

AusCoastVDT

Create a new binary vertical separation grid from a text grid

The AusCoastVDT User Manual states that users should contact the ICSM PCTMSL or AHS for instructions on how to create a new binary vertical separation grid file from their own text vertical separation grid file in the appropriate format. Following are the instructions.

Vertical Separation Values

The software operates on the assumption that the vertical separations given in the grid file are the height in metres of each datum ABOVE (i.e. *positive value*) the GRS80 (GDA94) / WGS84 (WGS84) ellipsoid. Hence if a datum sits *below* the ellipsoid the vertical separation value must be *negative*. User supplied grids MUST conform to this or transformation results will be wrong.

Text File Format

The vertical separation grid file MUST be ASCII, with *no headings*, using a *space or tab delimiter*, may use *any file extension*, and with the columns in the order and units as follows;

- | | |
|--|-------------------------------------|
| 1. Latitude (-ve southern hemisphere) | (Decimal degrees, 8 decimal places) |
| 2. Longitude | (Decimal degrees, 8 decimal places) |
| 3. <i>Lowest Astronomical Tide</i> (LAT) | (Metres, 3 decimal places) |
| 4. <i>Mean Low Low Water</i> (MLLW) | (Metres, 3 decimal places) |
| 5. <i>Mean Low Water Springs</i> (MLWS) | (Metres, 3 decimal places) |
| 6. <i>Mean Low Water</i> (MLW) | (Metres, 3 decimal places) |
| 7. <i>Mean High Low Water</i> (MHLW) | (Metres, 3 decimal places) |
| 8. <i>Mean Low Water Neaps</i> (MLWN) | (Metres, 3 decimal places) |
| 9. <i>Australian Height Datum</i> (AHD) | (Metres, 3 decimal places) |
| 10. <i>Mean Sea Level</i> (MSL) | (Metres, 3 decimal places) |
| 11. <i>Mean Low High Water</i> (MLHW) | (Metres, 3 decimal places) |
| 12. <i>Mean High Water Neaps</i> (MHWN) | (Metres, 3 decimal places) |
| 13. <i>Mean High Water</i> (MHW) | (Metres, 3 decimal places) |
| 14. <i>Mean High High Water</i> (MHHW) | (Metres, 3 decimal places) |
| 15. <i>Mean High Water Springs</i> (MHWS) | (Metres, 3 decimal places) |
| 16. <i>Highest Astronomical Tide</i> (HAT) | (Metres, 3 decimal places) |

The columns MUST be in the above order. Latitude and longitude values MUST be in southern hemisphere GDA94 decimal degrees to 8 decimal places so that points are precisely on a grid.

If values are not available for a particular datum you MUST fill that datum column with '0' (*zeros*) so column order is retained. This will simply result in '0' (*zeros*) output on the point transformation tab for that datum. The file transformation will work and will still output a file if the zero output datum is chosen, however the output will be the same as the input i.e. as the values were zero there will be no transformation applied.

There MUST be at least 4 points in a transformation grid file. If duplicate points exist, the first will be kept and any subsequent ignored. Data must be on a grid but does not need to be ordered (gridded).

Conversion to Binary

To generate a binary grid file (required by AusCoastVDT) from an ASCII vertical separation grid file in the appropriate format (as above), the user must have AusCoastVDT installed and do the following:

1. Open a command window:
 - a. i.e. go to the Windows 'Start' menu, search for 'cmd', and run 'cmd.exe'
2. Change the directory to the location of the AusCoastVDT executable:
 - a. i.e. type something like: "cd c:\Program Files (x86)\CRCSI\AusCoastVDT\" and hit enter
 - b. ...or if using XP, or something 32 bit it will be more like: "cd c:\Program Files\CRCSI\AusCoastVDT\" and hit enter
3. Access the AusCoastVDT grid function by typing:
 - a. "AusCoastVDT -grid" hit enter (please **type** this into the cmd, DO NOT copy and paste)
 - b. A window will prompt you to complete the grid details.

Any new grid files will be kept separate to the installation (i.e. they won't be packaged into the installation) hence they can be saved anywhere.

Using the new grid

Use the *Grid file* tab in AusCoastVDT to **Load** the grid from wherever it is saved. You will then be able to see the version information you embedded and information about the grid.

AusCoastVDT will try the following sequence when it starts:

- Load the previously used grid file.
- If there was no previously used grid file (e.g. after you install it), it will try to load a grid file in the same directory as the executable.