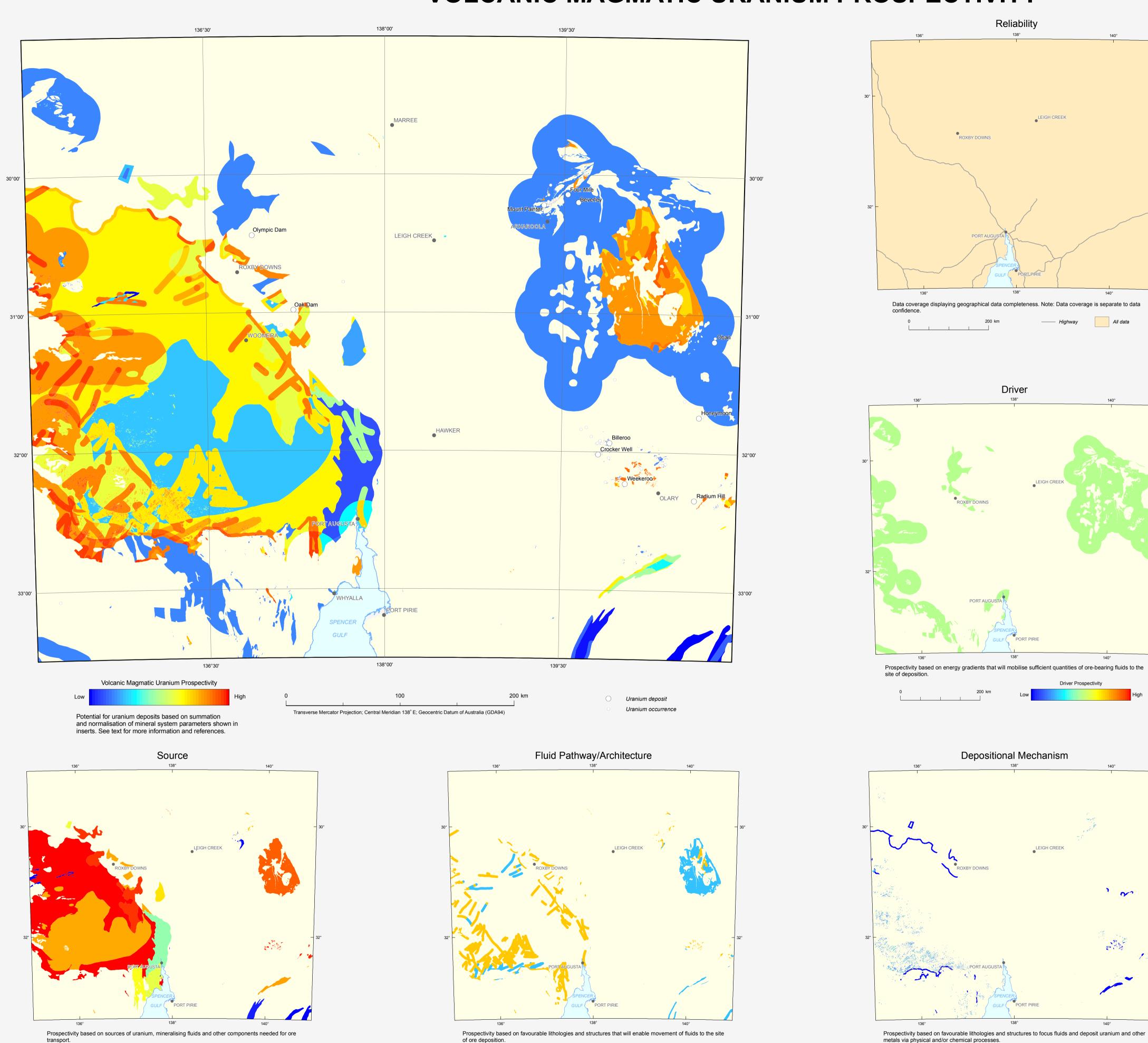
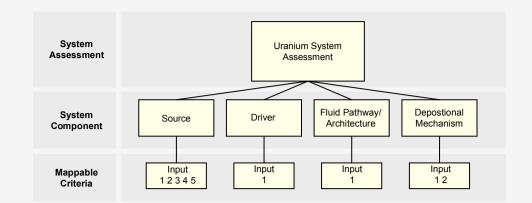
# SOUTH AUSTRALIA ENERGY SYSTEMS ASSESSMENT

# **VOLCANIC MAGMATIC URANIUM PROSPECTIVITY**



Fluid Pathway/Architecture Prospectivity

### Prospectivity Assessment Workflow



The uranium system assessment is a function of four key mineral system components a) source, b) driver, c) fluid pathway/architecture and d) depositional mechanism. Each mineral system component is comprised of a varying number of inputs specific to the targeted mineral system assessment.

Source
Potential for sources of uranium and other metals, mineralising fluids and other components needed for ore transport. The source weighting is calculated by combining the constituent mappable criteria listed below and normalised to the total number of mappable criteria. The input data are:

- Presence of broadly felsic igneous rocks.
   Presence of uranium-enriched igneous rocks.
- 5) Presence of igneous rocks with high uranium solubility.

Prospectivity based on energy gradients that will mobilise sufficient quantities of ore-bearing fluids to the site of deposition. The driver weighting is calculated by combining the constituent mappable criteria listed below and normalised to the total number of mappable criteria. The input data are:

### 1) Thermally driven hydrothermal fluid circulation.

Fluid Pathway/Architecture
Potential for favourable lithologies and structures that will enable movement of fluids to the site of ore deposition. The fluid pathway/architecture weighting is calculated by combining the constituent mappable criteria listed below and normalised to the total number of mappable criteria. The input

### 1) Fluid flow along permeable structures.

Depositional Mechanism
Potential for favourable lithologies and structures to focus fluids and deposit uranium and other metals via physical and/or chemical processes. The depositional mechanism weighting is calculated by combining the constituent mappable criteria listed below and normalised to the total number of

### mappable criteria. The input data are: 1) Direct evidence of elevated uranium.

# 2) Chemical depositional sites.

Data coverage displaying geographical data completeness. Note: Data coverage is separate to



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AUGUST 2011

Depositional Mechanism Prospectivity

**PLATE 3.7**