Subject: Re: problem in using function ll_to_utm.pro
Posted by ben.bighair on Wed, 21 May 2008 13:47:50 GMT
View Forum Message <> Reply to Message

On May 20, 9:37 pm, Baikal <royou...@cnu.ac.kr> wrote:

>
>
>
>> On May 20, 8:19 pm, Baikal <royou...@cnu.ac.kr> wrote:
>
>>> To all,
>
>>> I am a physical oceanographer who needs to use your idl program in my
>>> model output post-processing.
>
>>> While utilizing your utm conversion program (ll_to_utm.pro) in my
>>> research work, I have a problem due to zone change so that I encounter
>>> a discontinuity problems as follows;
>
>>> test_lon=[125.999,126.000] ; define test lon & lat
>>> test_lat=[36.000,36.000]
>>> ; test output
>>> for i=0,1 do
>>> print,i,test_lon(i),test_lat(i),ll_to_utm(test_lon(i),test_l at(i))
>>> 0 125.999 36.0000 770330.54 3988106.3
>>> 1 126.000 36.0000 229579.34 3988109.1
>
>>> I undrestand this is due to zone change from 51 to 52.
>>> I wonder how I can avoid this trouble in map drawing where my
>>> coastline data points lie over 125 to 127 E longitude.
>
>>> I appreciate your helps.
>
>> Hi,
>
>> I think I might have prepared that routine. To my understanding, you
>> don't want to work across UTM zones. My memory is a little rusty, but
>> I recall that the warping is minimized along central meridian of any
>> zone. I take that to mean that distortion is maximized along the
>> edges.
>
>> On the other hand, I suppose it is possible to offset the values in
>> one zone against the central meridian of the other - after all, the
>> origin of any UTM zone is some arbitrary value. You would have to
>> dive into the Snyder work referenced in the code. In any event, I
>> wonder why you are not mapping with your lat lon values directly. Why
>> bother going to UTM coords?

>
>> While we are at it, I have posted an update to that collection files -
>> in particular to UTM_ZONE so that it behaves a little better with
>> vectors of inputs. See ...
>
>> http://www.tidewater.net/~pemaquid/geo.zip
>
>> Cheers,

>

>
> In my post-processing of model output, I am calculating the trajectory
> coordinates in metric unit so that to display the, trajectories of
> number of particles, I need to set up the coordinate in terms of UTM.
> That's why I bother myself and you in trying to use UTM.
>

Hello,

Hmmm. I don't think I get it. You can calculate trajectories as range-azimuth pairs if you you know the lat-lon coords of the trajectories. Range is generally measured in length units (like m or km) and azimuth gives the direction.

But, suppose you persisted with converting to a UTM style projection... the divisions that mark the different longitudinal zones are conventional but arbitrary. There isn't any reason why you can't change the central meridian from which each of your locations are subsequently referenced. Doing so means that you need to change the CM (central meridian) value returned by the UTM_ZONE function. Keep in mind that if you change the zone definitions to something non-conventional then you might have trouble comparing your results to the work of others that use conventional mapping.

Ben
