

Didger 5

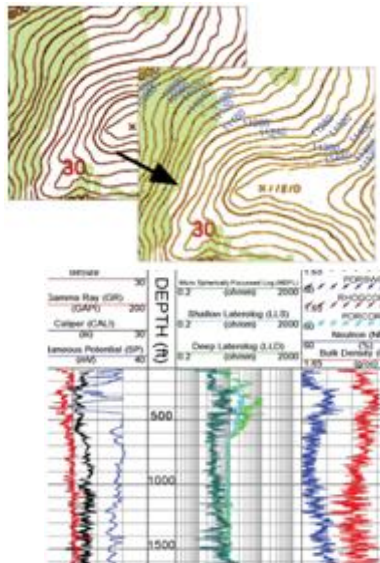
Discover the Ultimate Geoprocessing Toolbox

FEATURES

There has never been a more comprehensive, powerful, all-in-one data conversion software solution that provides an easy-to-use and intuitive user interface for digitizing, georeferencing, coordinate reprojection, tiling, and creating image mosaics. Didger solves the problem of combining data files in different file formats and in different coordinate systems, by providing extensive tools to transform your GIS data into one cohesive coordinate system. You can use Didger to precisely convert paper maps, graphs, aerial photographs, well logs, or any other plotted information into a versatile digital format that you can use with other software.

Start processing your data quickly and accurately with Didger. Some applications for Didger include:

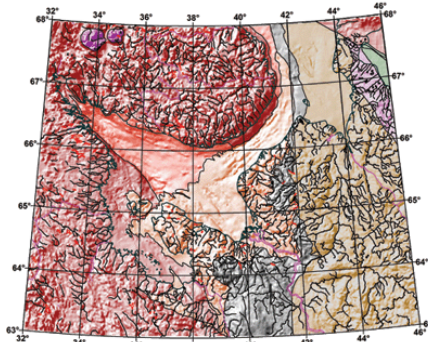
- Digitizing points, polylines, and polygons, such as oil and gas wells, monitoring wells, wireline logs, graphs, contour lines, aerial photographs, satellite images, seismic lines, roads, property boundaries, buildings, sample locations, faults, rock formations, vegetation boundaries, and animal habitats
- Calculating areas of polygons, such as watershed or lake areas
- Calculating lengths of polylines, such as shorelines, roads, streams, or migratory routes
- Georeferencing and/or mosaicking aerial photos or scanned images
- Converting the projection of scanned images, vector files, data files, or Surfer GRD or DEM files
- Overlaying vector, data, and image files to create a complete map
- And much more.



Digitize any map, graph, aerial photo, site map, or printed image regardless of size using any Wintab compatible tablet, or scan it in and digitize it onscreen.



Mosaic multiple large USGS Digital Ortho Quarter Quads (DOQQs) and overlay them with other imported information, such as hydrography (blue) and road (orange) data. Reproject files on import so all your data is in one cohesive coordinate system.

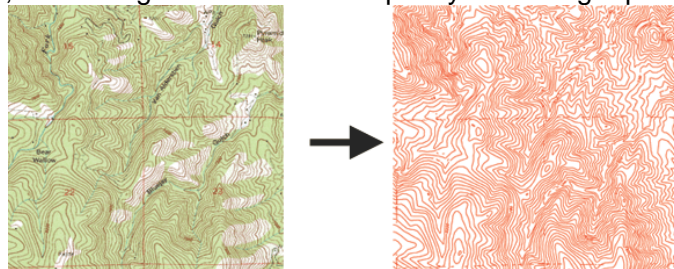


Georeference images in Digger and digitize information directly on the image. Change the projection of the entire project and add graticule lines to ensure your data is presented at its best. Digitized data can be exported to all industry standard vector files such as SHP, MIF and DXF.

Digitizing Options

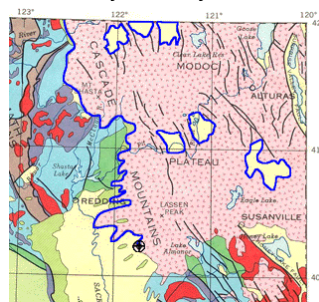
The process of creating new digital information often starts with a paper map, graph or log, or a digital image such as an aerial photo, satellite imagery or scanned paper map.

1. Full Automatic Digitizing: Digger supports advanced raster to vector conversion for automated map digitizing. This means that one command will automatically convert your scanned map, image, or drawing to vector formats quickly and at high quality.



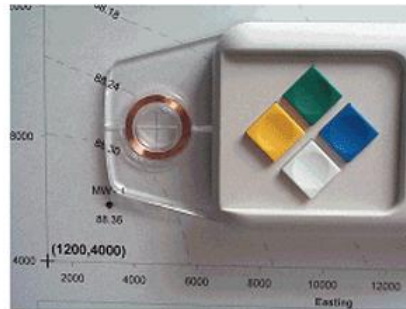
A georeferenced USGS Digital Raster Graphic was imported into Digger 4 (left). The contour lines were detected and automatically vectorized to red polylines (right).

2. Manual Onscreen Digitizing: You can perform onscreen digitizing using an imported vector file or imported image file. Performing heads-up digitizing has never been easier. You simply draw the object on the screen using your mouse. You can zoom in and out, or pan the screen while digitizing so you can always see clearly what you want to digitize.

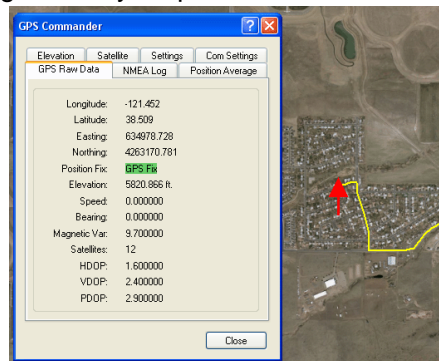


In this example, the boundary of the Modoc Plateau in Northern California being digitized in blue from a calibrated raster image of the geology of California, USA.

3. Tablet Digitizing: You can digitize hard copy documents using any Wintab32 compatible digitizing tablet. Nearly all digitizing tablets work with Didger. Simply put the document on the tablet, step through the intuitive Tablet Calibration Wizard to define a coordinate system, and you are ready to go.



4. GPS Digitizing: Any NMEA compatible GPS device connected to your computer's serial port can be used as a digitizing device in Didger. Once the GPS is set up to communicate with Didger, you can begin digitizing over any map.



Versatility

Didger 4 is tremendously flexible. Didger supports over 40 import file formats and exports in over 25 file formats to make sure you can import and export your data in the formats you need. Create large coverages easily by importing several vector, data, or image files into one project. The files will align according to their coordinate systems.

Import or export multi-line LAS files, export as a PDF file, or export as an HTM file with working hyperlinks to publish your maps on the web for browsing by anyone.

Object Editing: We know creating and editing data is very important to you, so we have made every effort to make it as easy and efficient as possible. Change color, line styles, fill patterns, symbol size, and font properties with just a few clicks. Polylines can be created, moved, joined, resampled, split, removed, trimmed, colored, and labeled. Closed polygons are formed easily from existing polylines with the polygon editing tools.

Layers: Keep your project organized by importing and creating data for different themes onto different layers. Didger's Layer Manager makes managing the layers easy.

Working with Images

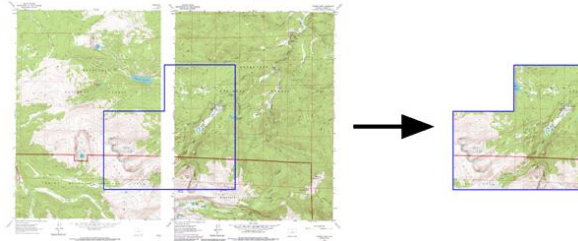
Images are powerful visualization tools, whether they are aerial photographs, scanned geologic maps, or company logos. Didger makes working with images simple and uncomplicated.

TerraServer images: Didger 4 includes the astounding ability to link directly to the USGS TerraServer database and download satellite imagery and topographic maps free of charge.

Tremendous flexibility when importing images. Whether you import one image, or mosaic multiple images together, Didger makes it easy for you. You can import georeferenced images that are imported automatically in the correct locations, you can import images which you can georeference upon import, or you can import images which you can drag and drop anywhere in your project. For example, you can import georeferenced TerraServer images of your project

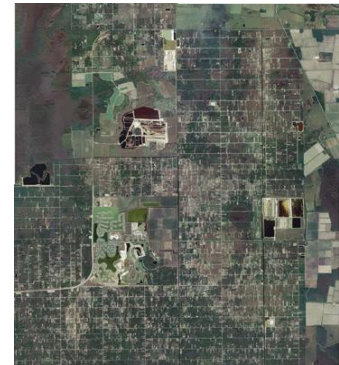
area directly into Didger, combine it with some new aerial photography that you georeferenced in Didger, and then add a company logo or small reference map and place it in the corner of the project.

Clip your images Didger offers more options than ever to clip your images to the extents you need. Import multiple adjacent USGS DRG files and automatically clip off the collars to seamlessly view the entire map. You can also simply draw a polygon and clip your image(s) to that polygon.



Two adjacent USGS DRG files were imported into Didger and a polygon outlining the area of interest was digitized on top in blue (left). The collars were clipped from the DRGs and the images were clipped again to the polygon (right).

Powerful Image Processing: There are many useful image-editing tools available in Didger to use on an imported image. You can select up to 256 colors to be transparent in an image so you can view objects behind the image, change a selected color to any other selected color, convert the color depth of an image, change the number of colors in an image, sharpen images to emphasize details and aid in restoring them to a more enhanced state, “blur” the image so that major details are seen more easily and background noise and other anomalies are removed, filter the image to help accentuate spatial details, and adjust the contrast, brightness, and saturation of the image to fine tune the visibility of the image. You can also convert an image to grayscale or black and white, which is useful when the file size is very large because these color modes reduce the memory overhead and allows the program to process information more quickly.

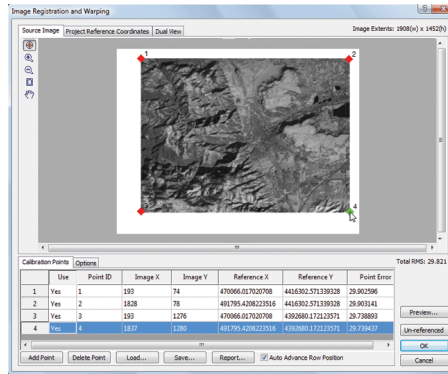


Create and export large image coverages easily. In this example, seventeen USGS Digital Ortho Quarter Quads (DOQQs) were overlaid, ready to be digitized or overlaid with other vector data.

Easy Image Georeferencing

Didger's fast and easy georeferencing process makes it possible to rapidly convert un-referenced images and scanned paper documents to real world coordinate systems (e.g., UTM, State Plane, Latitude/Longitude) for use in Didger or other GIS programs.

Didger also gives you more options than ever to make sure the georeferencing of your image is of the highest quality. You can choose one of 10 spatial transformation methods (listed below) to give you the most precise georeferencing possible. Didger automatically calculates and reports the root-mean-square (RMS) error value for immediate evaluation of the georeferencing accuracy.

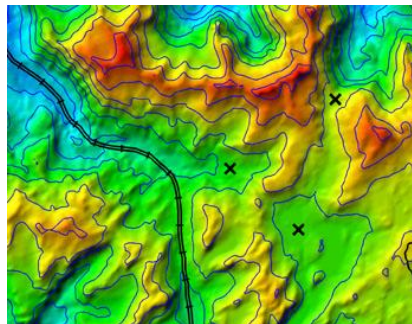


Spatial Transformation Methods

Affine Polynomial
 1st Order Polynomial
 Thin Plate Spline
 Natural Cubic Spline
 Marcov Spline

Exponential Spline
 Rational Quadratic Spline
 Inverse Distance Squared
 2nd Order Polynomial
 3rd Order Polynomial

Once an image is georeferenced and loaded into Didger, you can overlay it with other spatial data, digitize information from it, tile it with other georeferenced images, or export it to a georeferenced image format for use in other programs. Didger imports and exports industry standard GeoTIFF, Blue Marble RSF, Golden Software GSR, ESRI PRJ, and ESRI World (TFW, JGW) referencing files



Vector Based Maps & Data Files

With Didger you can import a variety of vector based maps and data files in many formats. Create large coverages easily by importing several vector or data files into one project. The files will align according to their coordinate systems.

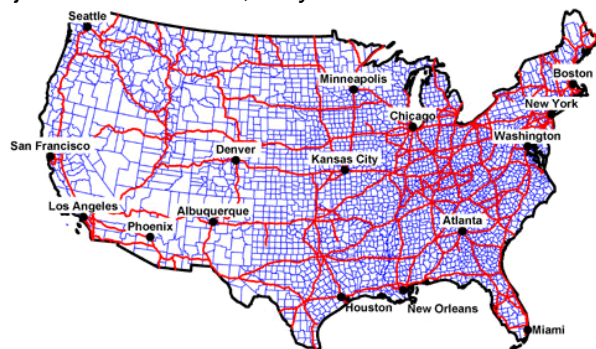
Digitize new features onto an existing vector plot from your digitizing tablet and map, or digitize onscreen. Change line styles, object IDs, and add labels to objects with ease. Even import different files onto separate layers.

If the files are projected and contain different projection information, they will be converted to the projection of the first imported file using a datum transformation. You can also convert vector or data files from one projection to another.

Projections, Datums, Coordinates

Didger makes it easy to assign or change the projection and/or datum of your data, vector, or image files from one coordinate system to another. For example, in a few simple steps you can convert latitude/longitude data to State Plane data, State Plane data to UTM data.

You can import multiple data sets into your current Didger project and Didger converts the projection of the files automatically during import to match that of the current project; or, you can



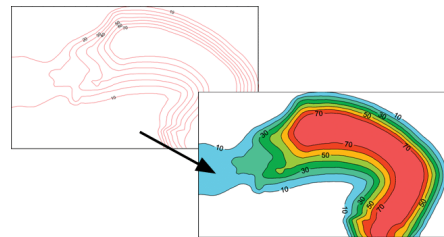
convert the projection of data sets individually, save them in the new projection, and use them in other applications. It has never been this easy to seamlessly combine all your information.

Didger supports 29 popular projections and allows you to specify settings for each projection appropriate to your data set. Didger's datum dictionary contains the definitions of over 250 datums used around the world. You can even create your own custom datum and add it to the datum list. When defining a custom datum, you can select one of 56 ellipsoid definitions or define your own ellipsoid, and choose between Molodensky and Bursa Wolfe datum transformation methods. Save projection parameters and custom datum settings to a file and load it the next time you want to use the same settings. This saves you time so you don't have to keep manually entering the same settings for each project.

Surfer Compatible

Now it is easy to see your maps the way you want them. Automatically digitize contour or other 3D data in Didger and send them directly into Surfer with a click of a button to change contour properties, overlay with 3D terrain surfaces, DEM files, or other 3D imagery.

Didger also makes it easy to directly convert the projection Surfer GRD or DEM files, so you can have all your maps in the same coordinate system in Surfer.



Advanced Editing Features

Didger is packed full of advanced editing features designed to make your job faster and easier.

- Convert the coordinates of your entire project.
- Set individual objects to be visible/invisible.
- Thin and smooth objects.
- Reshape objects by adjusting individual nodes.
- Resample, connect, break or trim polylines.
- Convert polygons to polylines and vice versa.
- Convert points to polylines and vice versa.
- Break polylines at intersections.
- Create points at each polyline and/or polygon intersection.
- Convert a polyline to a polygon with a shared border.
- Create a polygon by automatically tracing around the outside of a group of overlapping or adjacent polygons.
- Create a polygon from the common area of selected polygons.
- Subtract the overlapping portions of selected polygons.
- Divide a polygon with a polyline.
- Create a new polygon that surrounds all selected objects.
- Create polygons by locator or by ID.
- Snap polylines together.
- Snap undershoot or trim overshoot polylines.
- Remove duplicate objects or polylines by length.
- Combine, split, and/or reverse islands and lakes.
- Customize objects with full line, symbol, fill and font libraries.
- Rotate objects.

Supported File Formats

Spatially Referenced formats: GeoTIFF, TFW, PRJ, GSR, RSF

Import formats: BLN, BMP, BNA, CLP, CSV, DAT, DCX, DXF, 3D DXF, DDF, DEM, DLG, DTED, E00, ECW, EMF, EPS, Georeferenced TIF, GIF, GRD, GSB, GSI, HDR, JPG, LAS, LGO, LGS, MIF, PCT, PCX, PLT, PNG, SID, SHP, SLK, TIF, TGA, TXT, W??, WMF, WPG, XLS

Export formats: BLN, BMP, BNA, CLP, CGM, DAT, DCX, DXF, 3D DXF, EMF, EPS, Georeferenced TIF, GIF, GSB, GSI, HTM, JPG, LAS, MIF, PCT, PCX, PDF, PNG, SHP, TGA, TIF, WMF, WPG