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Downloading and Using VDatum Zones Directly from the NOAA Website

By John Lindberg

In the HYPACK® 2021 Q1 release, we modified the GEODETIC PARAMETERS to allow the direct download and install of VDatum zones from the NOAA website. This eliminates the tedious download of a HYPACK® installer, as most HYPACK® users only require one specific VDatum zone. Now you can download that specific zone rather than download and run a one gigabyte installer! Also, some all-powerful IT professionals prefer to interfere with production and advancement of technology (my rant of the day!), so this should now require one less call to your administrator's help desk!

In addition, if NOAA decides to update specific zone to a new version, you don't have to wait for us to create a new installer. You can simply go to the NOAA website and download the zones you wish to install.

The current VDatum website is located at <https://vdatum.noaa.gov/>. You can also search for 'noaa vdatum' with your favorite search engine and click the Download VDatum link. The link will take you directly to this page:

Downloading your VDatum from the NOAA Website

The screenshot shows a Google search for "noaa vdatum". The search bar at the top contains the text "noaa vdatum". Below the search bar, the results show "About 11,400 results (0.46 seconds)". The first result is "https://vdatum.noaa.gov" with the title "NOAA/NOS's VDatum 4.1.2: Vertical Datums Transformation". The description states: "VDatum is a free software tool being developed jointly by NOAA's National Geodetic Survey (NGS), Office of Coast Survey (OCS), and Center for Operational ...". Below the search results, there are several links: "Vertical Datums Transformation", "About VDatum", "Download VDatum", "User Guide", and "More results from noaa.gov". The "Download VDatum" link is highlighted with a red box. To the right, a preview of the NOAA VDatum website is shown. The website has a blue header with the NOAA logo and the text "VERTICAL DATUM TRANSFORMATION". Below the header, there is a navigation menu with links: "Home", "About VDatum", "Download", "Online", "Docs & Support", and "Contact Us". The main content area is titled "Download VDatum" and includes a "Prerequisite: Java Runtime Environment (JRE)" section. It also mentions "Prerequisite: GEOTIFF (GDAL)".

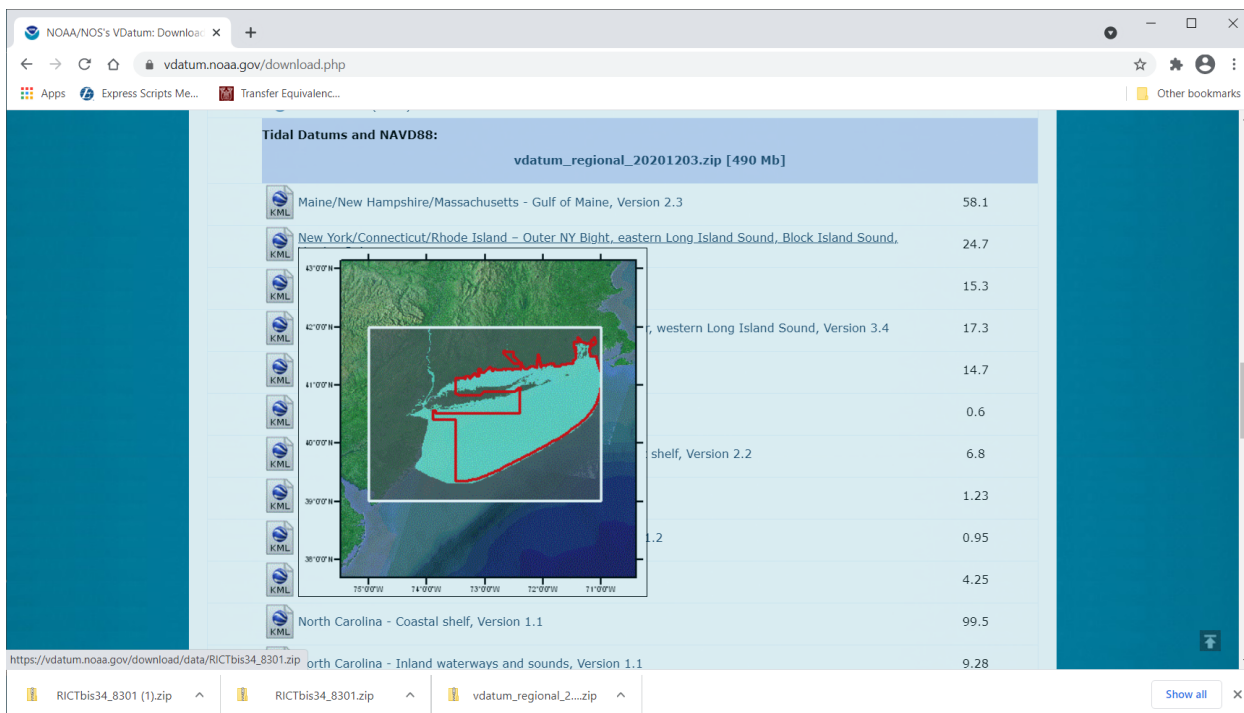
Scroll down to the section that says “Tidal Datums and NAVD88.” These are the zones you want to install into HYPACK®.

Tidal Datums and NAVD88



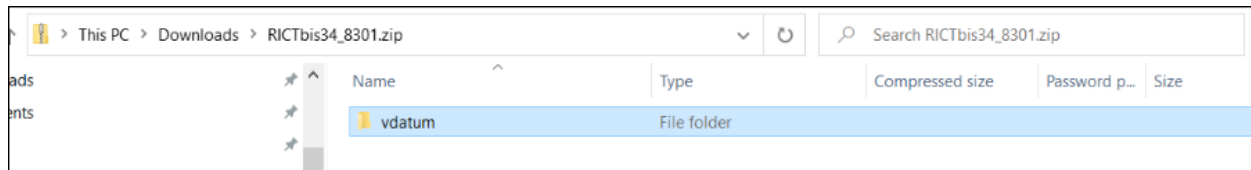
You can download the ZIP file with the “vdatum_regional” prefix, which would contain all the zones, or you can download a specific zone as shown below:

Downloading a Select VDatum Zone



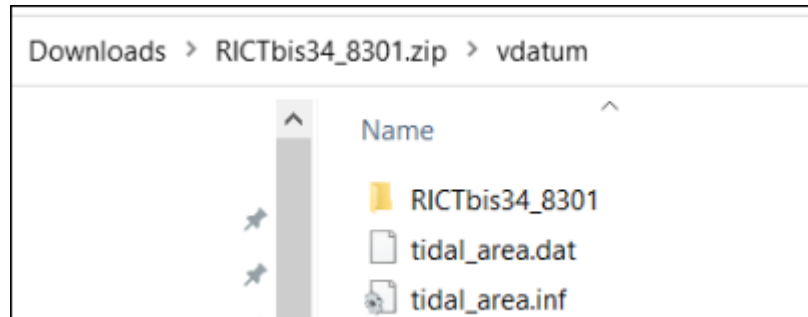
Once you download the zones you want, open the ZIP file.

[Sample ZIP File Contents](#)



You will notice a \vdatum folder within this ZIP file. If you open this folder you will see the actual VDatum zone. This one happens to be the New York/Connecticut/Rhode Island zone.

[New York/Connecticut/Rhode Island Zone](#)



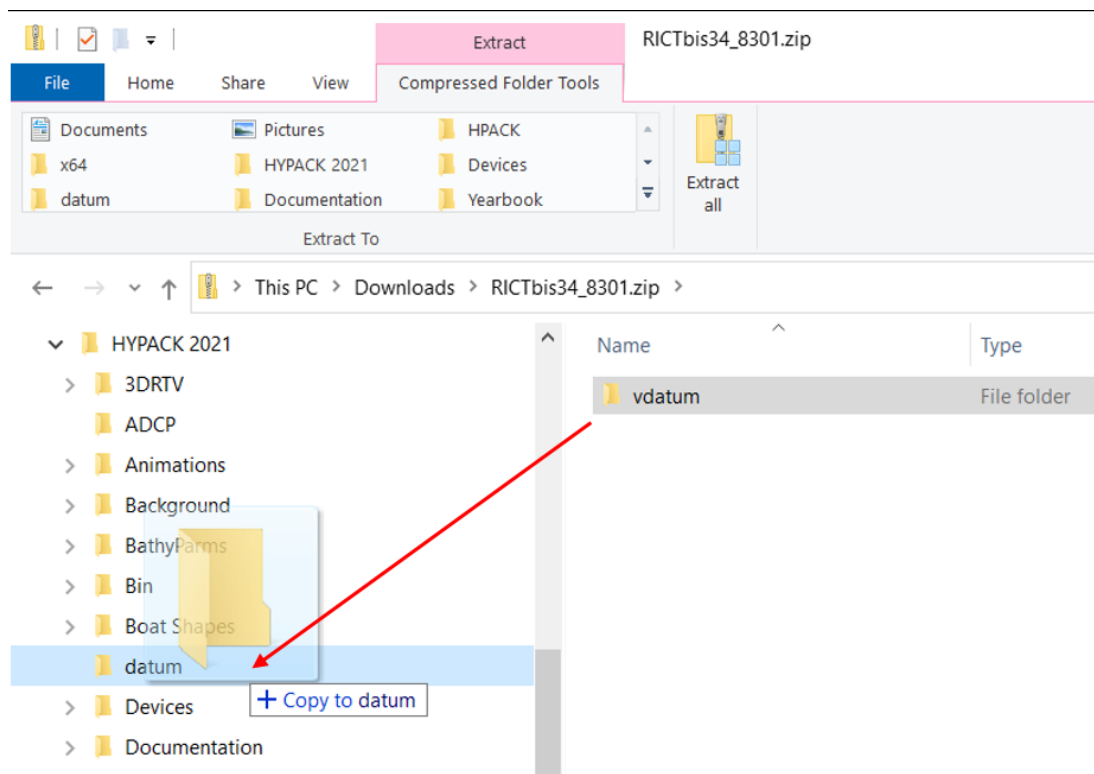
If you open this folder you will find all sorts of interesting things! You will see GTX, KML, MET and BND files. The primary files to focus on are the GTX files, as these are the zone files.

[Folder Contents](#)

vdatum > vdatum > RICTbis34_8301				
Name	Date modified	Type	Size	
dtl.gtx	11/20/2019 3:00 PM	GTX File	24,874 KB	
dtl_unc.gtx	11/20/2019 3:00 PM	GTX File	24,874 KB	
mhhw.gtx	11/20/2019 3:00 PM	GTX File	24,874 KB	
mhhw_unc.gtx	11/20/2019 3:00 PM	GTX File	24,874 KB	
mhw.gtx	11/20/2019 3:00 PM	GTX File	24,874 KB	
mhw_unc.gtx	11/20/2019 3:00 PM	GTX File	24,874 KB	
mlw.gtx	11/20/2019 3:00 PM	GTX File	24,874 KB	
mlw_unc.gtx	11/20/2019 3:01 PM	GTX File	24,874 KB	
mlw.gtx	11/20/2019 3:01 PM	GTX File	24,874 KB	
mlw_unc.gtx	11/20/2019 3:01 PM	GTX File	24,874 KB	
mtl.gtx	11/20/2019 3:01 PM	GTX File	24,874 KB	
mtl_unc.gtx	11/20/2019 3:01 PM	GTX File	24,874 KB	
RICTbis34_8301.bnd	11/20/2019 3:01 PM	BND File	17 KB	
RICTbis34_8301.kml	11/20/2019 3:01 PM	KML	18 KB	
RICTbis34_8301.met	11/20/2019 3:01 PM	MET File	1 KB	
tss.gtx	11/20/2019 3:01 PM	GTX File	47,279 KB	
tss_unc.gtx	11/20/2019 3:01 PM	GTX File	47,279 KB	

Now go back up to the root of the ZIP file and drag the \vdatum folder into the \HYPACK 20xx\datum folder as shown here. That is all there is to installing VDatum zones into HYPACK®!

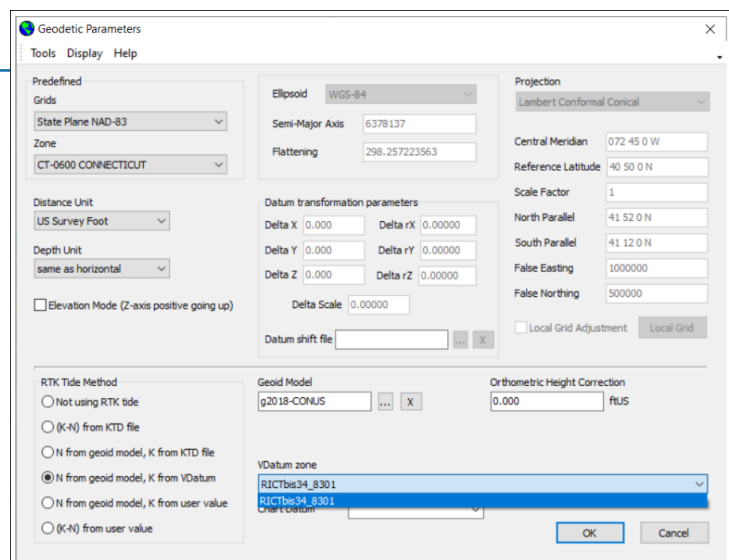
Extracting the VDatum Folder to the HYPACK® Install



To see it in action, go into HYPACK® and open GEODETIC PARAMETERS. Set the RTK Tide Method to “N from geoid model, K from VDatum,” and choose your geoid model. The VDatum zone drop-down will now list the zone you copied to the \datum\vdatum folder.

Selecting your VDatum in GEODETIC PARAMETERS

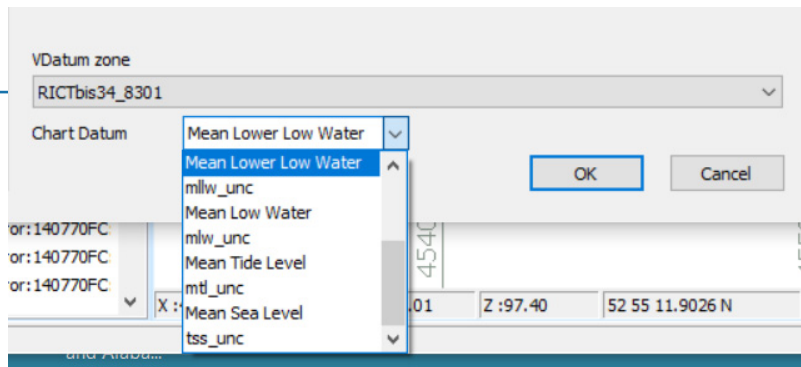
Note the abbreviated zone name. We are now using the proper NOAA zone folder name. Previously the long, drawn out name was encoded in the HYPACK® geodetic database, which caused grief if somebody wanted to upgrade to a new zone.



Now select the chart datum you wish to use.

Selecting the Chart Datum in GEODETIC PARAMETERS

These are all the GTX files within that zone folder. HYPACK® is encoding a sensible name for the majority of chart datums (Mean Lower Low Water, Mean Low Water, Mean Tide Level, etc.). Any others that may reside within the folder will simply display their GTX file name. This offers you more flexibility when picking the right chart datum for your project. A properly selected VDatum zone and datum will now look like this:



Sample VDatum Configuration

