Subject: Map Projection Woes
Posted by David Fanning on Thu, 13 Apr 2006 18:26:00 GMT
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Folks,

I took on this day/night terminator project to learn a
little more about map projections. I thought I would learn
something by doing it. I know better, and should be careful
what I wish for.

Here is my problem (I think), and you map projection
experts probably know the answer. My program calculates
a field of view, essentially, from the point of view
of the sun looking towards the Earth. You could think
of it as a circular polygon.

If the subsolar point on the Earth is inside this
polygon, that is the light part of the map. If it is
outside, that is the dark part of the map, with
respect to the day/night terminator.

But...I don't always get a reliable answer to my question:
"Is the subsolar point inside the polygon that describes
the terminator?" The problem comes (surprise, surprise)
when the polygon crosses the international date line
and there is a jump from 180 degrees of longitude to -180
degrees of longitude.

My question is how is this handled, normally? (If you
are an Aussie or a Kiwi this problem probably comes up
daily.)

Cheers,

David

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Coyote's Guide to IDL Programming: http://www.dfanning.com/