

Digital Data Types and the Value of Interpretation in the Field

GeoMapper supports up to 4 simultaneously base map layers which are: Vector, Raster, Digital Raster Graphics (DRG), and Shapefiles. We often use Vector topographic maps along with raster maps of glacial geology, DRG color ortho-images, and Shape files of earthquake epicenters.

Sources of digital base maps include the US Geological survey map portals, and commercial vendors. For example, the least expensive base maps are digital topographic maps called Geo from Chartiff: <http://www.imagepeaksystems.com/index.html>

Go to **Topo Data** to **GEO's** to **Select Individual Quads** as shown below.



Go down to **Select Quads by Quad Name**, and be careful that they may also be in other states. **Note the scales available. Click on the Add Geo box.**

Select Quads by Quad Name:

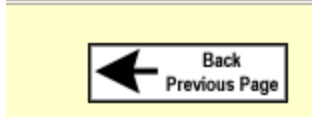
Sample returns Los Angeles, CA & Los Angeles, TX
 Note: When searching replace ' with blank i.e. input O Neil for O'Neil

Name	Quad	Price	<input type="checkbox"/>	Add
Dillon , CO 24000 Scale	<u>O39106f1</u>	\$5.00	<input type="checkbox"/>	Add Pak
		\$2.00	<input type="checkbox"/>	Add Geo
		\$1.00	<input type="checkbox"/>	Add DRG
		\$4.00	<input type="checkbox"/>	Add 10M NED
		\$2.00	<input type="checkbox"/>	Add 30M NED
		\$1.00	<input type="checkbox"/>	Add 30M DEM
Dillon , MO 24000 Scale	<u>O37091h6</u>	\$5.00	<input type="checkbox"/>	Add Pak
		\$2.00	<input type="checkbox"/>	Add Geo
		\$1.00	<input type="checkbox"/>	Add DRG
		\$4.00	<input type="checkbox"/>	Add 10M NED
		\$2.00	<input type="checkbox"/>	Add 30M NED
Dillon , MT 100000 Scale	<u>F45112a1</u>	\$2.00	<input type="checkbox"/>	Add Geo
		\$1.00	<input type="checkbox"/>	Add DRG
Dillon , MT 250000 Scale	<u>C45112a1</u>	\$2.00	<input type="checkbox"/>	Add Geo
		\$1.00	<input type="checkbox"/>	Add DRG

Most GEO maps are only \$ 2.00. Click on Add Selected Quads to Cart



You can go back and order other GEO's



When you have the Quads you want go to Secure Checkout

In the box below click on UTM, Select the Datum you want eg NAD27, Native Zones, Meters

Product	Price
ChartTiff Geo O39106f1 24000 Scale ChartTiff Geo -- Dillon, CO	\$2.00
Total Items in Cart 1	SubTotal \$2.00

You are ordering data that require you to select Projection information
Projection information applies for complete order.
 If multiple projections are required please submit multiple orders.

Projection	Datum	Zone	Horizontal Units
<input checked="" type="radio"/> UTM	NAD27	Use Native Zone for each quad	Meters
<input type="radio"/> State Plane 1927	NAD27	Please Select Zone	Feet
<input type="radio"/> State Plane 1983	NAD83	Please Select Zone	Feet
<input type="radio"/> Latitude / Longitude	NAD27	Not Applicable	Decimal Degrees

Select GeoTiff Format

ChartTiff Collarless / Seamless Geos and Collared DRG Specific:

Output File Format: GeoTiff Format

For Downloadable Files, a charge for some formats may be added to each item on the next page.

Click Box after checking the specifications

Projection and Other Selectable Information

If Present, Please Confirm that you have reviewed the Projection and other selected Options below.

Projection: UTM	
Datum: NAD27	
Zone: Use Native Zone for each quad	
Horizontal Res: Meters	
TOPO MAP SPECIFIC	
<input type="checkbox"/> Topo Map Shading: Not Enabled	
<input type="checkbox"/> Geo / DRG File Format: GeoTiff Format	

Then go to check out.

Digital ortho-quarter quads can be bought from Chartiff as well:

http://www.imagepeaksystems.com/doqqs/quad_search.shtml

The aerial photography maps that have proven very useful for our mapping are **colored** USDA National Agricultural Imagery (NAIP) maps for individual digital ortho-quarter quads (**3.75** Minutes wide longitude- so there are **4 DOQQ** maps per 7.5 minute DOQ, ie 4 quadrants NW, NE, SW, and SE. Each DOQQ costs about \$ 5.00 to 7.50 so a full 7 1/2 minute quad area is \$ 20-30.00. For using **tif** files as base maps, the raw tiff file needs to have been georeferenced to the same **UTM** and **reference ellipsoid** that you are using in the field. This will create a **geotiff** file that has two parts: a large **tif** file and a 1 kb **tfw** file. These are called DRG (digital Raster Graphics) maps. To get such maps from Chartiff.

Scroll down to Select Quads by Name:

Click on all 4 DOQQs if you want them.

Click on Add Selected Quads to Cart

Check map reference features: reference ellipsoid (usually **NAD27** , **Universal Transverse Mercator (UTM) and Meters**

You and Back Previous Page as many times as you wish to add more DOQQ's, then finally go to Secure Checkout and use a credit card for the purchase

You can also download scanned USGS topographic maps

Click the check box for Add Geo, and then click Add Selected Quads to Cart

Check that the selected features are in fact correct in terms of the: reference ellipsoid (usually NAD27 , UTM and Meters

Interaction with Base Maps

If you have access to an image processing computer program, then you can make base maps of local gravity, magnetics, earthquake epicenters, and whatever features you wish to have on loaded on your pen tablet PC as you map to support problem solving in the field where you can react and test hypotheses before leaving the field. This is perhaps the most powerful advantage of digital mapping in that you have registered map over-lays showing a variety of geo-spatial features rather than a roll of paper maps at different scales.