Subject: Re: NCEP Reanalysis Temperature Data Problem
Posted by Conor on Thu, 25 Oct 2007 17:23:51 GMT
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Have you considered that it might already be in date format? It looks like it could be in YYYY-MM-DD format. You would get:

70, 72, 1706 and 01, 04, 1795

If you then allow months and days to wrap you would get actual dates of:

December 20, 1710 and
January 4, 1795

That sounds pretty reasonable to me... It's obviously an old data set. Where was the US government taking temperature data in the 1700's???

On Oct 25, 12:56 pm, David Fanning <da...@dfanning.com> wrote:
> Folks,
>
> I am looking at some monthly NCEP Temperature Data, stored in a
> NetCDF file:
>
> http://www.cdc.noaa.gov/dtat.ncep.reanalysis.pressure.html
>
> I have no problem reading the data file, but the time data,
> which is suppose to be monthly from 1 Jan 1948 to present,
> has a min and max values of 17067072 and 17590104. These looks like
> Julian numbers to me, except they are off by several orders
> of magnitude from anything that makes sense to me!!
>
> IDL> Caldat, 17067072, m, d, y
> IDL> Print, m, d, y
> 12 15 42015
>
> These numbers are even several orders of magnitude bigger
> than the number of SECONDS since 1948. :-(
>
> Does anyone have any experience with this data set and
> have some idea of how I can get these values into something
> that makes sense?
>
> Thanks,
>
> David
>

> --
> David Fanning, Ph.D.
> Fanning Software Consulting, Inc.
> Coyote's Guide to IDL Programming:http://www.dfanning.com/

Subject: Re: NCEP Reanalysis Temperature Data Problem
Posted by David Fanning on Thu, 25 Oct 2007 17:32:18 GMT
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Conor writes:

> Have you considered that it might already be in date format? It looks
> like it could be in YYYY-MM-DD format. You would get:
>
> 70, 72, 1706 and 01, 04, 1795
>
> If you then allow months and days to wrap you would get actual dates
> of:
>
> December 20, 1710 and
> January 4, 1795
>
> That sounds pretty reasonable to me... It's obviously an old data
> set. Where was the US government taking temperature data in the
> 1700's???

Yes, I considered that, but the data is suppose to be
monthly from 1 Jan 1948, and there are the correct
number of months in the time data, just not the
(as far as I can tell) correct values. :-(

So values in the 1700s does me no good either.

I even considered a byteorder problem (although how
this would happen in NetCDF files is beyond me), but
that just make the problem worst.

Cheers,

David

P.S. This MIGHT make sense if it is the number of seconds
since the demise of the dinosaurs, but this seems a dubious
time unit.

--
David Fanning, Ph.D.

Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: http://www.dfanning.com/

Subject: Re: NCEP Reanalysis Temperature Data Problem
Posted by David Fanning on Thu, 25 Oct 2007 17:37:31 GMT
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David Fanning writes:

> I even considered a byteorder problem (although how
> this would happen in NetCDF files is beyond me), but
> that just make the problem worst.

I'm so flummoxed by the whole situation, I am
speaking in a faux-Chinese accent now. :-(

Cheers,

David
--
David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: http://www.dfanning.com/

Subject: Re: NCEP Reanalysis Temperature Data Problem
Posted by ben.bighair on Thu, 25 Oct 2007 17:38:35 GMT
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On Oct 25, 12:56 pm, David Fanning <da...@dfanning.com> wrote:
> Folks,
>
> I am looking at some monthly NCEP Temperature Data, stored in a
> NetCDF file:
>
> http://www.cdc.noaa.gov/dtat.ncep.reanalysis.pressure.html
>
> I have no problem reading the data file, but the time data,
> which is suppose to be monthly from 1 Jan 1948 to present,
> has a min and max values of 17067072 and 17590104. These looks like
> Julian numbers to me, except they are off by several orders
> of magnitude from anything that makes sense to me!!
>
> IDL> Caldat, 17067072, m, d, y
> IDL> Print, m, d, y
> 12 15 42015

>
> These numbers are even several orders of magnitude bigger
> than the number of SECONDS since 1948. :-(
>
> Does anyone have any experience with this data set and
> have some idea of how I can get these values into something
> that makes sense?
>

Hi David,

While it is hard to figure out the benchmark date - the difference in
the two might be close to the number of hours between 1948 and 2007.
Perhaps it's wishful thinking, but if you know the final date you
might be able to use the first record as a bench mark and figure
subsequent dates from there.

```
IDL> t1=17590104 & t0 = 17067072
IDL> print, t1-t0
     523032
IDL> print,(2007-1948)*365.25*24.
     517194.
```

Cheers,
Ben

Subject: Re: NCEP Reanalysis Temperature Data Problem
Posted by David Fanning on Thu, 25 Oct 2007 17:43:21 GMT
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David Fanning writes:

> P.S. This MIGHT make sense if it is the number of seconds
> since the demise of the dinosaurs, but this seems a dubious
> time unit.

I could, of course, just make up my own damn time
variables. Which, I'm coming to believe strongly, is
what my predecessor did. But that does seem a little
like cheating to me.

Cheers,

David

--

David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: http://www.dfanning.com/

Subject: Re: NCEP Reanalysis Temperature Data Problem
Posted by David Fanning on Thu, 25 Oct 2007 17:48:11 GMT
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ben.bighair writes:

> While it is hard to figure out the benchmark date - the difference in
> the two might be close to the number of hours between 1948 and 2007.
> Perhaps it's wishful thinking, but if you know the final date you
> might be able to use the first record as a bench mark and figure
> subsequent dates from there.
>
> IDL> t1=17590104 & t0 = 17067072
> IDL> print, t1-t0
>   523032
> IDL> print,(2007-1948)*365.25*24.
>   517194.

Yeah, I've been down that road, too. But, again,
the numbers just don't ever add up. Which leads
me to think it is also a dead end. Seconds, years, ...
Milliseconds comes closest, but for gridded data
and a monthly average!? Even govenment scientists
aren't that... Well, never mind. I almost is one on
this project. :-)

Cheers,

David
--
David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: http://www.dfanning.com/

Subject: Re: NCEP Reanalysis Temperature Data Problem
Posted by R.G.Stockwell on Thu, 25 Oct 2007 17:48:34 GMT
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"David Fanning" <david@dfanning.com> wrote in message
news:MPG.218a78b929c16f46989ce8@news.frii.com...
> Folks,

>
> I am looking at some monthly NCEP Temperature Data, stored in a
> NetCDF file:
>
> http://www.cdc.noaa.gov/dtat.ncep.reanalysis.pressure.html
>
> I have no problem reading the data file, but the time data,
> which is suppose to be monthly from 1 Jan 1948 to present,
> has a min and max values of 17067072 and 17590104.

print, 17067072d/24/365

1948.2959

print, 17590104d/24/365

2008.0027

(i'd guess number of hours since 1/1/1 0:0:0 or something)

Subject: Re: NCEP Reanalysis Temperature Data Problem
Posted by David Fanning on Thu, 25 Oct 2007 17:58:00 GMT
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R.G. Stockwell writes:

> print, 17067072d/24/365
>
> 1948.2959
>
> print, 17590104d/24/365
>
> 2008.0027
>
> (i'd guess number of hours since 1/1/1 0:0:0 or something)

Ahhhh. Still a strange unit, como no?

And do we add or subtract the month Julius
Ceasar declared didn't exist to get the final
value? :-(

Thanks,

David

--
David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: http://www.dfanning.com/

Subject: Re: NCEP Reanalysis Temperature Data Problem
Posted by Brian Larsen on Thu, 25 Oct 2007 18:03:20 GMT
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I was just looking at this a touch and found this...

http://www.cdc.noaa.gov/PublicData/faq.html#3

Which could hold some useful info for you...

Cheers,

Brian

---------- ----------
Brian Larsen
Boston University
Center for Space Physics

Subject: Re: NCEP Reanalysis Temperature Data Problem
Posted by Greg Hennessy on Thu, 25 Oct 2007 18:14:40 GMT
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On 2007-10-25, David Fanning <david@dfanning.com> wrote:
> And do we add or subtract the month Julius
> Ceasar declared didn't exist to get the final
> value? :-(

I'll bet is that 11 day shift when we switched from the Julian to the
Gregorian calendar.

Subject: Re: NCEP Reanalysis Temperature Data Problem
Posted by R.G.Stockwell on Thu, 25 Oct 2007 18:23:40 GMT
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"David Fanning" <david@dfanning.com> wrote in message
news:MPG.218a87139cfe6277989ced@news.frii.com...
> R.G. Stockwell writes:
>

>> print, 17067072d/24/365
>>
>> 1948.2959
>>
>> print, 17590104d/24/365
>>
>> 2008.0027
>>
>> (i'd guess number of hours since 1/1/1 0:0:0 or something)
>
> Ahhhh. Still a strange unit, como no?
>
> And do we add or subtract the month Julius
> Ceasar declared didn't exist to get the final
> value? :-(

hour = 17067072d

day = hour/24

julday = julday(1,1,1,0,0,0)+day

CALDAT, julday, Month , Day , Year , Hour , Minute , Second

print, Month , Day , Year , Hour , Minute , Second

>
1 1 1948 0 0 4.0233135e-005

Seems bang on.

Cheers,

bob

Subject: Re: NCEP Reanalysis Temperature Data Problem
Posted by Kenneth P. Bowman on Thu, 25 Oct 2007 18:27:31 GMT
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In article <MPG.218a8245507fa0a9989cea@news.frii.com>,

David Fanning <david@dfanning.com> wrote:

> David Fanning writes:
>
>> I even considered a byteorder problem (although how
>> this would happen in NetCDF files is beyond me), but
>> that just make the problem worst.
>
> I'm so flummoxed by the whole situation, I am
> speaking in a faux-Chinese accent now. :-(
>
> Cheers,
>
> David

The time is expressed as hours since 0001-01-01 00:00:00.

I have a rather large library to read these files if you are
interested. Of course, it uses my own date and time routines. ;-)

Ken Bowman

Subject: Re: NCEP Reanalysis Temperature Data Problem
Posted by David Fanning on Thu, 25 Oct 2007 18:33:02 GMT
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Folks,

OK, just so we are all on the same page here. The time data
in this NetCDF file is in hours since 1 January 0001. (Strange,
but true.) BUT, here is the thing, you are not *suppose*
to worry about that. What you are suppose to worry about
is the time *difference*.

So, in this data set, if I subtract time[1]-time[0]
I should have the number of hours between the two
measurements. If I divide by 24, I should get the number
of days:

```
IDL> Print, (time[1]-time[0]) / 24
      31
```

In fact, if I do this:

```
IDL> Print, (Shift(time,1) - time) / 24
```

I get a comforting series of 31s and 30s, with the occational

28 thrown in there to give me hope!

So, all appears to be well in the Universe again. :-)

Thanks for everyone's help.

Cheers,

David
--
David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: http://www.dfanning.com/

Subject: Re: NCEP Reanalysis Temperature Data Problem
Posted by David Fanning on Thu, 25 Oct 2007 18:35:43 GMT
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R.G. Stockwell writes:

> hour = 17067072d
>
> day = hour/24
>
> julday = julday(1,1,1,0,0,0)+day
>
>
> CALDAT, julday, Month , Day , Year , Hour , Minute , Second
>
> print, Month , Day , Year , Hour , Minute , Second
>
>>
> 1 1 1948 0 0 4.0233135e-005
>
>
> Seems bang on.

I'll write this up, so the next poor schmuck who has to
read a new type of NetCDF file doesn't waste a whole morning!

Cheers,

David

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

Subject: Re: NCEP Reanalysis Temperature Data Problem
Posted by R.G.Stockwell on Thu, 25 Oct 2007 18:37:56 GMT
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"David Fanning" <david@dfanning.com> wrote in message
news:MPG.218a8f2f68d912f6989cee@news.frii.com...
> Folks,
>
> OK, just so we are all on the same page here. The time data
> in this NetCDF file is in hours since 1 January 0001. (Strange,
> but true.) BUT, here is the thing, you are not *suppose*
> to worry about that. What you are suppose to worry about
> is the time *difference*.

I'd guess it is just Julian Day * 24 (+ offset). So let the caldat julday routines do all the headaching about it.

So you can use it as the absolute date (as in that blurb of code i posted), as well as just looking at differences.

Cheers,
bob

Subject: Re: NCEP Reanalysis Temperature Data Problem
Posted by ben.bighair on Thu, 25 Oct 2007 18:42:56 GMT
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On Oct 25, 2:33 pm, David Fanning <da...@dfanning.com> wrote:
> Folks,
>
> OK, just so we are all on the same page here. The time data
> in this NetCDF file is in hours since 1 January 0001. (Strange,
> but true.) BUT, here is the thing, you are not *suppose*
> to worry about that. What you are suppose to worry about
> is the time *difference*.
>
> So, in this data set, if I subtract time[1]-time[0]
> I should have the number of hours between the two
> measurements. If I divide by 24, I should get the number
> of days:
>
> IDL> Print, (time[1]-time[0]) / 24

>   31
>
> In fact, if I do this:
>
>   IDL> Print, (Shift(time,1) - time) / 24
>
> I get a comforting series of 31s and 30s, with the occational
> 28 thrown in there to give me hope!
>
> So, all appears to be well in the Universe again. :-)
>
> Thanks for everyone's help.
>

All this help was, ehem, timely?

Cheers,
Ben

Subject: Re: NCEP Reanalysis Temperature Data Problem
Posted by David Fanning on Thu, 25 Oct 2007 19:22:53 GMT
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David Fanning writes:

> I'll write this up, so the next poor schmuck who has to
> read a new type of NetCDF file doesn't waste a whole morning!

Whoops! Might help to actually READ the damn web page
once in awhile. :-(

  http://www.dfanning.com/misc_tips/julianday.html

Cheers,

David

P.S. Thanks to my good friend, Matt, for pointing this
out to me privately.

--
David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: http://www.dfanning.com/

Subject: Re: NCEP Reanalysis Temperature Data Problem
Posted by David Fanning on Thu, 25 Oct 2007 19:30:19 GMT
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David Fanning writes:

> Whoops! Might help to actually READ the damn web page
> once in awhile. :-(
>
> http://www.dfanning.com/misc_tips/julianday.html

And I would be WAY amiss, if I failed to point out
that it was Mark Hadfield to explained all this to me
once upon a time. I should have listened more carefully,
but at the time I didn't have a clue what he was ranting
about. :-)

Cheers,

David
--
David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: http://www.dfanning.com/

Subject: Re: NCEP Reanalysis Temperature Data Problem
Posted by Greg Hennessy on Thu, 25 Oct 2007 19:57:38 GMT
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On 2007-10-25, David Fanning <david@dfanning.com> wrote:
> Whoops! Might help to actually READ the damn web page
> once in awhile. :-(

You wrote it. You shouldn't be expected to READ it as well.