

## Resolving the architecture of the Ngalia Basin in central Australia from gravity and magnetic field interpretation – A component of a Uranium minerals system study

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**Abstract:** The Ngalia basin of the Northern Territory, Australia has proven uranium deposits and is an active area of uranium exploration. The uranium is believed to have been derived from surrounding basement rocks and to have been initially deposited in sedimentological and diagenetic processes before being repeatedly mobilised and redeposited in subsequent thermal and tectonic events. A full understanding of these processes is hampered by the limited knowledge of the structure and evolution of the basin as derived from sparse outcrop, limited vintage seismic and just two wells to basement. To improve understanding of the basin as required to support exploration for blind mineralisation, CSIRO is undertaking an integrated geochemical, sedimentological, structural and geophysical study funded by a consortium of uranium exploration companies. This talk focuses on the task of mapping the three-dimensional structure of the basin, which has been undertaken with inversion and modelling of regional gravity and aeromagnetic data.

