



Centro Regional del Clima
para el Sur de América del Sur

Centro Regional do Clima
para o Sul da América do Sul

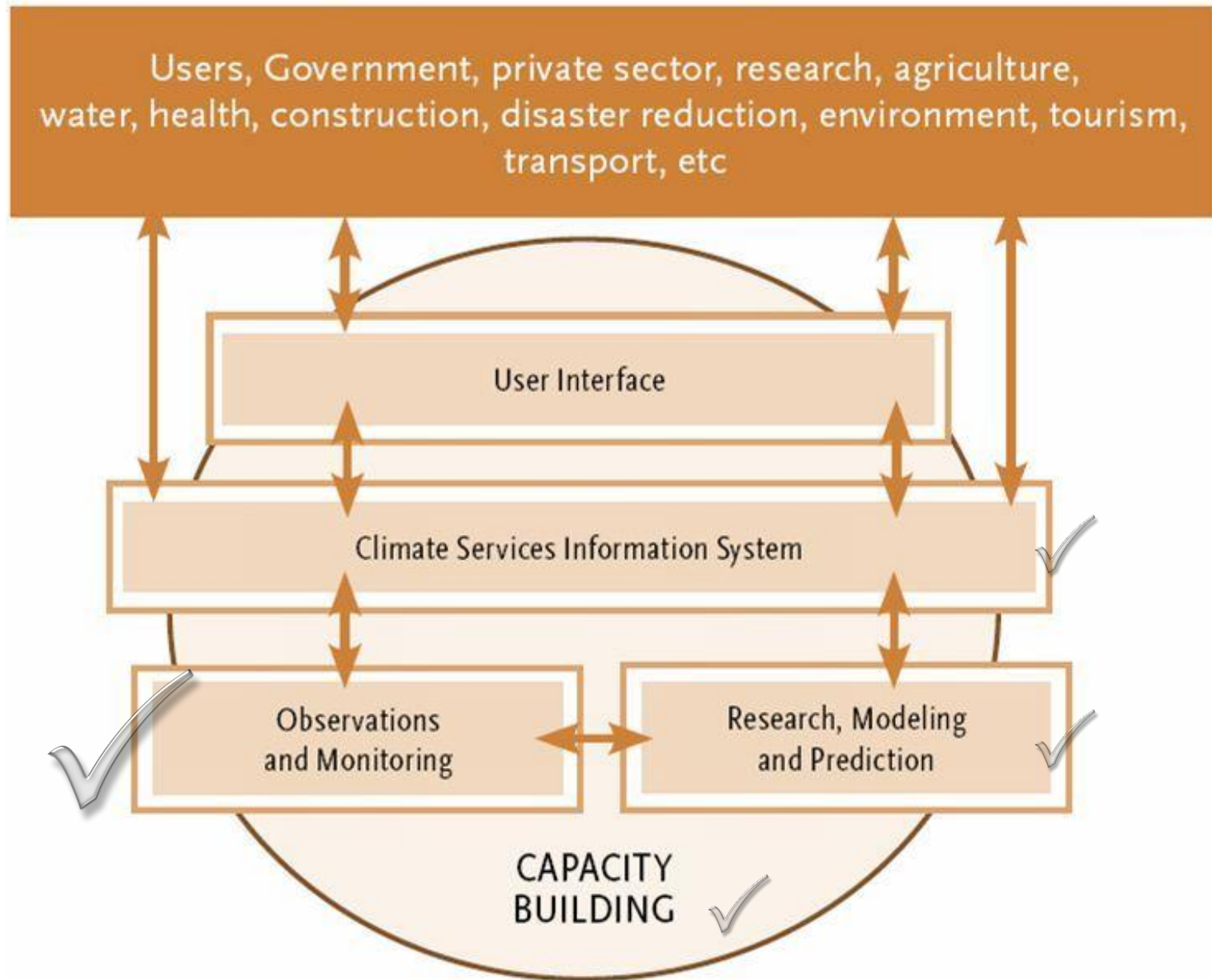


CRC-SAS

Regional Climate Center for the South of South America (RCC-SSA)

www.crc-sas.org

Global framework for climate services - WMO



During the Consultative Meeting about the implementation of the RCCs in South America it was decided to implement 3 RCC

- RCC-WSA: started its pilot phase on march 2013. On Sep 2014 was designated as a RCC
- RCC-SSA network started its pilot phase on May 2014. Currently is in a process for the designation (it will probably be announced in November 2016) **VIRTUAL CENTER**
- RCC-NSA network did not start the pilot phase

RCCs-Regional Association III



Mandatory products and activities

- **Operational data services, to support operational LRF and climate monitoring**
- **Operational Activities on Climate Monitoring**
- **Operational activities for long-range forecasting**
- **Training in the use of operational RCC products and services**
- **Highly recommended products and functions:**
 - Climate Prediction and Projection
 - Assist NMHSs to develop and maintain historical climate datasets
 - Assist RCC Users in the development and maintenance of software modules for standard applications.
 - Advise RCC Users on data quality management.
 - Promote studies of regional climate variability and change, predictability and impact in the Region
 - Develop and validate regional models, methods of downscaling and interpretation of global output products.

RCC-SSA

Membership

Involves the following types of institutions:

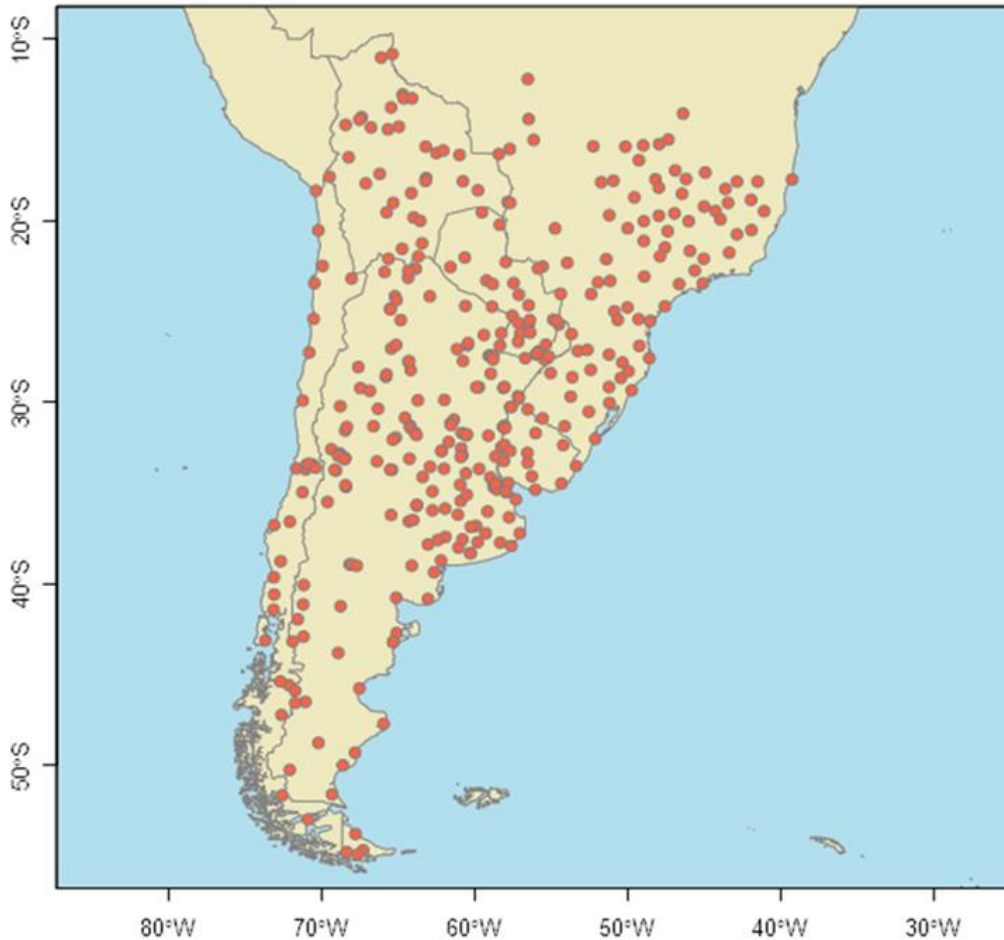
Responsible countries: Argentina and Brazil, through their National Meteorological Services (SMN and INMET).

Participant or partner countries: Paraguay and Uruguay, through their NMHS.

Associated countries: Bolivia and Chile, through their NMHS;

Collaborating institutions: Institutes and University Departments dedicated to Climate studies and services in each of the countries, ie SIMEPAR, CPTEC, CIMA, DCAO (Dept. of Atmospheric Sciences- Facultad de Cs. Exactas y Naturales-UBA), Facultad de Agronomía (UBA), INTA.

Operational data services



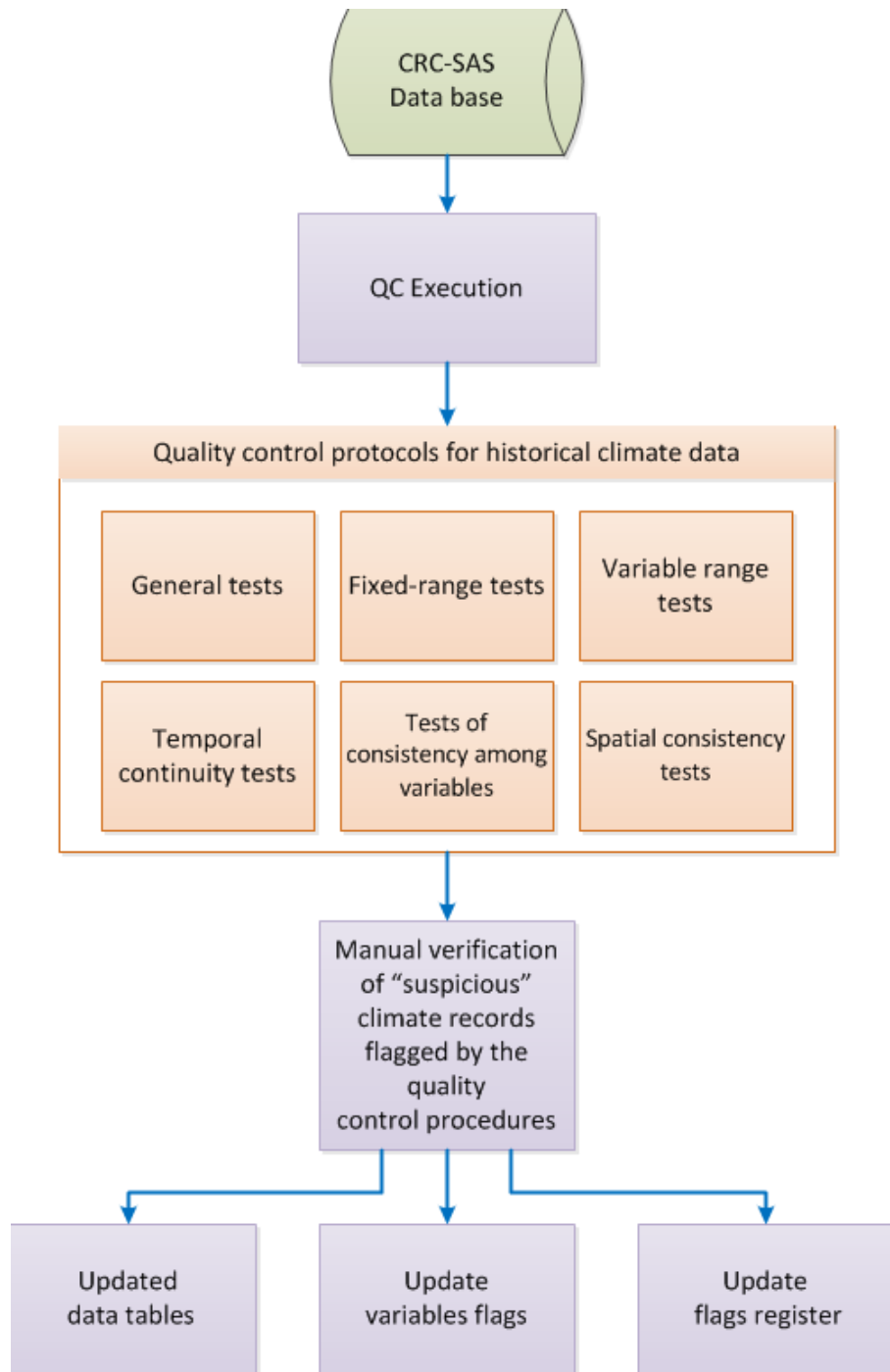
Database

Includes 356 conventional stations

For 1961 to present

Data are update every 10 days

At present, the data includes daily maximum and minimum temperature and total precipitation, even though some institutions have contributed additional variables (i.e., wind, pressure)




Operational data services

Database has a set of quality control
Implemented in R


More details in a
Technical Report

Operational data services

Manual verification is made by each country through a web interface developed to facilitate verification.



Centro Regional del Clima para el Sur de América del Sur
Centro Regional do Clima para o Sul da América do Sul
 Fase demostración




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Estaciones - Verificación - [87289] Paso de los Libres Aero (Corrientes, Argentina) - Institución: SMN

Variable actual **Editar**
Variables dudosas << >>
Todas las variables < >
Registros **Volver**
Ayuda ?

Variable: Temperatura máxima
 Tests fallados: CES_01
 Estado: Sospechoso
 Valor: 31.1 °C

Fecha	tmax	tmin	tmed	td	pres_est	pres_nm	prcp	hr	helio	nub	vmax_d	vmax_f	vmed
2015-12-15	30.3	19.3	24.0	19.5	1005.0	1013.1	0.0	77	11.3	4	20	12.9	5.0
2015-12-16	29.5	18.5	25.2	16.9	1004.9	1013.0	0.0	61	12.2	1	9	15.4	7.8
2015-12-17	34.5	21.7	26.9	22.5	997.0	1005.0	49.0	78	3.9	4	36	18.0	4.8
2015-12-18	25.0	20.1	22.1	21.0	998.8	1006.9	5.0	94	0.4	7	27	24.2	4.6
2015-12-19	27.3	19.1	22.5	16.0	1006.4	1014.6	0.0	68	7.8	6	14	13.9	5.8
2015-12-20	28.3	19.2	23.3	18.3	1006.4	1014.6	0.0	74	11.3	4	9	14.4	6.2
2015-12-21	26.3	21.1	22.7	21.0	1001.2	1009.3	74.0	91	1.3	6	9	17.0	7.5
2015-12-22	31.1	20.6	23.8	22.3	998.5	1006.6	83.0	92	2.0	8	14	21.6	8.1
2015-12-23	22.7	20.2	21.6	20.4	1000.2	1008.3	33.0	94	0.0	8	9	20.6	5.3
2015-12-24	28.5	20.0	23.8	21.6	1004.3	1012.5	0.0	88	2.9	8	9	18.5	3.3
2015-12-25	28.5	20.0	24.5	21.2	1006.1	1014.2	0.0	83	2.2	6	14	11.3	4.2
2015-12-26	28.9	21.0	24.8	21.8	1002.4	1010.5	0.0	84	3.8	6	14	8.7	3.6
2015-12-27	32.5	22.8	27.8	23.1	998.7	1006.7	0.0	77	10.4	5	14	6.7	2.3
2015-12-28	31.8	24.2	27.9	24.7	998.9	1006.8	0.0	83	0.5	7	11	8.2	3.6
2015-12-29	28.2	22.3	26.7	24.7	998.7	1006.7	21.0	89	0.0	8	34	15.9	4.1



Referencia de colores:

- C Registro actual / Estación central (en mapa)
- Otro registro / Estación vecina (en mapa)
- Dato válido
- Dato sospechoso
- Dato no válido / no corregible

Este proyecto es financiado por las siguientes organizaciones



Banco Interamericano de Desarrollo



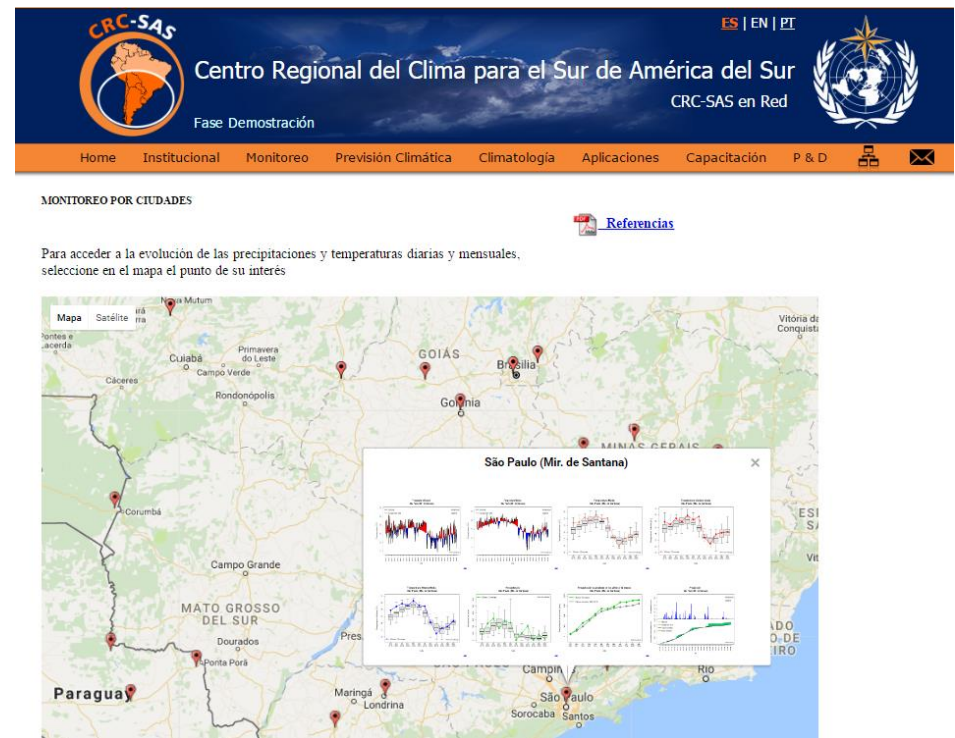
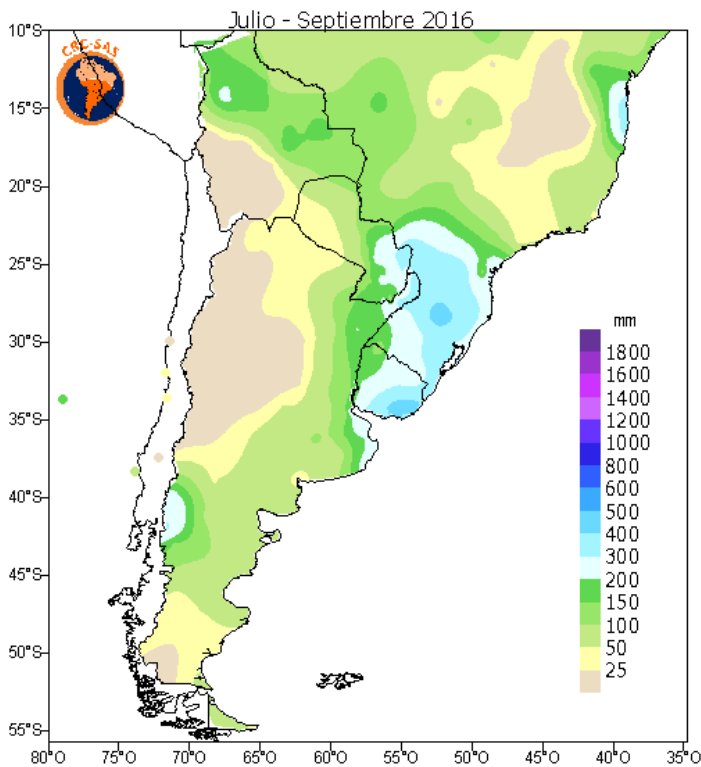
Inter-American Institute for Global Change Research



United States National Science Foundation

Climate Monitoring

- Precipitation and temperature maps from 1 to 12 month
- Monitoring at city level, (update every 10 days) including daily/monthly temperature and precipitation
- Monthly reports about El Niño/ La Niña



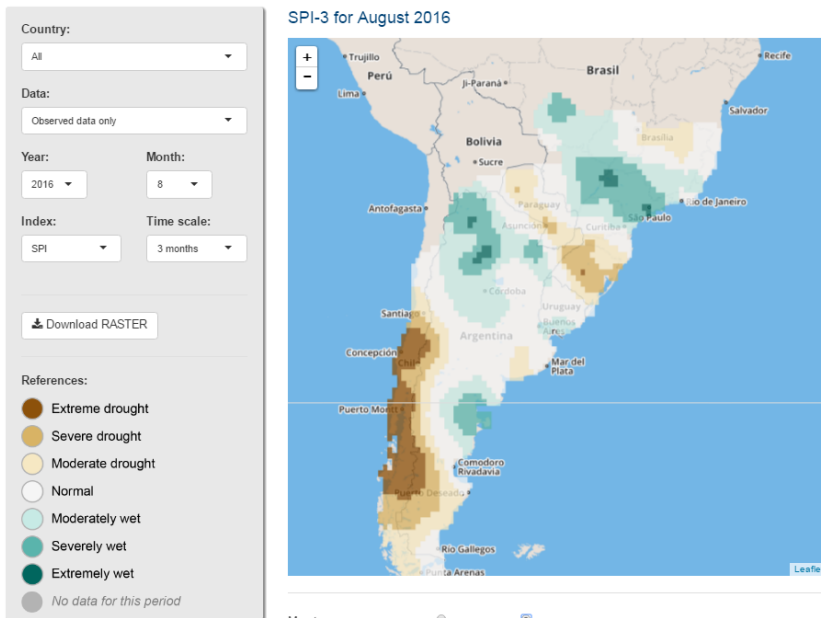
All products are derived from information within the RCC-SSA database and, in some cases, completed with the GTS (e.g. Bolivia)

Climate Monitoring

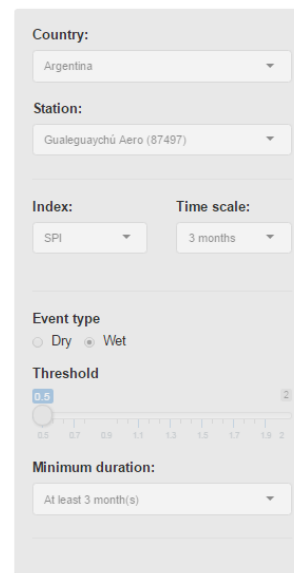
- Drought/rainfall excesses monitoring
SPI, SPEI, Decil, percentage anomaly, quantile.

Output type: time series, heat map, map, table, panel. Data and graphs are available to download

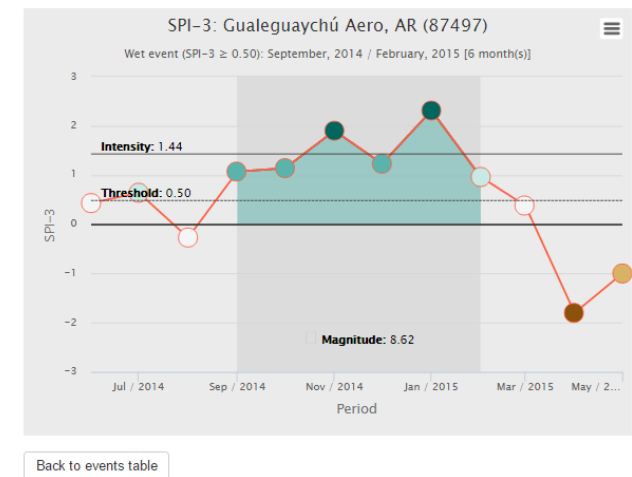
Drought indices - Indices map by country and station



Drought indices - Dry and wet events identification



Wet events in Gualeguaychú Aero (87497)



Climate Monitoring

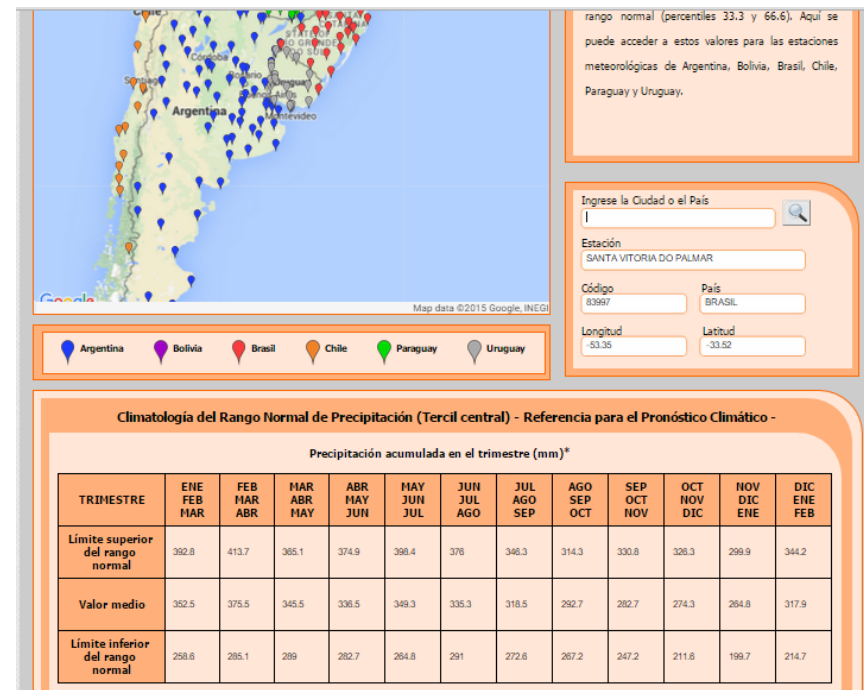
Climatology for precipitation and temperature

- For 1961-1990 and 1981-2010. Maps of monthly and annual values

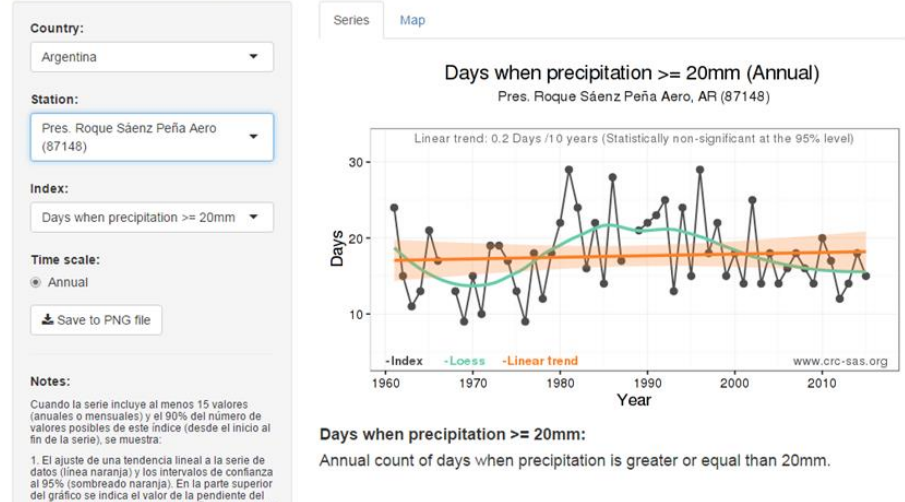
- For 1981-2010

Maps of seasonal values of mean, lower and upper tercile

- Indices CLIMDEX

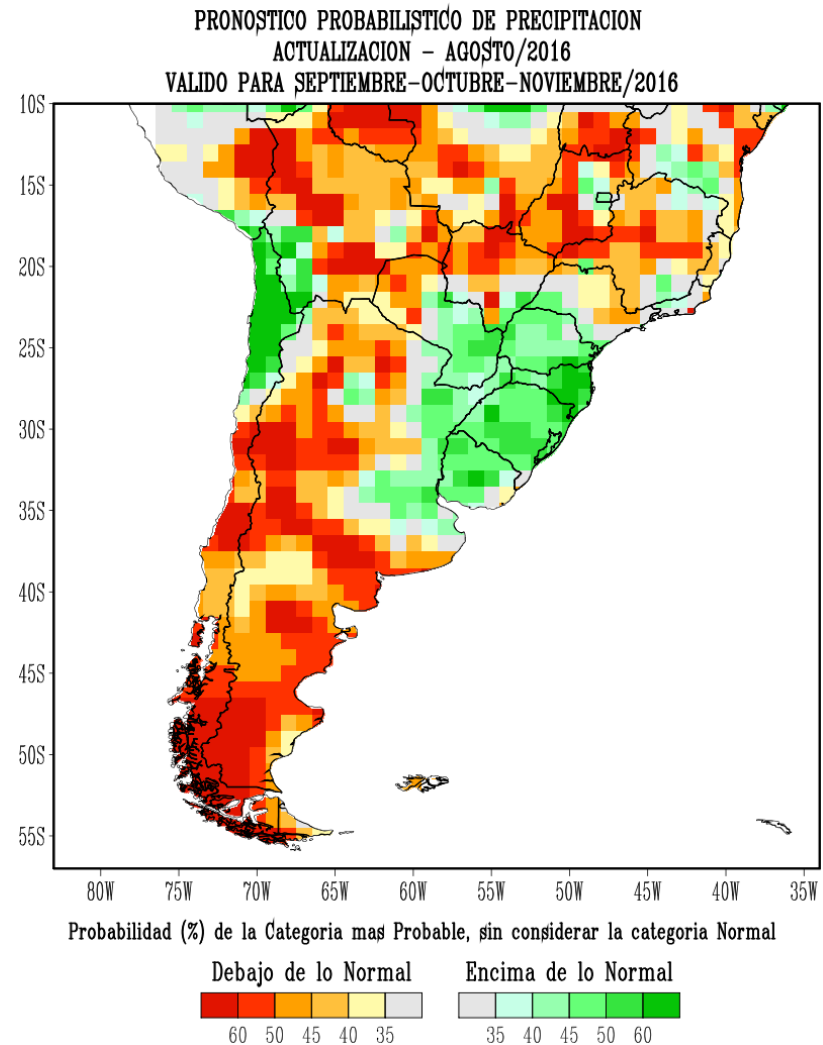


CLIMDEX indices - Historical CLIMDEX indices series by country and station



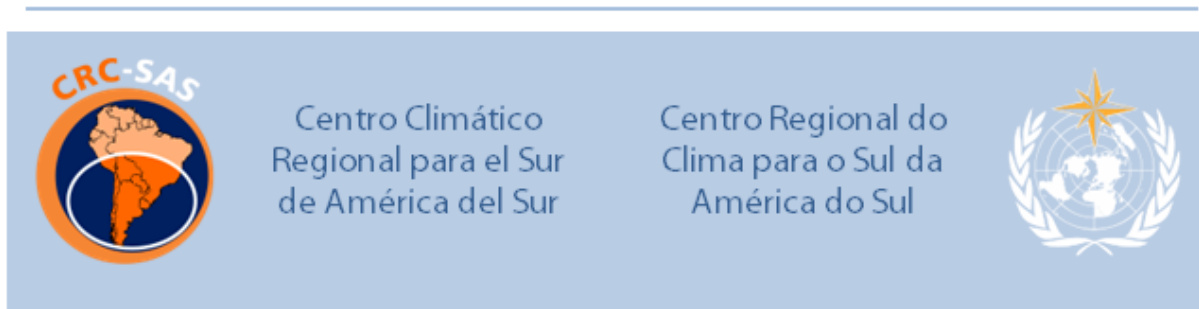
Operational activities for long-range forecasting

- Statistical seasonal forecast for mean temperature and precipitation. Forecast is expressed as mean values, probably by tercile category. Verification: anomaly of correlation
- Consensus seasonal forecast is made during de Regional Climate Outlook Forum for Southern South America.
- Seasonal forecast Individual GPC and LC-LRFMME forecasts are constantly consulted and interpreted by RCC-SSA personnel during the Fora



Documentation

Information on methodologies and product are available from a Technical Report: (i) design and compilation of a regional climate database, (ii) procedures for the quality control of the regional database, (iii) homogenization approaches, (iv) calculation of various indices for drought monitoring.



Serie Reportes Técnicos –Reporte Técnico CRC-SAS-2013-001

Diseño del proceso de control de calidad de datos climáticos diarios en el Centro Climático Regional para el Sur de América del Sur

Projects supporting RCC-SSA

- ✓ “Servicios Climáticos para el Sur de Sudamérica”. Producción, síntesis y diseminación de datos e información sobre el clima y sus impactos ambientales, económicos y sociales en el sur de Sudamérica. IAI. CRN3035
- “Servicios Hidro-climáticos en la Cuenca del Plata”. Banco Interamericano de Desarrollo. Base de datos/productos de monitoreo de sequías. (finished)
- ✓ NSF-USA grant 1049109 “Decadal and Regional Climate Prediction using Earth System Models (EaSM)”.
- ✓ PIDDEF 15/2014: Monitoreo y pronóstico climático para la prevención de desastres hídricos en Argentina (CLIM.AR).
- ✓ Welcome to CLIMAX!!!!!!

Some thoughts to share with CLIMAX group

- Climate Services have to be provided by each country. In Argentina, and in most of South America, they are under the responsibility of the NMHSs.



Capacity
Building

- The model of “service production” and “service generation” is changing rapidly and constantly. NMHSs need strong collaboration with the academic-research sectors



Sustained
collaboration

- Knowledge co-production, information tailoring, are highly dependent on each community and its needs. NMHSs are exposed to increased demands



Key role of
social
sciences



Muchas gracias por su atención
Thank you very much for your attention



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ARGENTINA
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Ministerio de Defensa
Presidencia de la Nación