

Surfer Contours to SHP file Conversion Process

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1. Export from Surfer:

Surfer contour maps are in a proprietary format which were originally being exported into Microsoft Word documents. Surfer does have a shapefile export function, however this process DOES NOT transfer the contour “elevation” Z-values. The only supported contour export filetype in Surfer is DXF. A script was used to export DXF files for each of the 81 contour maps.

2. Convert DXF to SHP using ArcCatalog:

DXF files are individual “packages” which contain several sub-features. The contour data is in the “polyline” feature which exists in each DXF file. Using the “feature class to shapefile (multiple)” tool, each “polyline” feature from each DXF file were converted to shapefiles.

3. Trim SHP files to Buffer

Each of the SHP files were then trimmed using the “clip” tool in the ArcCatalog toolbox. The tool was run in a “batch” mode to accommodate all 81 SHP files. The feature used to clip the contours was a 30 mile buffer from the “Florida counties” basemap.

4. Remove extra fields from SHP files

The SHP files contain many extra unnecessary fields which carried over from the DXF format. The “remove field” tool was run in batch mode to remove all fields other than “FID”, “SHAPE” and “ELEVATION”.

5. Assign default field

The “ELEVATION” field was set as the primary field by using the “assign default to field” tool run in batch mode. This action ensures that the correct attribute is used when labeling the contour features in ArcMap.

6. Assign Projection

The resulting SHP files do not contain any spacial reference information. To assign a projection, the “define projection” tool was run in batch mode.