



ANEXO III LISTADO DE RECURSOS DE LA BASE DE DATOS

a) Descripción y Formato de los archivo de Datos:

a.1 Datos Observados

Argentina Continental: Archivos Mensuales:

Temperatura media: cru_ts3.21.1901.2012.tmp.dat.nc
Temperatura mínima: cru_ts3.21.1901.2012.tmn.dat.nc
Temperatura máxima: cru_ts3.21.1901.2012.tmx.dat.nc
Precipitación: cru_ts3.21.1901.2012.pre.dat.nc
Precipitación: GPCCfull_data_v6_precip_10.nc
Temperatura de la Superficie del Mar: OI SST V2 sst.mnmean.nc

Argentina Continental: Archivos Diarios:

Temperatura mínima: CLARIS|LPB SAT 1.0 tn_61-00.nc
Temperatura máxima: CLARIS|LPB SAT 1.0 tx_61-00.nc
Precipitación: PSD SA sa24.daily.1.1940-2012.nc
Precipitación: CLARIS|LPB LPB_rr_05.1.nc
Temperatura de la superficie del mar: sst.day.mean.yyyy.v2.nc

Antártida e islas del Atlántico Sur: Archivos Mensuales:

Temperatura máxima: NCEP Reanalysis1 air.2m.mon.mean.nc
Temperatura mínima: NCEP Reanalysis1 tmin.2m.mon.mean.nc
Temperatura máxima: NCEP Reanalysis1 tmax.2m.mon.mean.nc
Precipitación: NCEP Reanalysis1 prate.sfc.mon.mean.nc
Temperatura de la Superficie del Mar: OI SST V2 sst.mnmean.nc

Antártida e islas del Atlántico Sur: Archivos Diarios:

Temperatura media: NCEP Reanalysis1 air.2m.gauss.aaaa.nc [aaaa:1948-2014]
Temperatura mínima: NCEP Reanalysis1 tmin.2m.gauss.aaaa.nc [aaaa:1948-2014]
Temperatura máxima: NCEP Reanalysis1 tmax.2m.gauss.aaaa.nc [aaaa:1948-2014]
Precipitación: NCEP Reanalysis1 prate.sfc.gauss.aaaa.nc [aaaa:1948-2014]
Temperatura de la Superficie del Mar: OI SST V2 sst.day.aaaa.v2.nc nc [aaaa:1981-2014]



a.2 Índices de extremos seleccionados

TR, Number of tropical nights:

H2_TR_1901-2010_RegularGrid_global_3.75x2.5deg_LSmask.nc

TX_x, Monthly maximum value of daily maximum temperature

H2_TXx_1901-2010_RegularGrid_global_3.75x2.5deg_LSmask.nc

TN_n, Monthly minimum value of daily minimum temperature

H2_TNn_1901-2010_RegularGrid_global_3.75x2.5deg_LSmask.nc

TX90p, Percentage of days when *TX* > 90th percentile

H2_TX90p_1901-2010_RegularGrid_global_3.75x2.5deg_LSmask.nc

WSDI, Warm spell duration index

H2_WSDI_1901-2010_RegularGrid_global_3.75x2.5deg_LSmask.nc

Rx1day, Monthly maximum 1-day precipitation

H2_Rx1day_1901-2010_RegularGrid_global_3.75x2.5deg_LSmask.nc

Rx5day, Monthly maximum consecutive 5-day precipitation

H2_Rx5day_1901-2010_RegularGrid_global_3.75x2.5deg_LSmask.nc

CDD, Maximum length of dry spell, maximum number of consecutive days with *RR* < 1mm

H2_CDD_1901-2010_RegularGrid_global_3.75x2.5deg_LSmask.nc

R95pTOT, Annual total *PRCP* when *RR* > 95p

H2_R95pTOT_1901-2010_RegularGrid_global_3.75x2.5deg_LSmask.nc

a.3 Simulaciones de modelos climáticos:

Se proveen simulaciones de 4 modelos climáticos para cada región, cuya selección se describe en el capítulo 3 del presente informe. Los archivos estarán disponibles en los 3 períodos que abarca el presente estudio:

-Pasado Reciente (1961-2010)^(*)

-Futuro Cercano (2015-2039)

-Futuro Lejano (2075-2099)

Para cada modelo, se proveerán 1 o 2 escenarios:

-Modelos climáticos regionales y modelo MRI/JMA: SRES -A1B

-Modelos globales RCP 4.5 y RCP 8.5

Para cada escenario, se proveerán 4 variables:

-Temperatura Máxima

-Temperatura Mínima

-Temperatura Media

-Precipitación

Cada variable, se proveerá en 2 frecuencias: Mensual y Diaria.

Estos archivos grillados, están almacenados en una resolución de 0.5x0.5, para toda Sudamérica.

b) Formato y Metadatos de Entrada:



b.1 Datos Observados grillados:

Temperatura media: cru_ts3.21.1901.2012.tmp.dat.nc

```
netcdf cru_ts3.21.1901.2012.tmp.dat {
dimensions:
    lon = 720 ;
    lat = 360 ;
time = UNLIMITED ; // (1344 currently)
variables:
    double lon(lon) ;
        lon:long_name = "longitude" ;
        lon:units = "degrees_east" ;
    double lat(lat) ;
        lat:long_name = "latitude" ;
        lat:units = "degrees_north" ;
    double time(time) ;
        time:long_name = "time" ;
        time:units = "days since 1900-1-1" ;
        time:calendar = "gregorian" ;
    double tmp(time, lat, lon) ;
        tmp:long_name = "near-surface temperature" ;
        tmp:units = "degrees Celsius" ;
        tmp:correlation_decay_distance = 1200. ;
        tmp:_FillValue = 9.96920996838687e+36 ;
        tmp:missing_value = 9.96920996838687e+36 ;

// global attributes:
    :Conventions = "CF-1.4" ;
    :title = "CRU TS3.21 Mean Temperature" ;
    :institution = "Data held at British Atmospheric Data Centre, RAL, UK." ;
    :source = "Run ID = 1307101324\n",
        "Data generated by BADC from:\n",
        "tmp.1307101049.dtb" ;
    :history = "Wed 10 Jul 2013 17:04:15 BST : User ianharris : Program
makegridsauto.for called by update.for" ;
    :references = "Information on the data is available at http://badc.nerc.ac.uk/data/cru/" ;

    :comment = "Data restrictions: for academic research use only.Contact BADC for details"
;
    :contact = "BADC <badc@rl.ac.uk>" ;
data:

// lon = -179.75 to 179.75 ; resolución: 0.5
```



```
// lat = -89.75, to 89.75 ;   resolución: 0.5
// time = 380 to 41257 day from 1900; período: 15/01/1901 to 15/12/2012
}
```

Temperatura mínima: cru_ts3.21.1901.2012.tmn.dat.nc

```
netcdf cru_ts3.21.1901.2012.tmn.dat {
dimensions:
    lon = 720 ;
    lat = 360 ;
    time = UNLIMITED ; // (1344 currently)
variables:
    double lon(lon) ;
        lon:long_name = "longitude" ;
        lon:units = "degrees_east" ;
    double lat(lat) ;
        lat:long_name = "latitude" ;
        lat:units = "degrees_north" ;
    double time(time) ;
        time:long_name = "time" ;
        time:units = "days since 1900-1-1" ;
        time:calendar = "gregorian" ;
    double tmn(time, lat, lon) ;
        tmn:long_name = "near-surface temperature minimum" ;
        tmn:units = "degrees Celsius" ;
        tmn:correlation_decay_distance = 1200. ;
        tmn:_FillValue = 9.96920996838687e+36 ;
        tmn:missing_value = 9.96920996838687e+36 ;

// global attributes:
    :Conventions = "CF-1.4" ;
    :title = "CRU TS3.21 Minimum Temperature" ;
    :institution = "Data held at British Atmospheric Data Centre, RAL, UK." ;
    :source = "Run ID = 1307101324\n",
        "Data generated by BADC from:\n",
        "tmp.1307101049.dtb\n",
        "dtr.1307101049.dtb" ;

    :history = "Wed 10 Jul 2013 21:04:15 BST : User ianharris : Program
makegridsauto.for called by update.for" ;
    :references = "Information on the data is available at
http://badc.nerc.ac.uk/data/cru/" ;
    :comment = "Data restrictions: for academic research use only.Contact BADC for
details" ;
    :contact = "BADC <badc@rl.ac.uk>" ;
```



data:

```
// lon = -179.75 to 179.75 ; resolución: 0.5
// lat = -89.75, to 89.75 ; resolución: 0.5
// time = 380 to 41257 day from 1900; periodo: 15/01/1901 to 15/12/2012
}
```

Temperatura máxima: cru_ts3.21.1901.2012.tmx.dat.nc

netcdf cru_ts3.21.1901.2012.tmx.dat {

dimensions:

lon = 720 ;

lat = 360 ;

time = UNLIMITED ; // (1344 currently)

variables:

double lon(lon) ;

lon:long_name = "longitude" ;

lon:units = "degrees_east" ;

double lat(lat) ;

lat:long_name = "latitude" ;

lat:units = "degrees_north" ;

double time(time) ;

time:long_name = "time" ;

time:units = "days since 1900-1-1" ;

time:calendar = "gregorian" ;

double tmx(time, lat, lon) ;

tmx:long_name = "near-surface temperature maximum" ;

tmx:units = "degrees Celsius" ;

tmx:correlation_decay_distance = 1200. ;

tmx:_FillValue = 9.96920996838687e+36 ;

tmx:missing_value = 9.96920996838687e+36 ;

// global attributes:

:Conventions = "CF-1.4" ;

:title = "CRU TS3.21 Maximum Temperature" ;

:institution = "Data held at British Atmospheric Data Centre, RAL, UK." ;

:source = "Run ID = 1307101324\n",

"Data generated by BADC from:\n",

"tmp.1307101049.dtb\n",

"dtr.1307101049.dtb" ;

:history = "Wed 10 Jul 2013 21:04:15 BST : User ianharris : Program

makegridsauto.for called by update.for" ;

:references = "Information on the data is available at

<http://badc.nerc.ac.uk/data/cru/>" ;



```
:comment = "Data restrictions: for academic research use only.Contact BADC for  
details" ;  
:contact = "BADC <badc@rl.ac.uk>" ;  
data:
```

```
// lon = -179.75 to 179.75 ; resolución: 0.5  
// lat = -89.75, to 89.75 ; resolución: 0.5  
// time = 380 to 41257 day from 1900; periodo: 15/01/1901 to 15/12/2012  
}
```

Precipitacion: cru_ts3.21.1901.2012.pre.dat.nc

```
netcdf cru_ts3.21.1901.2012.pre.dat {  
dimensions:  
    lon = 720 ;  
    lat = 360 ;  
    time = UNLIMITED ; // (1344 currently)  
variables:  
    double lon(lon) ;  
        lon:long_name = "longitude" ;  
        lon:units = "degrees_east" ;  
    double lat(lat) ;  
        lat:long_name = "latitude" ;  
        lat:units = "degrees_north" ;  
    double time(time) ;  
        time:long_name = "time" ;  
        time:units = "days since 1900-1-1" ;  
        time:calendar = "gregorian" ;  
    double pre(time, lat, lon) ;  
        pre:long_name = "precipitation" ;  
        pre:units = "mm" ;  
        pre:correlation_decay_distance = 450. ;  
        pre:_FillValue = 9.96920996838687e+36 ;  
        pre:missing_value = 9.96920996838687e+36 ;
```

```
// global attributes:  
:Conventions = "CF-1.4" ;  
:title = "CRU TS3.21 Precipitation" ;  
:institution = "Data held at British Atmospheric Data Centre, RAL, UK." ;  
:source = "Run ID = 1307101324\n",  
        "Data generated by BADC from:\n",  
        "pre.1307101049.dtb" ;  
:history = "Wed 10 Jul 2013 18:28:10 BST : User ianharris : Program  
makegridsauto.for called by update.for" ;
```



```
        :references = "Information on the data is available at
http://badc.nerc.ac.uk/data/cru/" ;
        :comment = "Data restrictions: for academic research use only.Contact BADC for
details" ;
        :contact = "BADC <badc@rl.ac.uk>" ;
data:
// lon = -179.75 to 179.75 ; resolución: 0.5
// lat = -89.75, to 89.75 ; resolución: 0.5
// time = 380 to 41257 day from 1900; periodo: 15/01/1901 to 15/12/2012
}
```

Precipitación: GPCCfull_data_v6_precip_10.nc

```
netcdf full_data_v6_precip_10 {
dimensions:
    lon = 360 ;
    lat = 180 ;
    time = UNLIMITED ; // (1320 currently)
variables:
    double lon(lon) ;
        lon:standard_name = "longitude" ;
        lon:long_name = "longitude" ;
        lon:units = "degrees_east" ;
        lon:axis = "X" ;
    double lat(lat) ;
        lat:standard_name = "latitude" ;
        lat:long_name = "latitude" ;
        lat:units = "degrees_north" ;
        lat:axis = "Y" ;
    double time(time) ;
        time:standard_name = "time" ;
        time:units = "days since 1901-01-01 00:00:00" ;
        time:calendar = "proleptic_gregorian" ;

    float p(time, lat, lon) ;
        p:long_name = "full data precipitation version6" ;
        p:units = "mm/month" ;
        p:code = 16 ;
        p:_FillValue = -99999.99f ;

// global attributes:
    :CDI = "Climate Data Interface version 1.5.3 (http://code.zmaw.de/projects/cdi)" ;
    :Conventions = "CF-1.4" ;
```



```
:history = "Thu Jan 12 10:32:17 2012: cdo -setunits,days
/media/x18913/NETCDF/full_data_v6_precip_10.nc
/media/x18913/NETCDF/full_precip_10.nc\n",
      "Thu Jan 12 10:31:10 2012: cdo -setpartab,codetable.txt -setcode,16
/media/x18913/NETCDF/full_data_v6_precip_10.nc
/media/x18913/NETCDF/full_precip_10.nc\n",
      "Thu Jan 12 10:30:02 2012: cdo -setgatts,gattfile_precip_10
/media/x18913/NETCDF/full_data_v6_precip_10.nc
/media/x18913/NETCDF/full_precip_10.nc\n",
      "Thu Jan 12 08:11:50 2012: cdo cat full_precip_10.nc
/media/x18913/NETCDF/full_data_v6_precip_10.nc\n",
      "Thu Jan 12 08:11:50 2012: cdo -b 32 -a -f nc -setgrid,full10desc.asc -
setmissval,-99999.99 -invertlatdata -setname,p -setdate,1901-01-01 -input,r360x180
full_precip_10.nc" ;
:institution = "Deutscher Wetterdienst" ;
:title = "GPCC Full Data Product version 6, precipitation in mm/month, 1.0
degree" ;
:summary = "The Full Data Reanalysis Product is of much higher accuracy
compared to the GPCC near real-time products mentioned above. Therefore, its application is
recommended for hydrometeorological model verification and water cycle studies, e.g. in context
of UNESCO, GEWEX, and GTN-H (Global Terrestrial Network for Hydrology). This analysis
product is based on all stations, near real-time and non real-time, in the GPCC data base
supplying data for the individual month. The GPCC Full Data Reanalysis Product Version 6
covers the period from 1901 to 2010 ; this new extended product version using the new GPCC
climatology as analysis background was generated in Dec. 2011. The data coverage per month
varies from less than 10,000 to more than 47,000 stations. The full data re-analyses will be
updated at irregular time intervals subsequent to significant data base improvements." ;
:keywords = "precipitation climatology,gpcc,global,gpcp," ;
:id = "full_data_precipitation_10" ;
:creator_url = "http://gpcc.dwd.de" ;
:creator_name = "GPCC/DWD" ;
:creator_email = "gpcc@dwd.de" ;
:date_created = "Do Jan 12 10:29:14 UTC 2012" ;
:time_coverage_start = "1901-01-01" ;

:time_coverage_end = "2010-12-01" ;
:time_coverage_resolution = "month" ;
:geospatial_lat_min = "-90." ;
:geospatial_lat_max = "90." ;
:geospatial_lon_min = "-180." ;
:geospatial_lon_max = "180." ;
:CDO = "Climate Data Operators version 1.5.3
(http://code.zmaw.de/projects/cdo)" ;
data:
```




```
// lon = -179.5 to 179.5 ; resolución: 1.0
// lat = -89.5 to 89.5 ; resolución: 1.0
// time = 0 to 40146 day from 1901; período: 01/01/1901 to 01/12/2010

}
```

Sea Surface Temperature: OI SST V2 sst.mnmean.nc

```
netcdf sst.mnmean {
dimensions:
    lat = 180 ;
    lon = 360 ;
    time = UNLIMITED ; // (386 currently)
    nbnds = 2 ;
variables:
    float lat(lat) ;
        lat:units = "degrees_north" ;
        lat:long_name = "Latitude" ;
        lat:actual_range = 89.5f, -89.5f ;
        lat:standard_name = "latitude" ;
        lat:axis = "Y" ;
        lat:coordinate_defines = "center" ;
    float lon(lon) ;
        lon:units = "degrees_east" ;
        lon:long_name = "Longitude" ;
        lon:actual_range = 0.5f, 359.5f ;
        lon:standard_name = "longitude" ;
        lon:axis = "X" ;
        lon:coordinate_defines = "center" ;
    short sst(time, lat, lon) ;
        sst:long_name = "Monthly Mean of Sea Surface Temperature" ;
        sst:unpacked_valid_range = -5.f, 40.f ;
        sst:actual_range = -1.8f, 35.31f ;
        sst:units = "degC" ;

        sst:add_offset = 0.f ;
        sst:scale_factor = 0.01f ;
        sst:missing_value = 32767s ;
        sst:precision = 2s ;
        sst:least_significant_digit = 2s ;
        sst:var_desc = "Sea Surface Temperature" ;
        sst:dataset = "NOAA Optimum Interpolation (OI) SST V2" ;
        sst:level_desc = "Surface" ;
        sst:statistic = "Mean" ;
        sst:parent_stat = "Weekly Mean" ;
        sst:standard_name = "sea_surface_temperature" ;
```



```

sst:cell_methods = "time: mean (monthly from weekly values interpolated to
daily)";
sst:valid_range = -500s, 4000s ;
double time(time) ;
time:units = "days since 1800-1-1 00:00:00" ;
time:long_name = "Time" ;
time:actual_range = 66443., 78162. ;
time:delta_t = "0000-01-00 00:00:00" ;
time:avg_period = "0000-01-00 00:00:00" ;
time:prev_avg_period = "0000-00-07 00:00:00" ;
time:standard_name = "time" ;
time:axis = "T" ;
time:bounds = "time_bnds" ;
double time_bnds(time, nbnds) ;
time_bnds:long_name = "Time Boundaries" ;

// global attributes:
:title = "NOAA Optimum Interpolation (OI) SST V2" ;
:Conventions = "CF-1.0" ;
:history = "Wed Apr 6 13:47:45 2005: ncks -d time,0,278 SAVEs/sst.mnmean.nc
sst.mnmean.nc\n",
"Created 10/2002 by RHS" ;
:comments = "Data described in Reynolds, R.W., N.A. Rayner, T.M.\n",
"Smith, D.C. Stokes, and W. Wang, 2002: An Improved In Situ and
Satellite\n",
"SST Analysis for Climate, J. Climate" ;
:platform = "Model" ;
:source = "NCEP Climate Modeling Branch" ;
:institution = "National Centers for Environmental Prediction" ;
:references =
"http://www.esrl.noaa.gov/psd/data/gridded/data.noaa.oisst.v2.html\n",
"http://www.emc.ncep.noaa.gov/research/cmb/sst_analysis/" ;

data:

// lat = 89.5, to -89.5 ; resolución: 1.0
// lon = 0.5, to 359.5 ; resolución: 1.0
// time = 66443, 78162 ; days since 1800 periodo: 1981/12-2014/01
}
```

Temperatura mínima: Claris|LPB SAT 1.0 tn_61-00.nc

```
netcdf tn_61-00 {
dimensions:
longitude = 51 ;
```



```
latitude = 42 ;
time = UNLIMITED ; // (14610 currently)
variables:
  float longitude(longitude) ;
    longitude:long_name = "Longitude values" ;
    longitude:units = "degrees_E" ;
    longitude:standard_name = "longitude" ;
  float latitude(latitude) ;
    latitude:long_name = "Latitude values" ;
    latitude:units = "degrees_N" ;
    latitude:standard_name = "latitude" ;
  int time(time) ;
    time:long_name = "Time in days" ;
    time:units = "days since 1961-01-01 00:00" ;
    time:standard_name = "time" ;
  short tn(time, latitude, longitude) ;
    tn:long_name = "minimum temperature" ;
    tn:units = "Celsius" ;
    tn:standard_name = "air_temperature" ;
    tn:_FillValue = -9999s ;
    tn:scale_factor = 0.1f ;

// global attributes:
  :Ensembles_ECAD = "2.0" ;
  :Conventions = "CF-1.3" ;
  :References =
"http://eca.knmi.nl\http://eca.knmi.nl/download/ensembles/ensembles.php\http://eca.knmi.nl/
download/ensembles/Haylock_et_al_2007.pdf" ;

data:
```

```
// longitude = -70.00 to -45.00 ; resolucion 0.5
// latitude = -40.25 to -19.75 ; resolucion 0.5
// time = 0, 14609 period: 1961-01-01 to 2000-12-31
}
```

Temperatura maxima: Claris|LPB SAT 1.0 tx_61-00.nc

```
netcdf tx_61-00 {
dimensions:
  longitude = 51 ;
  latitude = 42 ;
  time = UNLIMITED ; // (14610 currently)
variables:
```



```
float longitude(longitude) ;
    longitude:long_name = "Longitude values" ;
    longitude:units = "degrees_E" ;
    longitude:standard_name = "longitude" ;
float latitude(latitude) ;
    latitude:long_name = "Latitude values" ;
    latitude:units = "degrees_N" ;
    latitude:standard_name = "latitude" ;
int time(time) ;
    time:long_name = "Time in days" ;
    time:units = "days since 1961-01-01 00:00" ;
    time:standard_name = "time" ;
short tx(time, latitude, longitude) ;
    tx:long_name = "maximum temperature" ;
    tx:units = "Celsius" ;
    tx:standard_name = "air_temperature" ;
    tx:_FillValue = -9999s ;
    tx:scale_factor = 0.1f ;

// global attributes:
    :Ensembles_ECAD = "2.0" ;
    :Conventions = "CF-1.3" ;
    :References =
"http://eca.knmi.nl\\nhttp://eca.knmi.nl/download/ensembles/ensembles.php\\nhttp://eca.knmi.nl
/download/ensembles/Haylock_et_al_2007.pdf" ;

data:

// longitude = -70.00 to -45.00 ; resolucion 0.5
// latitude = -40.25 to -19.75 ; resolucion 0.5

// time = 0, 14610 período: 1961-01-01 to 2000-12-31
}

Precipitacion: PSD SA sa24.daily.1.1940-2012.nc

netcdf sa24.daily.1.1940-2012 {
dimensions:
    lat = 76 ;
    lon = 56 ;
    time = UNLIMITED ; // (26419 currently)
variables:
    float lat(lat) ;
        lat:long_name = "Latitude" ;
        lat:units = "degrees_north" ;
```



```
        lat:actual_range = -60.f, 15.f ;
float lon(lon) ;
        lon:long_name = "Longitude" ;
        lon:units = "degrees_east" ;
        lon:actual_range = -85.f, -30.f ;
double time(time) ;
        time:long_name = "Time" ;
        time:units = "days since 1800-1-1 0:0:0" ;
        time:calendar = "gregorian" ;
        time:actual_range = 51133., 77551. ;
        time:delta_t = "0000-00-01 00:00:00" ;
float precip(time, lat, lon) ;
        precip:long_name = "Daily precipitation" ;
        precip:units = "mm" ;
        precip:missing_value = -999.f ;
        precip:_FillValue = -999.f ;
        precip:actual_range = 0.f, 603.f ;
        precip:var_desc = "Precipitation" ;
        precip:dataset = "PSD South America 1-degree Precipitation" ;
        precip:statistic = "Total" ;
        precip:level_desc = "Surface" ;
short count(time, lat, lon) ;
        count:long_name = "Station counts" ;
        count:units = "count" ;
        count:missing_value = -99s ;
        count:_FillValue = -99s ;
        count:actual_range = 0, 191 ;
        count:var_desc = "Station counts" ;
        count:dataset = "PSD South America 1-degree Precipitation" ;

        count:statistic = "Number of Observations" ;
        count:level_desc = "Surface" ;

// global attributes:
        :history = "Mon Jun  3 13:49:01 2013: ncatted -a
checksum_md5,global,o,c,xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx sa24.daily.1.1940-2012.nc\n",
        "Mon Jun  3 13:48:32 2013: ncatted -a var_desc,precip,o,c,Precipitation -a
var_desc,count,o,c,Station counts -a dataset,precip,o,c,PSD South America 1-degree Precipitation
-a dataset,count,o,c,PSD South America 1-degree Precipitation -a statistic,precip,o,c,Total -a
statistic,count,o,c,Number of Observations -a level_desc,precip,o,c,Surface -a
level_desc,count,o,c,Surface -a delta_t,time,o,c,0000-00-01 00:00:00 sa24.daily.1.1940-
2012.nc\n",
        "Thu May  9 18:18:59 2013: ncatted -a
checksum_md5,global,o,c,xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx sa24.daily.1.1940-2012.nc\n",
        "Thu May  9 17:35:59 2013: Make original NetCDF file.\n",
```



```
"NetCDF writer subroutine: netwrite2.f90 v2.50\n",  
"NetCDF library: 4.2.1.1 of Feb 19 2013 09:49:00 $\n",  
"Grid making program: gridrain v7.02\n",  
"Type of output = daily\n",  
"Sample method = radius\n",  
"Sample radius = 1.5 half grids (0.75 degrees)\n",  
"Number of stations required for grid point = 1\n",  
"Combine_type = sum" ;  
:Conventions = "CF-1.5" ;  
:title = "South America Precipitation" ;  
:gridrain_config_file = "/Users/dallured/gridrain/config/sa24.daily.1.1940-  
2012.cf" ;  
:gridrain_input_set = "sa24" ;  
:gridrain_output_file = "/data/bliebmann/rain/grid/sa24.daily.1.1940-2012.nc" ;  
:stations_incorporated = 13830 ;  
:checksum_md5 = "79ddf1cb63da6425cfd17a37de3731a" ;  
  
data:  
// lat = -60, to 15 ; resolución: 1.0  
// lon = -85, to -30 ; resolución: 1.0  
// time = 51133 to 77551 days since 1800-1-1 período: 1940/01-2012/01  
}
```

Precipitación: Claris|LPB "LPB_rr_05.1"

```
netcdf DyPre {  
dimensions:  
    longitude = 51 ;  
  
    latitude = 52 ;  
    time = UNLIMITED ; // (14610 currently)  
variables:  
    float longitude(longitude) ;  
        longitude:long_name = "Longitude values" ;  
        longitude:units = "degrees_E" ;  
        longitude:standard_name = "longitude" ;  
    float latitude(latitude) ;  
        latitude:long_name = "Latitude values" ;  
        latitude:units = "degrees_N" ;  
        latitude:standard_name = "latitude" ;  
    int time(time) ;  
        time:long_name = "Time in days" ;  
        time:units = "days since 1961-01-01 00:00" ;  
        time:standard_name = "time" ;  
    short rr(time, latitude, longitude) ;
```



```
rr:long_name = "rainfall" ;
rr:units = "mm" ;
rr:standard_name = "thickness_of_rainfall_amount" ;
rr:_FillValue = -9999s ;
rr:scale_factor = 0.1f ;

// global attributes:
:Ensembles_ECAD = "2.0" ;
:Conventions = "CF-1.3" ;
:References =
"http://eca.knmi.nl\\nhttp://eca.knmi.nl/download/ensembles/ensembles.php\\nhttp://eca.knmi.nl/
download/ensembles/Haylock_et_al_2007.pdf" ;

data:
Lat: -14.75 to - 40.25 ; resolucion 0.5
Lon: -70 to -45 ; resolucion 0.5
Período: 01/01/1961 - 01/05/2012
}
```

Temperatura de la superficie del mar: sst.day.mean.yyyy.v2.nc

```
netcdf sst.day.mean.1981.v2 {
dimensions:
    time = UNLIMITED ; // (122 currently)
    lat = 720 ;
    lon = 1440 ;
variables:
    double time(time) ;
        time:long_name = "Time" ;
        time:units = "days since 1800-01-01 00:00:00" ;
        time:actual_range = 66352., 66473. ;
        time:delta_t = "0000-00-01 00:00:00" ;
        time:avg_period = "0000-00-01 00:00:00" ;
        time:axis = "T" ;
    float lat(lat) ;
        lat:long_name = "Latitude" ;
        lat:standard_name = "latitude" ;
        lat:units = "degrees_north" ;
        lat:actual_range = -89.875f, 89.875f ;
        lat:axis = "Y" ;
    float lon(lon) ;
        lon:long_name = "Longitude" ;
        lon:standard_name = "longitude" ;
        lon:units = "degrees_east" ;
```



```
lon:actual_range = 0.125f, 359.875f ;
lon:axis = "X" ;
short sst(time, lat, lon) ;
  sst:long_name = "Daily Sea Surface Temperature" ;
  sst:units = "degC" ;
  sst:actual_range = -1.8f, 34.82f ;
  sst:valid_range = -300s, 4500s ;
  sst:unpacked_valid_range = -3.f, 45.f ;
  sst:missing_value = 32767s ;
  sst:scale_factor = 0.01f ;
  sst:add_offset = 0.f ;
  sst:precision = 2s ;
  sst:dataset = "NOAA High-resolution Blended Analysis" ;
  sst:var_desc = "Sea Surface Temperature" ;
  sst:level_desc = "Surface" ;
  sst:statistic = "Mean" ;
  sst:parent_stat = "Individual Observations" ;

// global attributes:
  :Conventions = "CF-1.0" ;
  :title = "NOAA High-resolution Blended Analysis: Daily Values using AVHRR
only" ;
  :institution = "NOAA/NCDC" ;
  :source = "NOAA/NCDC ftp://eclipse.ncdc.noaa.gov/pub/OI-daily-v2/" ;
  :references =
"http://www.esrl.noaa.gov/psd/data/gridded/data.noaa.oisst.v2.highres.html" ;

  :history = "Version 1.0" ;
  :comment = "Reynolds, et al., 2007: Daily High-Resolution-Blended Analyses for
Sea Surface Temperature. J. Climate, 20, 5473-5496. Climatology is based on 1971-2000 OI.v2
SST, Satellite data: Navy NOAA17 NOAA18 AVHRR, Ice data: NCEP ice." ;

data:

//lat = -89.875 to 89.875 ; resolucion 0.25
//lon = 0.125 to 359.875 ; resolucion 0.25
//Periodo: 1985-2013
}
```

b.2 Indices Extremos de Datos Observados Grillados

<http://www.metoffice.gov.uk/hadobs/hadex2/download.html>

IINN, Nombre del Índice:

H2_iinn_1901-2010_RegularGrid_global_3.75x2.5deg_LSmask.nc

Donde iinn es el código de índice.



La resolución temporal es anual. La resolución espacial es 3.75x2.5

```
netcdf H2_FD_1901-2010_RegularGrid_global_3.75x2.5deg_LSmask {  
dimensions:
```

```
    lon = 96 ;  
    lat = 73 ;  
    time = UNLIMITED ; // (110 currently)
```

```
variables:
```

```
    float lon(lon) ;  
        lon:long_name = "longitude" ;  
        lon:units = "degrees_east" ;  
        lon:standard_name = "longitude" ;  
        lon:axis = "X" ;  
    float lat(lat) ;  
        lat:long_name = "latitude" ;  
        lat:units = "degrees_north" ;  
        lat:standard_name = "latitude" ;  
        lat:axis = "Y" ;  
    double time(time) ;  
        time:units = "day as %Y%m%d.%f" ;  
        time:calendar = "proleptic_gregorian" ;  
    float Ann(time, lat, lon) ;  
        Ann:_FillValue = -99.9f ;
```

```
// global attributes:
```

```
    :CDI = "Climate Data Interface version 1.4.7 (http://code.zmaw.de/projects/cdi)" ;  
    :Conventions = "CF-1.0" ;  
    :history = "Fri May 31 11:00:53 2013: cdo ifthen LS_Masks/LS-  
Mask_HadEX2_3.75x2.5deg_wTas_noAntarct.nc -selyear,1901/2010  
/srv/ccrc/data03/z3356123/HadEX2/HadEX2_3.75x2.5deg_correctMay2013/H2_FD_1901-  
2013_RegularGrid_global_3.75x2.5deg_m4.nc  
/srv/ccrc/data03/z3356123/HadEX2/HadEX2_3.75x2.5deg_correctMay2013/H2_FD_1901-  
2010_RegularGrid_global_3.75x2.5deg_LSmask.nc\n",  
        "Created from Gridding version 2.5.2" ;  
    :Title = "gridval" ;  
    :author = "Hongang Yang - hongang.yang@unsw.edu.au" ;  
    :long_name = "Calc grid box values" ;  
    :CDO = "Climate Data Operators version 1.4.7  
(http://code.zmaw.de/projects/cdo)" ;
```

```
data:
```

```
//lat = -90 to 90 ;    resolución: 3.75deg  
//lon = 0 to 356.25 ; resolución: 2.5deg  
//período: 1901-2010, datos anuales.
```



```
}
```

b.3 Simulaciones Globales y Regionales:

Los archivos con las corridas globales y regionales, se almacenarán en formato netcdf, según el siguiente diseño:

```
netcdf file-name {
dimensions:
    lon = 97 ;
    lat = 141 ;
    time = UNLIMITED ; // (xxxx currently)

variables:
    float variable(time, lat, lon) ;
        tas:long_name = "temperature" ;
        tas:units = "degC" ;
        tas:missing_value = -9.99e+33f ;
    float lat(lat) ;
        lat:standard_name = "latitude" ;
        lat:units = "degrees_north" ;
        lat:long_name = "latitude" ;
    float lon(lon) ;
        lon:standard_name = "longitude" ;
        lon:units = "degrees_east" ;
        lon:long_name = "longitude" ;
    float time(time) ;
        time:long_name = "time" ;
        time:units = "month since aaaa-mm-dd 00:00:0.0 " ;

// global attributes:
    :Conventions = "CF-1.0" ;
    :title = "" ;
    :institution = "" ;
    :source = "" ;
    :references = "" ;
    :comment = "" ;

data:

// lat = -56.75, to 13.25 ; resolucion 0.5
// lon = -82.25 to -34.25 ; resolucion 0.5
// periodo: El período corresponde a uno de 3 períodos descriptos
```



- Pasado Reciente (1961-2010)(*)
 - Futuro Cercano (2015-2039)
 - Futuro Lejano (2075-2099)
- }