Australia’s Great Barrier Reef and Coral Sea

Project 3DGBR since 2009

~$3,000,000$ km$^2$ in area

Australia, PNG, Solomon Is, New Caledonia EEZs, high seas

GBR Marine Park world’s largest coral reef ecosystem
History

GBRDEM @ ~250 m

AusBathyTopo @ ~250 m


Multibeam
Singlebeam
Lidar
ENC spot depths
Intertidal Extents Model DEM


Satellite derived bathymetry

Nth Flinders Reef
Tides


Grid development

gbr100/30 grids

gbr100

![gbr100 image]

gbr30

![gbr30 image]
Comparison

AusBathyTopo

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gbr30a

Lizard Island
Comparison

AusBathyTopo

Comparison

AusBathyTopo

Comparison

AusBathyTopo

gbr30d

Delivery

**gbr100 - deepreef.org**

```html
<webpage>
```

**gbr30 - GA ELVIS**

```html
<webpage>
```

gbr100: [https://www.deepreef.org/bathymetry/65-3dgbr-bathy.html](https://www.deepreef.org/bathymetry/65-3dgbr-bathy.html)


Future
nthaus grid (release Feb 2018)
Future

- source bathy data point clouds

near-realtime self healing grids

variable resolution grids
Cover: 0-200m
Source bathy data area: 36.6%

- coast: 0.5
- ENC: 0.4
- ITEM: 0.4
- lidar: 18.3
- MBES: 4.0
- SBES: 8.6
- SDB: 4.4
Cover: 200-1000m
Source bathy data area: 13.1%

- coast: 0.0
- ENC: 0.0
- ITEM: 0.0
- lidar: 0.0
- MBES: 12.5
- SBES: 0.6
- SDB: 0.0
Cover: 1000-3000m
Source bathy data area: 19.9%

- coast: 0.0
- ENC: 0.0
- ITEM: 0.0
- lidar: 0.0
- MBES: 19.7
- SBES: 0.2
- SDB: 0.0
Cover: >3000m
Source bathy data area: 16.9%

- coast: 0.0
- ENC: 0.0
- ITEM: 0.0
- lidar: 0.0
- MBES: 16.9
- SBES: 0.0
- SDB: 0.0