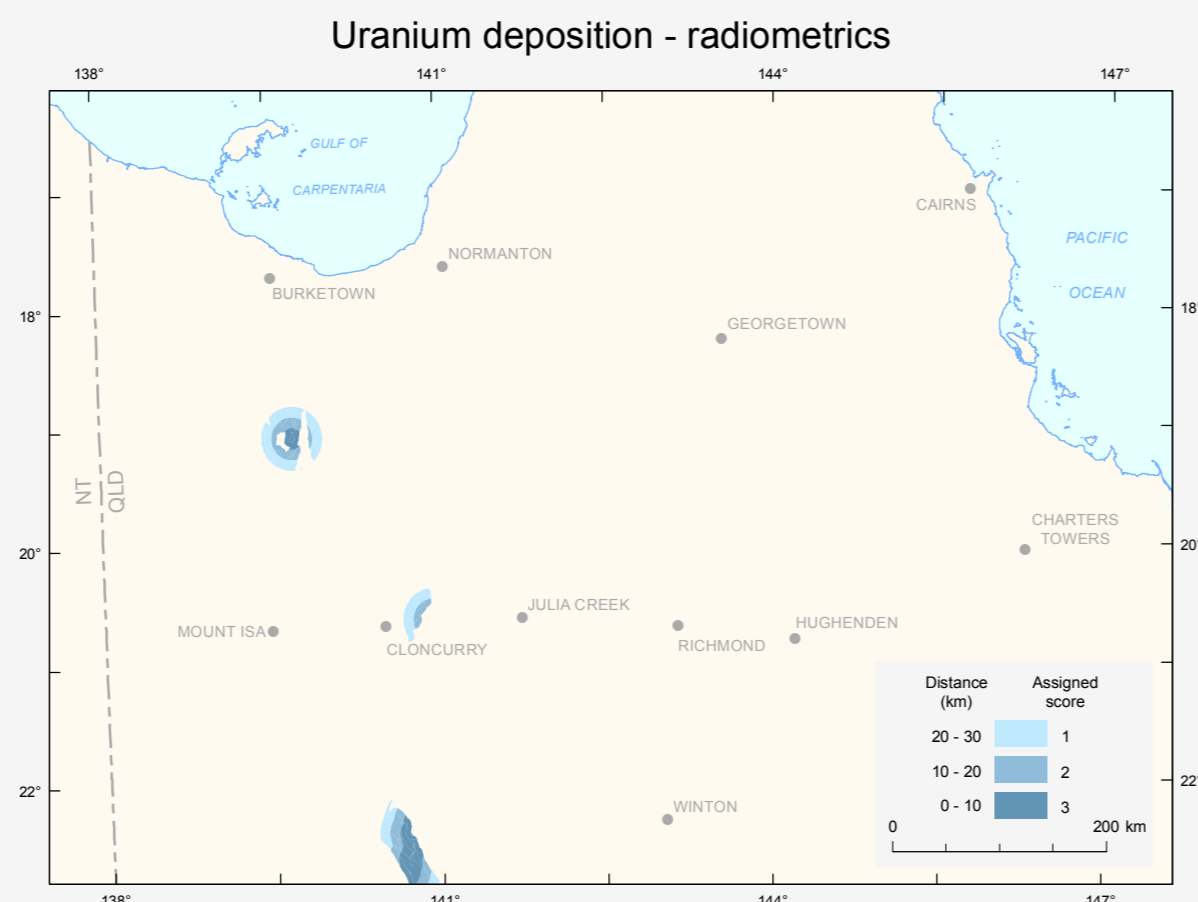
Potential for metasomatic uranium deposits based on summation of mineral system parameters shown in insets. Using this analysis, the following areas have been identified as having significant potential for metasomatic uranium deposits. See text (Huston, 2010) for more information and references.

- A** Mount Isa uranium field
- B** Extension of Mount Isa uranium field to the south and west
- C** Eastern margin of Leichhardt River Fault Trough
- D** East of Mary Kathleen
- E** Nanku Suite Plutons
- F** South of Mary Kathleen
- G** Westmoreland area
- H** Southwest of Cairns
- I** Croynon area
- J** Ben Lomond area

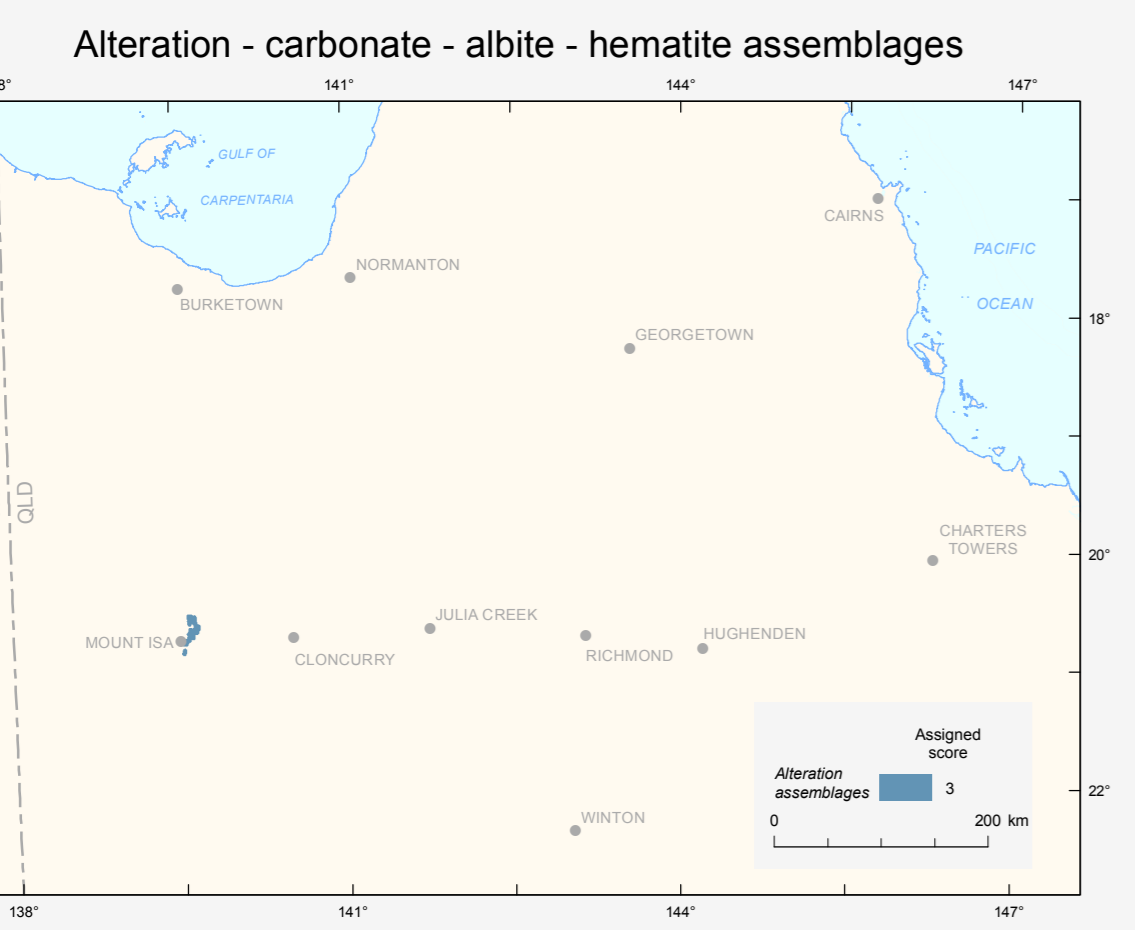
An area about 120 km to the east of Georgetown highlighted by this analysis is not considered prospective as the assessed potential is based mostly on the distribution of Tertiary basalt.



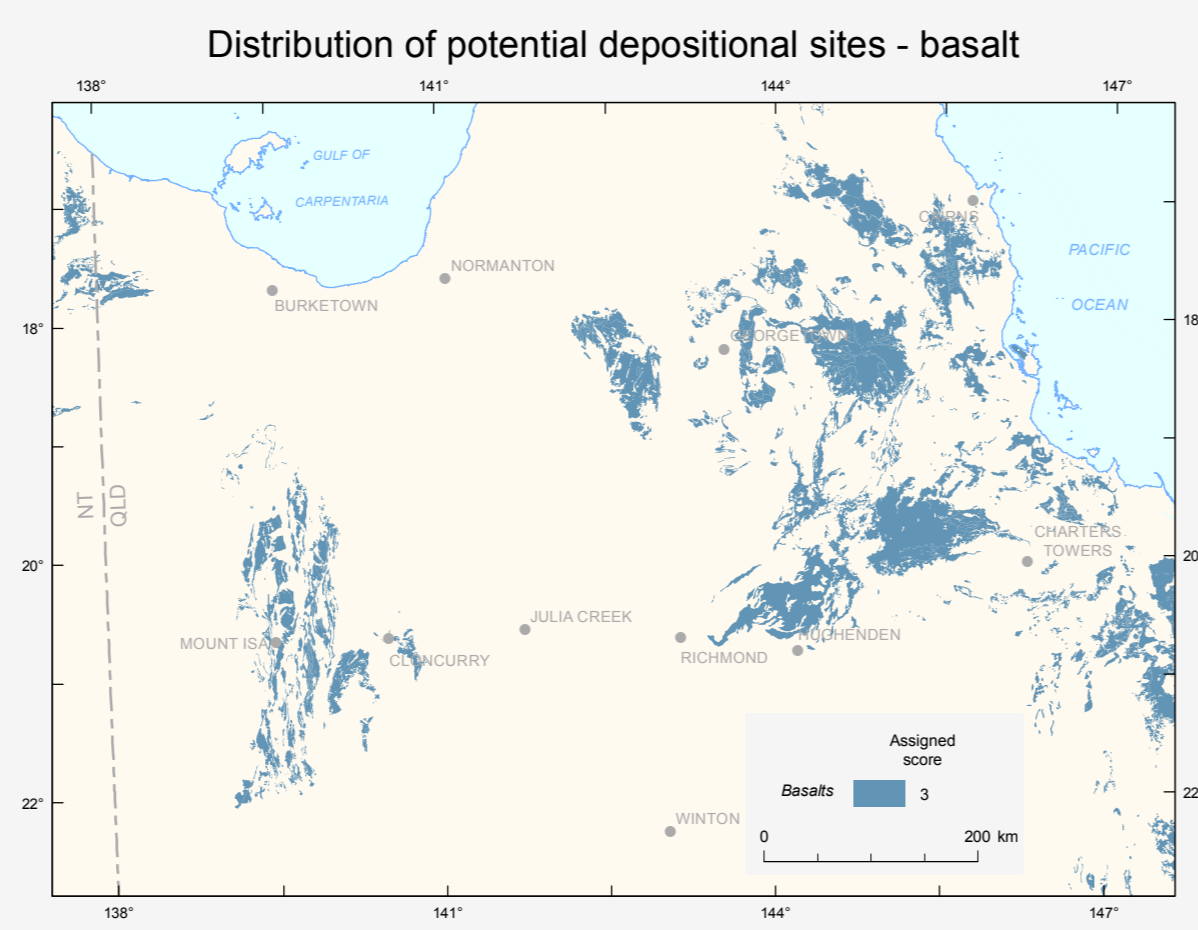
Potential uranium-rich source rocks using out of value of 10 ppm; uranium values estimated from filtered gamma-ray spectrometric data.



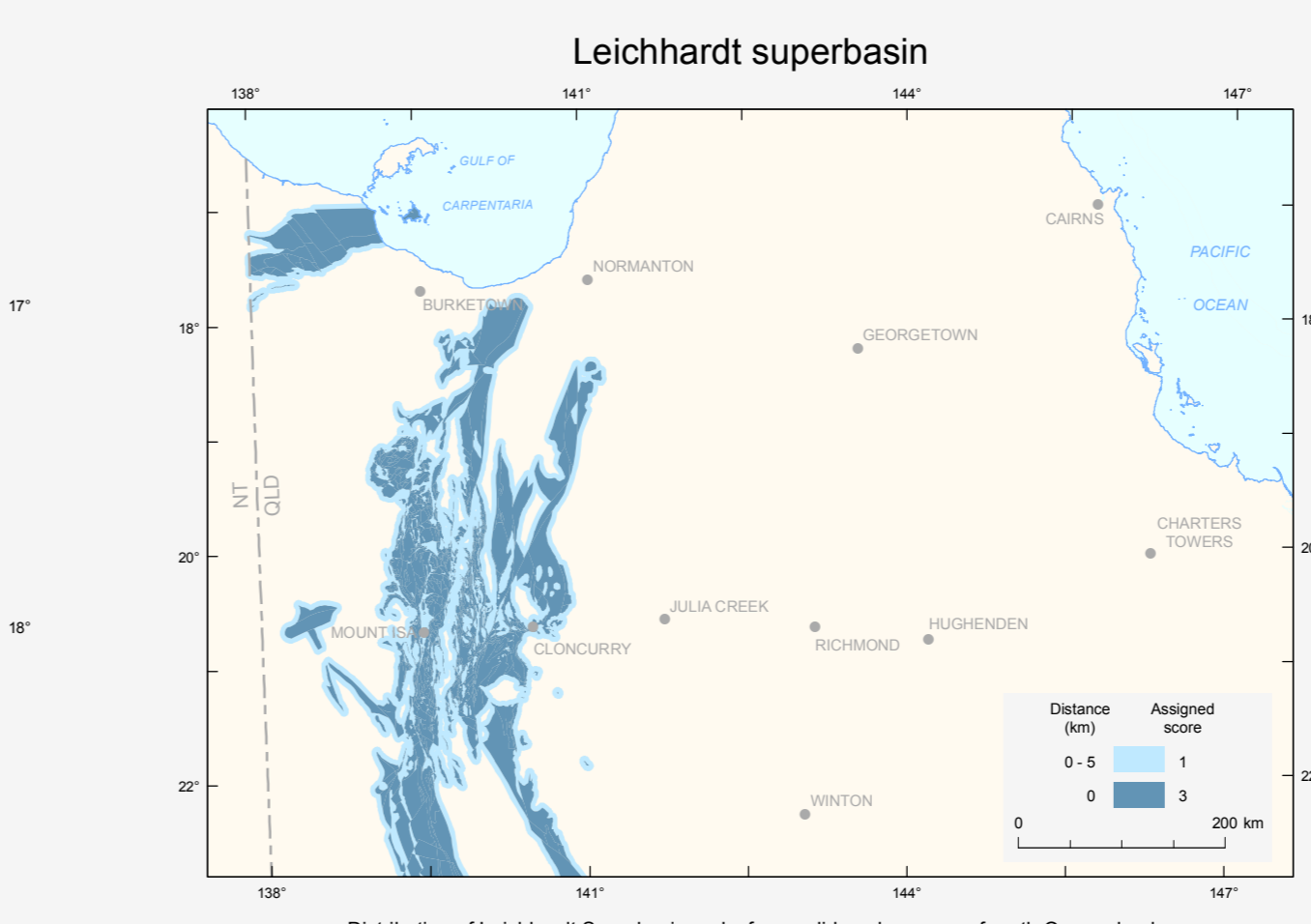
Uranium enrichment (greater than or equal to 10 ppm) within Leichhardt Superbasin as estimated from filtered gamma-ray spectrometric data.



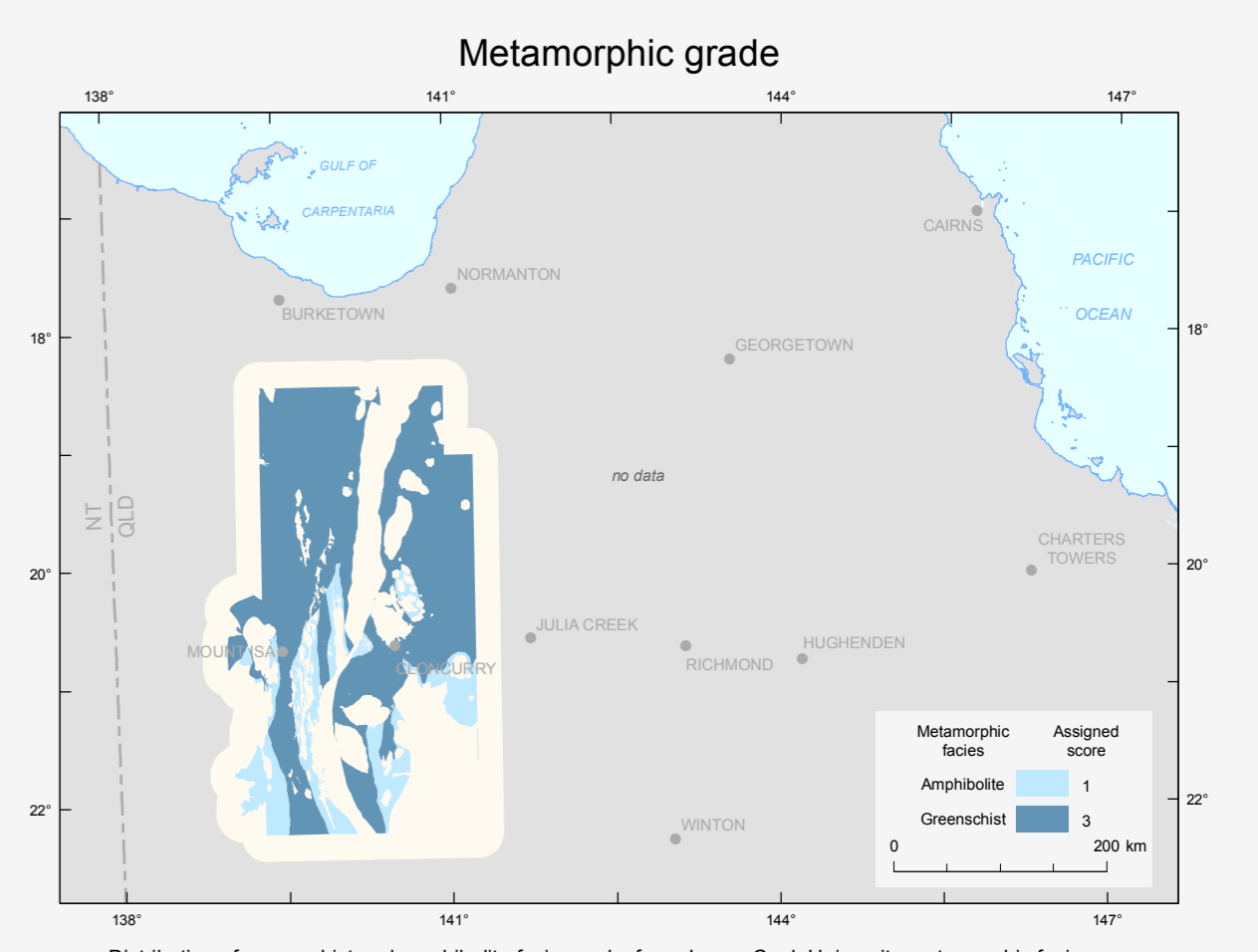
Distribution of carbonate-albite-hematite alteration assemblage.



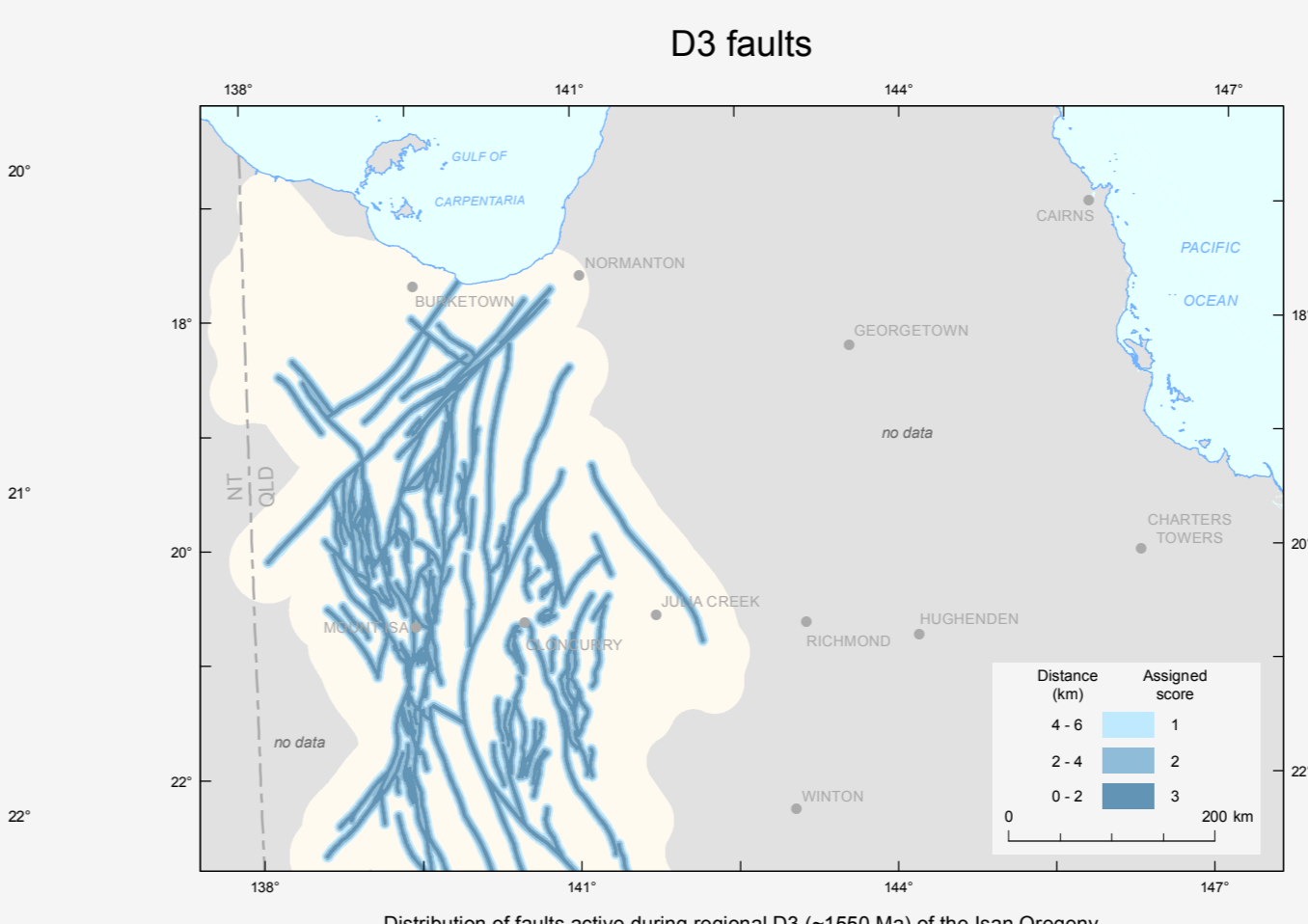
Distribution of basalt derived from the surface geology map of north Queensland.



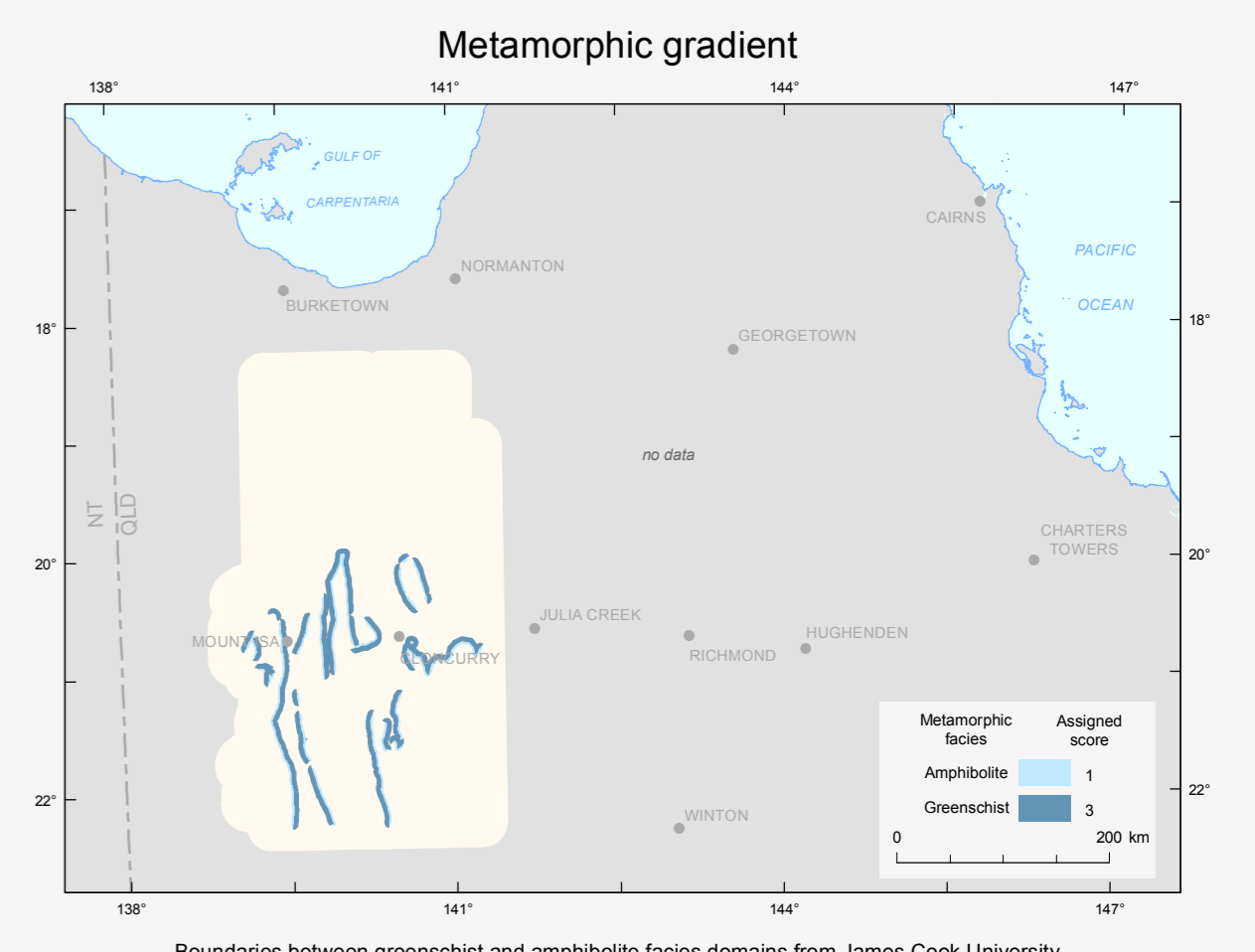
Distribution of Leichhardt Superbasin rocks from solid geology map of north Queensland.



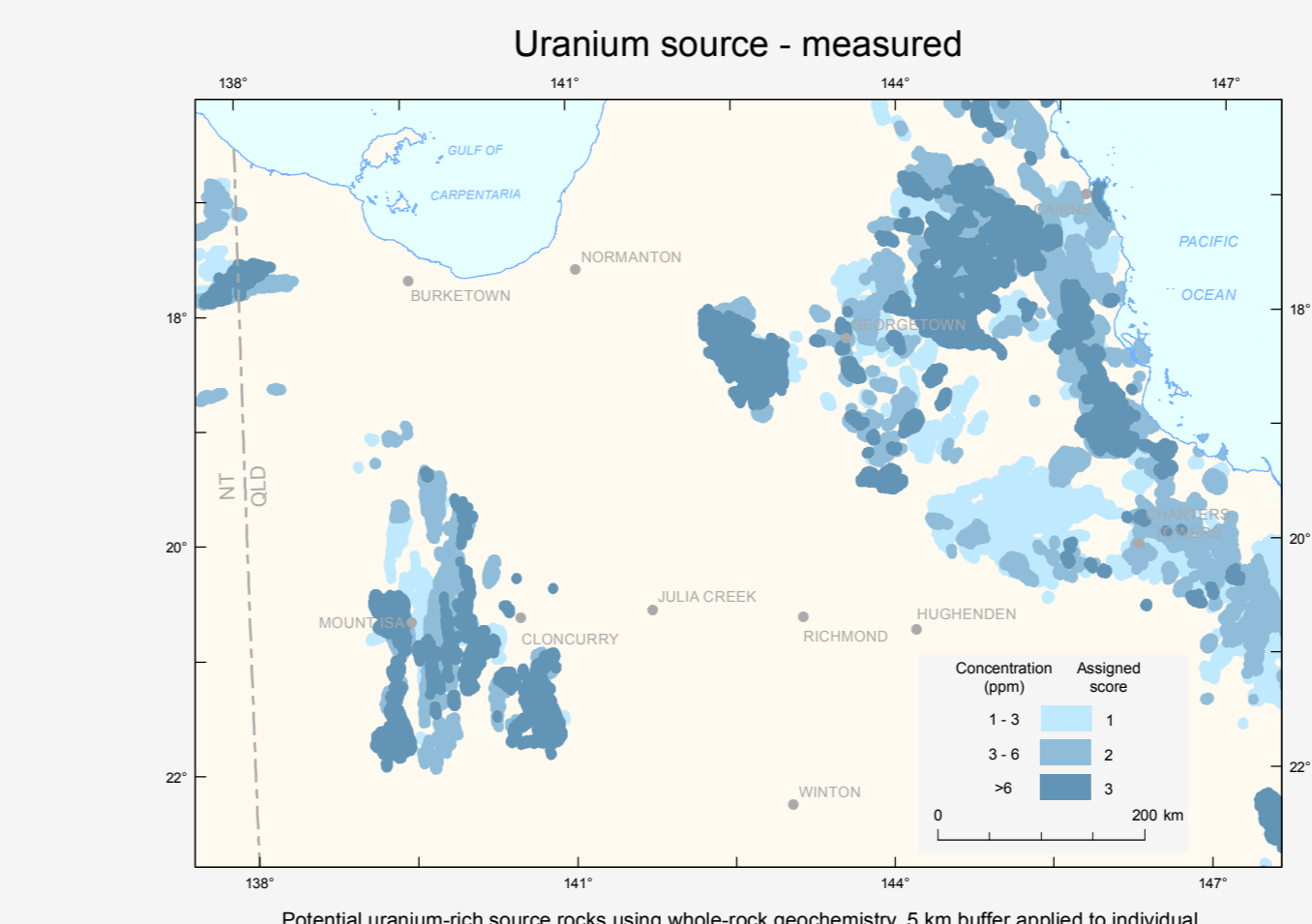
Distribution of greenschist and amphibolite facies rocks from James Cook University metamorphic facies map.



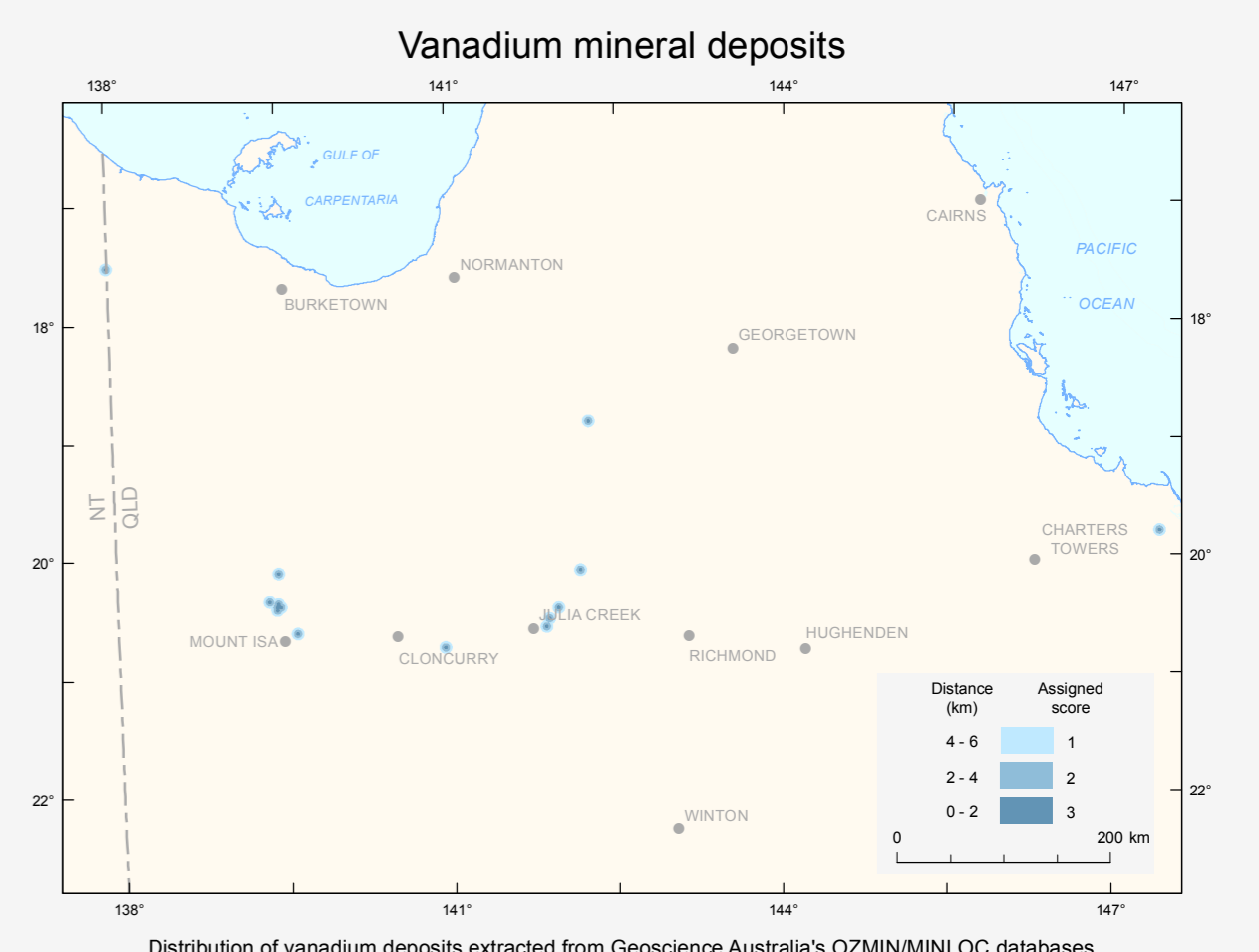
Distribution of faults active during regional D3 (~1550 Ma) of the Isan Orogeny.



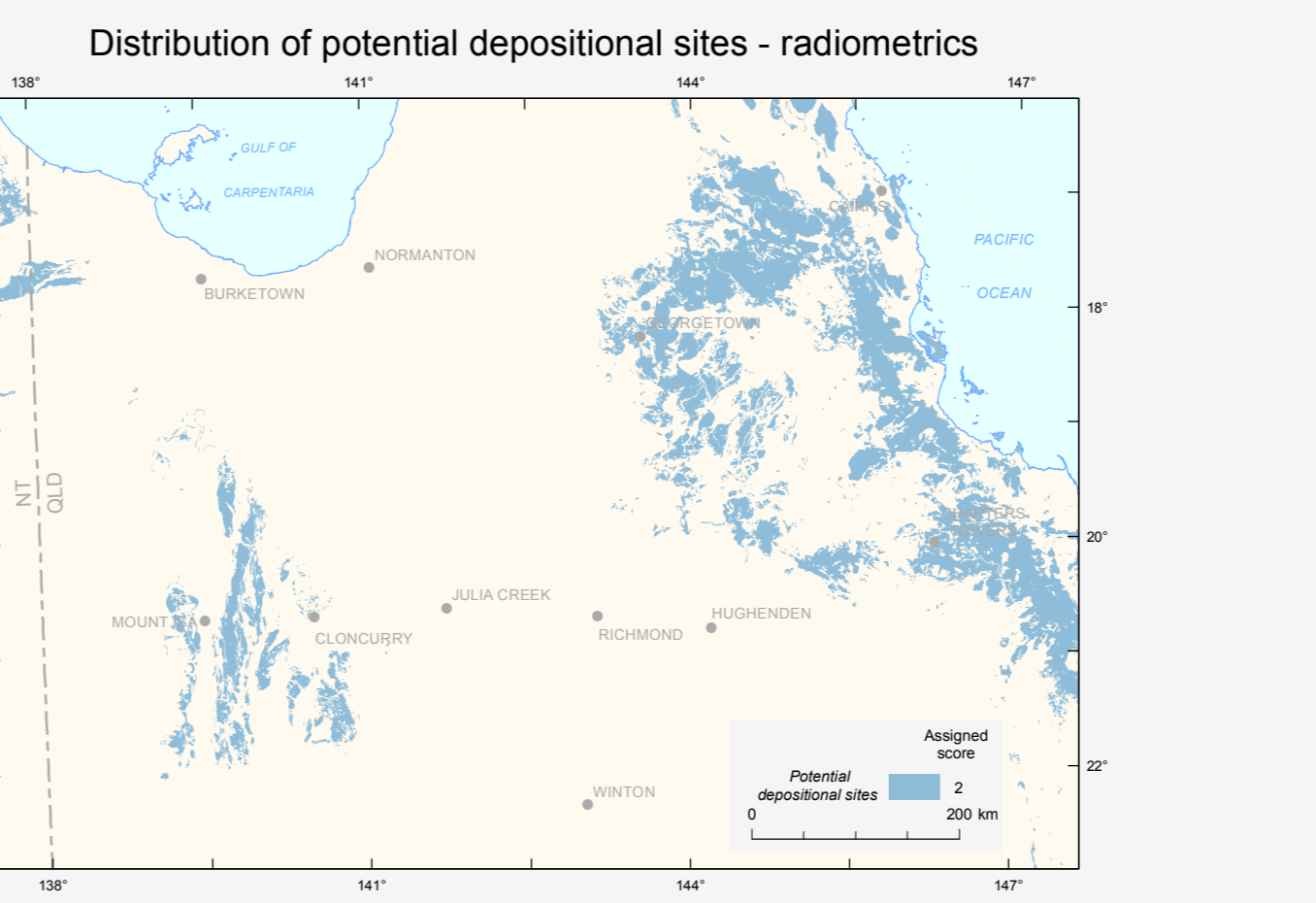
Boundaries between greenschist and amphibolite facies domains from James Cook University metamorphic facies map. 5 km buffer on greenschist side assigned 3 points; and 2 km buffer on amphibolite side assigned 1 point.



Potential uranium-rich source rocks using whole-rock geochemistry. 5 km buffer applied to individual analyses according to uranium concentration. In case of overlapping buffers, higher uranium concentration took precedence.



Distribution of vanadium deposits extracted from Geoscience Australia's OZMIN/MLOC databases.



Distribution of mafic rocks as determined by high (2σ above mean) ThK values (2 points).

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Data analysis by D.L. Huston and D.P. Connolly
Cartography by D.P. Connolly
Produced by GIS Services Group, Onshore Energy and Minerals Division, Geoscience Australia using ESRI ArcGIS 9.3 software
Geoscience Australia, GPO Box 378 Canberra ACT 2001

This map forms part of Geoscience Australia's Onshore Energy Security Program

It is recommended that this map be referred to as:
Huston D.L., Connolly D.P., 2010. *Metasomatic Uranium Potential*
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