QLD and NSW WMTS topo maps in MOBAC

WMTS should give a performance benefit over WMS for map downloads, and some sources no longer provide WMS. But instructions on WMTS (from map servers or mapping programs) are sparse. Some programs say they do not support WMTS, but they may if you can only figure out the settings.

Oruxmaps (OM) supports WMTS fairly well. You can use the wizard in the app to add each WMTS source of interest. The necessary URLs for Australian states can be found in the html file for the browser app provided by Ken333. For QLD and NSW they are:

https://gisservices.information.qld.gov.au/arcgis/rest/services/Basemaps/QldMap_Topo/MapServer/WMTS?

https://maps.six.nsw.gov.au/arcgis/rest/services/public/NSW_Topo_Map/MapServer/WMTS?

OM can cache WMTS tiles that you have used, and you can also use the Map Tools > Map Creator function in OM (while viewing an online map) to make maps estimated by OM to be up to 1Gb for offline use (often much larger once created). Because you can specify zoom levels for the offline maps (but not in the online wizard), the offline versions avoid the problem of blank maps at high zoom. The WMTS maps are geo-referenced in EPSG:3857 = WGS84 Spherical Mercator, but WGS84 was nearly identical to GDA94 and GDA2020 at inception. You can easily apply a UTM grid overlay and use UTM or lat-lon coordinates in OM.

For bigger areas, you will need to use something like MOBAC (Tools > Settings > Map size; 500K tiles ≈ 15Gb download). Be very patient - MOBAC seems slower than OM.

Tastrax and others in the Bushwalk Australia - Tasmania sub-forum worked out how to get WTMS maps for that state into MOBAC. I do not understand all the settings, but after looking in the WMTS Capabilities.xml files from the servers for QLD and NSW, and substituting server URLs and layers into the scripts for Tasmania, I was (eventually) able to get files that work for QLD and NSW. Put the xml files (just text files saved as *.xml) in the MOBAC > mapsources folder. Those interested can almost certainly do the same for other states.

The last time I created maps in OM was 2017 (WMS). The QLD WTMS maps now go to an extra zoom level (16), which is useful for clarity when hiking. The current (2024) NSW WTMS maps do not yet have the improved contours used in GDA2020 geopdfs.

Be careful, as the topo map from:
http://maps.six.nsw.gov.au/arcgis/rest/services/public/NSW_Base_Map/MapServer/WMTS?
is much paler in OM than the one from:
https://maps.six.nsw.gov.au/arcgis/rest/services/public/NSW_Topo_Map/MapServer/WMTS?

The topo basemap on https://maps.six.nsw.gov.au/etopo.html looks different again!

The new NSW (WMTS) maps have subtle changes (often omissions) and are IMHO not worth the effort if you have offline the old NSW WMS maps for your area of interest.

The MMS and WMTS servers in 2024 use: `Projection>EPSG:3857`. This is a WGS84 Mercator projection, which works well in OM.

QLD_topoWMTS.xml

```xml
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>

<customMapSource>
<name>QLD_Topo_WMTS</name>
<minZoom>4</minZoom>
<maxZoom>16</maxZoom>
<tileType>png</tileType>
<tileUpdate>None</tileUpdate>
<url>https://spatial-
gis.information.qld.gov.au/arcgis/rest/services/Basemaps/QldMap_Topo/MapServer/WMTS?layer=Base
maps_QldMap_Topo&amp;style=default&amp;tilematrixset=GoogleMapsCompatible&amp;Service=WMTS&amp
;Request=GetTile&amp;Version=1.0.0&amp;Format=image%2Fpng&amp;TileMatrix={$z}&amp;TileRow={$y}
&amp;TileCol={$x}</url>
<backgroundColor>#000000</backgroundColor>
</customMapSource>
```

NSW_topoWMTS.xml

```xml
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>

<customMapSource>
<name>NSW_Topo_WMTS</name>
<minZoom>4</minZoom>
<maxZoom>16</maxZoom>
<tileType>png</tileType>
<tileUpdate>None</tileUpdate>
<url>https://maps.six.nsw.gov.au/arcgis/rest/services/public/NSW_Topo_Map/MapServer/WMTS?layer
=public_NSW_Topo_Map&amp;style=default&amp;tilematrixset=GoogleMapsCompatible&amp;Service=WMTS
&amp;Request=GetTile&amp;Version=1.0.0&amp;Format=image%2Fpng&amp;TileMatrix={$z}&amp;TileRow=
{$y}&amp;TileCol={$x}</url>
<backgroundColor>#000000</backgroundColor>
</customMapSource>
```