Subject: Re: Calculating area of latitude-longitude quadrangle? Posted by David Fanning on Tue, 23 Aug 2011 19:13:46 GMT

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## Ashley Berg writes:

- > Is there any way to calculate the area of a latitude-longitude
- > quadrangle in IDL, or some formula I could use?
- > MATLAB can (using areaguad from the Mapping Toolbox, which can return
- > surface area in km^2 of a lat/lon box covering a part of Earth) but I
- > do not have access to MATLAB.

Wow! Really!?

I'm not sure I'd put a whole lot of trust in a number like that! :-)

Cheers.

David

--

David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: http://www.idlcoyote.com/
Sepore ma de ni thui. ("Perhaps thou speakest truth.")

Subject: Re: Calculating area of latitude-longitude quadrangle? Posted by Ashley Berg on Tue, 23 Aug 2011 20:06:32 GMT View Forum Message <> Reply to Message

Yes, I'm not sure exactly how MATLAB does it! But for my purposes I only need a rough estimate.

Subject: Re: Calculating area of latitude-longitude quadrangle? Posted by R.G.Stockwell on Tue, 23 Aug 2011 20:37:29 GMT

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>

- > "Ashley Berg" wrote in message
- > news:7e751dd7-f940-4246-bb73-a68fad00140d@bl1g2000vbb.google groups.com...

>

- > Is there any way to calculate the area of a latitude-longitude
- > quadrangle in IDL, or some formula I could use?
- > MATLAB can (using areaquad from the Mapping Toolbox, which can return
- > surface area in km^2 of a lat/lon box covering a part of Earth) but I
- > do not have access to MATLAB.

actual surface area would be impossible, but just integrate the surface of a sphere and that could get you close enough.

cheers, bob

Subject: Re: Calculating area of latitude-longitude quadrangle? Posted by Maxwell Peck on Wed, 24 Aug 2011 07:54:59 GMT View Forum Message <> Reply to Message

On Aug 24, 4:52 am, Ashley Berg <ashley.b...@gmail.com> wrote:

- > Is there any way to calculate the area of a latitude-longitude
- > quadrangle in IDL, or some formula I could use?
- > MATLAB can (using areaquad from the Mapping Toolbox, which can return
- > surface area in km^2 of a lat/lon box covering a part of Earth) but I
- > do not have access to MATLAB.

When I had to do something similar in Excel (don't ask!) I broke it up into two triangles, found the internal angles (google Aviation Formulas) and used Girard's theorem to find the area of each triangle and added them together.

Max