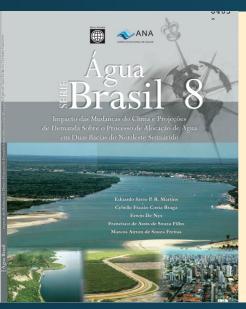Eduardo Sávio Martins

Research Institute on Meteorology and Water Resources

# How does Mitigation Affect Water Resources?

# RESEARCH ON CLIMATE CHANGE

**Água Brasil 8**
SÉRIE

Impacto das Mudanças do Clima e Projeções
de Demanda Sobre o Processo de Alocação de Água
em Duas Bacias do Nordeste Semiárido

Eduardo Sávio P. R. Martins
Cybelle Frazão Costa Braga
Erwin De Nys
Francisco de Assis de Souza Filho
Marcos Airton de Souza Freitas

**CLIMATE CHANGE STUDIES:**

✧ **Impacts of Climate and Demand Projections in Water Allocation & Hydropower generation**

**. Jaguaribe & Piranhas-Açu Basins (World Bank, 2013)**

**. Brazil 2040: Climate Change Impact in Multiple Sectors (Strategic Affairs Secretary, Presidency; 2015)**

**. Extended São Francisco River Basin (ANA, 2016)**

**. CNPq/ANA & CAPES/ANA Calls for Projects**

Table. Climate & Demand Scenarios used for the Impact Studies in the Water Sector.

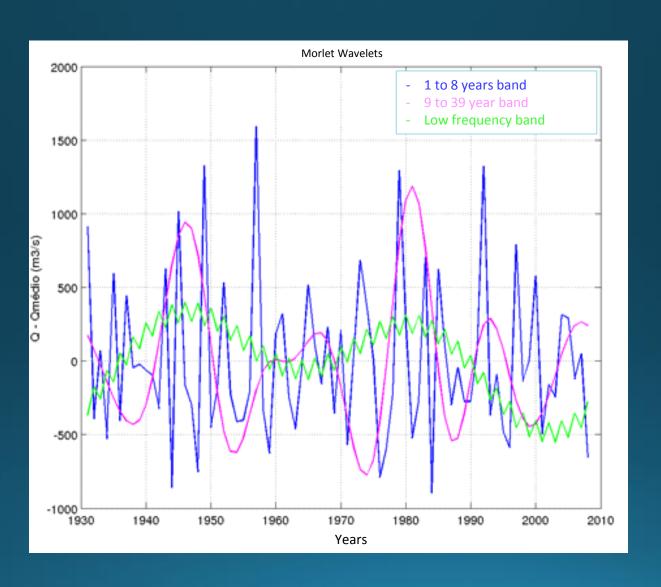| Demand | CLIMATE | | | | |
| --- | --- | --- | --- | --- | --- |
| | Present (⬤) | Future (◉) | | | |
| | (1971-2000) $C_0$ | RCP 3,0 $C_1$ | RCP 4,5 $C_2$ | RCP 6,0 $C_3$ | RCP 8,5 $C_4$ |
| $D_0$ (✧) | ⬤✧ | ◉✧ | ◉✧ | ◉✧ | ◉✧ |
| $D_1$ (◆) | ⬤◆ | ◉◆ | ◉◆ | ◉◆ | ◉◆ |
| $D_2$ (◆) | ⬤◆ | ◉◆ | ◉◆ | ◉◆ | ◉◆ |

Hydrology and
Earth System
Sciences
Discussions

1  **Projections of the Affluent Natural Energy (ANE) for the**
2  **Brazilian electricity sector based on RCP 4.5 and RCP 8.5**
3  **scenarios of IPCC-AR5**

4  Cleiton da Silva Silveira[1], Francisco de Assis de Souza Filho[2], Francisco das Chagas Vasconcelos
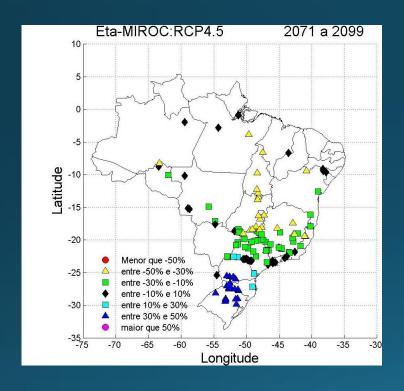5  Junior[2,3], Eduardo Sávio Passos Rodrigues Martins[3]

RCP4.5
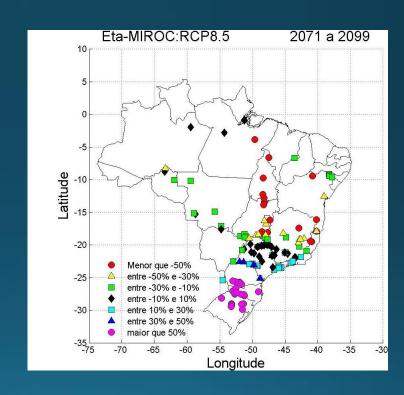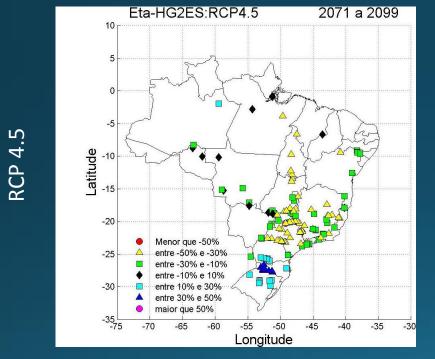
# Reservoir of Sobradinho – Station 169

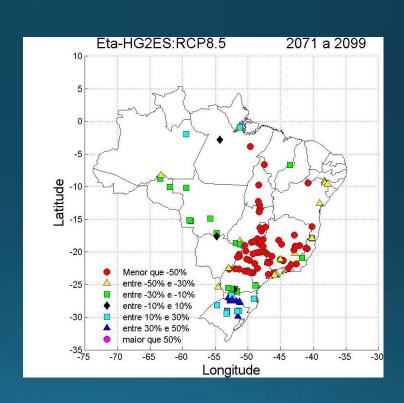# Furnas – Station 6

# *Furnas – Station 6*

# Connections between Climate & Water

o Most likely, the first impacts of climate change will be noted on water

*" Water is for adaptation of climate change as energy is for mitigation of climate change"*

**Really?**

o Climate change policies may have impacts as significant as direct impacts of climate change (As of hydroelectricity capacity expansion)

Thank You!

Eduardo Martins

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