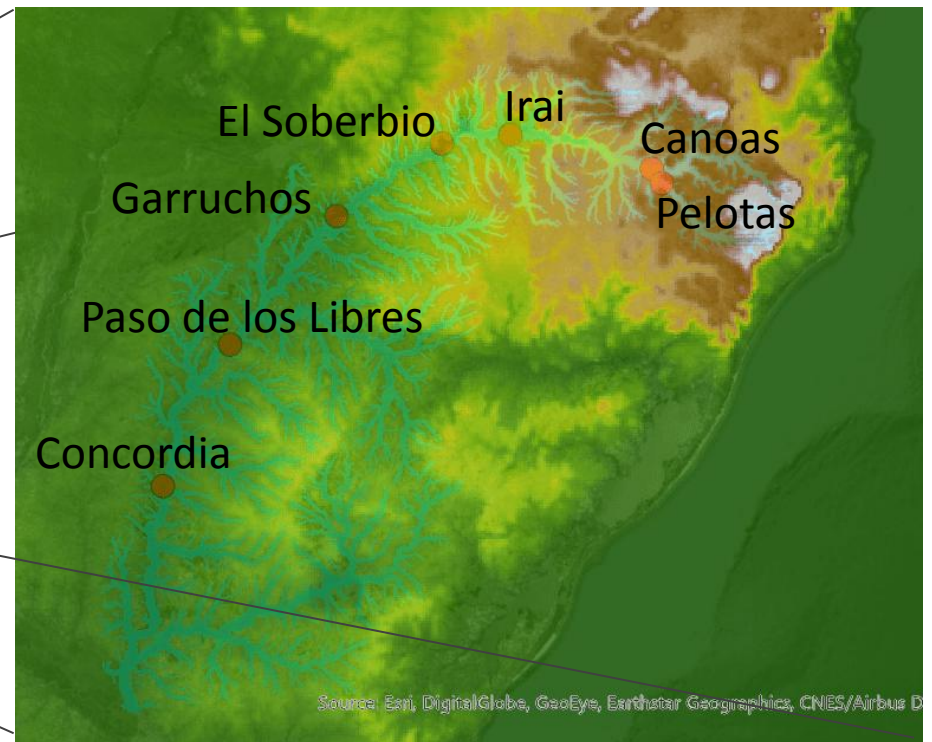
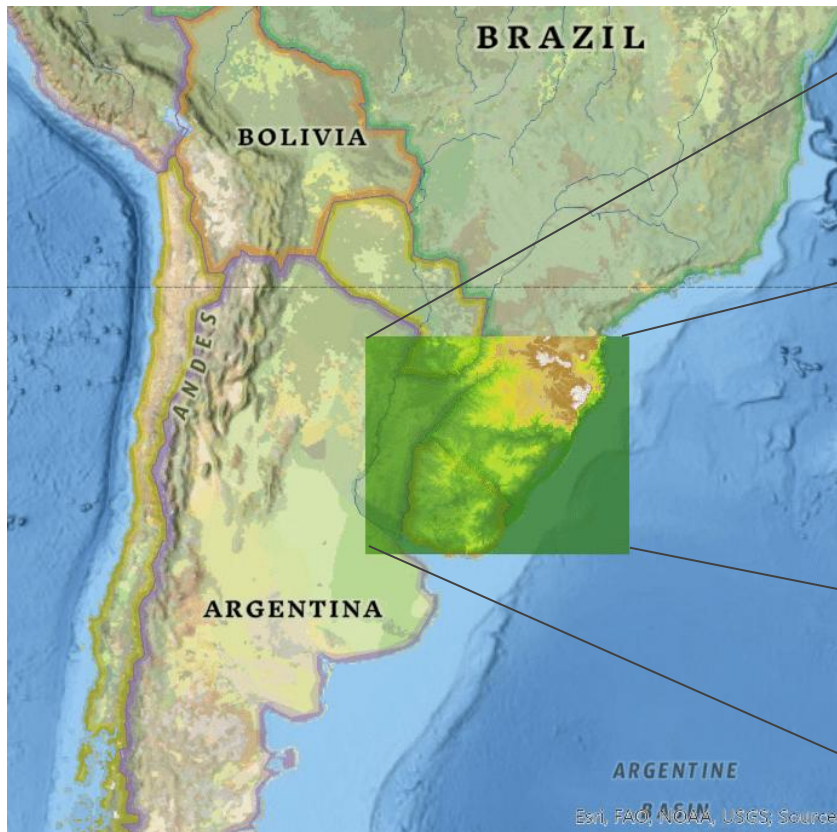


Impact of using precipitation from convection permitting models on the simulated Uruguay River streamflow

M. Doyle, G. Diaz, M. L. Bettolli, S. A. Solman, M. Feijoó, L. Chavez, M. E. Olmo, R. Balmaceda Huarte, J. Blázquez,· R. P. da Rocha,· M. Llopart,· J. Fernández

Study Area

Uruguay River Basin



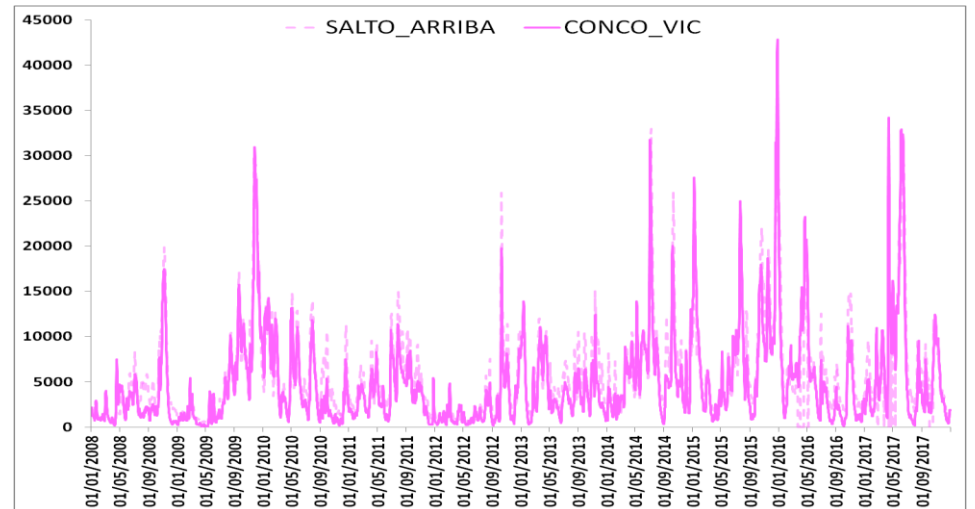
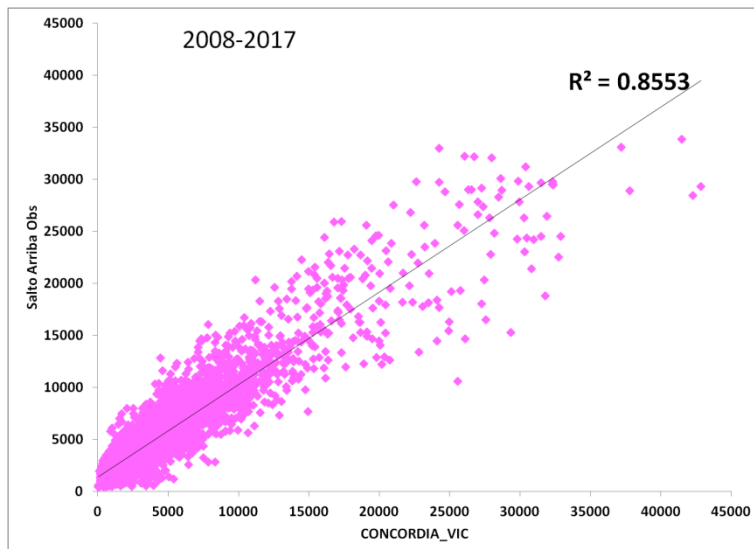
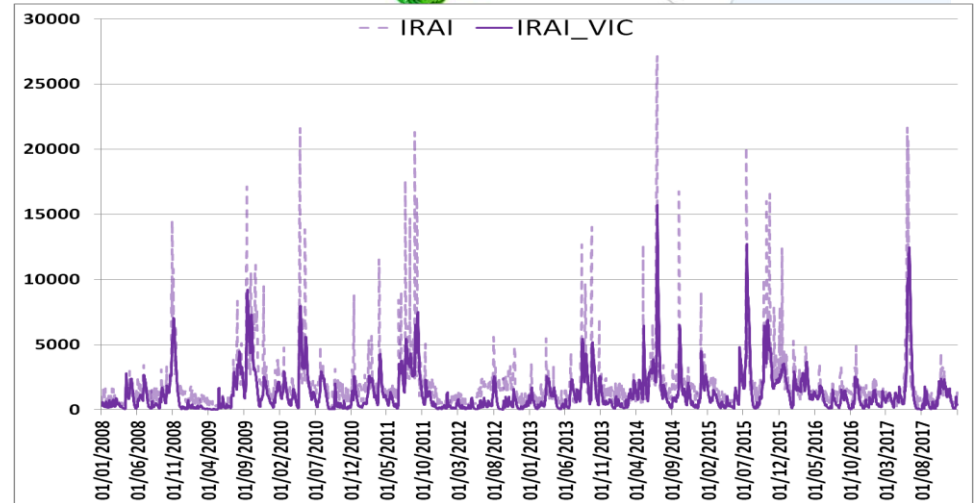
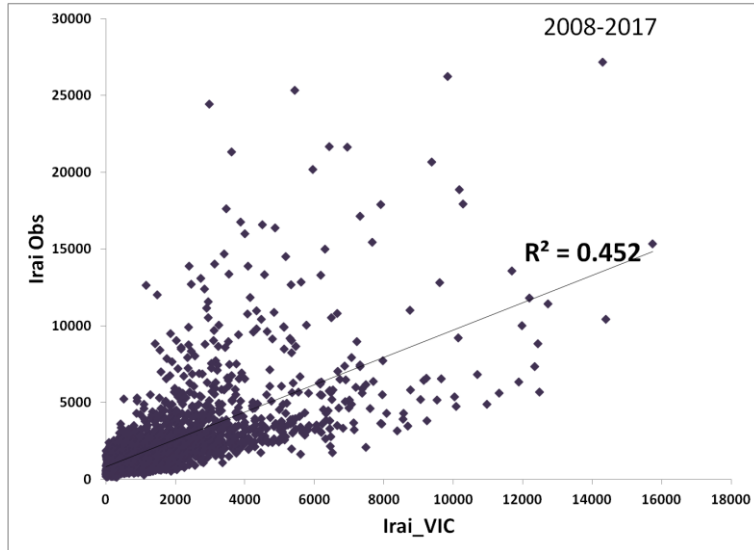
Hydrological Modeling

1. **Variable Infiltration Capacity (VIC)**
2. **Routing Model**

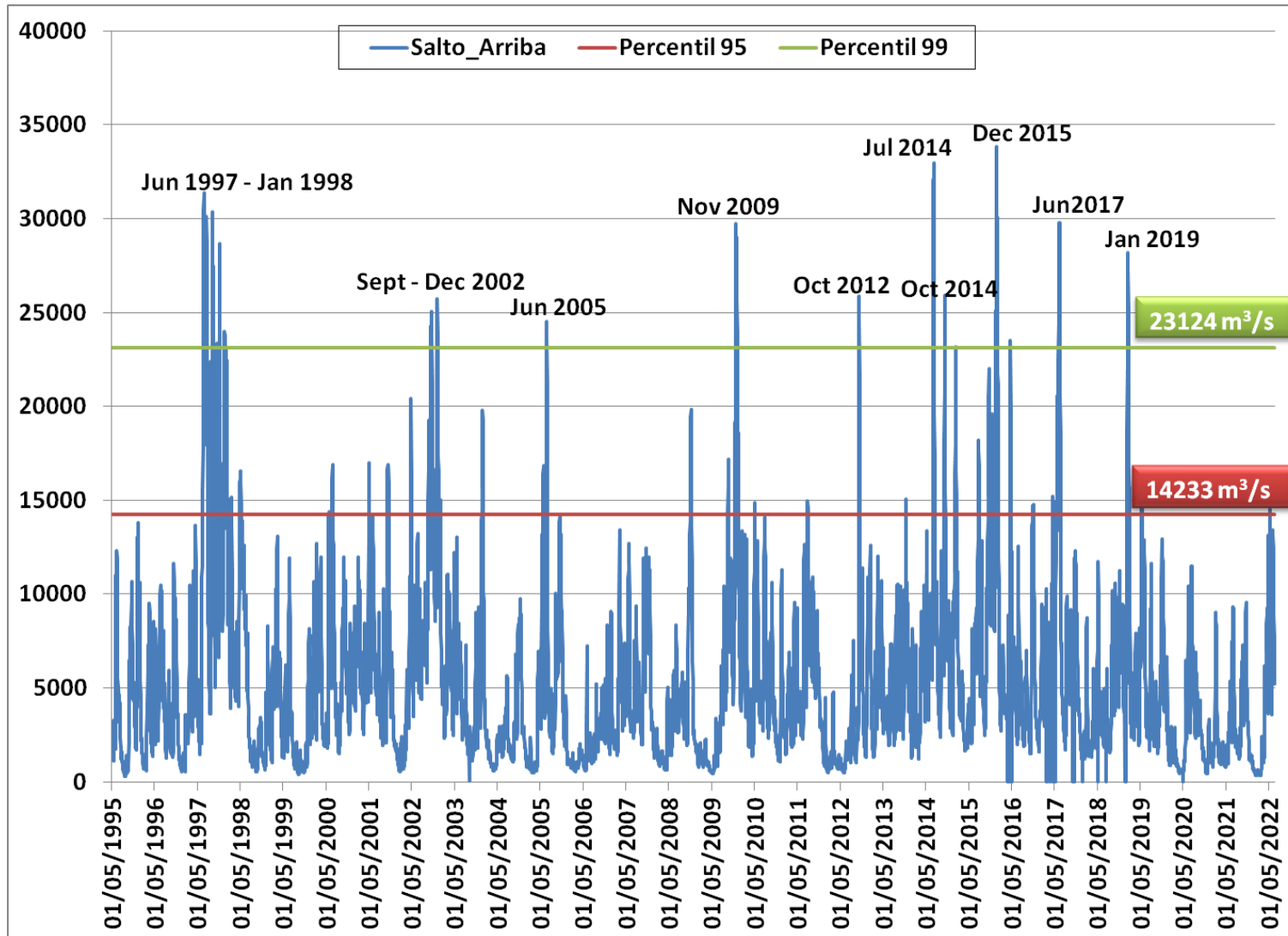
SIMULATIONS

- ❖ Observations
- ❖ WRF_CIMA 20km
- ❖ WRF_CIMA 4km

NWS OBSERVATIONS



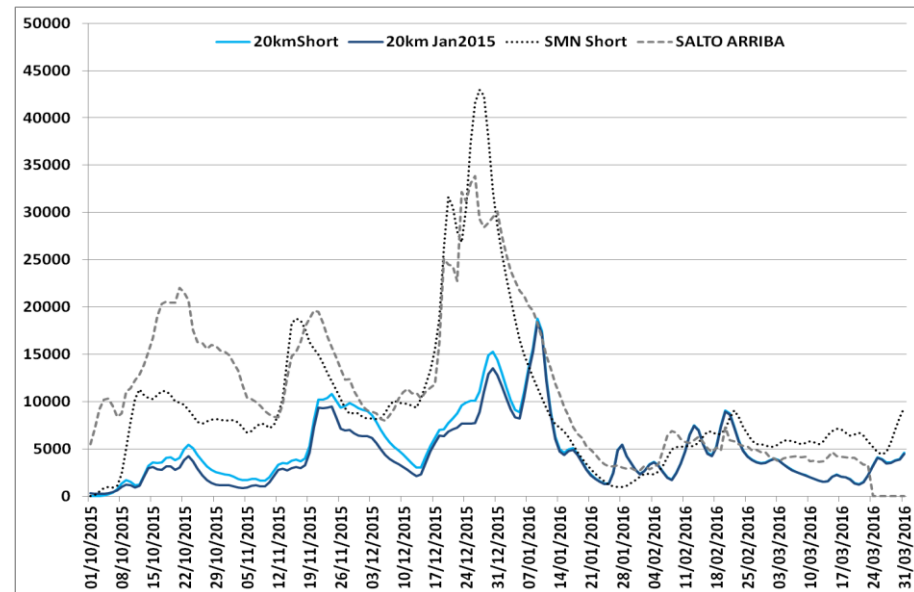
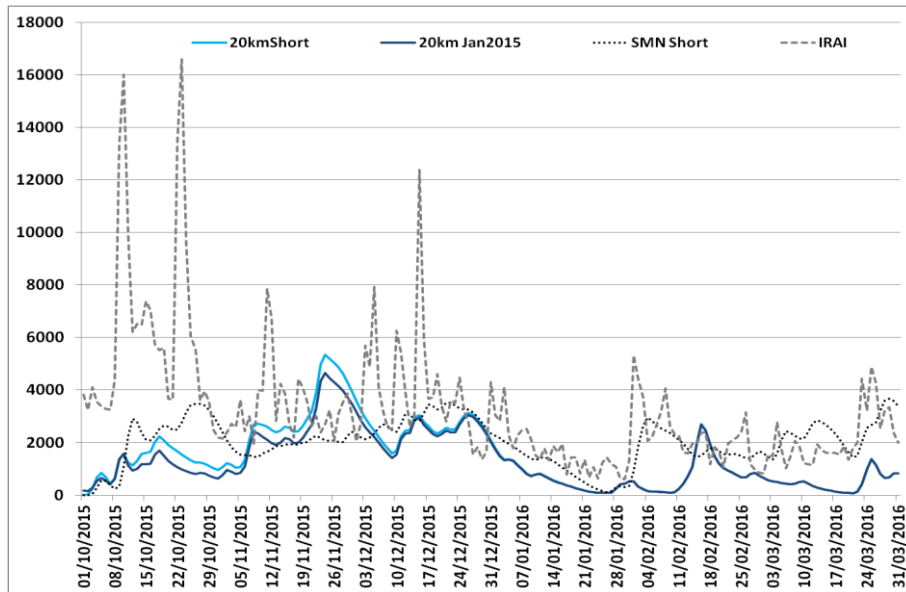
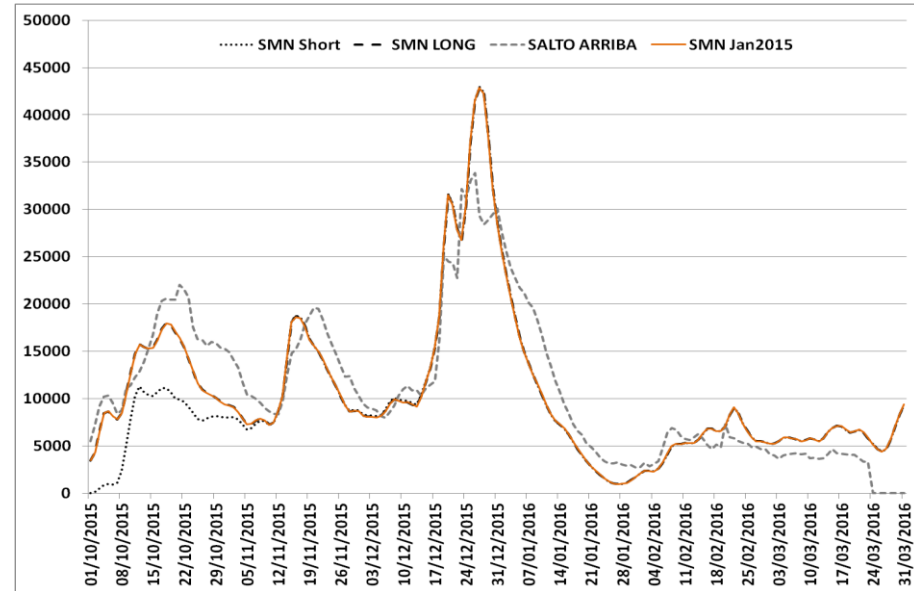
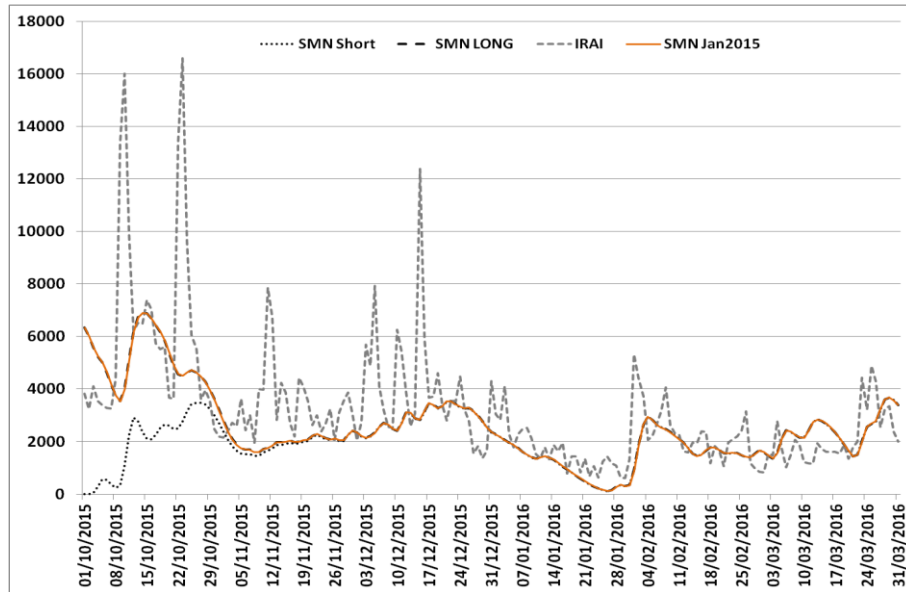
Extreme Streamflow



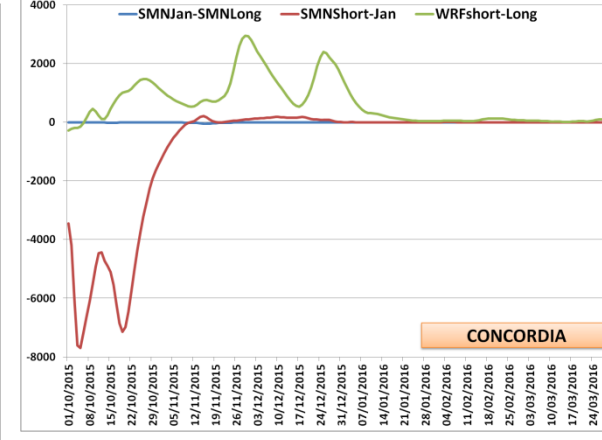
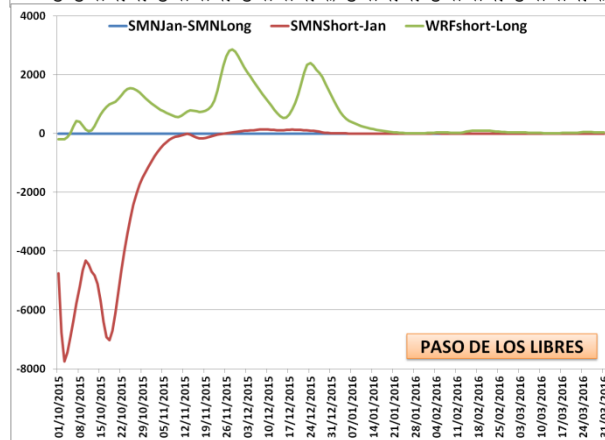
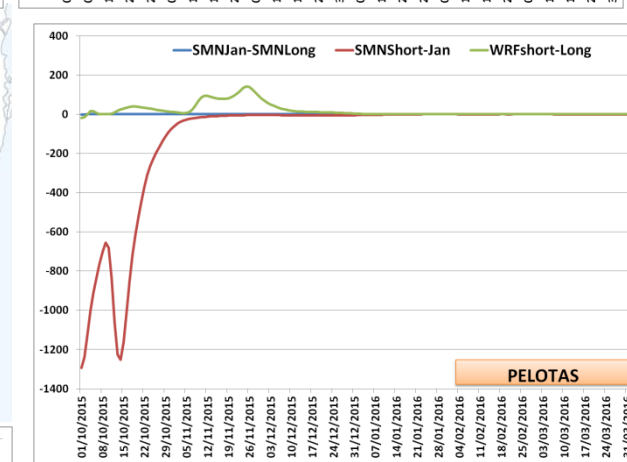
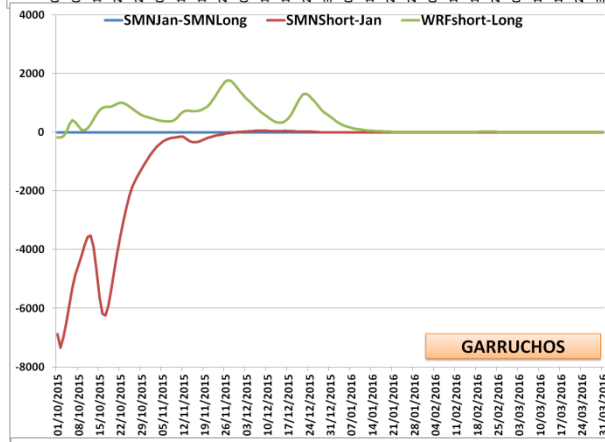
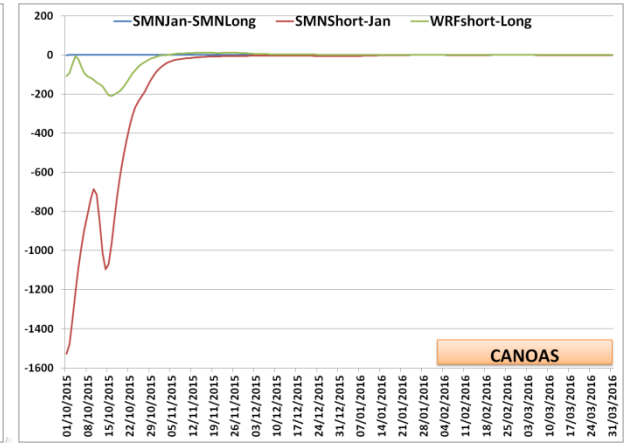
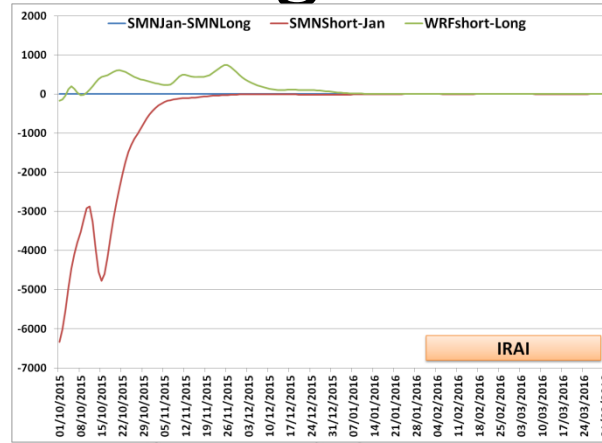
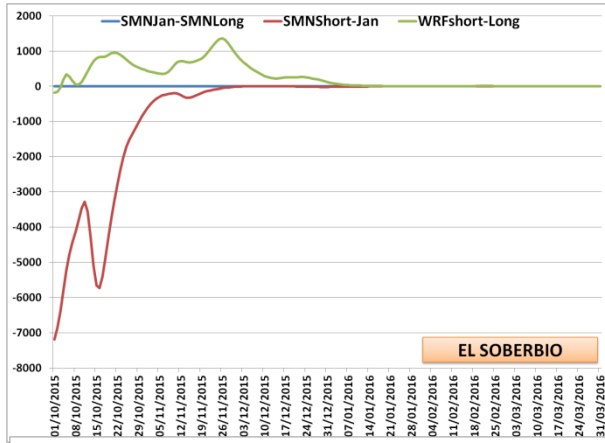
Extreme Streamflow - Precipitation

SALTO Streamflow > Perc99	SALTO Streamflow> Perc95	PP (FPS SESA)
17 October 2002	21 Sept – 2 Oct 2002	12 Mar 2005
7 December 2002	8 Oct al 8 Nov 2002	22 November 2009
24 Nov al 5 Dec 2009	3 - 18 December 2002	19 January 2010
10 October 2012	19 Nov al 17 Dec 2009	20 February 2010
6 al 11 July 2014	8 - 13 October 2012	1 November 2013
11 October 2014	6 - 15 October 2014	30 November 2014
19 December 2015	14 Oct - 1 Nov 2015 *	8 October 2015
23 Dec 2015 – 2 Jan 2016	15 -25 Nov 2015	10 Novembre 2015
7 al 18 June 2017	18 Dec 2015 – 11 Jan 2016	22-23 December 2015
18 al 21 Jan 2019	26 al 29 Octubre 2016	24 October 2016

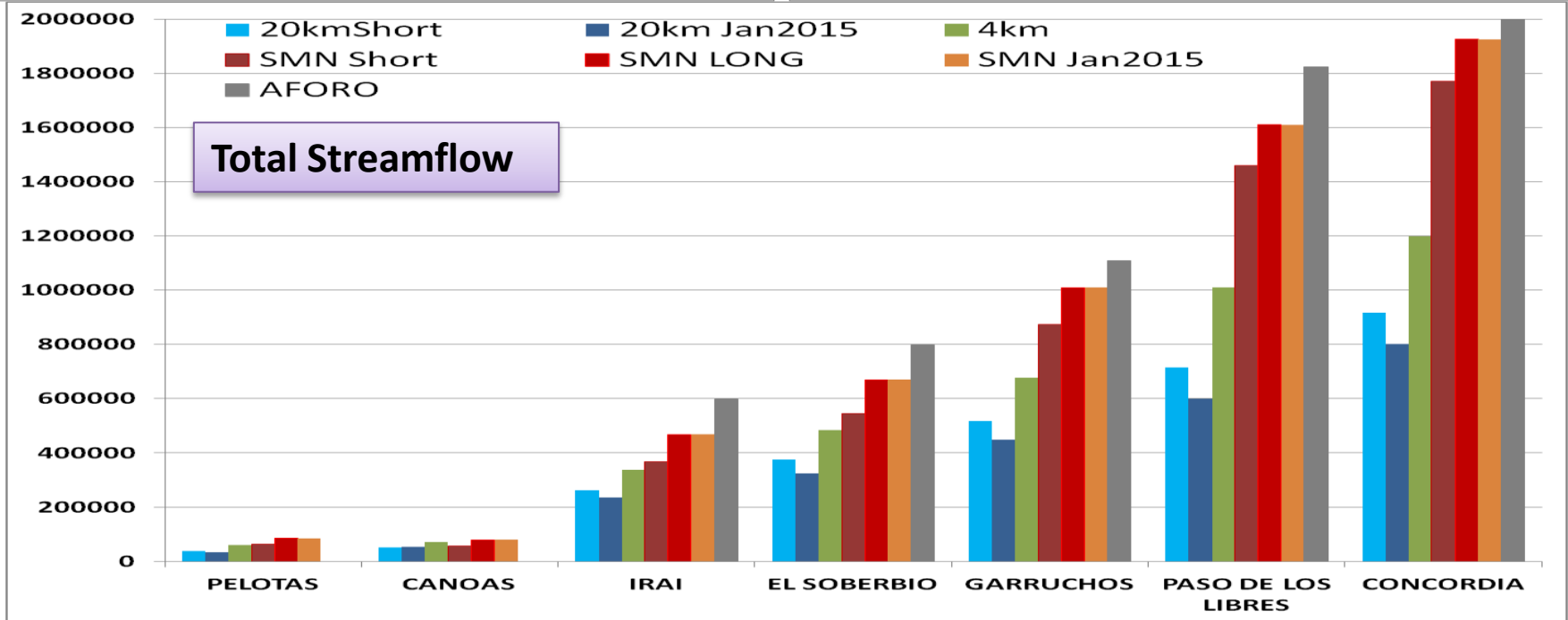
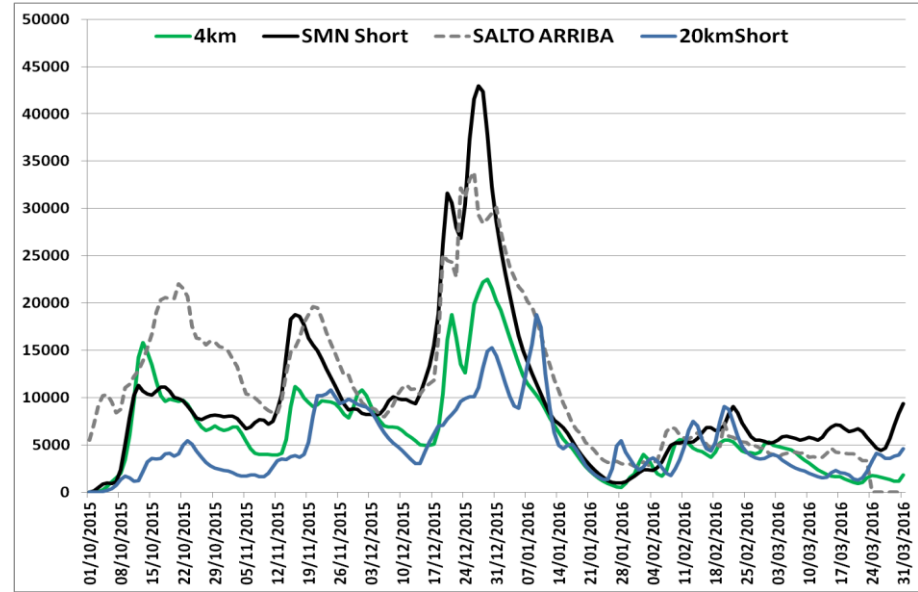
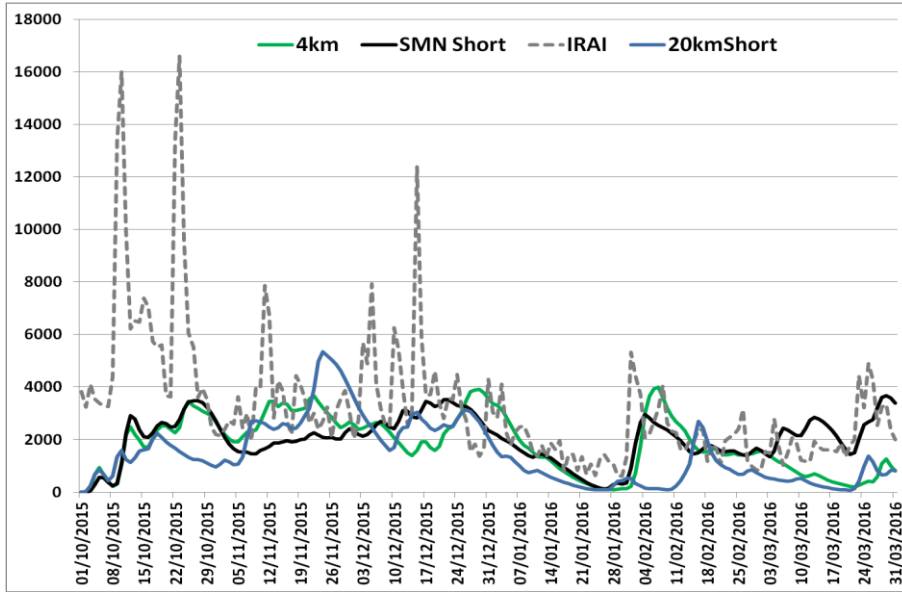
October 2015 – March 2016



Short – Long Simulations



October 2015 – March 2016



SMN

DEC 21

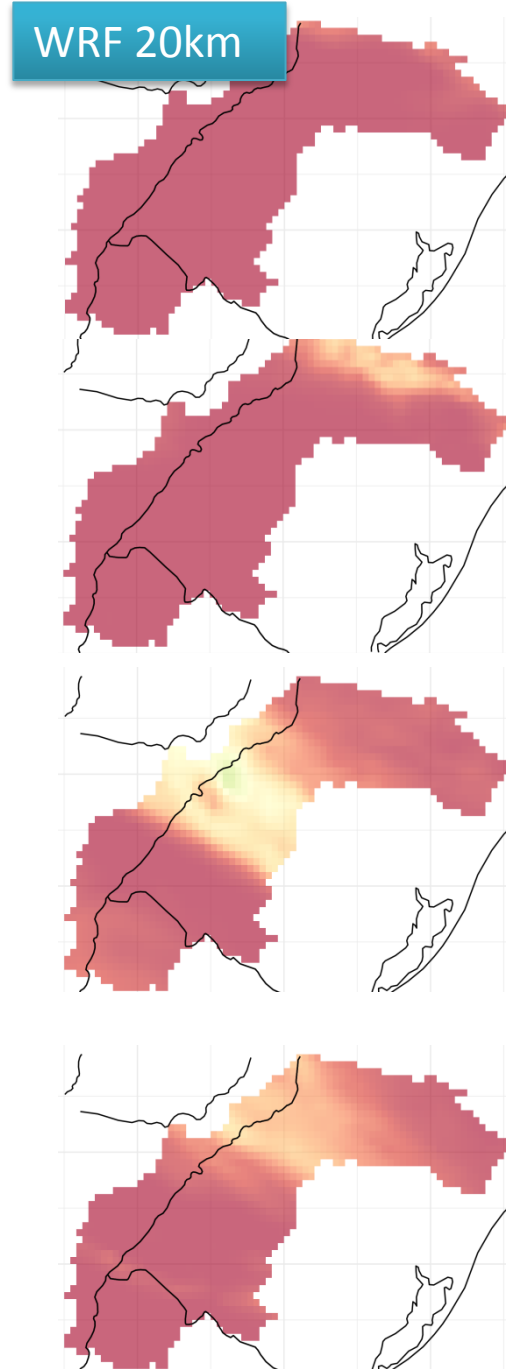
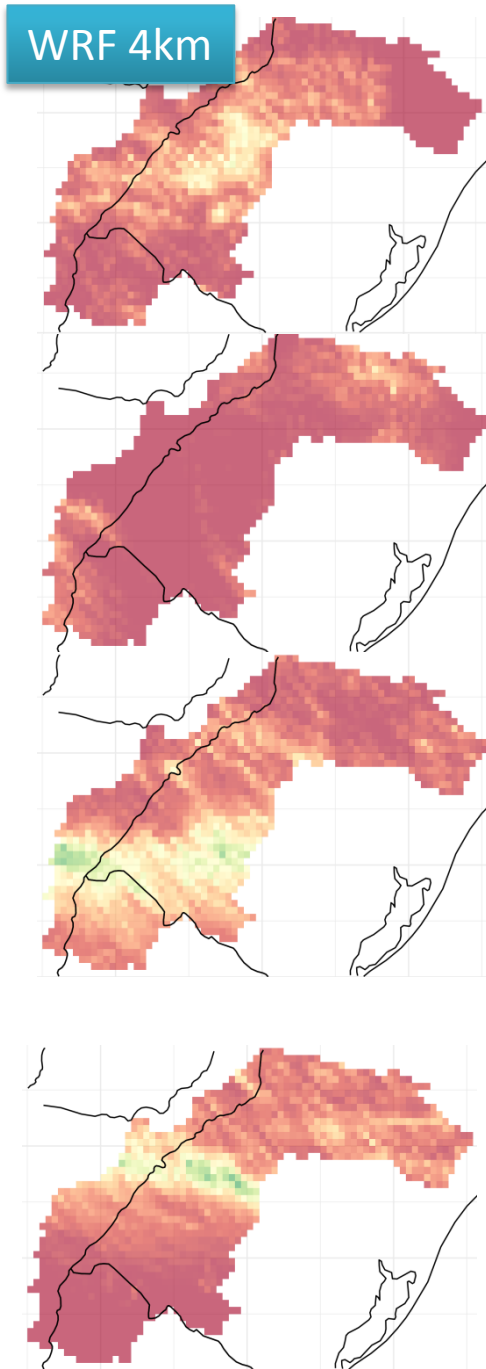
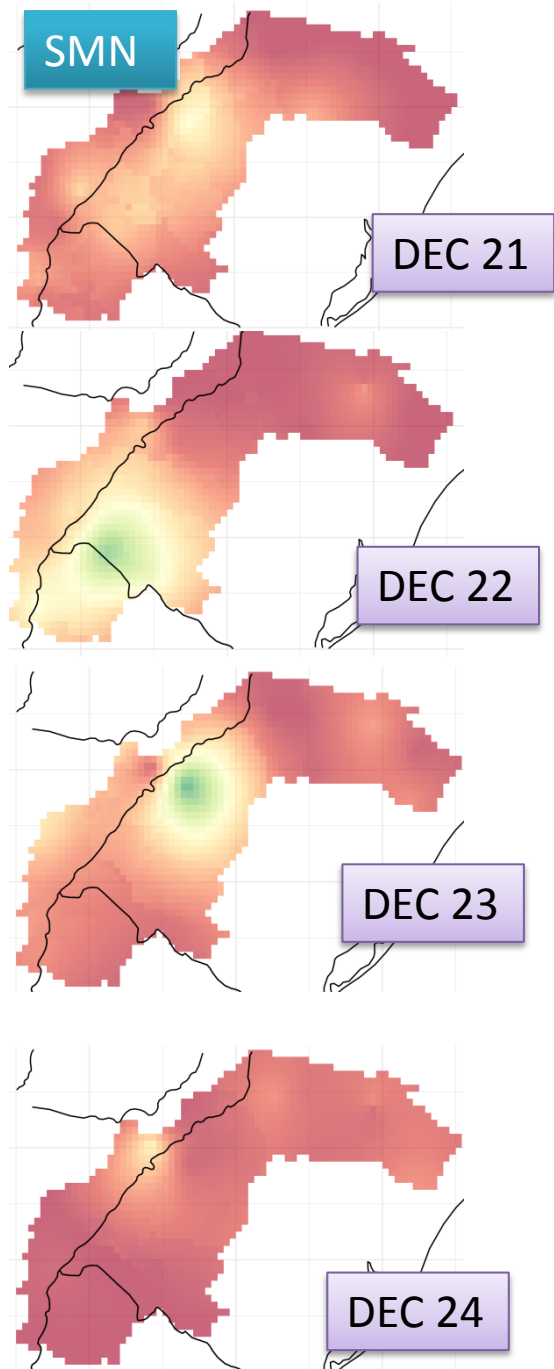
DEC 22

DEC 23

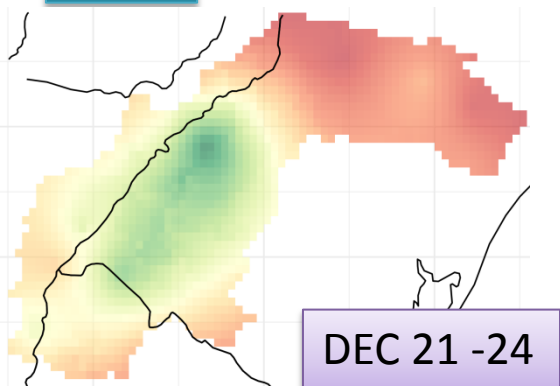
DEC 24

WRF 4km

WRF 20km

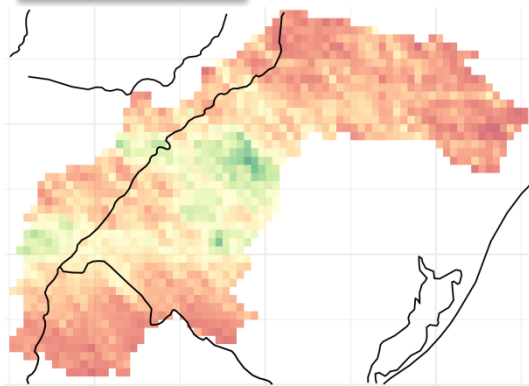


SMN

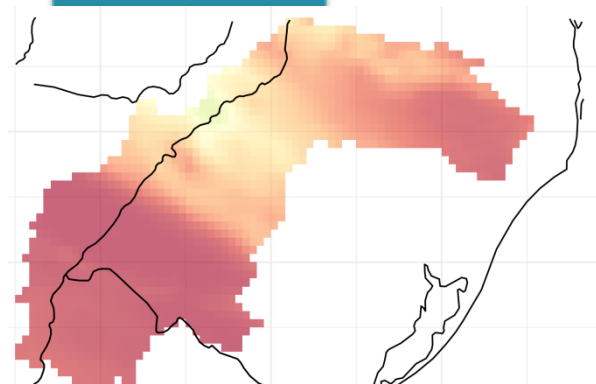


DEC 21 -24

WRF 4km

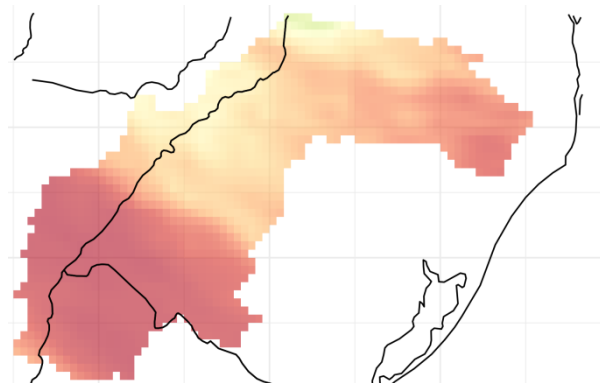
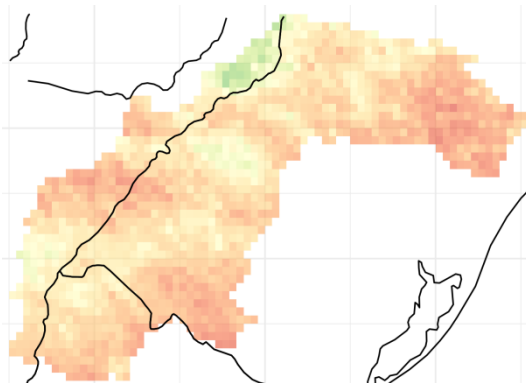
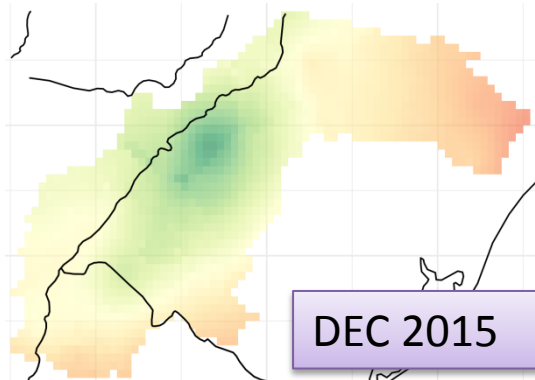


WRF 20km



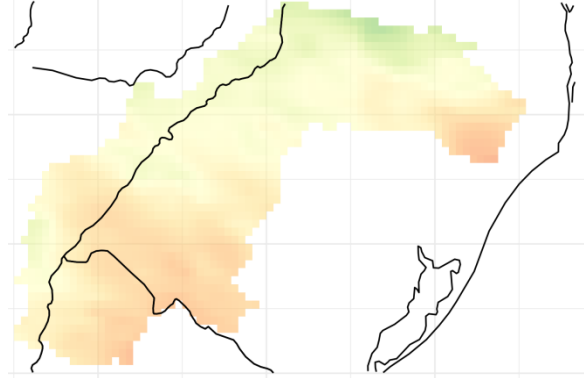
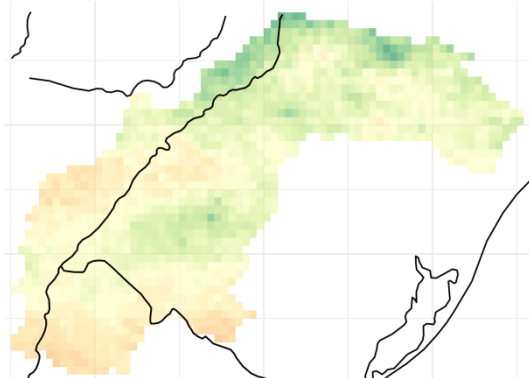
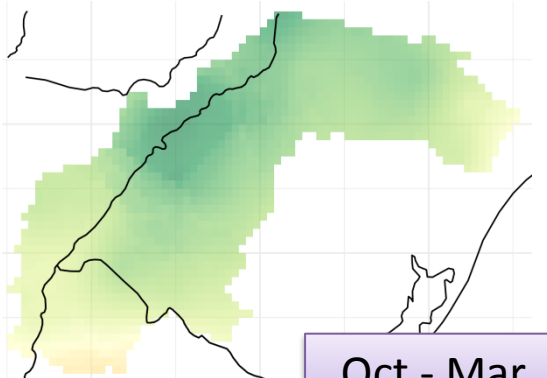
mm
300
200
100
0

DEC 2015



mm
800
600
400
200
0

Oct - Mar



mm
2000
1500
1000
500
0

Muchas Gracias

THANK YOU