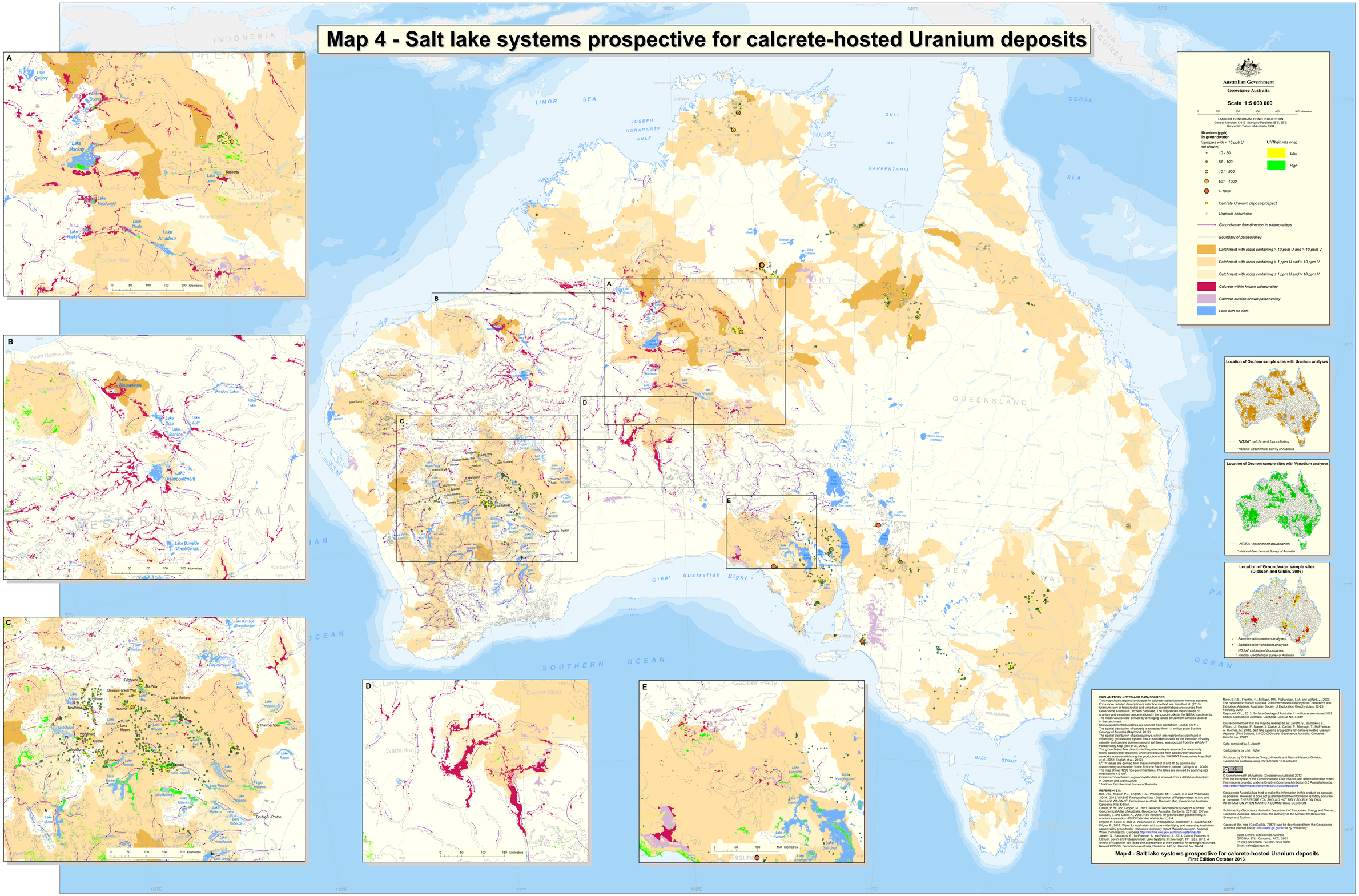
# Map 4 - Salt lake systems prospective for calcrete-hosted Uranium deposits




**EXPLANATORY NOTES AND DATA SOURCES:**
This map shows regions favourable for calcrete-hosted uranium mineral systems. For a more detailed description of selection method see Jaireth et al. (2013). Uranium (only in felsic rocks) and vanadium concentrations are sourced from Geoscience Australia's Ozchem database. The map shows mean values for Ozchem samples located in catchments with more than 10 samples per catchments. The mean values were derived by averaging values of Ozchem samples located in the catchment.
NGSA catchment boundaries are sourced from Caritat and Cooper (2011).
The spatial distribution of calcrete is extracted from 1:1 million scale Surface Geology of Australia (Raymond, 2012).
The spatial distribution of palaeovalleys, which are regarded as significant in concentrating groundwater flow, is based on a compilation of known palaeovalley calcrete and calcrete aureoles around salt lakes, was sourced from the WASANT Palaeovalley Map (Bell et al., 2012).
The groundwater flow direction in the palaeovalley is assumed to dominantly follow palaeovalley gradients which are deduced from palaeovalley drainage networks constructed during the production of the WASANT Palaeovalley Map (Bell et al., 2012; English et al., 2012).
U²/Th values are derived from measurement of U and Th by gamma-ray spectrometry as recorded in the Airborne Radiometric dataset (Minty et al., 2009). We map U²/Th for 200 non-perennial lakes. The lakes are derived by applying size threshold of 4.9 km².
Uranium concentration in groundwater data is sourced from a database described in Dickson and Giblin (2006).
* National Geochemical Survey of Australia

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It is recommended that this map be referred to as: Jaireth, S., Bastrakov, E., Wilford, J., English, P., Magee, J., Clarke, J., Caritat, P., Memagh, T., McPherson, A. Thomas, M., 2013. *Salt lake systems prospective for calcrete-hosted Uranium deposits* (First Edition), 1:5 000 000 scale, Geoscience Australia, Canberra. GeoCat No. 75876

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Produced by GIS Services Group, Minerals and Natural Hazards Division, Geoscience Australia using ESRI ArcGIS 10.0 software




Published by Geoscience Australia, Department of Resources, Energy and Tourism, Canberra, Australia. Issued under the authority of the Minister for Resources, Energy and Tourism

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**First Edition October 2013**