



**AUSLIG**

# DATA DIRECTIONS

## UPGRADED 9 SECOND DIGITAL ELEVATION MODEL OF AUSTRALIA

After a two-year effort, Version 2 of AUSLIG's 9 Second DEM digital data product is due for release in May. Version 2 is based on a new ANUDEM Version 5 elevation gridding program and promises to be more suitable for a wider range of applications.

### REVISION PROCESS

The original 9 Second DEM resulted from a joint venture that began in 1994 between AUSLIG, the Australian Geological Survey Organisation, the Centre for Resource and Environmental Studies (CRES) at the Australian National University and the Australian Heritage Commission.



*The CRES team: (L-R): Research officer, John Stein; Dr Mike Hutchinson, Senior Fellow; and Research Officer, Janet Stein. John and Janet made a major contribution to the DEM upgrade, undertaking all data corrections and additions. Dr Hutchinson, an expert in spatial and temporal analysis of environmental data and digital terrain, developed the ANUDEM programs used in Versions 1.1 and 2.*

For Version 2, AUSLIG collaborated with CRES to comprehensively revise all source data. Along with the use of ANUDEM Version 5, which provides an improved representation of the terrain, particularly in terms of high points and drainage structures, the following major revision activities were undertaken.

- All detected source data errors in stream line data and point elevation data have been corrected. Some 87 000 spot heights and 21 000 sink data points were added to the new DEM after they were digitised from AUSLIG's 1:100 000 scale maps.
- Improvements to the drainage enforcement algorithm within ANUDEM have now made it possible to apply the algorithm to the low relief areas with ill-defined drainage structures that cover nearly half the continent.
- Geodetic data points from the National Geodetic Data Base have improved the representation of high points in the DEM.
- Radar altimeter data for Lake Eyre has been added to the source data.
- Abrupt changes in landform have been modelled by incorporating cliff line data in selected areas. A new cliff data type was added to ANUDEM that allows better modelling of the Nullarbor cliffs as well as cliff line data for the Kimberley Ranges in WA and the Blue Mountains in NSW.

### PRODUCT APPLICATION

The 1:250 000 source scale of the elevation grid makes the 9 Second DEM useful for national, State-wide and regional applications. Examples may include:

- Natural resource assessment and environment monitoring that critically depend on accurate representations of surface shape and drainage structure; or
- planning the siting of signal transmitters and receivers for telecommunication networks.

Some new Version 2 data has already been used successfully by the National Land and Water Resources Audit to model sediment transport and define nested sub-catchments across Australia for systematic land resource reporting purposes. More details about this project are available at:

<http://cres.anu.edu.au>

### NEW PRICING STRUCTURE

The price of the GEODATA 9 Second DEM will be significantly reduced, bringing it into line with AUSLIG's other GEODATA products. An updated pricing policy will allow clients to upgrade the tiles for which they already have a licence.

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# AUSLIG'S *NEW MAPPING TOOL* TO IMPROVE COASTAL SURVEILLANCE

A new electronic tool, which will improve Australia's ability to monitor its vast coastline, was launched by Warren Entsch, Parliamentary Secretary to the Minister for Industry, Science and Resources, and ACT Senator Margaret Reid at Parliament House on 8 February.

The new AMBIS 2001 CD contains the most up-to-date definition of Australia's offshore limits. Information on the CD will help the nation assert its rights and responsibilities over an area of water roughly the size of the Australian landmass. Mr Entsch said the marine, mineral and petroleum resources alone in this area are worth billions of dollars each year.

As well as its economic value, definition of Australia's maritime zones has strategic and environmental implications, and the new CD product provides that definition accurately and reliably to help prevent activities like people smuggling, illegal fishing and illegal drug imports.

Mr Entsch said AMBIS 2001 was a result of cooperation between State mapping agencies as well as Commonwealth agencies, including AGSO, Attorney General's, Department of Foreign Affairs and Trade and the Royal Australian Navy's Hydrographic Office.

Also speaking at the launch, Senator Reid said few, if any, countries have completed such a detailed and accurate definition of their maritime zones.

AMBIS 2001 is derived from the Australian Maritime Boundaries Information System – essentially a comprehensive geographic information system distilled from the latest maps, charts, aerial photographs and satellite imagery.

Australia's maritime zones consist of belts of water measured from what is known as the Territorial Sea Baseline (TSB), generally the level of lowest astronomical tide. The diagrams on this page show the various maritime zones. The zones are as follows:

- 3 nautical miles of coastal waters – a belt of water in which the seabed is vested in the adjacent state or territory as if that belt formed part of that state or territory;
- 12 nautical miles of territorial sea – a belt of water in which Australia has sovereignty over the sea, its seabed and sub-soil, and the airspace above it;
- 24 nautical miles of contiguous zone – a belt of water contiguous to the territorial sea where Australia may exercise the necessary control to prevent infringement of its customs and immigration laws and regulations; and
- 200 nautical miles of the Exclusive Economic Zone (EEZ) – a belt of water where Australia has sovereign rights for the purpose of exploring and exploiting, conserving and managing the natural resources



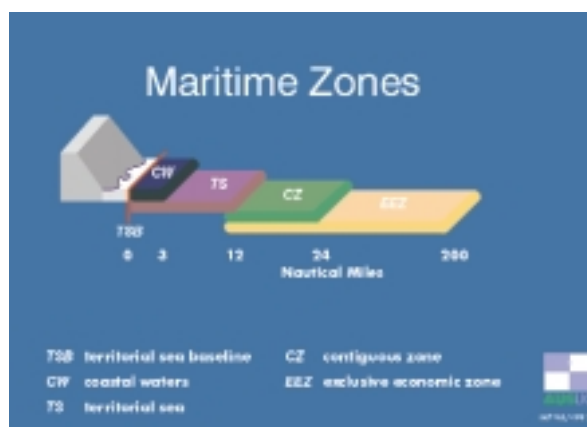
Australia's maritime zones calculated using newly validated baseline data

of the sea and seabed, and other activities such as production of energy from the sea, currents and wind.

The AMBIS 2001 data comprises the TSB and the outer limits of each of the forementioned zones together with quality attributes. Base points that generate the zone boundaries are supplied in separate files and an extensive user guide provides useful background information. All data coordinates are supplied in the Geocentric Datum of Australia (GDA94) which is effectively identical to the WGS84 datum and makes it immediately compatible with global coordinates obtained from Global Positioning System (GPS).

The data is supplied on CD-ROM in Arc/Info export format. A one-time payment of \$99 secures an ongoing licence to use AMBIS 2001 data within your organisation. Those wishing to use AMBIS 2001 data for commercial purposes should contact AUSLIG.

More information at: [www.auslig.gov.au/products/digidat/ambisdata.htm](http://www.auslig.gov.au/products/digidat/ambisdata.htm)



# AUSLIG'S DIGITAL DATA SERVICE TEAM FOR 2001 UNDER NEW MANAGEMENT...

The team supporting sales and distribution of AUSLIG's digital data products has a new Manager. Brian Burbidge joined the National Data Centre (NDC) in January 2001, bringing with him 18 years experience in the industry. Brian spent three years as Executive Officer for the Intergovernmental Committee on Surveying and Mapping (ICSM). He has had several positions with AUSLIG relating to the development and delivery of Geographic Information Systems (GIS) and spatial data products and services to government and private organisations within Australia and overseas.

Also joining the team as Product Manager for Digital Data is Arek Drozda. Arek previously worked in Exports and International Programs with the Department of Defence.

"AUSLIG is committed to providing the best possible service," said Brian Burbidge. "We intend to continually improve the standard of services provided to our clients and data distributors. In order to achieve this, we are closely monitoring customer requirements.

"Our recently revised Customer Service Charter guarantees that 95 percent of digital data orders will be dispatched within eight working days from receipt of order. I am pleased to report that NDC meets this obligation 100 percent," he said.

"Amongst our top priorities for 2001 will be a review of AUSLIG's distribution network. With this review, we aim to improve the level of support we provide to distributors and ultimately improve the level of service we provide to our customers. With more than 30 percent of AUSLIG's data sales achieved through this channel, our distributors are conducting a very significant amount of business.



**The National Data Centre Team.** Back row l-r: Bob Kennard (Data Sales), Tony Fox (Data Sales), Ian Virtue (Data Sales), Brian Burbidge (Director), Lyall Camp (Stock Control), Leigh Howard (Customer Service), Arek Drozda (Digital Data Product Manager). Seated l-r: Cheryl Camp (Customer Service), Ian Miller (Copyright), Judy Dowhy (Administrator) and Lisa Davidson (Customer Service).

As part of AUSLIG's Information Management and Access Program, the National Data Centre team is responsible for sales and distribution of data product and maps, liaising with the distribution network, Copyright and customer service.

The Digital Data team looks after AUSLIG clients and distributors who purchase electronic products. Over 500 direct orders for digital data are filled every year. The team also responds to thousands of phone and email enquiries from customers and distributors.

## AUSLIG Data Products – Recent and proposed releases

Product	Description	Release Date
AMBIS 2001	Australian Maritime Boundaries	February 2001
9 Second DEM Version 2	Digital Elevation Model of Australia	May 2001
Australia's River Basins & Surface Water Management Areas	Update	Sept 2001
Australian Nested Catchments and Sub-Catchments	New Product	Sept 2001
250K RASTER & TOPO Series 2	80 new tiles scheduled for release in 2001	Ongoing

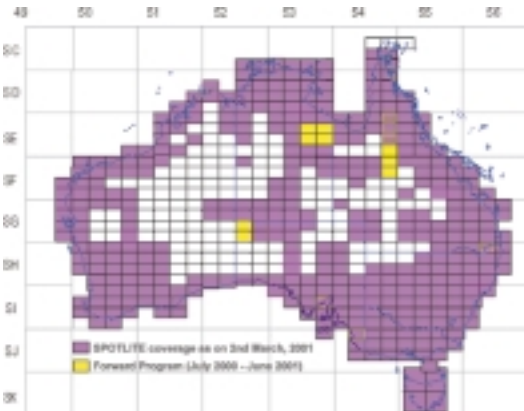
"There will be a number of new products coming on to the market in 2001, such as the second version of the 9 Second DEM and new 250K Raster and TOPO

Series 2 data. Also on our agenda, we have a range of data products which are being developed by or in cooperation with other organisations."

## GEODATA SPOT-LITE IMPROVEMENTS

GEODATA SPOT-LITE is satellite imagery that you can download directly from the Web. The images are derived from data acquired by the panchromatic (PAN) sensor on board the SPOT series of satellites. They have a spatial resolution of 10 metres.

SPOT-LITE images are available as a series of "tiles" which are supplied in industry standard GeoTIFF format. They are easily imported into any GIS system or a desktop PC and can be displayed by any graphics package that can read TIFF files.

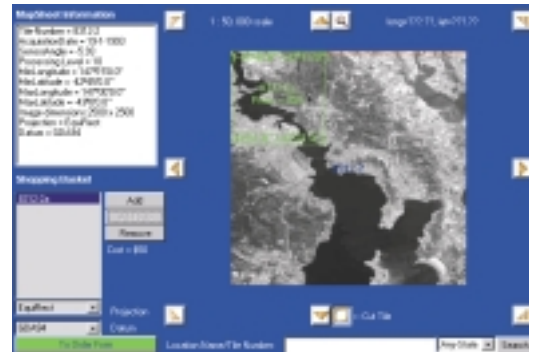


*SPOT-LITE Current and Forward Program Map*

Standard tiles cover an area of 25 km by 25km and sell for a recommended retail price of \$300.

SPOT-LITE tiles now cover more than 60 percent of Australia. New tiles are constantly being added to the SPOT-LITE database to achieve an even greater coverage across Australia. These are shown on the map below. Currently, there are 7,895 tiles covering the entire Australian coastline, all of Tasmania, Victoria, the ACT and most of New South Wales.

Recently, some new features have been added to the SPOT-LITE system to provide greater flexibility when selecting a tile. Customers can now scroll in half image tile increments and purchase a "composite tile" solving the dilemma faced when an area of interest straddled the intersecting corners of four tiles.



*This image of Hobart from the SPOT-LITE catalogue shows how a sub-tile may be cut to select a specific area of interest*

Another new feature lets you purchase variable sized sub-tiles at a reduced price. These can be any rectangular shape. The minimum size sub-tile is 10km by 10km, which retails for only \$50.

SPOT-LITE tiles can only be purchased from AUSLIG's SPOT-LITE distributors who are listed on the SPOT-LITE Web pages: [www.auslig.gov.au/spotlite](http://www.auslig.gov.au/spotlite)

## TOPOGRAPHIC MAPS ON 2 CD-ROMS COVERING THE WHOLE OF AUSTRALIA

AUSLIG's latest digital data product, RASTER 250K, won the best Computer Based Product category at the International Map Trade Association Asia Pacific Map Awards in November 2000.

RASTER 250K is a unique product consisting of topographic maps that cover the whole of Australia on two CDs for just \$99.

This updated version of GEODATA RASTER 250K is ideal to use anywhere a large number of maps are required, or where storage is limited.

The CDs consist of 531 geo-referenced, scanned paper maps

at 1:250 000 scale. All the new AUSLIG NATMAPs published up to 31 August 2000 are included. The associated software on the CDs allows users to select, view, roam, print and export the raster map images.

Maps can be selected from the map index, the list of map numbers and the list of map names, through a place names search facility, or by latitude and longitude.

Once the map is selected, the user can zoom and pan on the map. They can also pan across different map sheets as the software automatically loads adjacent sheets.



Printing and exporting the files can be achieved for either the whole map or the currently displayed area. The files can be exported in GeoTIFF, JPEG, BMP or PNG formats.

The licence for the product requires customers to register with AUSLIG either online or by printing and mailing back the registration form, which is on the Help file on the CD.

More details at: [www.auslig.gov.au/products/digitalmaps/raster250k/](http://www.auslig.gov.au/products/digitalmaps/raster250k/)

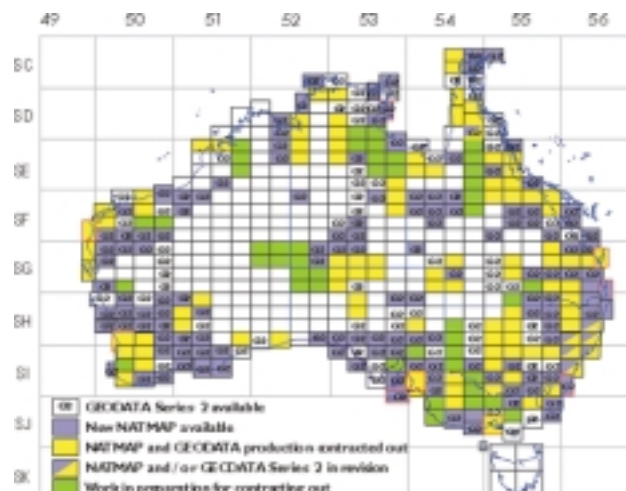
## TOPO-250K SERIES 2 *UPDATE*

A total of 140 new tiles have been added to the GEODATA TOPO-250K Series 2 since December 1999. The map opposite shows the present status of this program.

GEODATA TOPO-250K provides a base layer of geographic information on which a wide number of applications can be built. The data in this product is provided in five themes covering hydrography, infrastructure, relief, vegetation and reserved areas.

AUSLIG has adopted the Geocentric Datum of Australia (GDA) for all new GEODATA TOPO-250K Series 2 data. The GDA coordinates are immediately compatible with global coordinates obtained from GPS.

The Forward Program for Series 2 can be viewed at: [www.auslig.gov.au/corpinfo/maps/250prog.htm](http://www.auslig.gov.au/corpinfo/maps/250prog.htm)



## AUSLIG *DATA DISTRIBUTORS*

### ACT

	TELEPHONE
AUSLIG Data Sales	02 6201 4340
ESRI Australia Pty Ltd	02 6239 5460
Spatial Division of Sinclair Knight Mertz Pty Ltd	02 6246 2700
MapInfo Australia Pty Ltd	02 6243 5146
Resource Industry Associates	02 6260 5377

### NSW

Encom Technology Pty Ltd	02 9957 4117
ESRI Australia Pty Ltd	02 9241 2138
Spatial Division of Sinclair Knight Mertz Pty Ltd	02 9928 2580
MapInfo Australia	02 9437 6255
TeleResources Pty Ltd	02 9975 2230
National Geographic Information Systems (AUST) Pty Ltd	02 8437 6212

### NT

Spatial Division of Sinclair Knight Mertz Pty Ltd	08 8982 4866
GEOIMAGE	08 8941 3677

### QLD

ERSIS Australia Pty Ltd	07 3844 7744
ESRI Australia Pty Ltd	07 3831 3210
GEOIMAGE Pty Ltd	07 3871 0088
Geo Mapping Technologies Pty Ltd	07 3846 2992
Spatial Division of Sinclair Knight Mertz Pty Ltd	07 3244 7388

### QLD (Continued)

Spatial Division of Sinclair Knight Mertz Pty Ltd (Townsville)	07 4772 2990
Terra Search Pty Ltd	07 4728 6851

### SA

ESRI Australia Pty Ltd	08 8215 0011
Spatial Division of Sinclair Knight Mertz Pty Ltd	08 8424 3840

### TAS

Land Information Services Division (DPIWE)	03 6233 3723
ESRI Australia Pty Ltd	03 6223 1999

### VIC

ERSIS Australia Pty Ltd	03 9867 7322
ESRI Australia Pty Ltd	03 9882 6222
Spatial Division of Sinclair Knight Mertz Pty Ltd	03 9248 3555
MapInfo Australia Pty Ltd	03 9526 8510
Resource Industry Associates	03 9686 2733

### WA

Encom Technology Pty Ltd	08 9321 1788
ESRI Australia Pty Ltd	08 9242 1005
GEOIMAGE Pty Ltd	08 9383 9555
Spatial Division of Sinclair Knight Mertz Pty Ltd	08 9268 4500
National Geographic Information Systems (AUST) Pty Ltd	08 9277 9600
Terra Search Pty Ltd	08 9277 9161

9 SECOND DEM CONTINUED  
FROM FRONT PAGE

Users of Version 1.1 will be able to upgrade to Version 2 from only \$27 per tile and to purchase new tiles for as little as \$108. Details are in the adjacent table.

	NEW	UPDATES
Per 1:1M tile (1-10 tiles)	\$108	\$54
Per 1:1M tile (11th + tiles)	\$54	\$27
All 37 tiles	\$2 538	\$1 269

**ANNOUNCEMENT OF RELEASE**

Release of the 9 Second DEM Version 2 will be announced on the AUSLIG website and also in AUSLIG's email news service. Subscribing to the news service is free at: [www.auslig.gov.au/subscribe.html](http://www.auslig.gov.au/subscribe.html)

**NEW TOPO-250K TILES AVAILABLE SINCE DECEMBER 1999**

Map No.	Map Name
G5505	Adavale
I5409	Adelaide Special
G5013	Ajana
F5310	Alcoota
E5315	Alroy
H5312	Andamooka
H5507	Angledool
F5102	Anketell
J5507	Bairnsdale Special
J5408	Ballarat
G5504	Baralaba
F5306	Barrow Creek
I5508	Bathurst
E5306	Beetaloo
J5504	Bega
H5011	Bencubbin
G5406	Betoota
D5307	Blue Mud Bay
F5302	Bonney Well
H5113	Boorabbin
F5410	Boulia
I5012	Bremer Bay
E5406	Burketown
E5502	Cairns
D5214	Cambridge Gulf
G5407	Canterbury
D5509	Cape Melville
D5404	Cape Weymouth
C5412	Cape York
H5314	Childara
G5609	Chinchilla
I5406	Chowilla
F5402	Cloncurry
C5313	Cobourg Peninsula Special
J5412	Colac
G5004	Collier
D5513	Cooktown
I5511	Cootamundra
I5104	Culver
H5308	Curdimurka
H5414	Curnamona
F5002	Dampier Special
C5408	Daru
E5107	Derby
H5503	Dirranbandi
H5005	Dongara
F5406	Duchess

Map No.	Map Name
D5412	Ebagoola
E5509	Einiasleigh
I5306	Elliston
I5106	Esperance Special
I5507	Forbes
H5313	Fowler
G5603	Fraser Island Special
D5303	Galiwinku Special
H5001	Geraldton Special
G5012	Glengarry
D5304	Gove Peninsula Special
D5308	Goote Eylandt Special
G5610	Gympie
J5407	Hamilton Special
I5509	Hay
E5310	Helen Springs
F5313	Hermannsburg
H5009	Hill River
I5004	Hyden
C5415	Jardine River
I5514	Jerilderie
H5109	Kalgoorlie
I5307	Kimba
H5003	Kirkalocka
H5401	Kopperamanna
H5110	Kurnalpi
H5304	Lake Eyre
H5101	Leonora
I5311	Lincoln Special
H5213	Madura Special
J5508	Mallacoota
I5404	Manara
F5008	Marble Bar
H5405	Marree
J5505	Melbourne
C5216	Melville Island Special
D5302	Milingimbi Special
G5601	Monto
H5010	Moorabool
E5401	Mornington Island Special
E5501	Mossman
I5011	Mount Barker Special
D5305	Mount Evelyn
F5401	Mount Isa
D5306	Mount Marumba
G5002	Mount Phillips
F5309	Napperby

Map No.	Map Name
I5008	Newdegate
F5016	Newman
H5007	Ninghan
H5216	Nullabor
F5105	Nullagine
I5301	Nuyts
H5515	Nyngan
I5402	Olary
F5005	Onslow
C5416	Orford Bay
G5008	Peak Hill
H5006	Perenjori
I5408	Pooncarie
I5304	Port Augusta
F5609	Port Clinton
F5004	Port Hedland Special
G5509	Quilpie
F5613	Rockhampton
D5311	Roper River
G5016	Sandstone
H5016	Southern Cross
F5512	St Lawrence
I5302	Streaky Bay
H5310	Tarcoola
G5508	Taroom
E5314	Tennant Creek
C5411	Thursday Island
G5513	Toompine
F5405	Urandangi
D5310	Urapunga
H5511	Walgett
J5502	Wangaratta
J5510	Warragul Special
C5316	Wessel Islands Special
H5412	White Cliffs
H5114	Widgiemooltha
H5416	Wilcannia
F5013	Winning Pool
G5314	Wintinna
G5005	Wooramel
G5514	Wyandra
F5010	Wyloo
E5103	Yampi
I5303	Yardea
F5006	Yarraloola
F5101	Yarrie

**CONTACT DETAILS**

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Belconnen ACT 2616

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