

BYROCK
REGOLITH-LANDFORMS
NEW SOUTH WALES

SCALE 1: 100 000

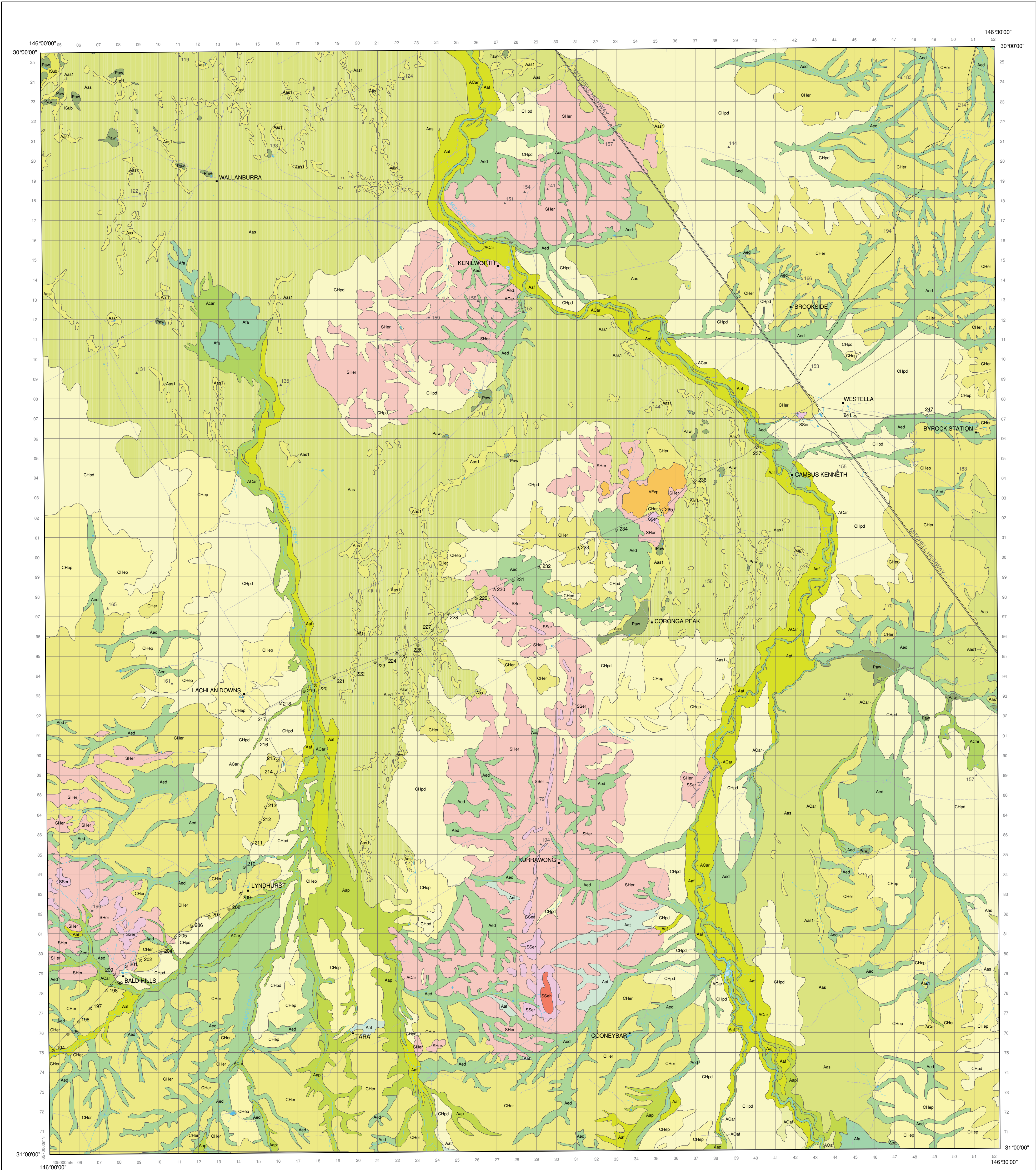


PLATE 1

TRANSPORTED REGOLITH

Aluvial sediments

Aluvial sediments

- Asp** Aluvial plains with sub-rounded to sub-angular sands, silts and gravels composed of quartz and lithic fragments, in low relief areas. Surface material consists of quartzose and lithic sand and gravel.
- Asf** Aluvial flood plain sediments and over bank deposits associated with modern drainage channels. Regolith material consists of sub-rounded to angular quartzose and lithic sands, silts and minor gravels with minor rootwelling and accumulations of magnetite nodules.
- Ast** Aluvial terraces in trunk stream valleys with aggradational aluvial sediments and minor colluvial sediments.
- Als** Aluvial fan with fan deposit fringes directly.
- Asa** Stagnant aluvial plain sediments with sub-rounded to sub-angular quartz and lithic sands, silts and clay and occasional gravels. Surface material consists of pale grey, with lesser lithic fragments, sand and gravel with trace magnetite.
- Asa1** Closed, stagnant swamp depressions within aluvial plain sediments, possibly representing former drainage channels. Regolith material consists of grey silt and clay and occasional gravels.
- Aed** Erosional depressions with aluvial sediments consisting of sub-rounded to sub-angular quartz and lithic sands, silts and clay and occasional gravels within depressions containing minor channels. Surface material consists of quartz sand and gravel and occasional magnetite.

Channel deposits

- ACar** Aluvial channels with rounded to sub-angular sands, silts, clay and gravels, composed of quartz and lithic fragments within ephemeral meandering channels.

Overbank deposits

- ACar** Aluvial floodplains with intermittent deposition of overbank sediments which overlie palaeosols in places.

Paludal Sediments

- Psw** Isolated swamps, with fine grain lacustrine sediments.

Colluvial and Sheet flow deposits

- Chsp** Erosional plains with sheet flow deposits of sub-angular to sub-rounded lithic and quartz sands and gravels within low relief areas. Surface material consists of the less weathered lithic material and quartz sand and gravel with occasional magnetite and red brown material.
- Chgr** Flows with sheet flow deposits of angular to sub-rounded lithic and quartz sands and gravels mantling and blanketing areas with moderate relief. Surface material consists of coarse lithic and quartz sand and gravel layers with occasional magnetite and red brown material.
- Chgrd** Depositional plains with sheet flow deposits of sub-rounded to sub-angular lithic fragments, quartz sands and gravels within low relief areas. Surface material consists of the lithic and quartz sand and gravel with occasional magnetite and red brown material.

Aeolian deposits

- ISub** Source bordering dune with aeolian sand and interstitial clay fragments derived from ephemeral lakes and closed drainage depressions.

IN-SITU REGOLITH

Saprolite

- Sher** Flows with moderately (to strongly) weathered bedrock in areas of slight topographic relief. Surface material consists of angular to sub-rounded lithic and quartz sands and lags with red brown material.

Saprock

- SSer** Flows with slightly (to moderately) weathered bedrock in areas of slight topographic relief. Surface material consists of angular to sub-rounded lithic and quartz sands and lags with red brown material.
- SSsh** Hills with slight (to moderately) weathered bedrock in areas of moderate topographic relief. Surface material consists of angular to sub-angular lithic and quartz fragments mostly derived from quartzite.

LAVA

- VFxp** Volcanic plateau with slightly to moderately weathered basaltic basalt mounds overlying lacustrine sediments and weathered bedrock.

LANDFORMS

- pd** Depositional plain
- ap** Aluvial plain
- af** Flood plain
- as** Stagnant aluvial plain
- at** Aluvial terrace
- fa** Aluvial fan
- ac** Aluvial channel
- sw** Swamp
- ub** Source bordering dunes
- ed** Drainage depression
- ep** Erosional plain
- er** Rise
- al** Low hill
- eh** Hill
- vp** Volcanic plateau

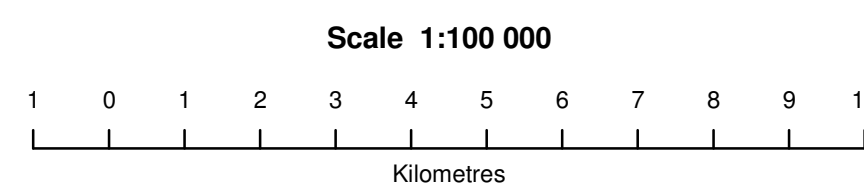
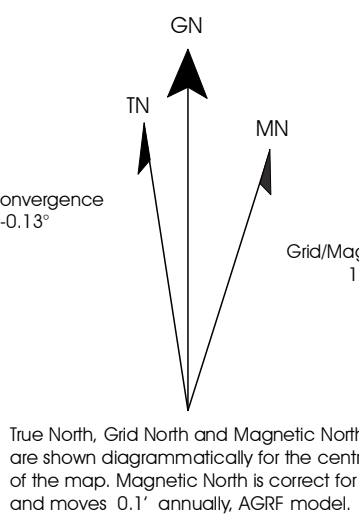
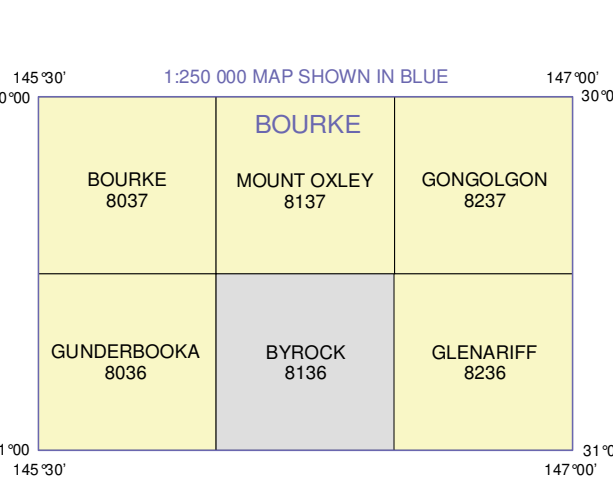
LEGEND

- Regolith-landform unit boundary
- highway
- road
- vehicular track
- railway
- creeks
- tanks
- locality
- spot height
- arcose drill holes (CBAC)

MAP LOCALITY

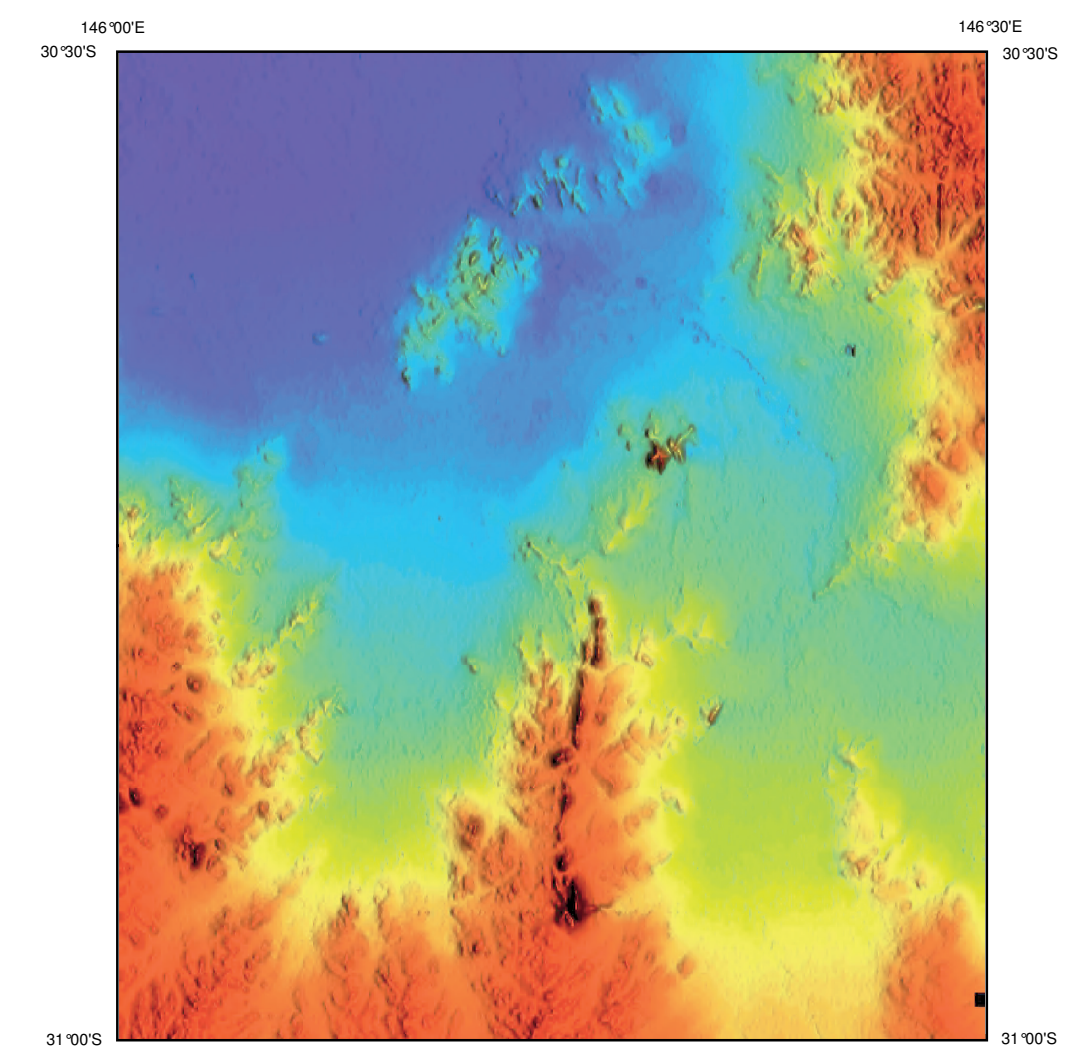


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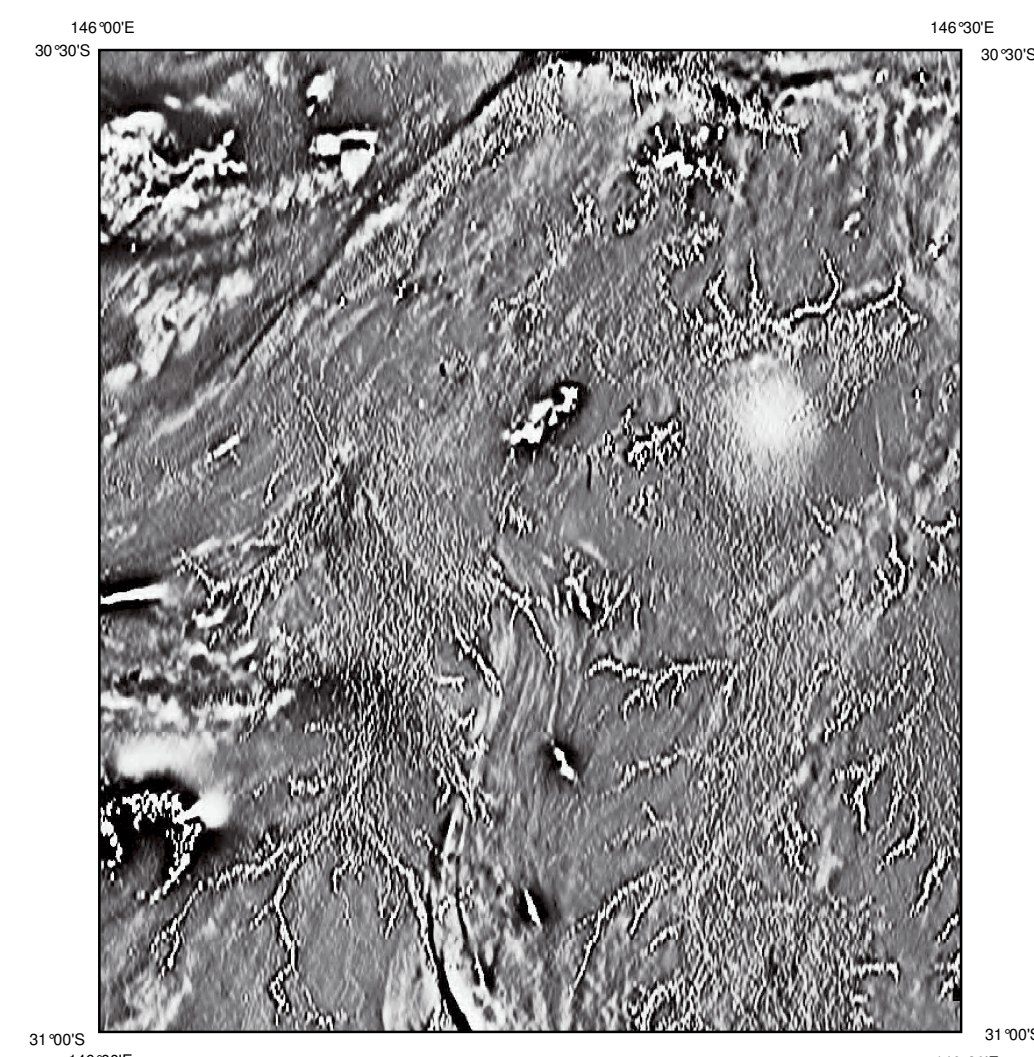
UNIVERSAL TRANSVERSE MERCATOR PROJECTION
Latitude of Origin: 34° Longitude of Origin: 147°
Datum: GDA 1984, MGA grid zone 56

DIGITAL ELEVATION MODEL



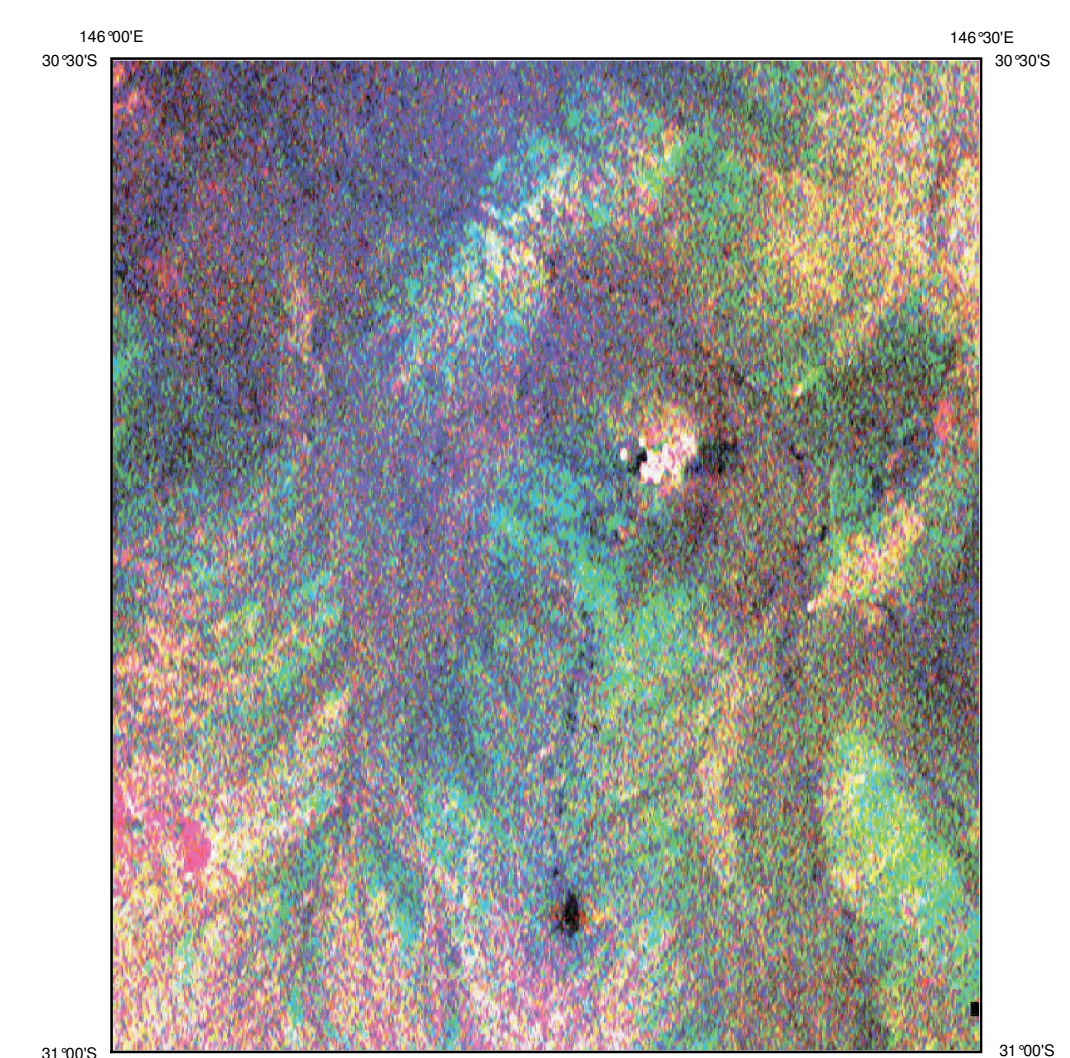
False colour Digital Elevation Model of the Byrock area. Maximum elevations shown in red and minimum elevations shown in blue with a range from 330m asl to 172m asl.

MAGNETICS IMAGE



Fractional vertical (1/5) of total magnetic intensity reduced to pole, greyscale: white high, black low

GAMMA-RAY SPECTROMETRIC IMAGE



Three-band gamma-ray spectrometric image (potassium in red, thorium in green, uranium in blue) of the Byrock area.

Compiled by P. M. Buckley (GS NSW / CRC LEME), with assistance from B. E. R. May (CRC LEME / GS NSW / CRC LEME), W. Zhang and T. Murray (GS NSW / CRC LEME / GS NSW / CRC LEME).

Cartography and GIS by P. M. Buckley (GS NSW / CRC LEME), W. Zhang and T. Murray (GS NSW / CRC LEME / GS NSW / CRC LEME).

It is recommended that this map be referred to as:

Buckley, P. M., 2004. Byrock Regolith-Landform Map (1:100 000 scale) Cooperative Research Centre for Land, Environment and Mineral Exploration.

Regolith-Landform Mapping Scheme: The regolith-landform units primary dominant regolith associations and their inherent geomorphic settings as outlined in RTMAP Regolith Database Field Book and User Guide (P. M. Buckley, ed., in press for 2004 edition, CRC LEME Report 150, see CRC LEME Web Site). The regolith-landform letter symbols are indicative, such that the capital letter symbols indicate dominant regolith type, and the lower case letter symbols dominant landform type (see also Landforms table in map surrounds).

The numeric suffix indicates the unit is a subset of a dominant regolith-landform association. Map unit descriptions are stored in RTMAP national database at Geoscience Australia.

The regolith-landform polygons on this map are based on four sources of interpretation using 1:84 500 and 1:50 000 scale aerial photographs, topographic maps, Landsat 7 TM DEM imagery and field mapping. It is the intention of this map to identify and characterise surface materials and processes in a potentially prospective area with approximately 90% regolith cover.

Source of data: The geophysical imagery was obtained under the Discovery 2000 initiative of the NSW Department of Primary Industries. The data information Centre, Bathurst, supplied topographic data at a scale of 1:100 000.

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Copies of this map may be obtained from:

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Horizontal coordinates on this map are based on the new earth-centred GEOCENTRIC DATUM OF AUSTRALIA (GDA). To convert GDA to AGD (around 0.2 metre accuracy):

Geographical from GDA to AGD (around 0.2 metre accuracy):

Latitude: Subtract 4.38" from longitude (E).

UTM grid coordinates from MGA to MGA95: subtract 164m from Northing, subtract 114m from Easting