
Subject: EOF Arctic Oscillation for beginner
Posted by [siumtesfai](#) on Fri, 06 Mar 2015 22:03:41 GMT
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Hello All,

I have difficulty in reproducing AO regression map
(http://www.cpc.ncep.noaa.gov/products/precip/CWlink/daily_ao_index/ao.loading.shtml)

I am working with the code (http://www.idlcoyote.com/code_tips/eof_analysis.html)

According the website it says

Note that my latitude values go from 47.5 to 90.0 degrees of latitude, in 2.5 degree increments. I am going to subtract 1.75 degrees from each of these latitude values, in order to locate the latitudes in the center of the grid, and to avoid multiplying by zero for all the latitudes at 90 degrees.

so dlat/2. should be 1.75

```
dims = Size(air_temp, /Dimensions)
nlon = dims[0] & nlat = dims[1] & ntime = dims[2]
lon = Reform(lon_ncep[,0]) & dlon = Abs(lon[1]-lon[0])
lat = Reform(lat_ncep[0,*]) & dlat = Abs(lat[1]-lat[0])
weights = Sqrt(Cos((lat_ncep - dlat/2.) * !DtoR))
FOR j=0,ntime-1 DO air_temp[:,*,j] = air_temp[:,*,j] * weights
```

any suggestion

Best regards

Subject: Re: EOF Arctic Oscillation for beginner
Posted by [David Fanning](#) on Fri, 06 Mar 2015 22:19:28 GMT
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siumtesfai@gmail.com writes:

> According the website it says
> Note that my latitude values go from 47.5 to 90.0 degrees of latitude, in 2.5 degree increments.
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>
> so dlat/2. should be 1.75

I think 1.25 probably makes more sense. :-)

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: EOF Arctic Oscillation for beginner

Posted by [siumtesfai](#) on Fri, 06 Mar 2015 22:37:43 GMT

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On Friday, March 6, 2015 at 5:19:35 PM UTC-5, David Fanning wrote:

> siumtesfai@gmail.com writes:

>

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>>

>> so dlat/2. should be 1.75

>

> I think 1.25 probably makes more sense. :-)

>

> Cheers,

>

> David

> --

> David Fanning, Ph.D.

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> Sepore ma de ni thue. ("Perhaps thou speakest truth.")

Thanks

I have used geopotential height at 1000hPa from NCEP/NCAR

I looked at JFM average , and other seasons.

The PC1 looks similar to their website (

http://www.cpc.ncep.noaa.gov/products/precip/CWlink/daily_ao_index/JFM_season_ao_index.shtml)

However, when I regress the EOF with PC1 , I do not see dipole structure.

Did I get the method right or somethings is wrong which I do not understand ?

My final answer should be similar to the figure from NOAA website
(http://www.cpc.ncep.noaa.gov/products/precip/CWlink/daily_ao_index/ao.loading.shtml)

Thanks for your help

Subject: Re: EOF Arctic Oscillation for beginner
Posted by [David Fanning](#) on Fri, 06 Mar 2015 22:58:03 GMT
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siumtesfai@gmail.com writes:

- > I have used geopotential height at 1000hPa from NCEP/NCAR
- > I looked at JFM average , and other seasons.
- > The PC1 looks similar to their website (
http://www.cpc.ncep.noaa.gov/products/precip/CWlink/daily_ao_index/JFM_season_ao_index.shtml)
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- >
- > My final answer should be similar to the figure from NOAA website
- > (http://www.cpc.ncep.noaa.gov/products/precip/CWlink/daily_ao_index/ao.loading.shtml)

I really couldn't tell you. I did that work a long time ago. I don't remember much about it, except that I spent weeks working it out. It certainly seemed to produce correct answers (at least consistent with other methods I tested) when I was doing that particular study.

But, I'm retired now, and even thinking about EOF analysis gives me a headache. :-(

Cheers,

David

--

David Fanning, Ph.D.
Fanning Software Consulting, Inc.
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Subject: Re: EOF Arctic Oscillation for beginner
Posted by [siumtesfai](#) on Fri, 06 Mar 2015 23:00:16 GMT
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On Friday, March 6, 2015 at 5:58:06 PM UTC-5, David Fanning wrote:

> siumtesfai@gmail.com writes:

>

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http://www.cpc.ncep.noaa.gov/products/precip/CWlink/daily_ao_index/JFM_season_ao_index.shtml)

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> David

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> David Fanning, Ph.D.

> Fanning Software Consulting, Inc.

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> Sepore ma de ni thue. ("Perhaps thou speakest truth.")

Oh Sorry . Thank you . You did help me
