

Some Surfer map Tips – encoded in the punch list of producing a figure.

1. Grid your {X, Y, Z} data and extract that part of the grid you want for the presentation. In general, kriging is typically a good first guess at the appropriate gridding algorithm. You can do a quick correction with the cosine of the mean latitude. You extract part of a grid with Surfer's GRID | EXTRACT choices. If you need to smooth the extracted grid: GRID | SPLINE SMOOTH.
2. If you overlay maps of various sizes, you will have to click on the overlaid maps and use | PROPERTIES | LIMITS to set the display limits. Surfer insists on resetting these if you fiddle with some other things so write them down or edit 'preferences' to make them persistent.
3. To put COUNTY or STATE boundaries on, you use MAP | BASEMAP. Those outlines come with Golden Software's MapViewer/Samples or, you can get them, and other .gsb boundary files, off the web:

<http://www.goldensoftware.com/boundary.shtml>

Then, select the maps you want to overlay and do so. You will now probably have to fiddle with | PROPERTIES | LIMITS to set the display limits again.

4. If your data are in geographic (longitude, latitude) coordinates remember equal degrees are not equal distance (remember this when you are gridding as well). To fix this, and get correct X-Y scaling, use MAP | PROPERTIES | SCALE. There, turn off proportional XY scaling. Then, leave the X Scale as is, and multiply the Y Scale by the cosine of the middle latitude of your map.
5. DLG files are going to work the same – add them as base map.

