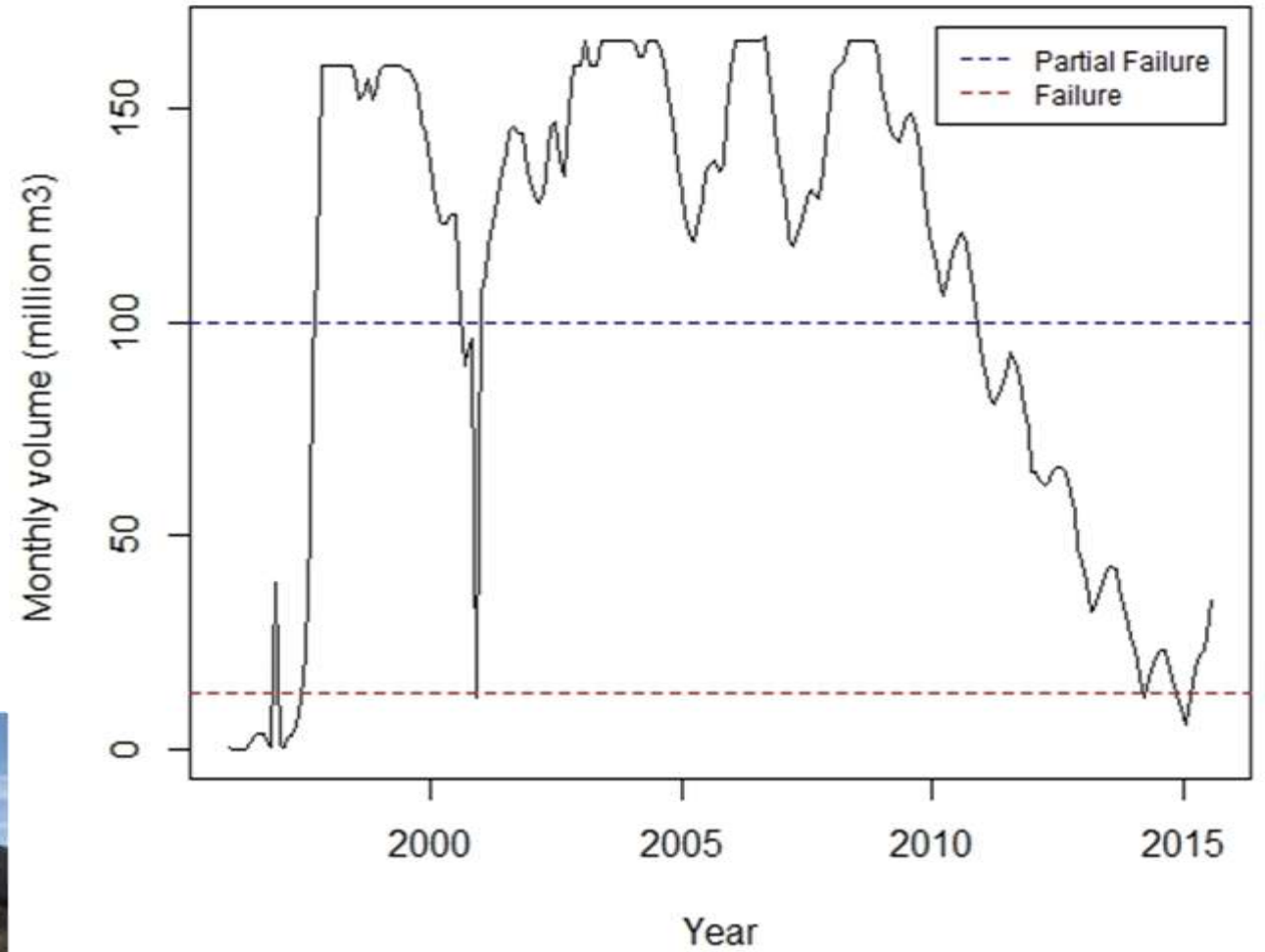


# Analysis of recent drought events (1965 – 2011) in the arid Huasco Basin, Chile



# Santa Juana dam

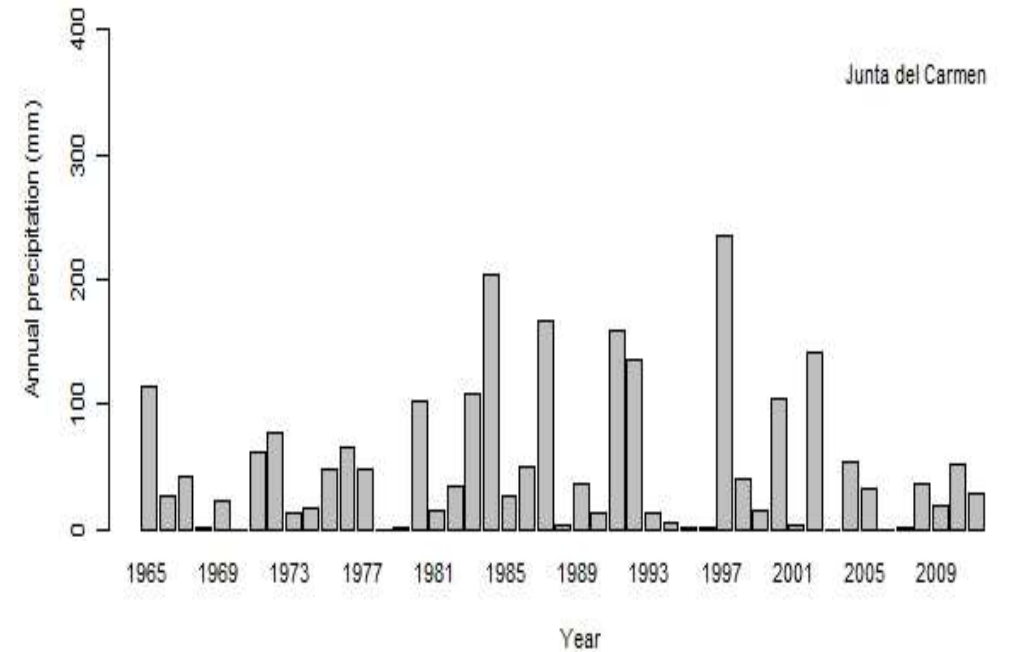


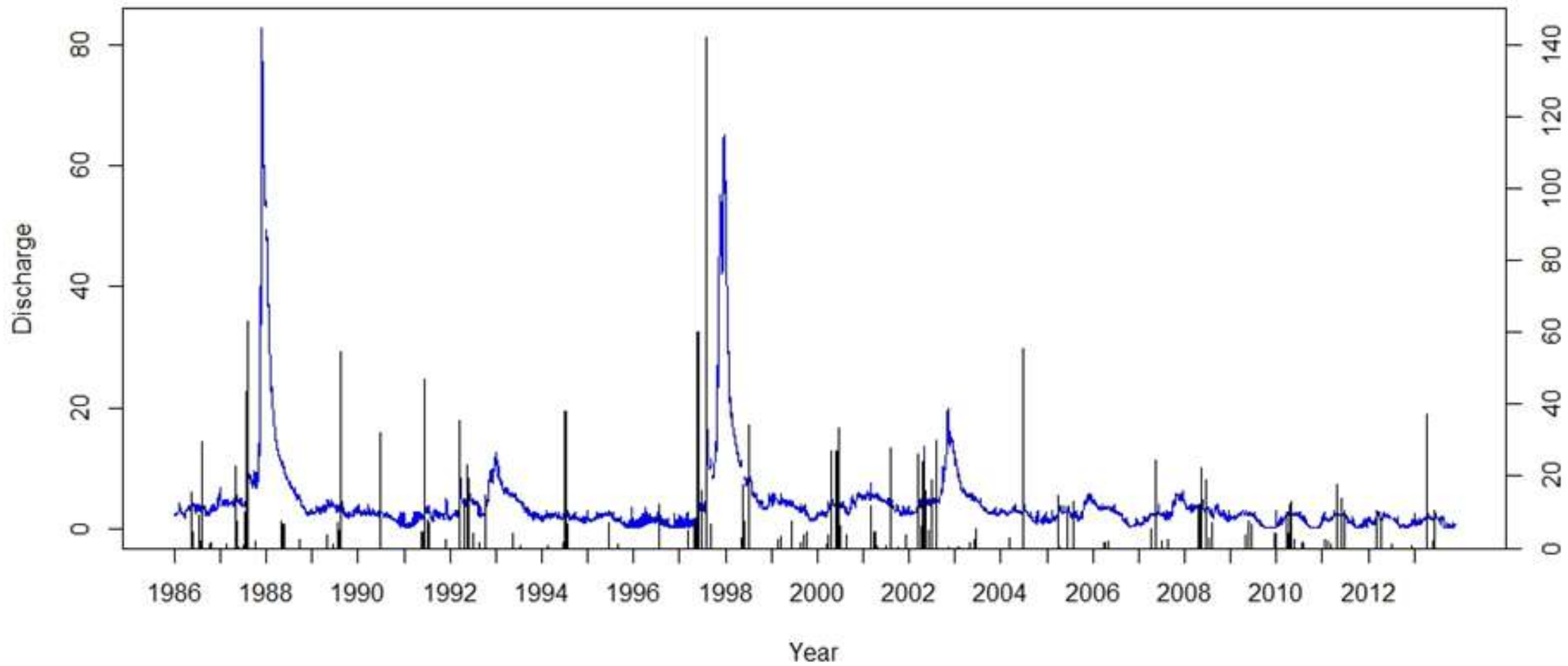
## Precipitation station:

Station	Name	Elevation (m)	Sub-basin	Mean P (mm)	Min P (mm)	Max P (mm)	Missing data (%)
P3804007	Junta del Carmen	770	Carmen	54	0	235	0.01

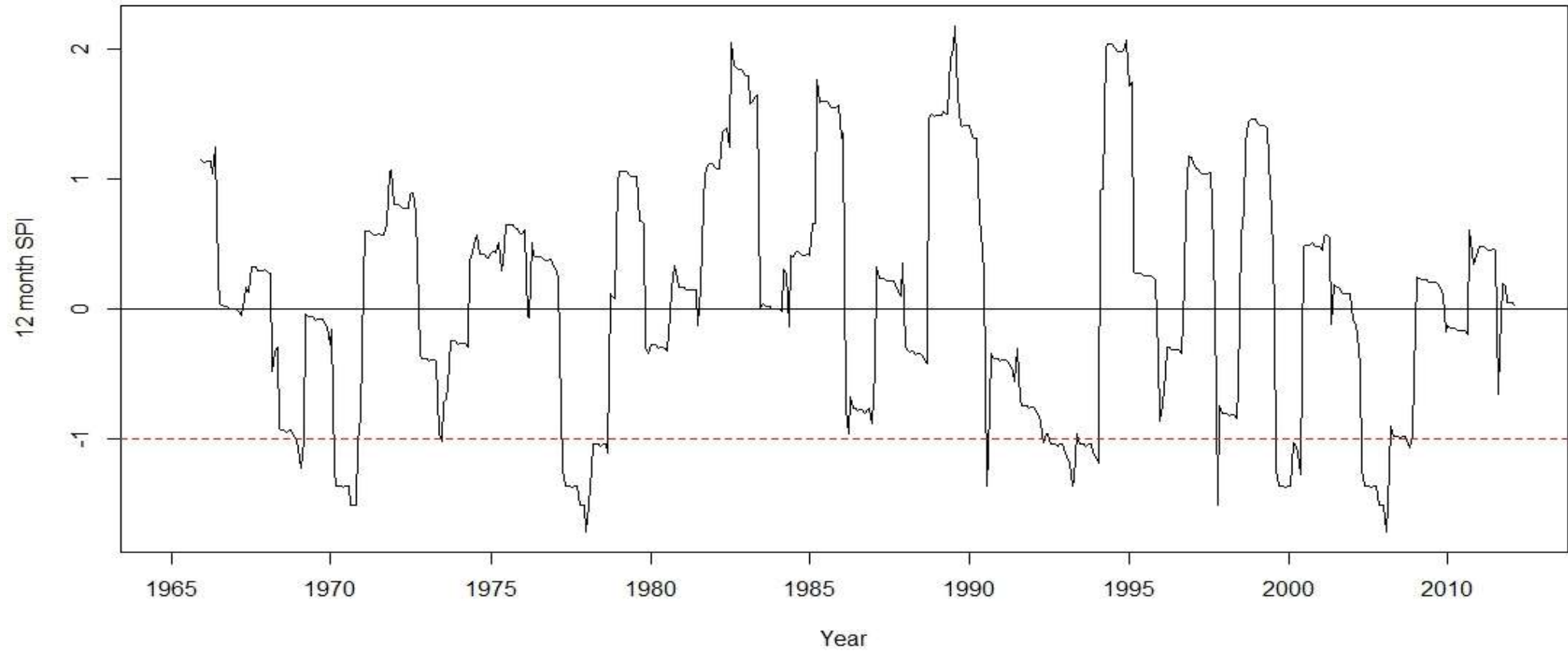
## Hydrological station:

Station	Name	Elevation (m)	Missing data (%)
Q3806001	RIO TRANSITO ANTES JUNTA RIO CARMEN	812	4.2%

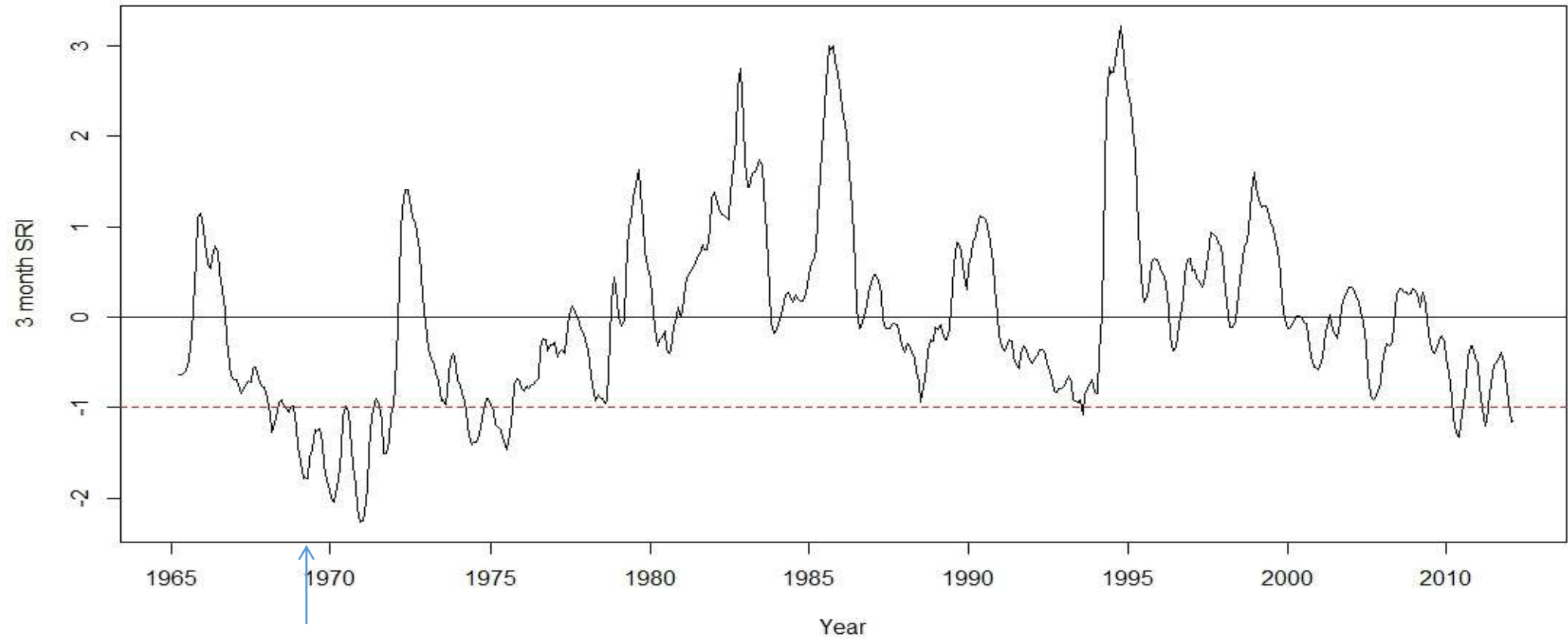




# SPI

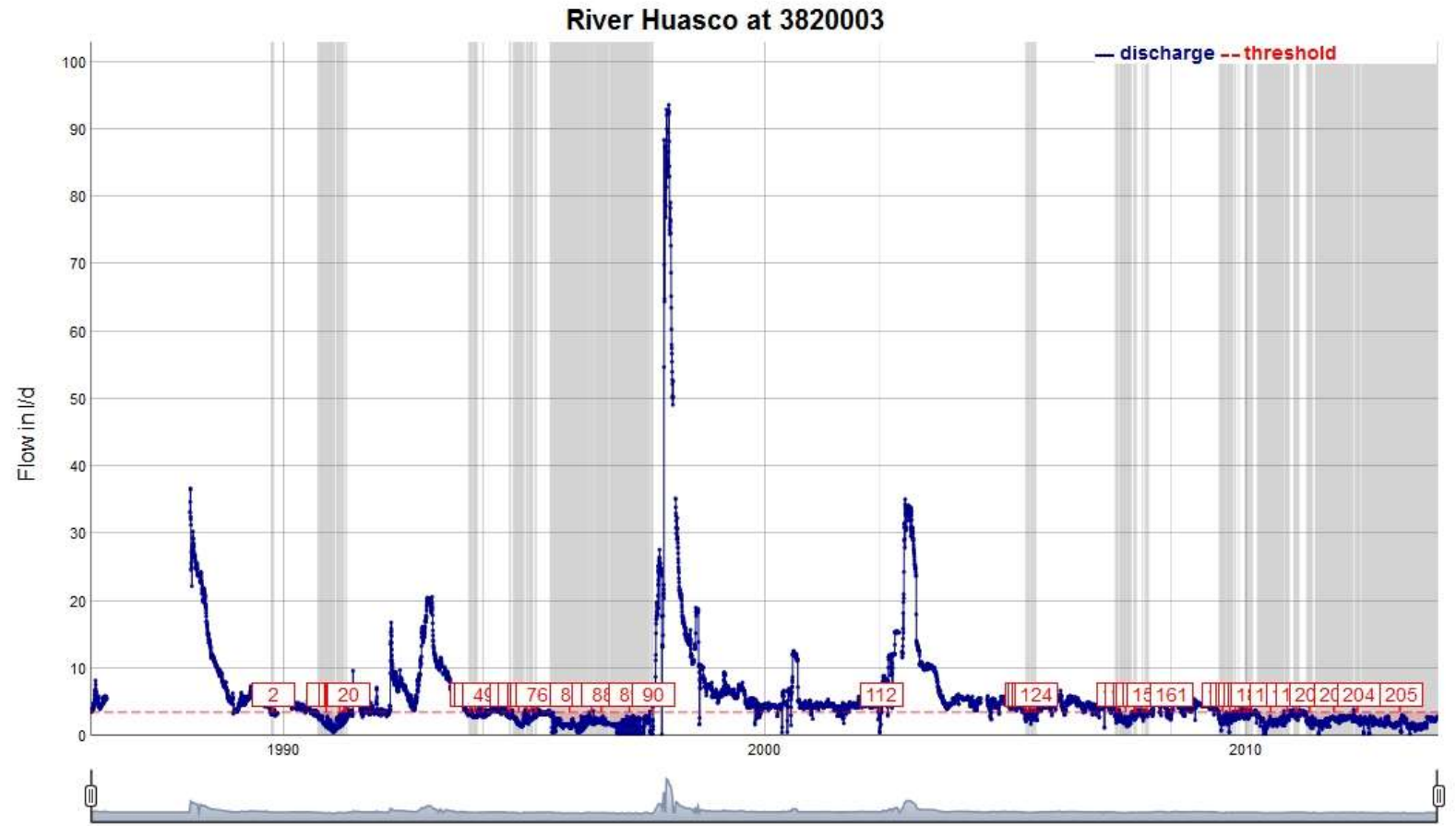
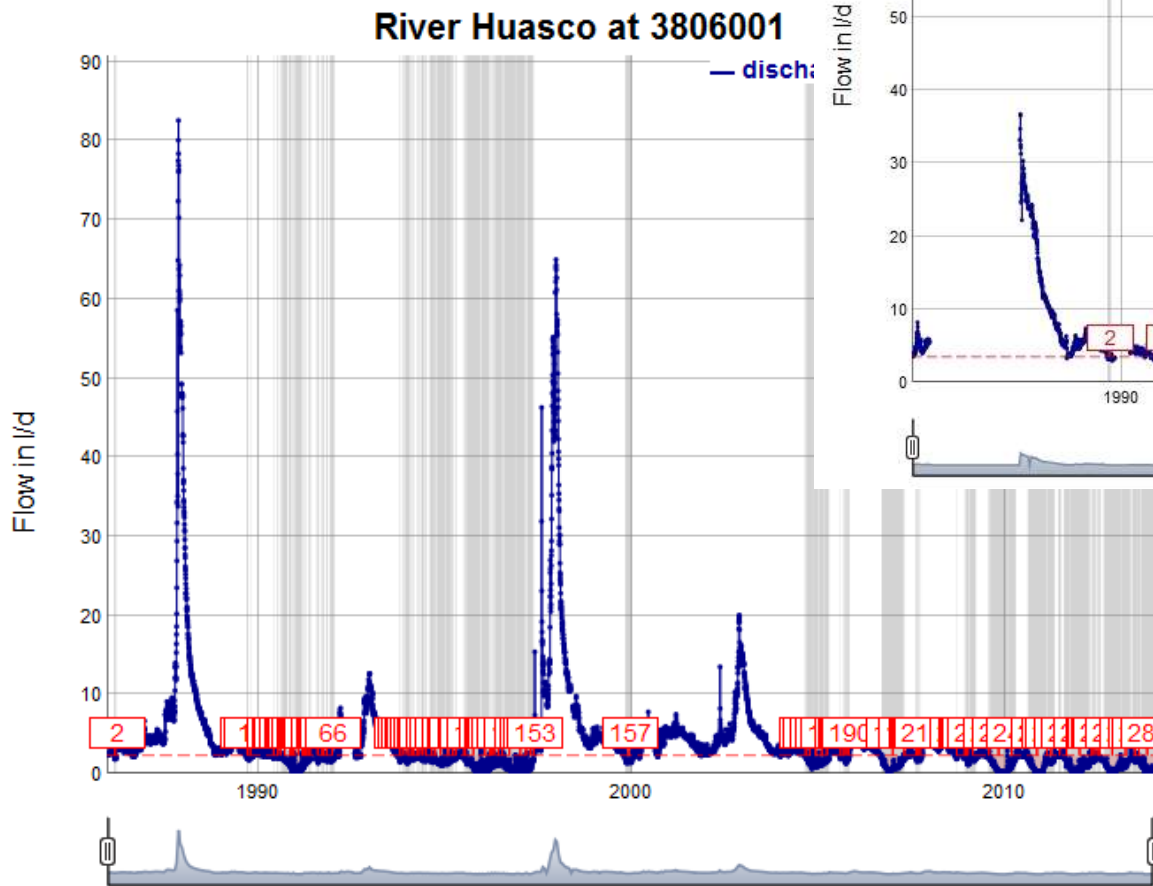


# SRI



**The Great Drought of 1968-69:**

# Lfstat



# 1965 - 2011

## Meteorological droughts:

Top 3 ranked droughts P3804007 (Junta del Carmen) (pooled 10 days) on **duration** (days)

Rank	Start	End	Duration
1	10/08/1977	05/09/1979	757
2	31/08/2005	07/08/2007	707
3	22/08/1969	19/06/1971	667

Strong La Niña year:

1973-74 = 2<sup>nd</sup> worse drought for P3804007 in terms of duration

1975-76 = 2<sup>nd</sup> worst hydrological drought in Q3806001

## Hydrological droughts:

Top 3 ranked droughts Q3806001 (pooled 10 days) on **duration**

Rank	Start	End	Duration
1	11/08/1968	06/06/1972	1396
2	02/08/1975	27/05/1976	300
3	13/08/1976	05/05/1977	266

## And deficit volume

Rank	Start	End	Volume deficit	Duration
1	11/08/1968	06/06/1972	0.732416	1396
2	23/09/2009	20/03/2010	0.107691	179
3	17/08/1975	27/05/1976	0.103450	285



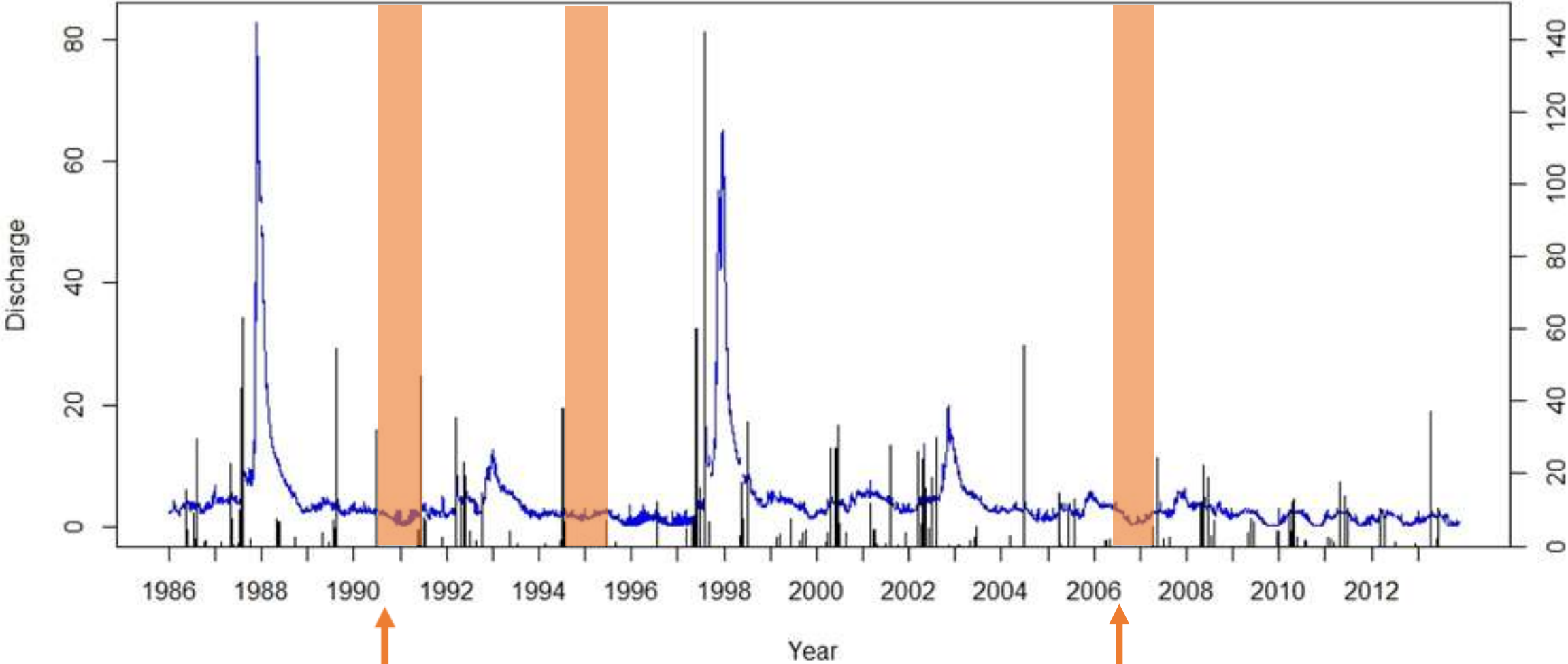
### Meteorological droughts:

Precipitation drought rank	Start date	End date	Duration (days)
1	13/06/2006	19/04/2007	311
2	23/08/1994	18/06/1995	300
3	23/07/1990	17/05/1991	299

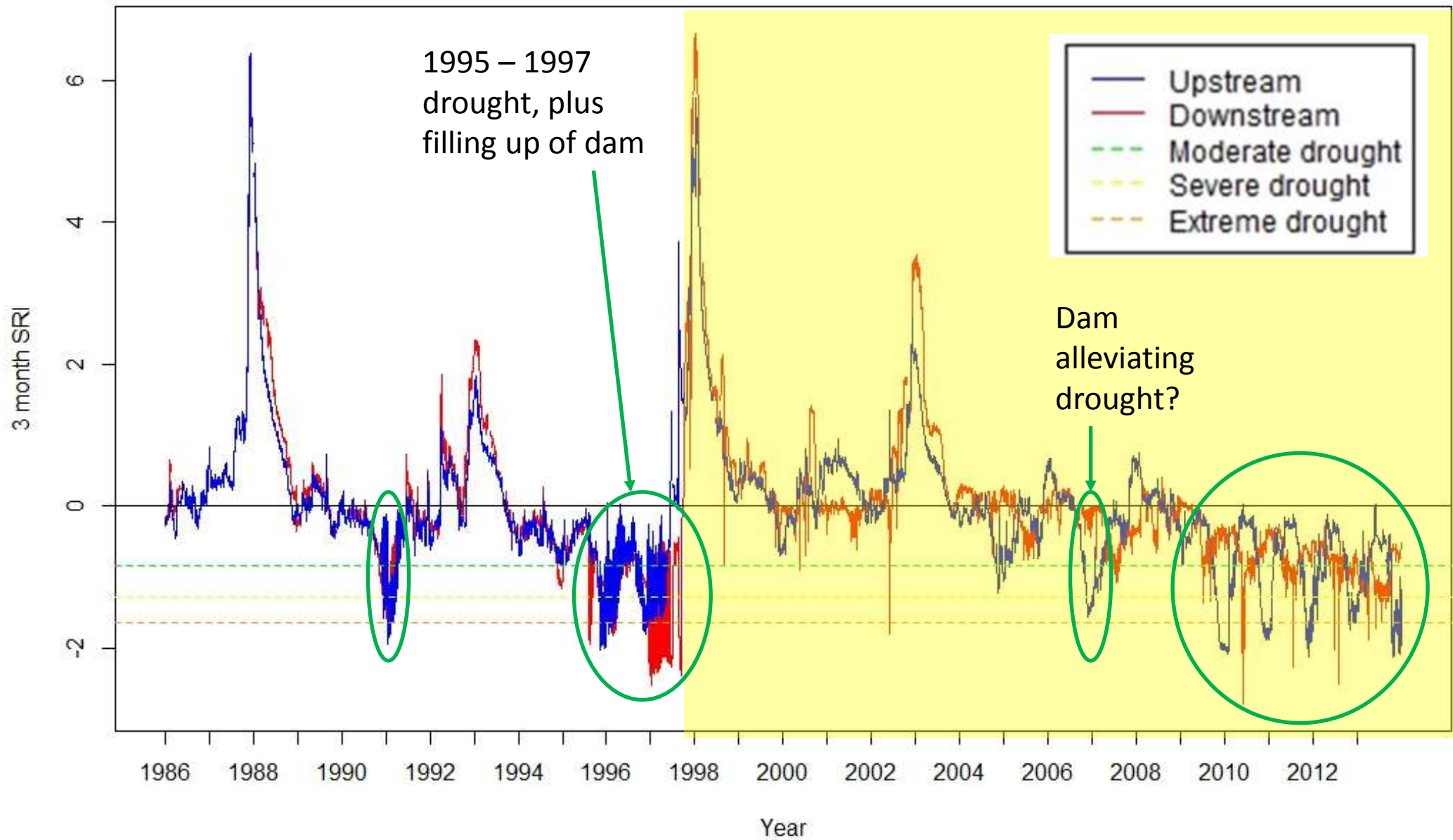
### Hydrological droughts:

Q 3806001 drought rank (based on duration)	Start date	End date	Deficit volume	Duration (days)
1	20/09/2006	24/04/2007	0.2913	217
2	28/09/2011	13/04/2012	0.3137	199
3	17/08/2010	12/02/2011	0.2758	180

1985 - 2013



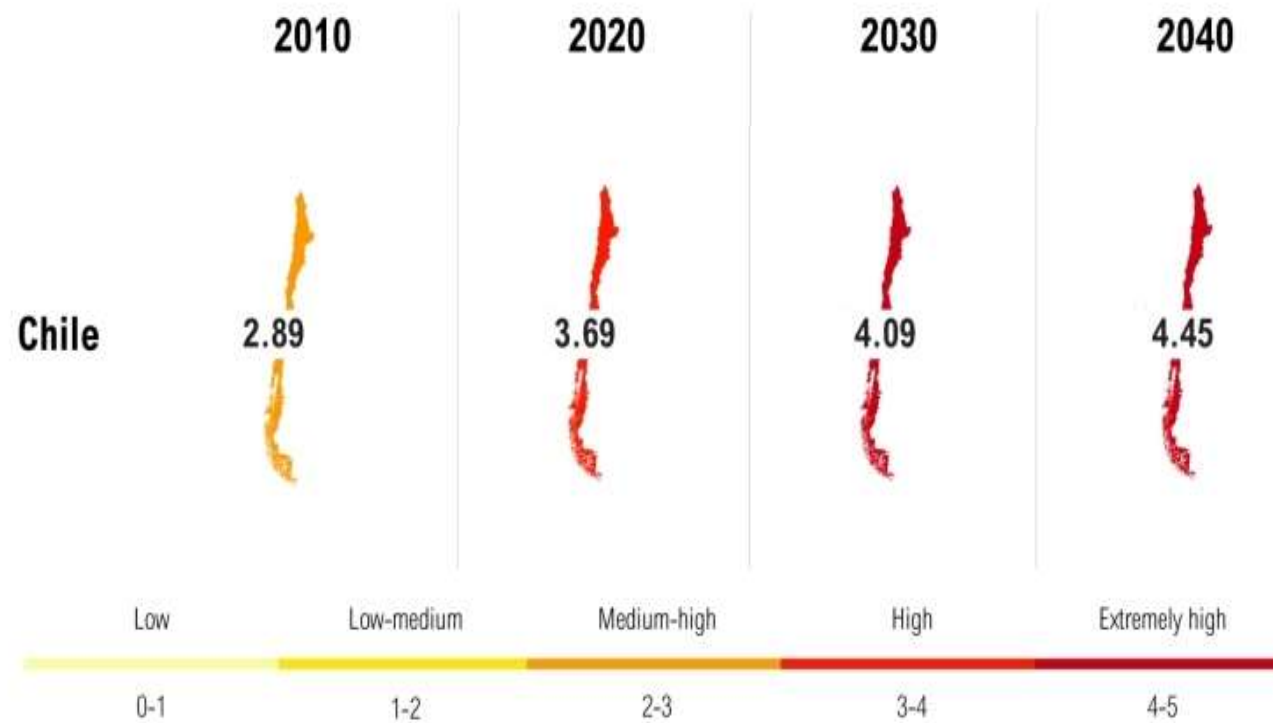
Longest precipitation drought



Dam affecting signal?

# Future:

## Water Stress from 2010 to 2040



**NOTE:** Baseline water stress measures competition for surface water, calculated as the ratio of local water withdrawals over renewable supply. Projections are based on a business-as-usual scenario using SSP2 and RCP8.5.

Read more: [ow.ly/RiWop](https://ow.ly/RiWop)



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