Subject: co-kringing
Posted by ggggg on Thu, 07 Apr 2011 13:49:58 GMT
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hallo all,

I tried to do some kriging with irregularly sampled precipation measurments, worked not bad (have a look at the code) know i want do do some cokriging with precipation and height. is that possible in idl? which procedure does help me? couldn't find anything!

as input i have 4 one-dimensional arrays with

```
x = stationlist.lon  ;longitudes fltarr(600)
y = stationlist.lat  ;latitudes fltarr(600)
data2= total(data,2) ;precipation data fltarr(600)
data3                ;height data fltarr(600)
```

hope someone can help me

thanks
M.S.

####code###########

```
pro example7griddata


restore,filename='h:\schule\bachelorarbeit\daten3km.sav'
maps
;für alle modelldaten#########################

x = stationlist.lon  ;longitudes fltarr(600)
y = stationlist.lat  ;latitudes fltarr(600)
data2= total(data,2) ;precipation data fltarr(600)
data3                ;height data fltarr(600)

;##############################3


; Grid the Data and Display the Results:

; Preprocess and sort the data. GRID_INPUT will
; remove any duplicate locations.
```

```
GRID_INPUT, x, y, data2, xSorted, ySorted, dataSorted


; Initialize the grid parameters.
gridSize = [100, 100]
minxy=[5.9,45.5] ;minxy=[minx,miny] boundaries of the contour plot,
bottom left corner
maxxy=[10.6,48];maxxy=[maxx,maxy] upper right corner
; Use the equation of a straight line and the grid parameters to
; determine the x of the resulting grid.
slope = (MAXxy[0] - MINxy[0])/(gridSize[0] - 1)
intercept = Minxy[0]
xGrid = (slope*FINDGEN(gridSize[0])) + intercept

; Use the equation of a straight line and the grid parameters to
; determine the y of the resulting grid.
slope = (MAXxy[1] - MINxy[1])/(gridSize[1] - 1)
intercept = MINxy[1]
yGrid = (slope*FINDGEN(gridSize[1])) + intercept


DEVICE, DECOMPOSED = 0
loadct,1
; Grid the data with faulting using the Radial Basis Function
; method.
grid = GRIDDATA(xSorted, ySorted, dataSorted, $
   DIMENSION = gridSize, METHOD = 'kriging', $
   MISSING = MIN(dataSorted))

  col=findgen(255)

  col=reverse(col)
; Display grid results.
CONTOUR, BYTSCL(grid), xGrid, YGrid,/overplot, /follow,/XSTYLE, /
YSTYLE, nlevels=n_elements(col),C_COLORS =col,/fill


MAP_CONTINENTS, /COUNTRIES, COLOR=white, MLINETHICK=2, /hires
MAP_CONTINENTS, /COASTS, COLOR=255, /hires

end



Pro maps

maplimit =  [45.7, 5.9, 47.8, 10.6] ;NMM22 europe
```

```
; Handle TrueColor displays:
DEVICE, DECOMPOSED=0

; Load discrete color table:
tek_color

; Match color indices to colors we want to use:
black=0 & white=1 & red=2
green=3 & dk_blue=4 & lt_blue=5

; Set up an orthographic projection centered over the north
; Atlantic.Fill the hemisphere with dark blue. Specify black
; gridlines:
;MAP_SET,  /ORTHO, 40, -30, 23, /ISOTROPIC, $
 ;  /HORIZON, E_HORIZON={FILL:1, COLOR:dk_blue}, $
  ; /GRID, COLOR=black

 MAP_SET, /ORTHOGRAPHIC, 48, 7, limit = maplimit,/iso, $
       /GRID, LONDEL=15, LATDEL=15,color=1, title ='stationen',/hires

; Fill the continent boundaries with solid white:
MAP_CONTINENTS, /FILL_CONTINENTS, COLOR=1,/hires

; Overplot coastline data:
MAP_CONTINENTS, /COASTS, COLOR=0, /hires

; Add rivers, in light blue:
;MAP_CONTINENTS, /RIVERS, COLOR=lt_blue

; Show national borders:
MAP_CONTINENTS, /COUNTRIES, COLOR=0, MLINETHICK=2, /hires

end
```