

Manually Downloading US National Geodetic Survey CORS data

23 January 2007

CORS (Continuously Operating Reference Station) sites around the world record GPS reference receiver data and publish the files to various sites on the Worldwide Web. The US National Geodetic Survey (NGS) collects CORS data from around the United States and its territories and publishes the files in three different locations:

- a. A "User Friendly CORS" site (<u>http://www.ngs.noaa.gov/UFCORS/</u>) containing RINEX files that are between 1-2 hours and 6 months old.
- b. A "Standard CORS" site (<u>http://www.ngs.noaa.gov/CORS/Data.html</u>) containing RINEX files that are between 1 day and 13 years old.
- c. An ftp site (<u>ftp://www.ngs.noaa.gov/CORS/RINEX</u>) containing RINEX files that are between 1 day and 13 years old.

The RINEX Download utility in MobileMapper Office (MMO) and GNSS Solutions automatically downloads reference station data only from ftp sites such as <u>ftp://www.ngs.noaa.gov/CORS/RINEX</u>. When you attempt to download data recorded during a previous hour of the current day, the RINEX Download utility returns an error message, specific to the site ID and day that reads, for example:

RINEX DOWNLOAD

File not found: "/cors/rinex/2007/023/det1/det10230.05d.Z"

(where "det1" is the site ID of the CORS site and "023" is the 23rd day of the year). While the contents of this message are correct, it does not tell you that you can manually download the RINEX data you need. This omission will be corrected in a future version of the RINEX Download utility.

To manually download US NGS CORS data, please do the following:

1. Go to the NGS User Friendly CORS site at <u>http://www.ngs.noaa.gov/UFCORS/</u>)

		version 5.5.1 - Novemi	Ser 01, 2004
This utility allows you station (CORS) contai	to obtain a specifi ned in the network	c block of Global Positioning Sy < of GPS sites managed by the 1	rstem (GPS) data for a continuously operating referen National Geodetic Survey.
The GPS data will be i	n "receiver indepo	endent exchange'' (RINEX) for	mat, version 2.10.
** NOTE: Whenever j problems.	possible, please us	se the new Problem/Comment f	orm below or at the bottom of the following page to repo
	DRS Page Info	Version Info, Bug fixes	UFCORS Problem/Comment Form
	DRS Page Info	Version Info, Bug fixes	UFCORS Problem/Comment Form
	DRS Page Info	Version Info, Bug fixes	UFCORS Problem/Comment Form
UFCC	DRS Page Info	Version Info, Bug fixes	UFCORS Problem/Comment Form
UFCC St Time Zone	DRS Page Info	Version Info, Bug fixes	UFCORS Problem/Comment Form



- 2. The "Starting Day" defaults to the current day's date. So you should first select the Start Time of the hour-long file(s) you want to download.
- 3. Select the time zone the rover data was collected in.
- 4. Select the number of hours you want to download and press the Continue button.
- 5. The next screen now appears, allowing you to input the site ID of the CORS station you wish to use.

PS data are available for the following sites your specified time interva	for det1 💌	<u>Site Info, Site Map, Data Availability</u> , <u>Time Series</u>
This utility will <u>interpolate or decimate</u> t	he GPS data	
How many seconds do you want betwee individual data points	?: As Is 💌	Please LIMIT requests for 1-second sampling rate data to 2 hours.
Would you like the corresponding files	?	
Coordinate Fil	e: no 💌	Coordinate File Info
Met Fil	e: no 💌	Met File Info
NGS data shee	t: no 💌	N
IGS Orbits in SP3 forma	at: yes 💌	Orbit File Info
Please choose the compression forma	t.	
Files can be compressed usir	g pkzip 💌	Compression Info

- 6. You can then select the various options you wish. For typical MobileMapper jobs, you may select the options indicated in the example screen above.
- 7. Click on the Submit button and you will see a screen such as the following.

File Do	wnload			×				
ৃ	Some files can harm your computer. If the file information below looks suspicious, or you do not fully trust the source, do not open or save this file.							
	File name:	det1066.zip						
	File type:	WinZip File						
	From:	www.ngs.noaa.gov						
	Would you like to open the file or save it to your computer? Open Save Cancel More Image: Always ask before opening this type of file Image: Always ask before opening this type of file Image: Always ask before opening this type of file							



(If you do not see this screen, it is likely that you previously unchecked the option box at the bottom of the screen.) This is a standard Windows warning about downloading files that you can safely ignore when downloading files from the NGS. You should transfer the contents of the zip file to the same directory containing your rover data.

- 8. The two files required by both MMO and GNSS Solutions are named, in this example, det10660.050 (the "observation" file) and det10660.05n (the "navigation" file).
- 9. In MMO or GNSS Solutions, open the rover file you wish to post-process.
- 10. In MMO click the Add Reference Station icon in the Differential Correction tool bar.



- 11. Search for the observation file, in this example it is called det10660.050, and click the Open button. MMO will download both the observation file and the corresponding navigation file.
- 12. MMO converts the observation file to a Magellan "B-file" and the navigation file to a Magellan "E-file." In this example the B-file is called BDET1005.066 where B= type of file, DET1 = site ID, 0 = first file from this reference station to be used, 05 = the year and .066 = the day of the year (7 March).
- 13. To be sure that the correct reference station coordinates were downloaded with the files, highlight the reference station bar and click on the Reference Station Properties icon (the hand pointing to a sheet of paper) and compare the downloaded with reference station coordinates and elevation with that from the NGS CORS site (http://www.ngs.noaa.gov/cgi-cors/corsage.prl?site=det1 where "det1" = the site ID). If you see any discrepancy, input the coordinates from the CORS site and click on Coordinates and then Submit. Please refer to another tech note called "Post-Processing with MM Office and NGS CORS data" if you are unsure how to do this.