# GPSnet Reference Data Shop Quick Guide

In September 2020, GPSnet transitioned its services into a virtual Private Cloud (VPC) based data centre. During this upgrade concerns were raised in relation to the port openly used by third party software to automate GPSnet CORS data downloads and post processing. As such this port has now been permanently blocked.

This change now means that any customer using Trimble Pathfinder Office (PFO) or Trimble Business Centre (TBC) will no longer be able to use the automatic rinex data download feature via the Differential Correction Wizard when post processing their rinex files.

This quick guide is designed to help customers to generate and download the rinex files required to post process files via the Reference Data Shop available online at https://cors.vicpos.com.au

Step 1

Select Login from the menu at https://cors.vicpos.com.au and enter your username and password. Please note that the website <u>does not require users to enter</u> the organisation name as shown in figure 1, whereas PFO uses a slightly different username structure[1]that did require the organisation name to be included.
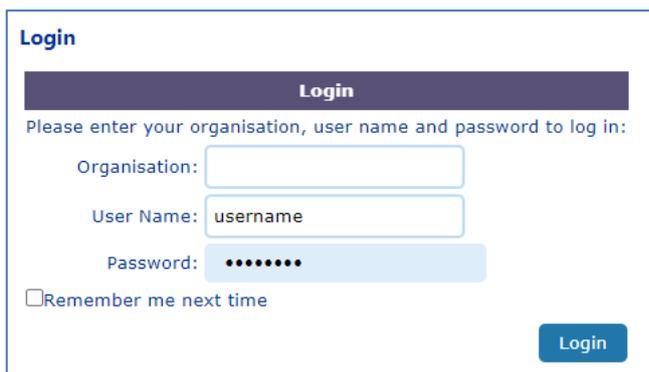
Figure 1: Login page

Step 2

Select Reference Data Shop from the menu as shown in Figure 2.

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[1] PFO usernames include the organisation name (OrgName/UserName), this is <u>not required</u> to access the website.

Figure 2: Reference Data Shop link

Step 3

Select 'Start new order' to begin the process to download the required files. If you have generated files previously, these can be found by selecting 'Not yet downloaded orders' or 'Already downloaded orders'.

Please note that orders remain available for downloading for up to 1 week (7 days) before they are removed. So please ensure that you download your orders within this time frame otherwise you will be required to order the data again.
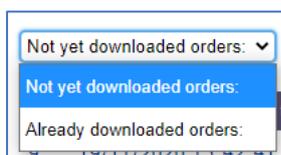

Figure 3: Reference Data Shop overview

Step 4

Select the reference station type you would like to generate data from, see Figure 4. The CORS option is the recommended selection, this uses the data from our existing CORS and the data is generated quickly.[2]

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[2] Please note the <u>VRS option is not recommended</u> for use, there are limitations on the amount of data you can order using this option and it takes a long time to generate the data.

Reference Data Shop - Station Type

Please select the reference station type for your GNSS data generation:

- Continuously Operating Reference Station (CORS)

  or

- Virtual Reference Station (VRS)

<< Back: Order

Figure 4: Station type

Step 5

You can select the CORS you require data from via the map or via the alphabetical station list on the right hand side as shown in Figure 5.
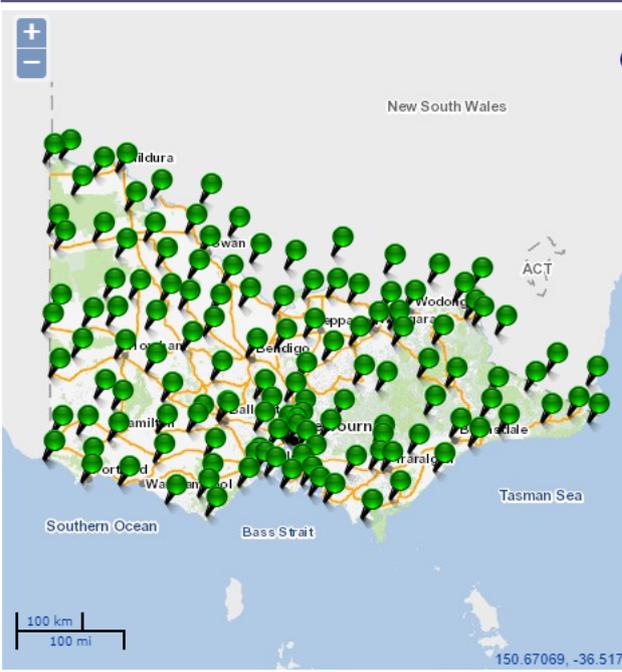
If you require data from more than one CORS, hold 'Ctrl' whilst selecting the CORS you are interested in. Once you are happy with the CORS select 'Next: Time Selection'

Figure 5: Selecting reference stations

Step 6

The station/s you have selected will be displayed at the top of this page, as shown in Figure 6. If you are happy with these sites you can select the date and time for the observation data. If you want to change your stations, select 'Back: Reference Stations' and repeat the process in step 5.
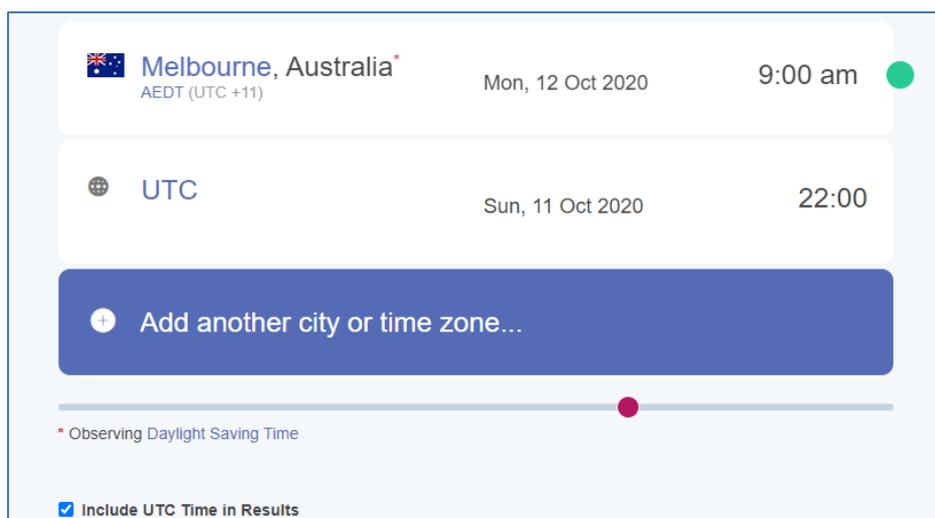

Figure 6: Date & Time Selection

<u>When ordering data from the Reference Data Shop you need to order your files using UTC/GPS time rather than the local time that you physically collected the data.</u>

You can change the date and time settings in PFO and TBC to display UTC to do the conversion for you however this is not always ideal. A handy website to convert the local time to UTC/GPS time is https://www.timeanddate.com/worldclock/converter.html as shown in Figure 7.

You enter Melbourne as your city, select 'Include UTC Time in Results' and then select the local date/time you collected your data from in the Melbourne section. The UTC box will auto populate with the details you need to enter in the Reference Data Shop.

Figure 7: Date and Time converter website

<u>The start time requires the hour value to be entered using 24hr notation: 0 represents 12am, 1 represents 1am…13 represents 1pm, 14 represents 2pm….23 represents 11pm.</u>

Once you are happy with the time period, you can select the interval rate of the data, see Figure 8. Select the same interval rate that you collected your data in. A rinex file generated at a 1s interval rate will be much larger in file size to download and will take longer to generate than a file using a 30s interval rate.
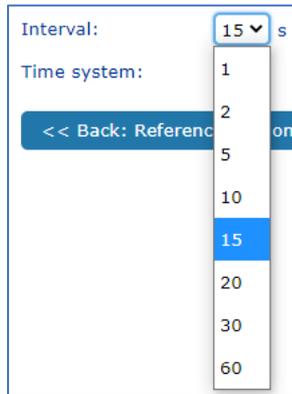

Figure 8: Interval rates available

Please note that data from the GPSnet CORS gets written into the database and is made available a few minutes after the hour. For example data between 9am and 10am will get written to the DB just after 10am.

Once you are happy with the date/time settings, select 'Next: Add to order'.

If data is available for all of the stations, you will be taken to the next screen. However if an error is returned (see Figure 9), you will need to remove that station from your list. Typically the "No data is available" error message appears due a station being offline during that particular time period.

If you only select one station and it is not available, try to use the next closet station instead. It should also be noted that CORS data is only available for download online for approximately 90 days, before it is archived "off-site". Archived data request can be made for CORS data up to 7 years old. Such requests can be made via email to gpsnet.support@delwp.vic.gov.au

Occasionally antennas at our CORS need to be upgraded/replaced and this requires a new station name to be created. In Figure 9 below you can see Nelson has returned an error. If I had selected Nelson2 (the higher the number after the name, the newer the station) this would return data as we upgraded that station October with the existing antenna.
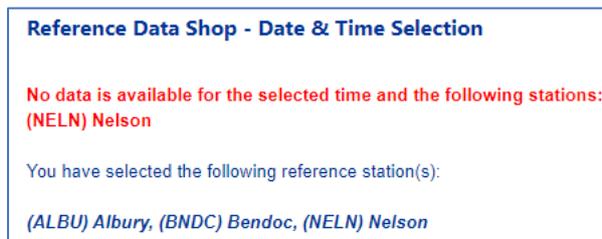
Figure 9: No data is available message

Step 7

The order details are displayed on the following screen. Occasionally sites may not have 100% data completion (there may have been a temporary outage at that site during your observation period for instance) and that will be displayed in the table as shown in Figure 10.

Figure 10: Current order details

If you are happy with the order details you can select 'Next: Delivery Options'.

Step 8

You can choose to have the data emailed to you or manually download the data when the order is generated. If your email server has file size limits it is best to download the data manually to ensure there are no issues receiving your file/s.

You can also select the data format you want of the data to be generated. The overall file size will be dependent on the data format chosen, the Rinex 3.x data will be larger in size than the Rinex 2.x data due to the extra number of satellite constellations and satellite signals contained in the RInex3.x formats.

Figure 11: Delivery options and file formats available

Select the 'Next: Generate Data' button to begin generation.

Step 9

The Data generation screen displays the status of your order, as shown in Figure 12. You can go back to the overview page, and once the data has generated, download your data as per step 3 above.

Figure 12: Data generation screen

Help and advice

For further information or ff you have any questions please feel free to contact Kris Halewood via email at kris.halewood@delwp.vic.gov.au or call (03) 8624 5767