Subject: Re: day or night
Posted by David Fanning on Thu, 27 Dec 2012 06:21:35 GMT
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Gompie writes:

> I know the lat lon and time of a place on earth. How do I know if it is day or night.

Well, that's a good question. For which I don't have
a off-the-top-of-my-head answer, although I'm sure the
astronomers will and I'm reasonably sure the answer
is going to involve converting the time to a Julian time.

What does come immediately to mind, of course, is
my cgTerminatorMap program, which has to do something
reasonable similar.

http://www.idlcoyote.com/idldoc/cg/cgterminatormap.html

On about line 240 or so you see a number of calls to the "time"
functions of the Johns Hopkins University Applied Physics Lab.
I feel 100 percent certain that the answer to this question
is going to be found in the IDL routines that can be found
there:

http://fermi.jhuapl.edu/s1r/idl/s1rlib/local_idl.html

Cheers,

David

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

Subject: Re: day or night
Posted by David Fanning on Thu, 27 Dec 2012 06:52:24 GMT
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David Fanning writes:

> On about line 240 or so you see a number of calls to the "time"
> functions of the Johns Hopkins University Applied Physics Lab.
> I feel 100 percent certain that the answer to this question
> is going to be found in the IDL routines that can be found

> there:
>
> http://fermi.jhuapl.edu/s1r/idl/s1rlib/local_idl.html

I'm trying to stay awake so I can pick up the kids at
the airport. Their flight has been delayed, so that they
don't arrive now until 2AM. :-(

Anyway, while I'm sitting here I thought it would be
a profitable use of time to go visit the JHUAPL time
routines again myself. Goodness. I'm always amazed
at how complicated the answer can be when you ask
a simple question like "what time is it?"

If, for some reason, you are up late, too, here are
a couple of my favorite articles on my web page
concerning "time":

  http://www.idlcoyote.com/misc_tips/julianday.html
  http://www.idlcoyote.com/misc_tips/julday.html
  http://www.idlcoyote.com/code_tips/dayofyear.html

Cheers,

David

--
David Fanning, Ph.D.
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Sepore ma de ni thue. ("Perhaps thou speakest truth.")

Subject: Re: day or night
Posted by Gompie on Thu, 27 Dec 2012 12:03:41 GMT
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Hi David
Thanks !!!
I have more than 62000 points that are spread over different seasons and lat lons ,on which I have to apply the day/night test.

Is it possible to map the lat lon onto the image coordinates of the image output of cgterminator or sunclock and get a number telling me if it is day or night at that point.

PS:
 sunclock routine in the link you gave (http://fermi.jhuapl.edu/s1r/idl/s1rlib/local_idl.html) looks promising if takes care of seasonal variations.

If I use cgterminator, due to its problem with flip, I have visually inspect each of the 62000 points so practically not possible unless you give a way out.
Gompie

Subject: Re: day or night
Posted by David Fanning on Thu, 27 Dec 2012 16:06:47 GMT
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Gompie writes:

> I have more than 62000 points that are spread over different seasons and lat lons ,on which I have to apply the day/night test.
>
> Is it possible to map the lat lon onto the image coordinates of the image output of cgterminator or sunclock and get a number telling me if it is day or night at that point.
>
> PS:
> sunclock routine in the link you gave (http://fermi.jhuapl.edu/s1r/idl/s1rlib/local_idl.html) looks promising if takes care of seasonal variations.
>
> If I use cgterminator, due to its problem with flip, I have visually inspect each of the 62000 points so practically not possible unless you give a way out.

Well, if there is a way out, you aren't going to get it
from me. I'm spending the day with the family celebrating
a late Christmas. I'm just say that IF there is an
answer, it will probably be found among the JHUAPL
time routines.

It is certainly possible to map lat/lon positions to
image coordinates. I find Value_Locate, used in conjunction
with projected XY values, to be invaluable for this purpose.

Cheers,

David

--
David Fanning, Ph.D.
Fanning Software Consulting, Inc.
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