

Creación de mapas y gráficos

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Figuras y Gráficos

Pasos para hacer un gráfico de línea?

- 1. Abre una ventana en modo 'expert':** <http://www.climatedatalibrary.cl/expert>
- 2. Inicia con un variable en formato grilla:**
Ejemplo: SOURCES .UEA .CRU .TS2p1 .monthly .prcp
- 3. Esta variable tiene tres componentes: Longitud (X), Latitud (Y) y Tiempo(T)**

Independent Variables (Grids)

Time

grid: /T (months since 1960-01-01) ordered (Jan 1901) to (Dec 2002) by 1.0 N= 1224 pts :grid

Longitude

grid: /X (degree_east) periodic (179.75W) to (179.75E) by 0.5 N= 720 pts :grid

Latitude

grid: /Y (degree_north) ordered (89.75S) to (89.75N) by 0.5 N= 360 pts :grid

- 4. Para generar un gráfico lineal, se requiere reducir la dimension:**

Ejemplo: X -70 VALUE

Y -32 VALUE

Time

grid: /T (months since 1960-01-01) ordered (Jan 1901) to (Dec 2002) by 1.0 N= 1224 pts :grid

Longitude

grid: /X (degree_east) ordered [(70.25W)] :grid

Latitude

grid: /Y (degree_north) ordered [(32.25S)] :grid

Figuras y Gráficos

Pasos para hacer un gráfico de línea?

5. Se selecciona ahora el componente T, que se agrega al 'stack'

UEA CRU TS2p1 monthly prcp 70.25W 32.25S[X Y | T]

grid: /T (months since 1960-01-01) ordered (Jan 1901) to (Dec 2002) by 1.0 N= 1224 pts :grid

```
expert
SOURCES .UEA .CRU .TS2p1 .monthly .prcp
X -70 VALUE
Y -32 VALUE
T
```

6. La figura se genera con la función *fig*:

- Syntaxis: `componente fig: line :fig`
- Ejemplo: `T fig: line :fig`
- Nota: se puede cambiar el color y estilo de la linea agregando, por ejemplo
`T fig: red dotted line :fig`



Data Library

Finding Data

Tutorial

Questions & Answers

Function Documentation



help

details and options

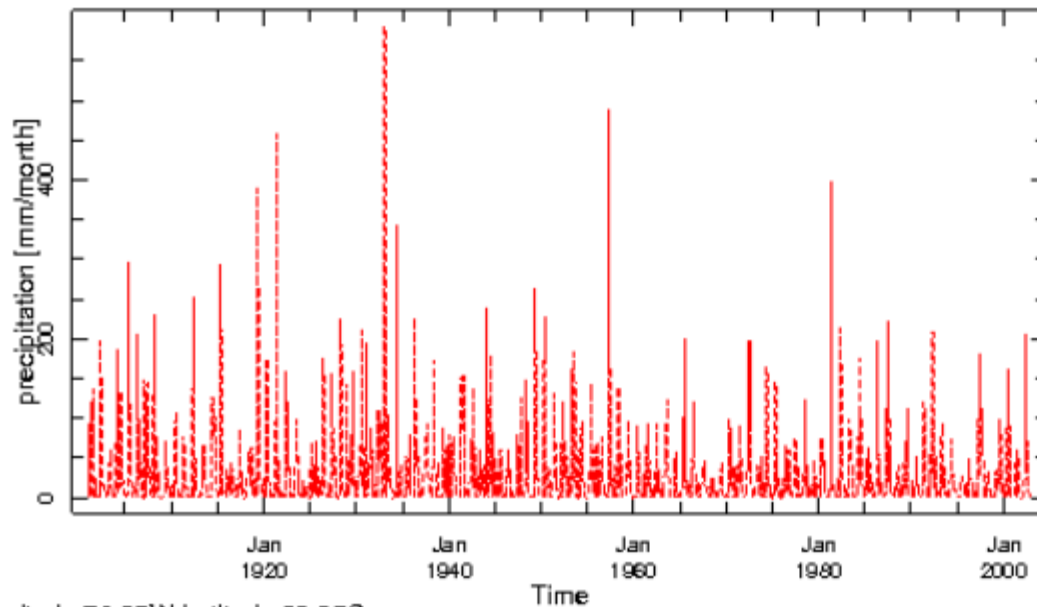
```
expert
SOURCES .UEA .CRU .TS2p1 .monthly .prcp
X -70 VALUE
Y -32 VALUE
T fig: red dashed line :fig
```

OK

reset

- UEA CRU TS2p1 monthly prcp 70.25W 32.25S[X Y | T]
- grid: /T (months since 1960-01-01) ordered (Jan 1901) to (Dec 2002) by 1.0 N= 1224 pts :grid
- fig: red dashed line :fig

CRS:1



Figuras y Gráficos

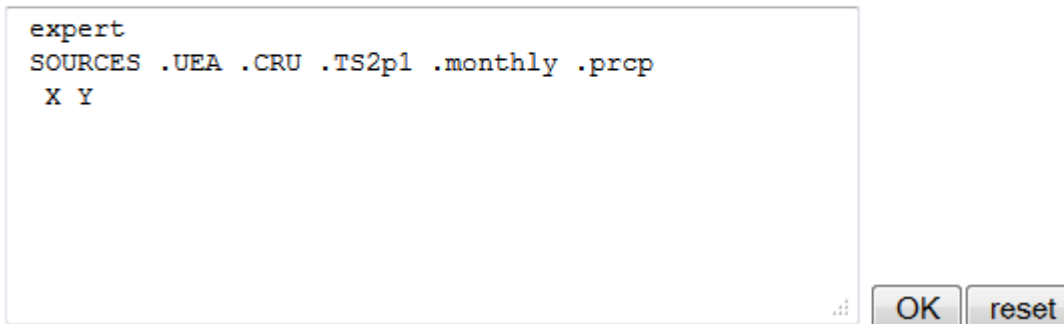
Pasos para hacer un mapa?

1. **Abre una ventana en modo 'expert':** <http://www.climatedatalibrary.cl/expert>
2. **Inicia con un variable en formato grilla:**
Ejemplo: SOURCES .UEA .CRU .TS2p1 .monthly .prcp
3. **Para mapas necesitamos agregar explícitamente Longitud (X) y Latitud (Y) al stack**

UEA CRU TS2p1 monthly prcp[X Y | T]

grid: /X (degree_east) periodic (179.75W) to (179.75E) by 0.5 N= 720 pts :grid
grid: /Y (degree_north) ordered (89.75S) to (89.75N) by 0.5 N= 360 pts :grid }

```
expert
SOURCES .UEA .CRU .TS2p1 .monthly .prcp
X Y
```



4. **Para un mapa de colors se agrega la función *fig*:**
 - Syntaxis: `fig: colors :fig`

IRI

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help

details and options

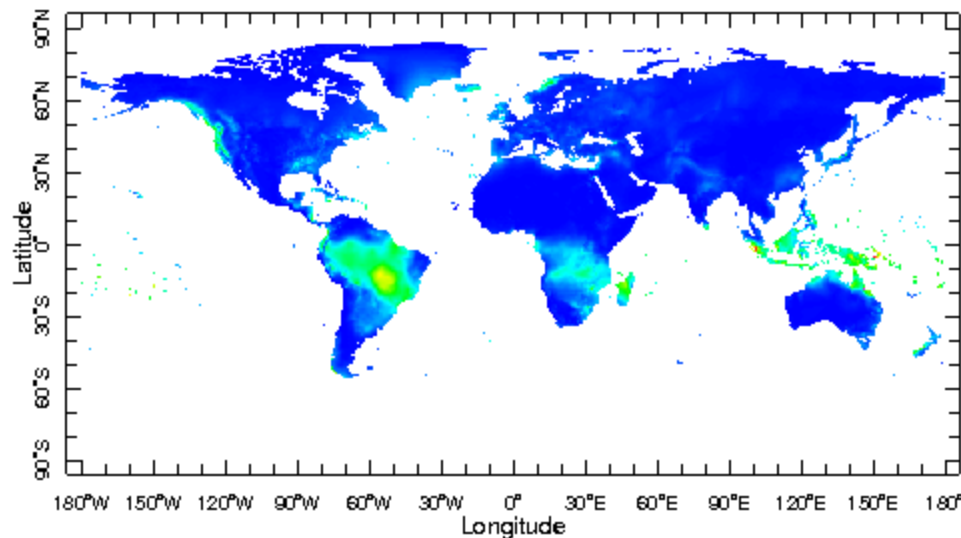
```
expert
SOURCES .UEA .CRU .TS2p1 .monthly .prcp
X Y fig: colors :fig
```

OK reset

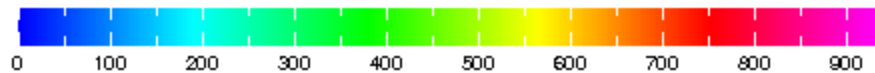
- UEA CRU TS2p1 monthly prcp[X Y | T]
- grid: /X (degree_east) periodic (179.75W) to (179.75E) by 0.5 N= 720 pts :grid
- grid: /Y (degree_north) ordered (89.75S) to (89.75N) by 0.5 N= 360 pts :grid
- fig: colors :fig

EPSG:4326

EPSG:4326 -180 -90.0 180 90.0 0.5 0.5



Jan 1901



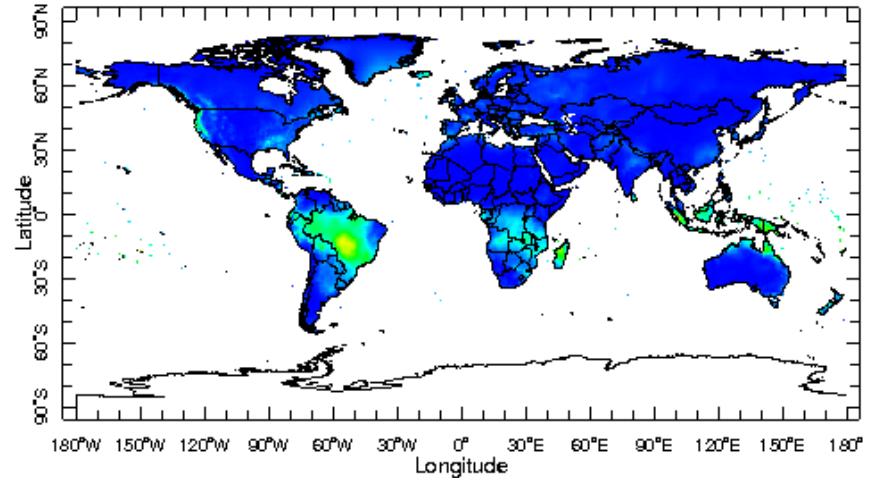
Figuras y Gráficos

Que son las opciones adicionales?

1. Agregar los países como líneas ('overlay')

Syntaxis: `fig: colors countries :fig`

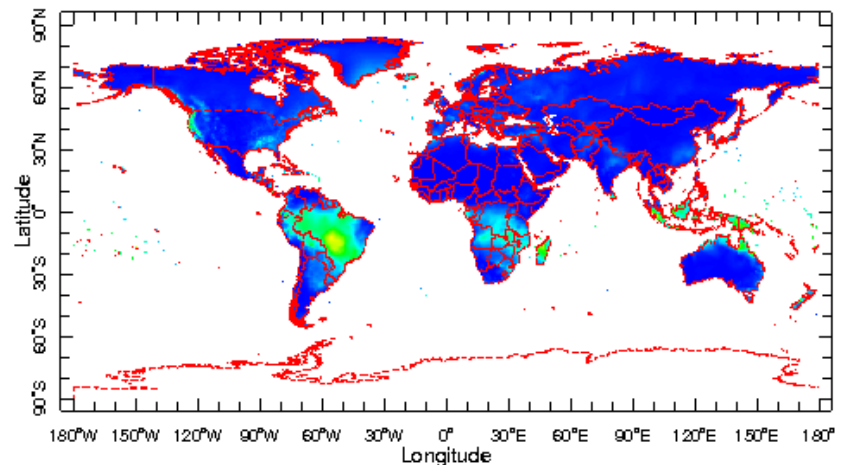
- coasts
- rivers
- lakes
- countries
- streams
- states



2. Definir color, tamaño y forma de la líneas

Syntaxis: `fig: colors red thin dashed countries :fig`

- | | | |
|-----------|--------------|--------------------|
| black | verythin | solid |
| white | thin | dashed |
| red | thinnish | dotted |
| blue | medium | dotdashed |
| yellow | medium-thick | <u>closedotted</u> |
| cyan | thick | |
| magenta | | |
| green | | |
| grey | | |
| lightgrey | | |

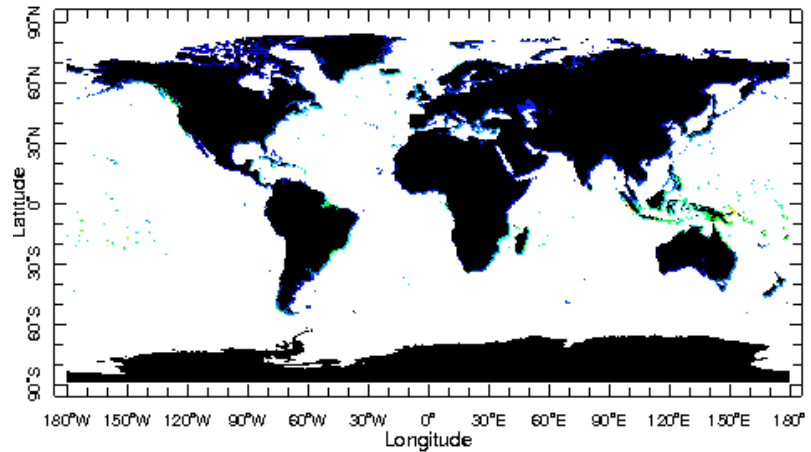


Figuras y Gráficos

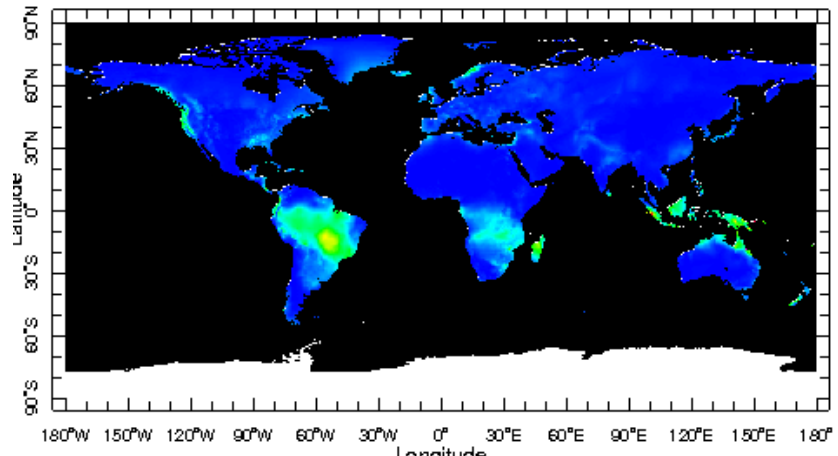
Que son las opciones adicionales?

3. Aplicar un masqueo a la tierra o los océanos

- Syntaxis: `fig: colors land :fig`



- Syntaxis: `fig: colors ocean :fig`



Figuras y Gráficos

Cuales son los otros tipos de figuras?

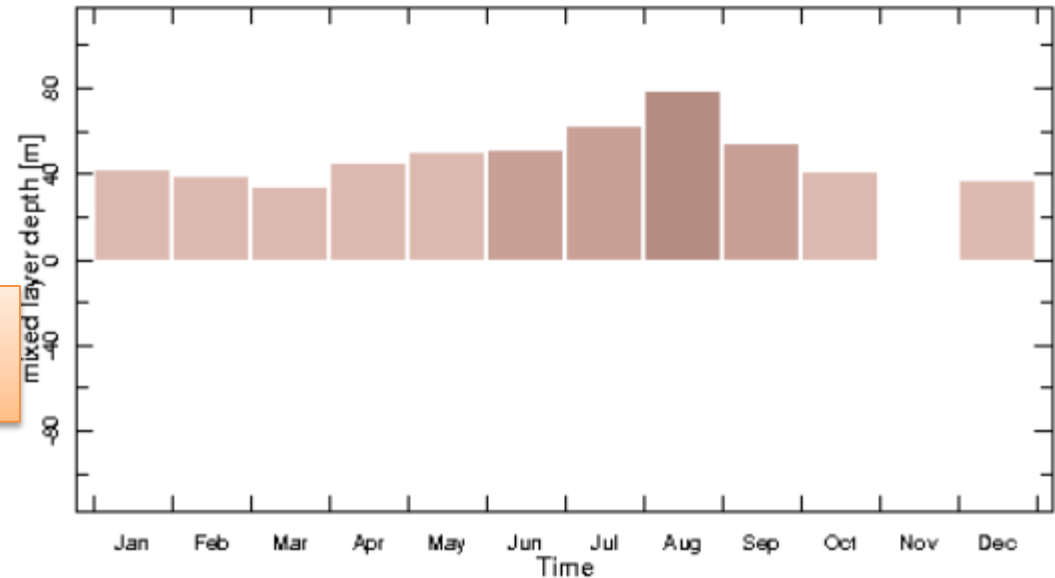
1. Figura de barras:

- Syntaxis: `dup componente fig: colorbars2 :fig`
- [Ejemplo](#):

```
expert
SOURCES .LEVITUS94 .MONTHLY .Zmix
Y (20S) VALUES
X (80E) VALUES
olr_anomaly
dup T fig: colorbars2 :fig
```



Requiere una variable para la altura y una variable para el color de las barras



Figuras y Gráficos

Cuales son los otros tipos de figuras?

2. Scatterplot:

- Syntaxis: `dup componente fig: colorbars2 :fig`
- [Ejemplo:](#)

expert

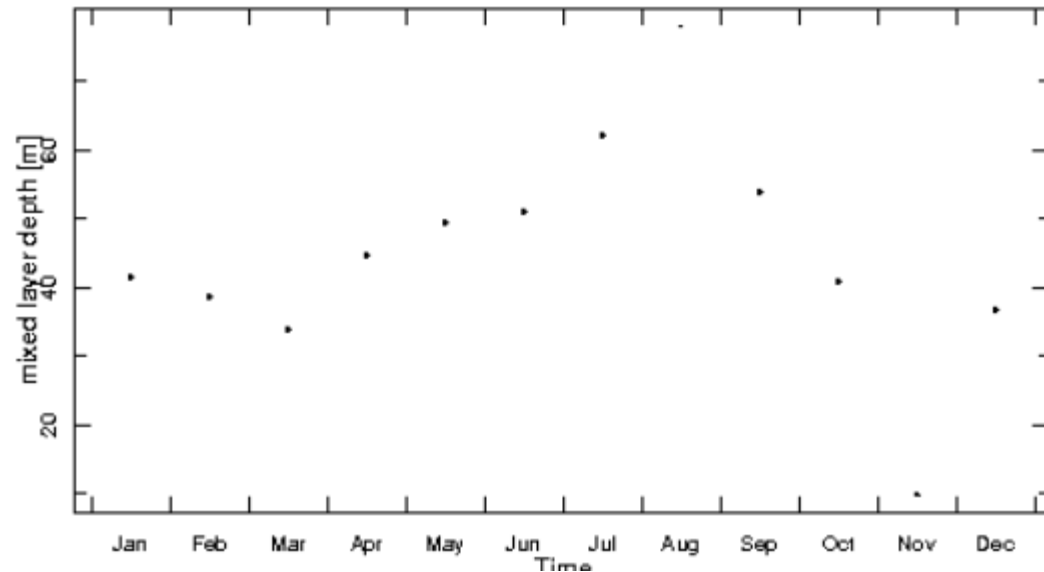
```
SOURCES .LEVITUS94 .MONTHLY .Zmix
```

```
Y (20S) VALUES
```

```
X (80E) VALUES
```

```
T exch
```

```
fig: scatter :fig
```



Figuras y Gráficos

Como cambiar la escala de la figura?

1. Escalas predefinidas:

- Syntaxis: `nombre_escala componente fig: :fig`

- [Ejemplo:](#)

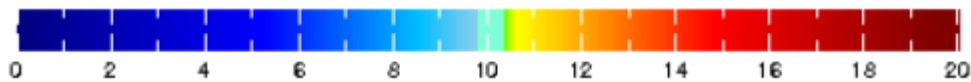
```
SOURCES .UEA .CRU .TS2p1 .monthly .prcp
```

```
precip_colors
```

```
X Y fig: colors states :fig
```

- Otras escalas:

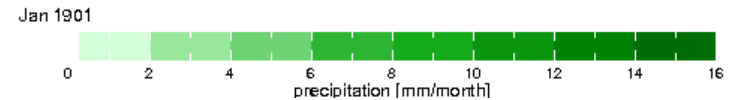
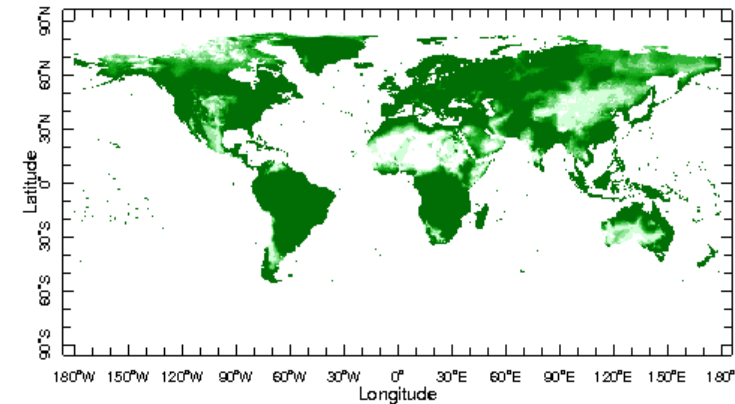
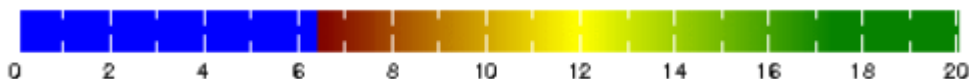
```
sstacolorscale
```



```
prcp_anomaly
```



```
NDVIcolorscale
```



Figuras y Gráficos

Como cambiar la escala de la figura?

2. Escalas manuales:

- Syntaxis:

startcolormap

-10. 10. RANGE

white

black

purple -10. VALUE

cyan -1. VALUE

white white 1. bandmax

yellow 1. VALUE

red 10. VALUE

firebrick

endcolormap

Rango de la escala

Color para datos faltantes

valores < -10

valores = -10

valores= -1

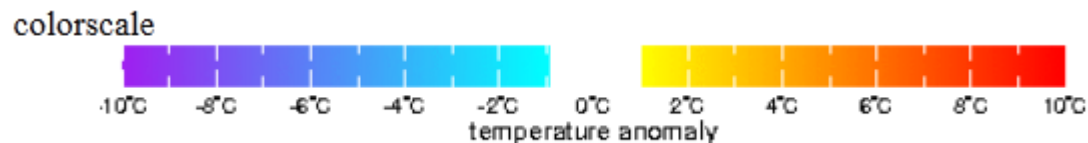
valores entre -1 y +1

= 1

= 10

> 10

Escala producido:



Individual Example 1:

Make a map of global climatological SSTs during July based on the 1971-2000 base period.

Getting Started...

Dataset location in Library: NOAA NCDC ERSST

Hint: Calculate 1971-2000 climatology before selecting July dates

Individual Example 1: Result



[VIEW RESULT](#)

Individual Example 2:

Make animated map of April soil moisture anomalies in Chile during 1990-2006

Getting Started...

Dataset location in Library:

SOURCES .NOAA .NCEP .CPC .GMSM .w

Hint: Calculate anomalies before selecting April dates

Individual Example 2: Result

To animate map:
Enter *Apr 1990 to Apr 2006*
above map and click Redraw
button.

[VIEW RESULT](#)

