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Subject: Overlaying gridded winds on satellite data  
Posted by [Chris\[3\]](#) on Wed, 20 Jul 2005 04:17:15 GMT  
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Hello all...this maybe a rather simple question...but for some reason I am having problems and getting rather frustrated. I am hoping that you guys may have an answer for me. I have visible satellite data which is in NetCDF format which I can easily get displayed. However, my problem is laying gridded wind barbs...which are in 900x900 arrays to print on top of the satellite data. Everytime I do it...the latitudes and longitudes do not match up correctly...they are close but not correct. Does anyone know how I could fix this? Thanks for all the help.

Sincerely,

A Frustrated Graduate Student

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Subject: Re: Overlaying gridded winds on satellite data  
Posted by [David Fanning](#) on Wed, 20 Jul 2005 21:44:50 GMT  
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Chris writes:

> Hey David...I just wanted to thank you again for all of your  
> help...it's been great and I have learned a lot. I have one more quick  
> question for you...and I promise I'll try to not bother you again. With  
> the wind barb procedure...the second direction is the correct  
> way...however the barbs point in the wrong direction...do you know  
> which part of the code I can fix this in?

I'm not making any more changes in this program until someone sends me a definitive reference for wind barbs. This program has generated more unsolicited and contradictory advice than any I have ever written! If I now change the direction of the barbs, all hell will break loose.

If \*you\* want to do it, however, look in the code for PLOTS commands. :-)

Cheers,

David

--

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

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Subject: Re: Overlaying gridded winds on satellite data  
Posted by [Chris\[3\]](#) on Wed, 20 Jul 2005 21:52:49 GMT  
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Hey David,

Understandable...I don't blame you at all for not changing it. I will try working with it and see what I can do. Thanks again for your help.

Chris

David Fanning wrote:

> Chris writes:

>

>> Hey David...I just wanted to thank you again for all of your  
>> help...it's been great and I have learned a lot. I have one more quick  
>> question for you...and I promise I'll try to not bother you again. With  
>> the wind barb procedure...the second direction is the correct  
>> way...however the barbs point in the wrong direction...do you know  
>> which part of the code I can fix this in?

>

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> someone sends me a definitive reference for wind barbs.  
> This program has generated more unsolicited and contradictory  
> advice than any I have ever written! If I now change the  
> direction of the barbs, all hell will break loose.

>

> If \*you\* want to do it, however, look in the code  
> for PLOTS commands. :-)

>

> Cheers,

>

> David

>

>

> --

> David Fanning, Ph.D.

> Fanning Software Consulting, Inc.

> Coyote's Guide to IDL Programming: <http://www.dfanning.com/>

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Subject: Re: Overlaying gridded winds on satellite data  
Posted by [Chris Lee](#) on Thu, 21 Jul 2005 07:28:18 GMT  
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In article <MPG.1d4873bdfd7ab7a5989a20@news.frii.com>, "David Fanning" <davidf@dfanning.com> wrote:

> I'm not making any more changes in this program until someone sends me a  
> definitive reference for wind barbs. This program has generated more  
> unsolicited and contradictory advice than any I have ever written! If I  
> now change the direction of the barbs, all hell will break loose. If  
> \*you\* want to do it, however, look in the code for PLOTS commands. :-)  
> Cheers,  
> David

Wind barbs point in the direction the wind is coming FROM. Hence the terms westward (winds coming from the west) and eastward (winds coming from the east) etc.

[http://ww2010.atmos.uiuc.edu/\(Gh\)/guides/maps/sfcobs/wnd.rxml](http://ww2010.atmos.uiuc.edu/(Gh)/guides/maps/sfcobs/wnd.rxml)  
[http://www.rap.ucar.edu/weather/info/about\\_windbarb.html](http://www.rap.ucar.edu/weather/info/about_windbarb.html)  
[http://sanangelo.tamu.edu/bookmark/wind\\_dir.htm](http://sanangelo.tamu.edu/bookmark/wind_dir.htm)  
<http://www.al.noaa.gov/WWWHD/pubdocs/windbarb.html>  
(this one sounds 'wrong' at first, but it really is correct, the feathers are on the back of the 'arrow', also tells you which way the feathers point)

Of course, if the users wind vectors are wrong, there's no convincing them otherwise. Wind vectors are usually northerly(to the north) and easterly(to the east), but I've seen westerly data (you could obviously use keywords like /WESTERLY and /EASTERLY).

I've never used the stationplot/windbarb programs. Can the STATIONPLOT function show the cloud coverage (in the circle)? Or is the 3/4 filled circle the symbol for a weatherstation?

Chris L.

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Subject: Re: Overlaying gridded winds on satellite data  
Posted by [R.G. Stockwell](#) on Thu, 21 Jul 2005 14:53:09 GMT  
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"Christopher Lee" <cl@127.0.0.1> wrote in message  
news:20050721.082817.1875335928.19310@buckley.atm.ox.ac.uk..

> Wind barbs point in the direction the wind is coming FROM. Hence the  
> terms westward (winds coming from the west) and eastward (winds coming  
> from the east) etc.

You forgot to include the minus sign out front. :)  
Eastward blows towards the east. Eastward = Westerly (out of the West).

Colin Hines, the great Canadian Physicist, had a great line about the confusion between this terminology. I don't remember what it was, so I'll make one up.

"One walks forwards, one does not walk backwardserly".

The point of course was that everyone should use the terms \*wards, and banish

\*erly from the literature.

Having said that, I do recognize that "an eastward wind" often means that it is

an easterly wind. So basically no one can conclude what the frelling direction

of the wind is, there is a 180 degree ambiguity.

"David Fanning" <davidf@dfanning.com> wrote in message news:MPG.1d4873bdf7ab7a5989a20@news.frii.com...

...

> I'm not making any more changes in this program until  
> someone sends me a definitive reference for wind barbs.

..

The barbs are \*erly, i.e. what direction the wind came from.  
Arrows should be \*wards, i.e. what direction the wind is blowing.

What better definitive reference than a semi-anonymous usenet posting.

Also, for barbs, see <http://www.al.noaa.gov/WWWHD/pubdocs/windbarb.html>

Cheers,

bob (the human, not to be confused with JD's pointer pointing to a big pile of data)

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Subject: Re: Overlaying gridded winds on satellite data  
Posted by [David Fanning](#) on Thu, 21 Jul 2005 15:03:33 GMT  
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Christopher Lee writes:

> Wind barbs point in the direction the wind is coming FROM. Hence the  
> terms westward (winds coming from the west) and eastward (winds coming  
> from the east) etc.

>

> [http://ww2010.atmos.uiuc.edu/\(Gh\)/guides/maps/sfcobs/wnd.rxml](http://ww2010.atmos.uiuc.edu/(Gh)/guides/maps/sfcobs/wnd.rxml)

> [http://www.rap.ucar.edu/weather/info/about\\_windbarb.html](http://www.rap.ucar.edu/weather/info/about_windbarb.html)

> [http://sanangelo.tamu.edu/bookmark/wind\\_dir.htm](http://sanangelo.tamu.edu/bookmark/wind_dir.htm)

> <http://www.al.noaa.gov/WWHD/pubdocs/windbarb.html>  
> (this one sounds `wrong' at first, but it really is correct, the feathers  
> are on the back of the `arrow', also tells you which way the feathers  
> point)  
>  
> Of course, if the users wind vectors are wrong, there's no convincing  
> them otherwise. Wind vectors are usually northerly(to the north) and  
> easterly(to the east), but I've seen westerly data (you could  
> obviously use keywords like /WESTERLY and /EASTERLY).

In light of this information I have reverted to my original notion of how to draw the wind arrow. I have also improved the documentation so that it is clear what direction I assume the positive wind vectors are pointing in. In the northern hemisphere, the "feathers" on the arrow shaft are drawn in the clockwise direction (which is what I was doing previously), but I have added a SOUTHERN\_HEMISPHERE keyword to draw the feathers in a counterclockwise direction, which is apparently the norm for our friends down under.

And while I was hacking around, I also fixed a small problem with the CLIP keyword.

So, I expect this to be the definitive word on the subject. :-)

You can find the updated program here:

<http://www.dfanning.com/programs/windbarb.pro>

> I've never used the stationplot/windbarb programs. Can the STATIONPLOT  
> function show the cloud coverage (in the circle)? Or is the 3/4 filled  
> circle the symbol for a weatherstation?

It could be made to show the cloud coverage, I'm sure, but currently is is the 3/4 filled circle symbol for a weather station.

Cheers,

David

--

David Fanning, Ph.D.

Fanning Software Consulting, Inc.

Coyote's Guide to IDL Programming: <http://www.dfanning.com/>

Subject: Re: Overlaying gridded winds on satellite data  
Posted by [Mark Hadfield](#) on Thu, 21 Jul 2005 23:00:12 GMT  
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R.G. Stockwell wrote: [quoting selectively]  
> Having said that, I do recognize that "an eastward wind"  
> often means that it is an easterly wind.

Thanks for clearing that up, Bob.

--

Mark Hadfield        "Kei puwaha te tai nei, Hoesa tahi tatou"  
m.hadfield@niwa.co.nz  
National Institute for Water and Atmospheric Research (NIWA)

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Subject: Re: Overlaying gridded winds on satellite data  
Posted by [Chris Lee](#) on Fri, 22 Jul 2005 07:31:35 GMT  
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In article <DFODE.15\$ce4.7452@news.uswest.net>, "R.G. Stockwell"  
<no@email.please> wrote:

> "Christopher Lee" <cl@127.0.0.1> wrote in message  
> news:20050721.082817.1875335928.19310@buckley.atm.ox.ac.uk..  
>> Wind barbs point in the direction the wind is coming FROM. Hence the  
>> terms westward (winds coming from the west) and eastward (winds coming  
>> from the east) etc.  
> You forgot to include the minus sign out front. :) Eastward blows  
> towards the east. Eastward = Westerly (out of the West). Colin Hines,  
> the great Canadian Physicist, had a great line about the confusion  
> between this terminology. I don't remember what it was, so I'll make  
> one up.  
>

Yeah, uh, oops. I meant easterly and westerly...obviously :) I'm sure  
the first `draft' was worded differently.

Chris.

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Subject: Re: Overlaying gridded winds on satellite data  
Posted by [Chris Lee](#) on Fri, 22 Jul 2005 07:33:35 GMT  
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In article <MPG.1d496725a4655cc989a24@news.frii.com>, "David Fanning"  
<davidf@dfanning.com> wrote:

> Christopher Lee writes:  
>  
>> I've never used the stationplot/windbarb programs. Can the STATIONPLOT  
>> function show the cloud coverage (in the circle)? Or is the 3/4 filled  
>> circle the symbol for a weatherstation?  
> It could be made to show the cloud coverage, I'm sure, but currently is  
> is the 3/4 filled circle symbol for a weather station.  
> Cheers,  
> David  
>

Yeah, ....., you might want to reverse all the words I used, (not just the  
westerly/westward etc. ALL of them :) the post might make sense  
then..going now :(

Chris.

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Subject: Re: Overlaying gridded winds on satellite data  
Posted by [K. Bowman](#) on Fri, 22 Jul 2005 16:56:00 GMT  
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In article <20050722.083335.706043324.21076@buckley.atm.ox.ac.uk>,  
"Christopher Lee" <cl@127.0.0.1> wrote:

This won't add anything of substance to this topic. ;-)

I think the terms westerly, northerly, etc. are pre-scientific usages that have  
persisted into scientific applications. From a physicist's point a view, air  
moving from north to south would have a velocity vector pointing southward. The  
average person, however, is more interested in where the wind is coming from  
than where is is going to (a northerly wind, being from the north, is cold, etc.)

To confuse things further, the oceanographic usage is the reverse of the  
meteorological usage. That is, an easterly current is toward the east. This  
does make sense, as a ship is more interested in where a current will carry it,  
than where the water came from.

The dictionary has both senses of the word (toward and east as well as from the  
east). To avoid confusion, I tend to use westward, rather than easterly.

Ken Bowman

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