

Environment and organisms - Task #362

Decide on a map projection for the Oregon case study

02/23/2012 12:24 PM - Benoit Parmentier

Status:	New	Start date:	02/23/2012
Priority:	Normal	Due date:	
Assignee:		% Done:	0%
Category:	General	Estimated time:	0.00 hour
Target version:			
Activity type:	Data registration		
Description			
The project has so far utilized the MODIS sinusoidal projection to store the relevant input GIS data layers (e.g. SRTM, Land cover, LST etc.). The sinusoidal projection while being equal-area and continuous, suffers from major distortions higher latitudes. A choice of projection for the Oregon case study must be made before producing input variables (e.g. aspect) for the GAM regression.			

History

#1 - 03/16/2012 12:36 PM - Natalie Robinson

If I am not mistaken, I think we have decided that the best projection to use is Behrmann's Cylindrical Equal Area, as OR is a test case for methods that we will eventually apply globally.

I have been waiting to reproject OR DEM's for flow accumulation analysis, as the current version of gdal references an old Proj4 library that has a bug when reprojecting to equal area. The newest Proj4 library was just released, and we **hope** (and think) that an updated version of gdal will come out soon, with this new Proj4 library referenced.

As a side note- another option (should Behrmann's be unusable for any reason) would be to use Lambert's Azimuthal Equal Area with the correct origin information. This would require that the global dataset be split by continent, with each having the appropriate origin. This was done with Hydro1k data (see www.webgis.wr.usgs.gov/globalgis/metadata_qr/metadata/hydro1k.htm). That said, we still have to wait for the bug fix to propagate through to gdal, as it was with any equal area projection.

#2 - 07/17/2012 10:37 AM - Adam Wilson

As far as I know, this is still unresolved. I think we decided to produce the 'final' outputs (like elevation) in Behrmann's projection, but is this the best for doing the interpolations? So far we've been using Oregon State Plane, but when we transition to processing different regions by MODIS tile, we'll need a projection that can be assigned tile-by-tile (and then later warped/stitched to a common projection like Behrmann's). Perhaps something like Lambert Azimuthal Equal Area (as Natalie suggests) with origins for each tile to minimize distortion?