Can digital biodiversity data for Caatinga plants help us understand dry forest response to climate change?

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UFMG/ 2015

Digital biodiversity data and climate change in the Caatinga

- **Goals:** investigate how the Caatinga will be affected by global climate changes using online primary biodiversity data of plants available in the *species*Link network (occurrence points).

- **How to use *species*Link data to do that?**

Digital biodiversity data and climate change in the Caatinga

Change in species distribution across time can be used as an indicator of how the biome is responding to climate change.

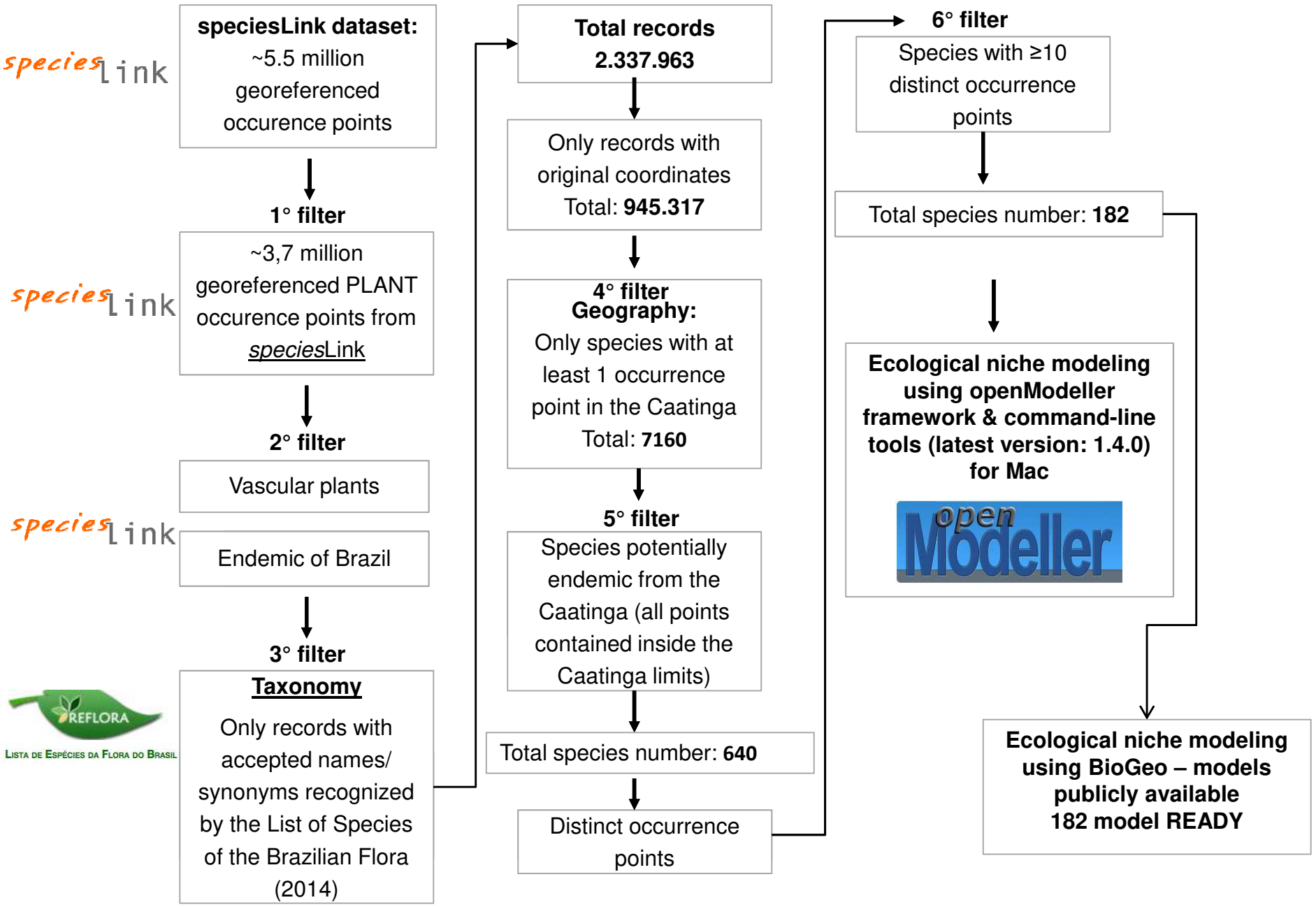
Change in species distribution:

Ecological Niche Modeling (ENM) – distribution of species in current and future climate scenarios.

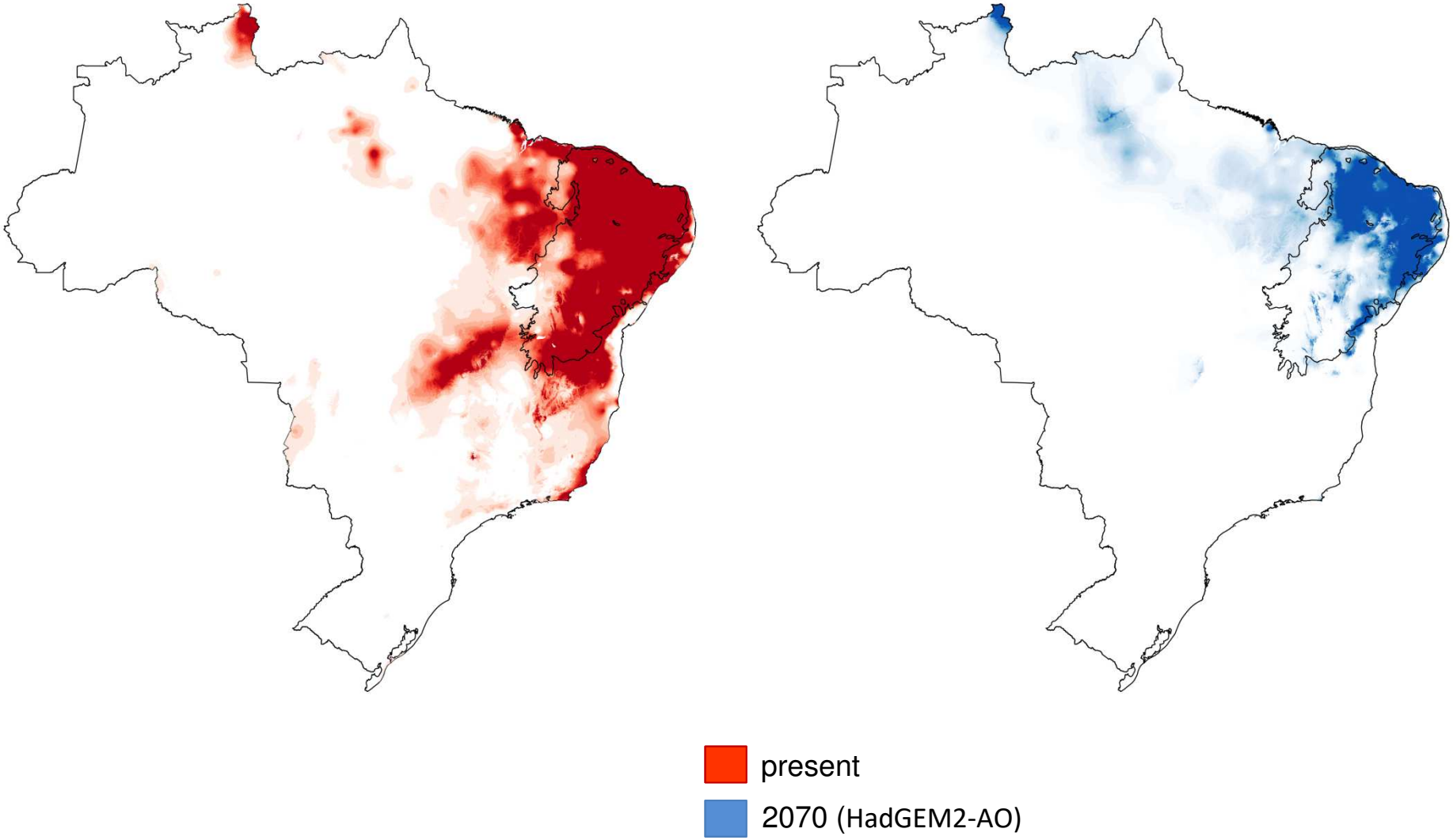
Which species?

Endemics – well adapted to Caatinga climate conditions, possibly the first ones to respond to climate change.

WORKFLOW FOR SELECTING THE SPECIES INHABITING THE CAATINGA BIOME



PILOSOCEREUS CHRYSOSTELE (CACTACEAE)



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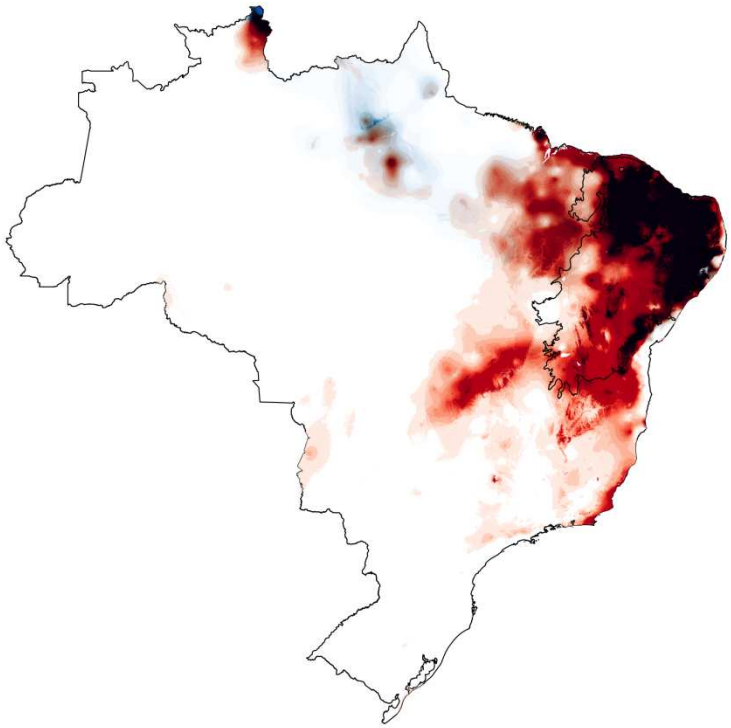
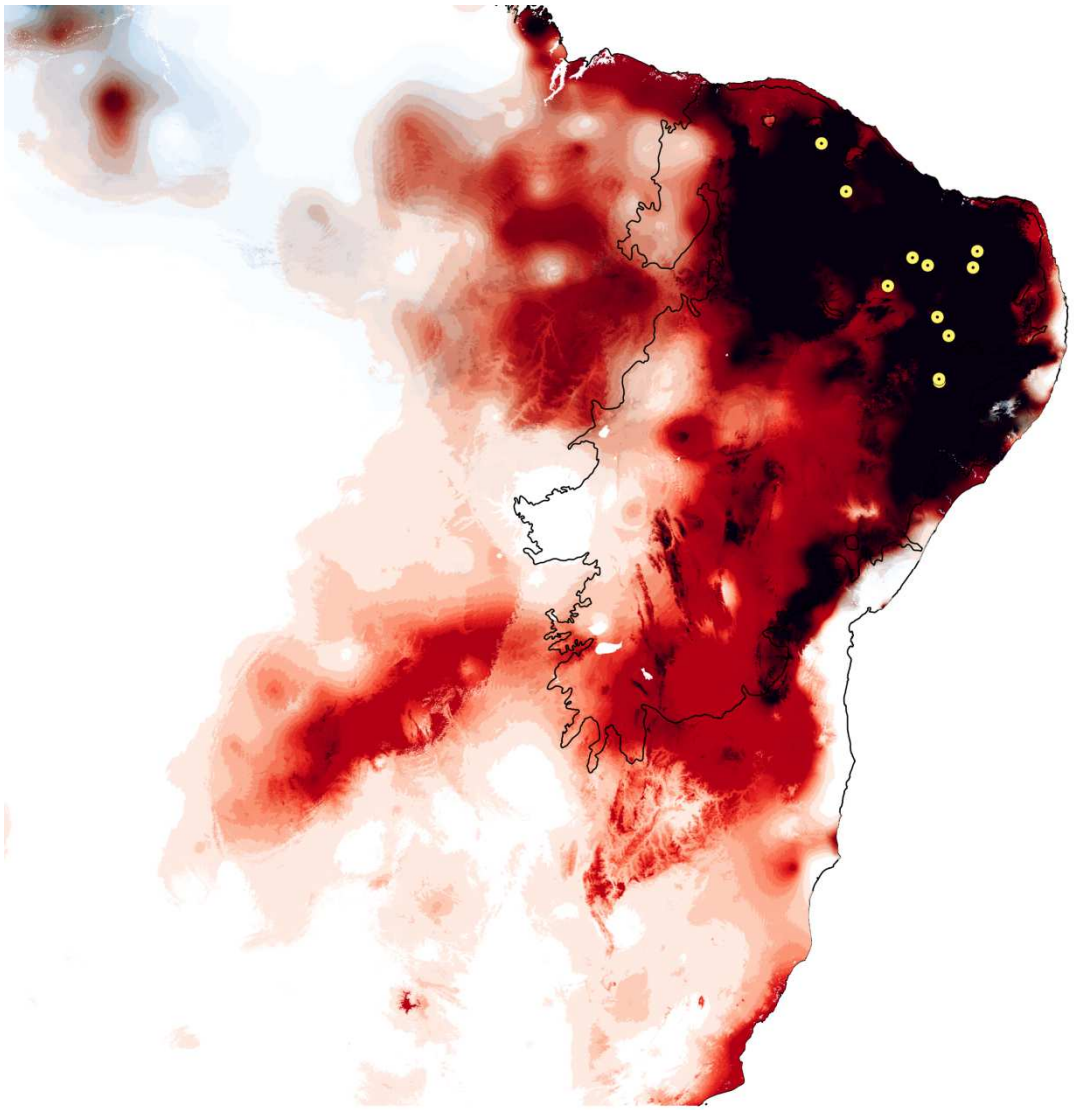


present

2070

Overlap present x future



Drastic reduction of suitable area
Loss of suitable area in the South

CAATINGA PLANTS RESPONSE TO CLIMATE CHANGE

- Caatinga plants are xerophytes and with climate change and global warming they are going to undergo a shift in distribution, migrating to the 'new' warm and dry areas

- New areas of suitability as a result of climate change?

- **Apparently suitable area will be reduced for many species and new areas will not appear**

- If new adequate areas appear, will they still be covered by native vegetation? They may be already used for agriculture

- In the end of the project we intend to use data from LANDSAT images, which indicate the percentage of the Caatinga being used for agriculture and where these areas are located (collaboration with UFCG)