Subject: Re: Regrid / Interpolation Question
Posted by Kenneth P. Bowman on Fri, 23 Mar 2012 14:59:46 GMT
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In article < 25522340.354.1332458318275.JavaMail.geo-discussion-forums@vb at19 >,
Sean <seand13@gmail.com> wrote:

> All,
>
> I have what seems to be a straightforward re-gridding/interpolation problem,
> but AFAIK there is no built-in vectorized way to do this that avoids loops.
>
> Here's my inputs --
> vin and yin are arrays of size (ni, nj), and the values of yin are ordered
> along rows
> (e.g., yin[i+1,*] > yin[i,*] for 0 =< i =< (ni-2))
> yout is an array of length nk
>
> The looped version of the interpolation is the following:
>
> yout = fltarr(nk,nj)
> for j = 0, nj-1 do yout[*,j] = interpol(yin[*,j], vin[*,j], yout)
>
> Is there an elegant and/or built-in way to do this without involving a loop?
>
> I've written a somewhat convoluted program to do this without a loop, but it
> involves some transforming and doesn't seem very elegant. I'm happy to upload
> if someone wants to see it.
>
> Sean

Use INTERPOLATE instead of INTERPOL, and compute a 2-D array of
coordinates to match yin that contains the row index of each point.

Ken Bowman