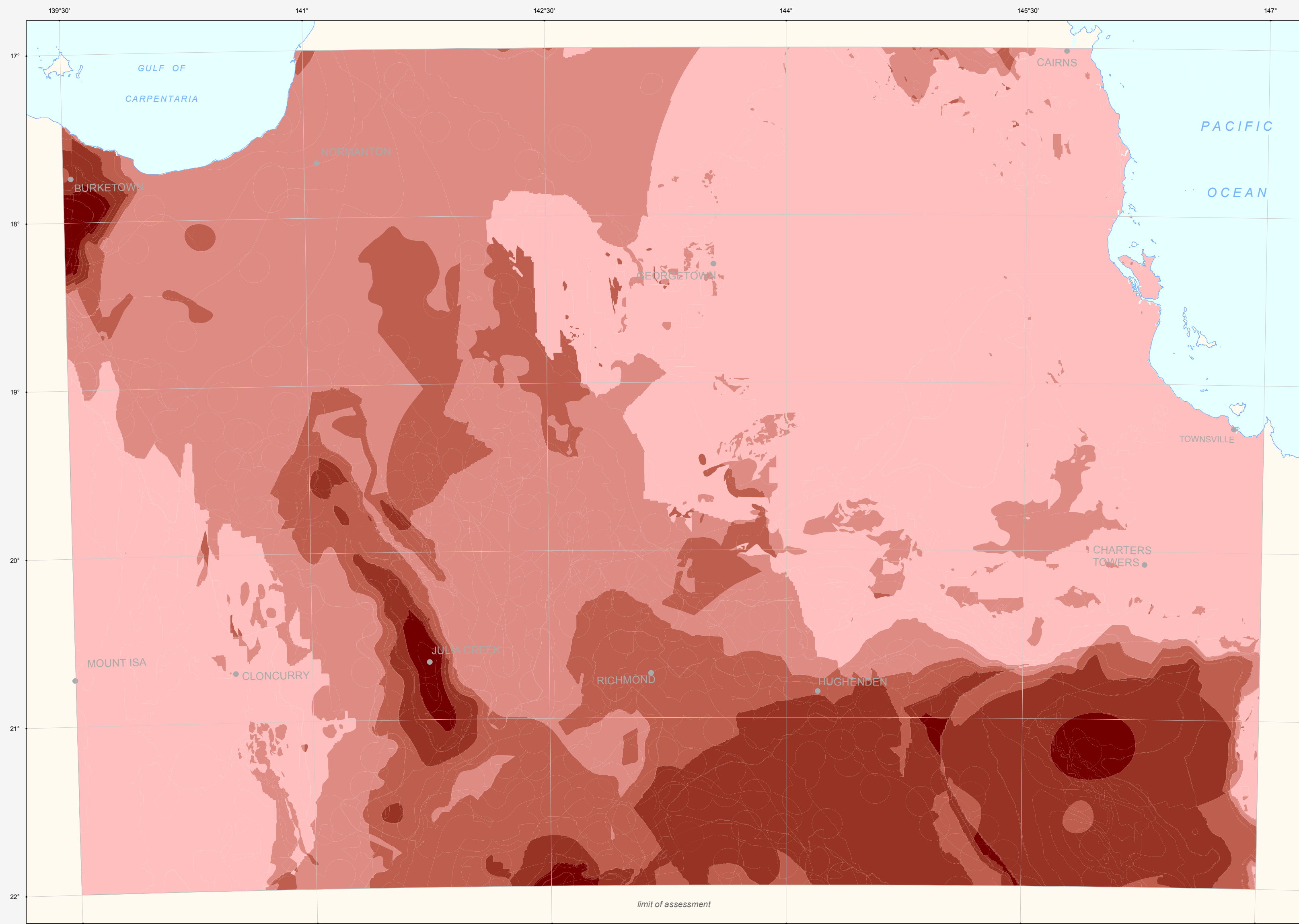


NORTH QUEENSLAND ENERGY SYSTEMS ASSESSMENT HOT ROCK POTENTIAL



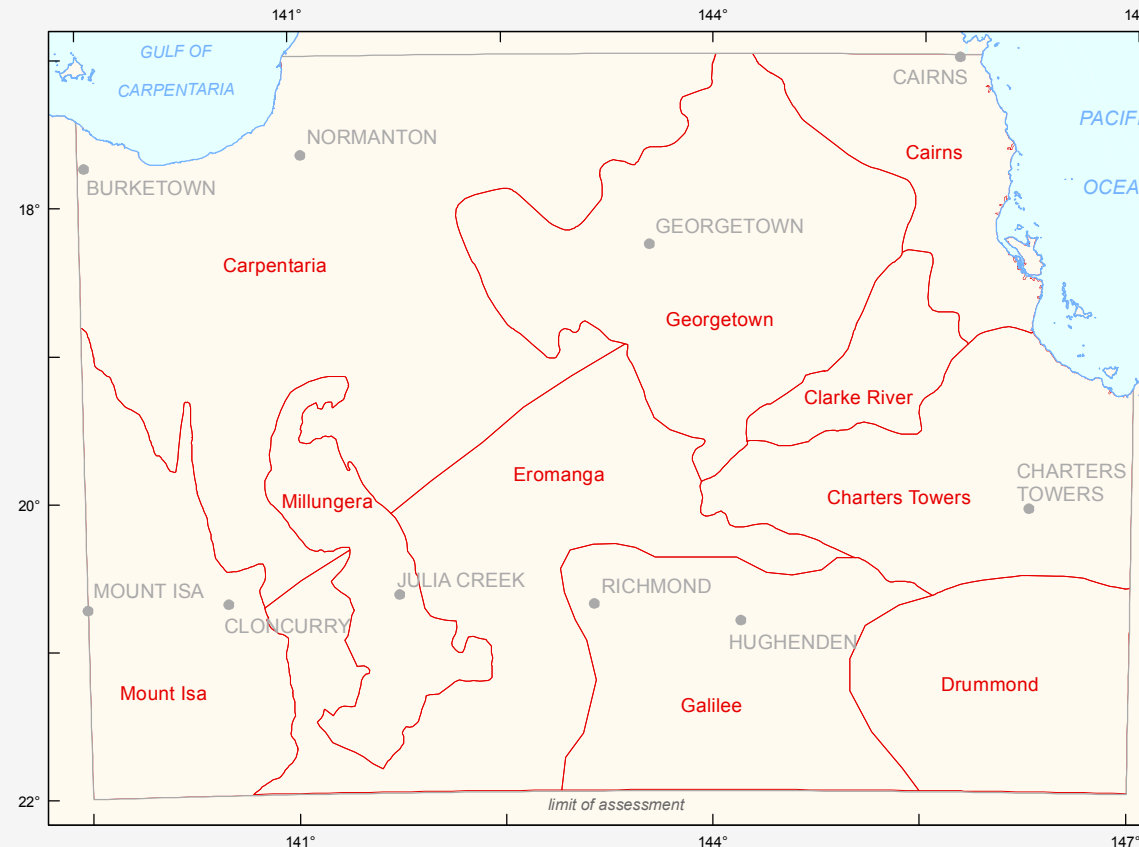
Hot Rock Potential

Low High

Potential for hot rock geothermal resources based on weighted summation of input datasets (shown in insets). Figure shows calculated hot rock potential. White frame delineates the spatial extent of the area assessed. See text (Huston, 2010) for more information and references.

0 200 kilometres
Transverse Mercator Projection; Central Meridian 144° E; Geocentric Datum of Australia (GDA94)

Thermal conductivity regions

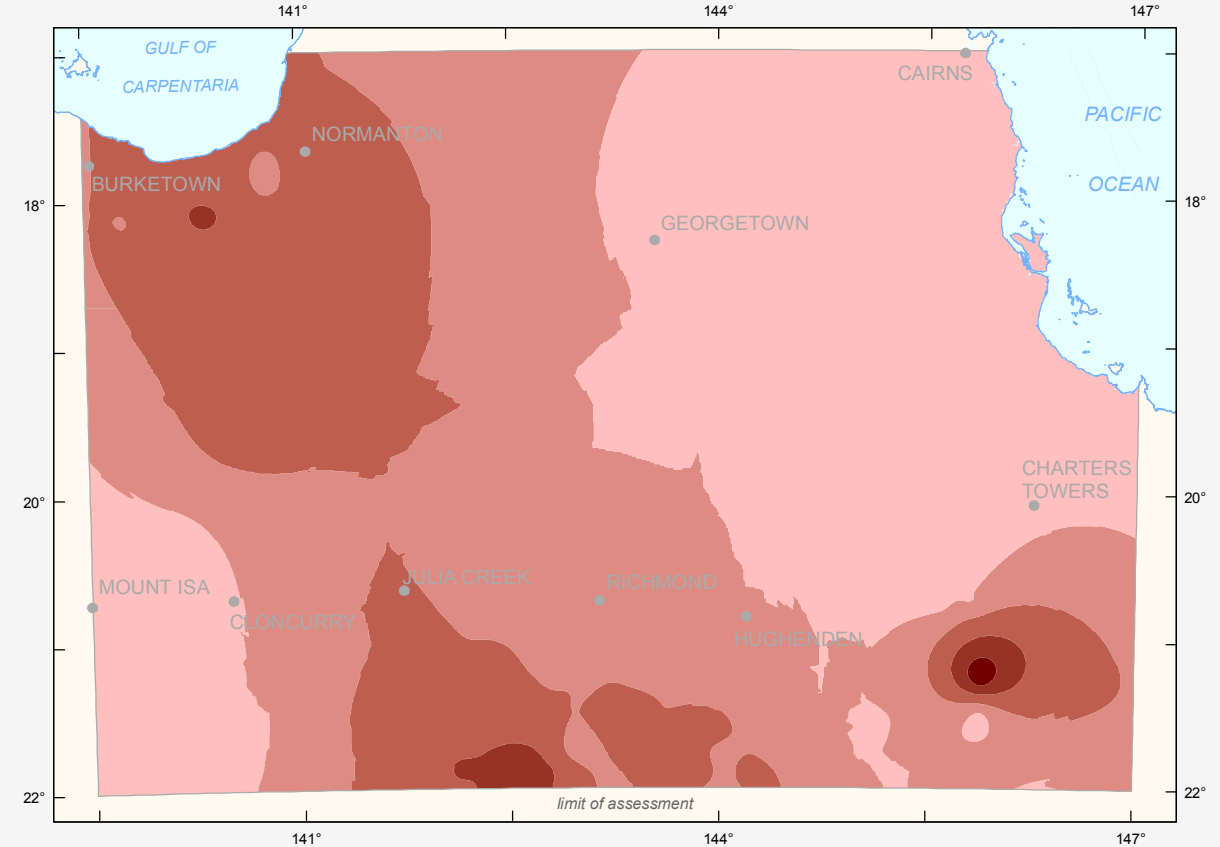


Broad geological regions defined for calculation of thermal resistance. Each region was assigned thermal conductivity values on the basis of lithology. The boundaries are based on geological provinces. (Bain and Draper, 1997).

— Thermal conductivity region boundary

0 200km

Predicted temperature at 5 km

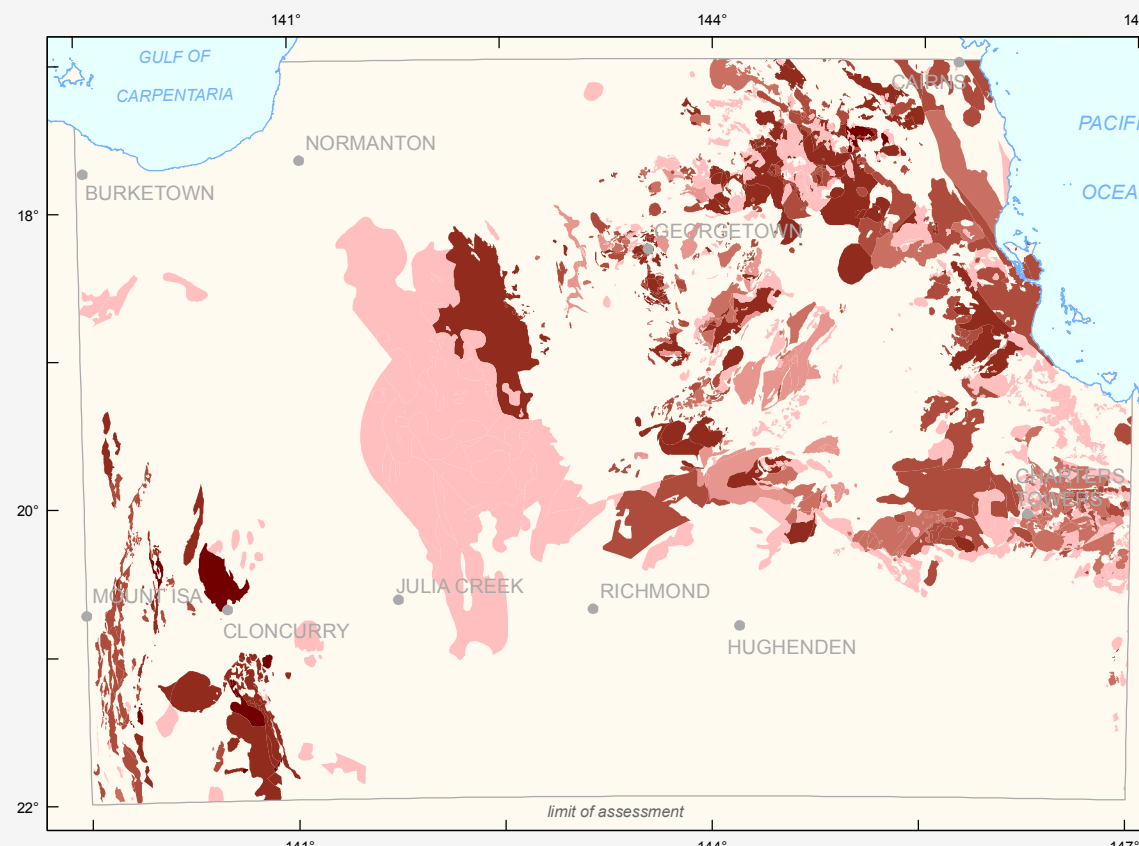


Predicted temperature at 5 km using AUSTHERM07 database. This map has been partially derived from proprietary information owned by Earth Energy Pty Ltd ACN 078 964 735.

Temperature (°C)	Assigned score
140 - 154	1
154 - 168	2
168 - 182	3
182 - 196	4
196 - 210	5

0 200km

Calculated heat generation potential



Heat generation values calculated using OZCHEM data and attributed to the felsic intrusive units.

μWm^{-3}	Assigned score
140 - 154	1
154 - 168	2
168 - 182	3
182 - 196	4
196 - 210	5

0 200km

MAP LOCALITY



Compiled by B.F. Ayling and B.C. Lewis, Geoscience Australia
Data analysis by B.F. Ayling, B.C. Lewis 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

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Ayling B.F., Lewis B.C., Connolly D.P., 2010.
Hot Rock Potential. In: Huston D.L. (editor), 2010. North Queensland, Energy Assessment. Geoscience Australia, Canberra, GA Record, in prep.

Bain, J.H.C. and Draper, J.J. (eds) 1997. 1997. North Queensland Geology. Bulletin of the Australian Geological Survey Organisation 240, and Queensland Department of Mines and Energy Geology 9, 600pp.

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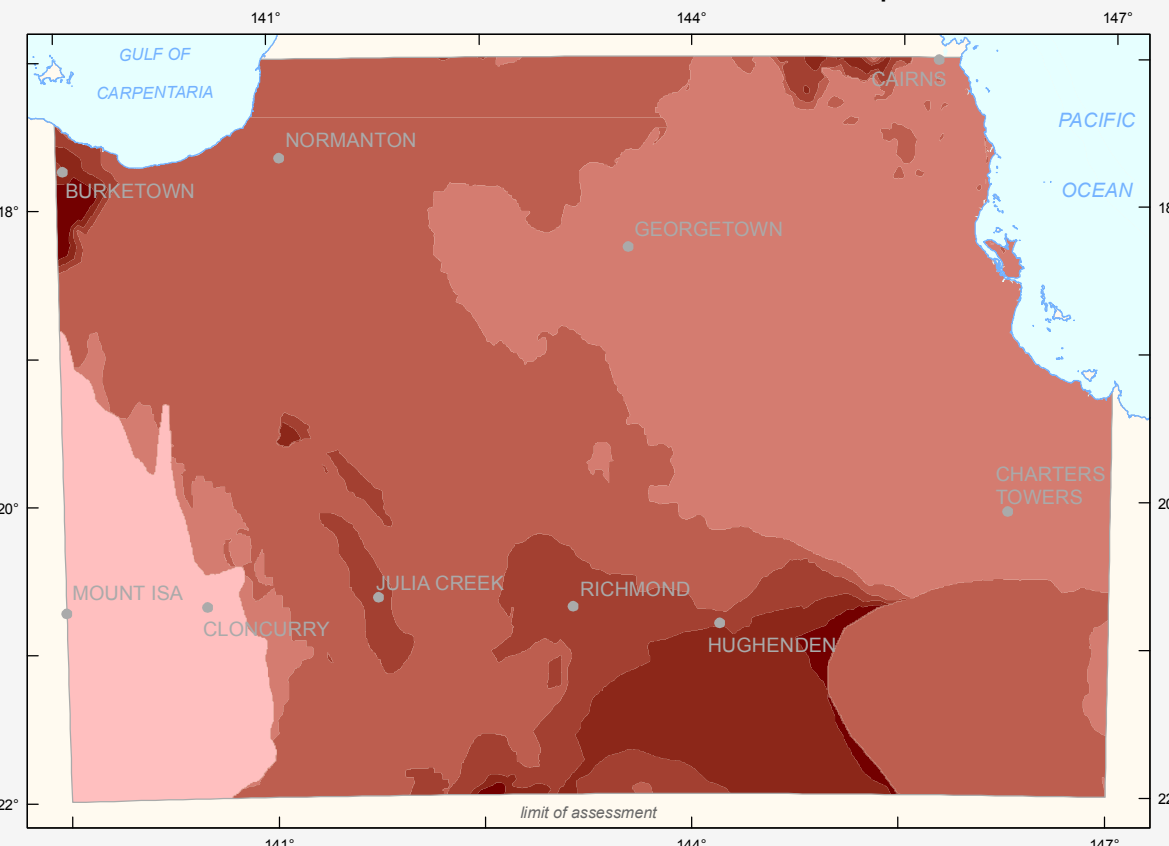
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Modelled thermal resistance to 5km depth

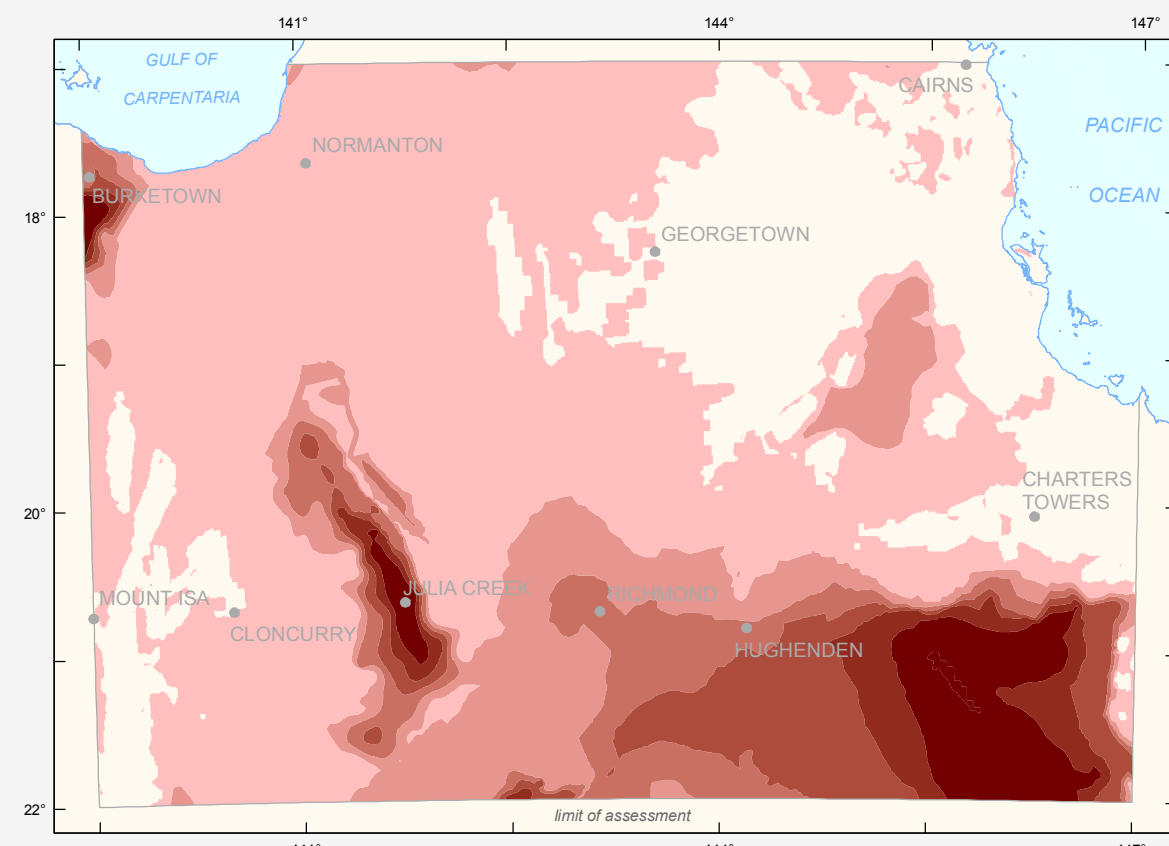


Thermal resistance estimated by integrating thermal conductivity with depth to a total depth of 5 km.

Resistance (mKW ⁻¹)	Assigned score
<1650	1
1650 - 1725	2
1725 - 1800	3
1800 - 1875	4
1875 - 1950	5
1950 - 2025	6
>2025	7

0 200km

Modelled total sediment thickness

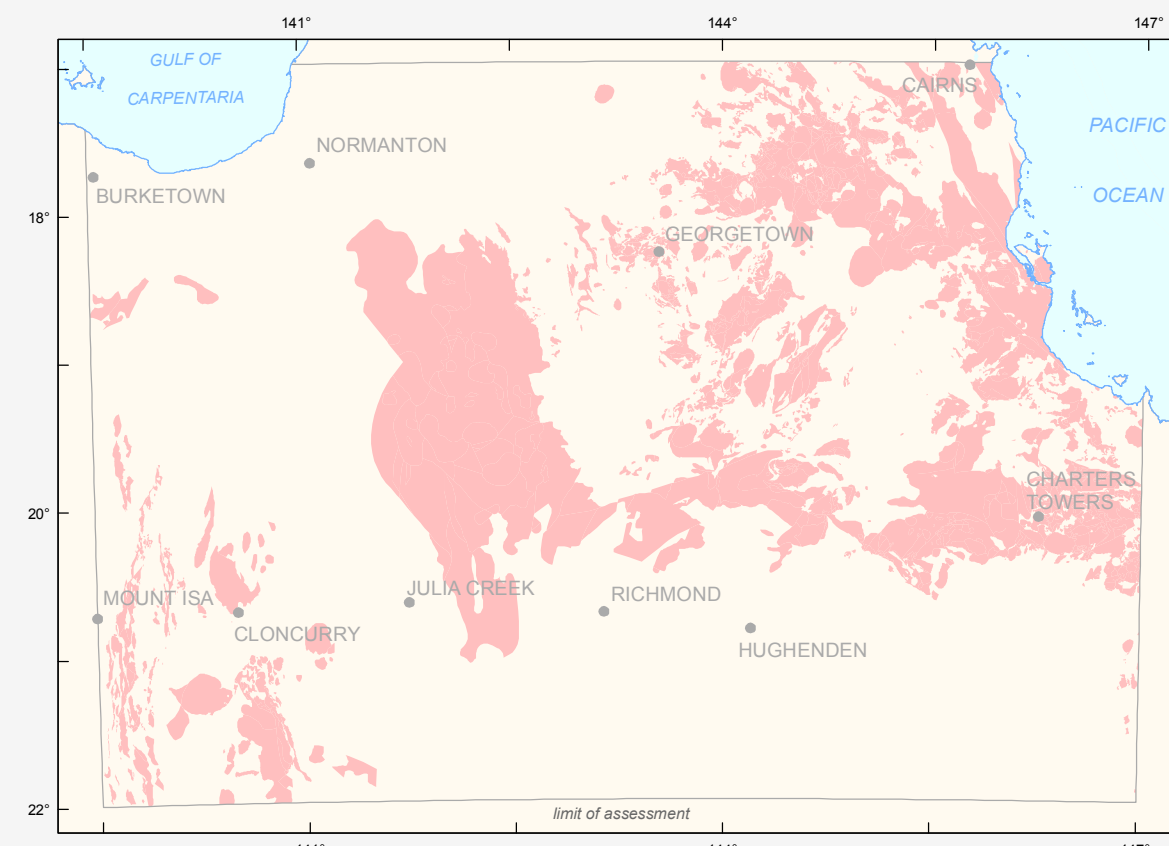


Total thickness of sedimentary basins estimated from drill hole data, potential field geophysical data, seismic data and the SEEBASE dataset.

Sediment thickness (km)	Assigned score
<1	1
1 - 2	2
2 - 3	3
3 - 4	4
4 - 5	5
>5	6

0 200km

Distribution of felsic intrusive rocks



Distribution of felsic intrusive rocks based on north Queensland solid geology map.

0 200km

Felsic intrusives

