
Subject: Coastal boundaries over sat data

Posted by [Daniel Peduzzi](#) on Wed, 16 Aug 2000 07:00:00 GMT

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I have some satellite imagery in its native projection (DMSP, GOES, Meteosat, and GMS) with accompanying latitude/longitude pairs for each pixel. I'd like to display these images in their native projections using 0-100% grayshades, but overlayed with coastal boundaries in some non-grayshade color.

Is this possible using the standard map routines available in V5.2? I've found plenty of ways to draw boundaries over data which have been remapped to some other projection, but not in the raw satellite projection.

Alternatively, does somebody have a routine to do this?

Dan Peduzzi
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Subject: Re: Coastal boundaries over sat data

Posted by [Sylvain Carette](#) on Wed, 30 Aug 2000 07:00:00 GMT

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<!doctype html public "-//w3c//dtd html 4.0 transitional//en">
<html>
<tt>Interesting thread</tt><tt></tt>
<p><tt>There is a small application with source code (in Delphy - kind
of OO Pascal)</tt>
<br>&nbsp;<a href="http://www.davidtaylor.freemove.co.uk/software/hrpt.htm">HRPT
programs - from David Taylor, Edinburgh</a>
<br><tt>It doesnt display continent outline but it can "rectify" the image
which might be the projection you are looking for. The code is well commented
and readable even for a non-pascal programmer (like me - but I'm used to
C so its similar).</tt><tt></tt>
<p><tt>It may or may not be pertinent for your need since it remap the
data - not a real projection, a rectification or an unwrapping of the data.</tt>
<br><tt>On my side, I need to use that kind of rectification applied along
the path of the satellite to build continuous "ribbon" of avhrr data. Maybe
this could be somewhat applied to your case; instead of applying a projection
on the image array, you process each line separately as is it were a whole
image and reset the projection for each line and appending all the lines
together.</tt><tt></tt>
<p><tt>If the only thing you want is to overlay the continent outline over
the "natural" data, I think I would consider the problem as applying a
```

warping to the outline derivated from the lat/lon values contained in the data instead of using map projection.

Hope this could be of some help

Sylvain Carette

VRML designer-composer

Ben Marriage wrote:

CITE Daniel Peduzzi wrote:

> Thanks...that is a handy program, and I've used it before in the past.

> I'm not sure that it can be used for what I want to do, though, since

> I don't want to remap the data...only display it in its *native* projection with coastal boundaries.

>

> In other words, if I have 1000 scanlines of DMSP data (1465 elements wide), and accompanying 1465x1000 lat/lon arrays, I'd like to display

> a 1465x1000 image overlaid with coastlines.

I did something like this to check if an AVHRR pixel was over land or not.

I'll post the code here in case you are interested. I had to create an image which consisted of 0s and 1s corresponding to sea and land. I did

this from IDL using map_set and map_continents (filling it as color=1), then tvrd() and saving into a format handy format (in this case, idl save format) You could try doing it without filling, just keeping the continent outline in a file. I then have to restore this file each time

I need to check for land. This is fairly resolution dependent, but works

OK for me (AVHRR data around Antarctica).

It's a rather quick and dirty method - but *it works for me*(TM)

Ben

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=====
===== </tt>
<br><tt>function landmaskcheck, lats, longs</tt><tt></tt>
<p><tt>; land_mask.idl is an image which has a 0 over the sea and a 1 over</tt>
<br><tt>; land. This was produced from a 2048x2048 window and using the</tt>
<br><tt>; map_set and map_continents procedures to define areas of land
and sea.</tt>
<br><tt>; Then, using the convert_coord function we convert latitudes and</tt>
<br><tt>; longitudes to land mask subscripts to determine if that pixel
is over</tt>

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