Subject: Re: coordinates on land
Posted by Mark Hadfield on Wed, 15 Dec 1999 08:00:00 GMT
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Klaus Scipal <kscipal@ipf.tuwien.ac.at> wrote in message
news:82p4iabf1@news.tuwien.ac.at...
>
> I am looking for an IDL procedure that tells me if a point (given in
> longitude and latitude) is situated on land or on water.

I'm not aware of any ready-to-run solution to this problem. The problem can
be divided into two parts:

1.) Describe land areas as closed polygons.

2.) Establish if the point in question is inside any of the polygons.

There was some discussion about part 2 on this newsgroup a few weeks ago. I
posted some code based on summing angles around the point in question to the
polygon vertices; several other people posted code or made suggestions.

Re part 1, AFAIK the coastline datasets that come with IDL are not suitable
because they contain duplicate points or intersecting edges. There is a
coastline dataset designed specifically for this purpose, called "GSHHS - A
Global Self-consistent, Hierarchical, High-resolution Shoreline Database",
at

http://www.ngdc.noaa.gov/mgg/shorelines/gshhs.html

The GSHHS data come in a straightforward binary format. I intend to write
IDL routines to read the GSHHS data REAL SOON NOW.

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