Subject: Re: Interpolation
Posted by siumtesfai on Sun, 22 Feb 2015 23:01:26 GMT
View Forum Message <> Reply to Message

On Sunday, February 22, 2015 at 5:00:57 PM UTC-5, David Fanning wrote:
> siumtesfai@gmail.com writes:
>
>> The location of my stations are random.
>
> Yes, these are the locations for which you are seeking fractional
> indices, right? Otherwise, your grid is regular in latitude and
> longitude.
>
> 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.")

As you have suggested, I did the interpolation for station data

Do you think I have issue with Value_locate for latitude because my latitude ranges from -90 to 90 degree ?

```
 ;+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++ +++++++
; Original model data at 192 X 96 degree spatial resolution
;  Data = Array[lon,lat,pressure, time]
;  data=Array[192, 96, 17, 1872]


; Extract one pressure level (e.g 850hPa) and interpolate to 2.5 X 2.5 degree spatial resolution

;  Interpolated one pressure level data (WS)

 WS=fltarr(144,73,n_elements(time))


;  Now Interpolate again to a station data

        slon  = findgen(144)*2.5
        slat  = findgen(73)*2.5-90
```

```
;  Station location example, at longitude 190 and latitude 37

; Find longitude fractional index.

  slonval = 190
  slonstep = slon[1] - slon[0]
   closeIndex = Value_Locate(slon, slonval)
   slonFracIndex = closeIndex + ((slonval - slon[closeIndex]) / slonstep)

    ; Find latitude fractional index.

     slatval = 37
      slatstep = slat[1] - slat[0]
      closeIndex = Value_Locate(slat, slatval)
      slatFracIndex = closeIndex + ((slatval - slat[closeIndex]) / slatstep)

   interpValue=fltarr(ntime)+1E20

      FOR i =0,n_elements(time)-1 do begin

        griddedArray=reform(WS(*,*,i))

        interpValue(i) = Interpolate(griddedArray, slonFracIndex, slatFracIndex)

        ENDFOR

        end

 ;+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++ ++++++++++
```