Subject: plotting a tropical cyclone symbol
Posted by Brian McNoldy on Wed, 14 Jun 2017 16:26:57 GMT
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Something that several users of this language would likely find useful is the tropical cyclone symbol (basically a circle with two spiral arms sticking out).

In Hershey fonts, one variety exists: in the Miscellaneous font set, it is the "<" character (https://www.harrisgeospatial.com/docs/html/images/font20.gif). With the TEXT function, it can be created using:
t=text(x,y,"<",font_name="Hershey 20")

However, that symbol has variants that would be extremely useful if they were available. If the symbol is filled in, it represents a hurricane; if it's unfilled, it represents a tropical storm. But the same two symbols should exist for the southern hemisphere too; the unfilled or filled symbol would be flipped upside-down.

These four symbols would be excellent to have in IDL... All four symbols are already available in NCL:
 https://www.ncl.ucar.edu/Document/Graphics/Images/font35.png ("k" and "m")
 https://www.ncl.ucar.edu/Document/Graphics/Images/font37.png ("p" and "s")

Anyone have any insights into this?

Thank you!!
Brian

Subject: Re: plotting a tropical cyclone symbol
Posted by natha on Wed, 14 Jun 2017 17:51:29 GMT
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If you have the font file (ttf) I think that you can add the font to IDL and use its characters...
 http://slugidl.pbworks.com/w/page/29632183/Adding%20a%20Font
%20to%20IDL%20and%20Very%20Special%20Characters

Subject: Re: plotting a tropical cyclone symbol
Posted by Brian McNoldy on Wed, 14 Jun 2017 18:23:42 GMT
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On Wednesday, June 14, 2017 at 1:51:31 PM UTC-4, nata wrote:
> If you have the font file (ttf) I think that you can add the font to IDL and use its characters...
>   http://slugidl.pbworks.com/w/page/29632183/Adding%20a%20Font
%20to%20IDL%20and%20Very%20Special%20Characters

Thanks for the suggestion, but I do not have or know of a TTF file with those characters/symbols.

They are pretty hard to come by, but since NCL offers all of them, it would make sense that IDL would want to remain competitive.

Subject: Re: plotting a tropical cyclone symbol
Posted by Kenneth Bowman on Tue, 27 Jun 2017 15:10:20 GMT
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On Wednesday, June 14, 2017 at 1:23:43 PM UTC-5, Brian McNoldy wrote:

> Thanks for the suggestion, but I do not have or know of a TTF file with those characters/symbols. They are pretty hard to come by, but since NCL offers all of them, it would make sense that IDL would want to remain competitive.

You can draw an arbitrary filled or unfilled symbol using USERSYM and plot it with PLOTS.

We used it to create the outline of an airplane for animations of flight tracks (including rotating the direction of the plane).

This creates a filled or unfilled circular plotting symbol for when you need a finite-sized dot (as opposed to PSYM = 3).

Unfortunately you can only have on e USERSYM at at time, so you will have to redefine the symbol when switching between filled and unfilled.

Ken

```
PRO USERSYM_CIRCLE, FILL = fill, NPOINT = npoints

;+
; Name:
;   USERSYM_CIRCLE
; Purpose:
;   Define a circular plotting symbol using USERSYM.
; Calling sequence:
;   USERSYM_CIRCLE
; Inputs:
;   None
; Output:
;   Changes definition of user-defined symbol (PSYM = 8).
; Keywords:
;   FILL : If set, make the symbol filled
; Author and history:
;   K. Bowman.  2006-07-11
;-

COMPILE_OPT IDL2            ;Set compile options
```

```
IF (N_ELEMENTS(npoints) EQ 0) THEN npoints = 17

USERSYM, 0.5*COS(2.0*!PI*FINDGEN(npoints)/npoints), $      ;Create circular plotting symbol
  0.5*SIN(2.0*!PI*FINDGEN(npoints)/npoints), $
 FILL = fill

END
```

Subject: Re: plotting a tropical cyclone symbol
Posted by chris_torrence@NOSPAM on Mon, 03 Jul 2017 20:09:23 GMT

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I've added 4 new symbols to the DejaVuSymbol font in IDL 8.6.1, representing tropical cyclones (filled/unfilled, Northern/Southern).

You can access these by setting the font to DejaVuSymbol and using byte codes 234, 236, 248, or 250.

Cheers,
Chris