

South American Flamingos Vulnerability to anthropogenic pressures



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Context

We propose a vulnerability assessment strategy for these species by identifying drivers of vulnerability and highlighting critical information gaps. We present a review on potential climate change impacts, eBird flamingo records, lithium mining projects, and migration strategies inferred through satellite tracking.

Relevance

- Evolutionary uniqueness
- Conservation status
- Flagship species
- Increasing anthropogenic pressures



Andean flamingo (VU)
Phoenicoparrus andinus

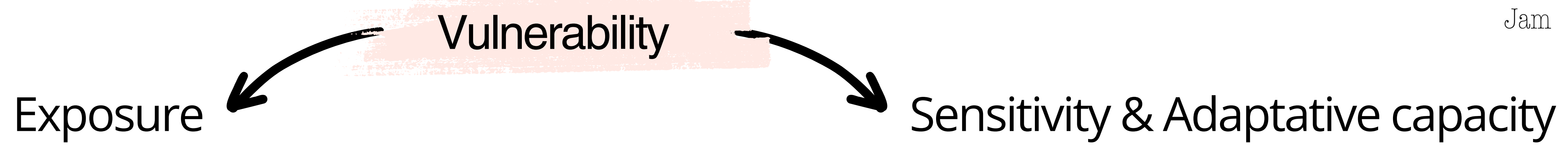
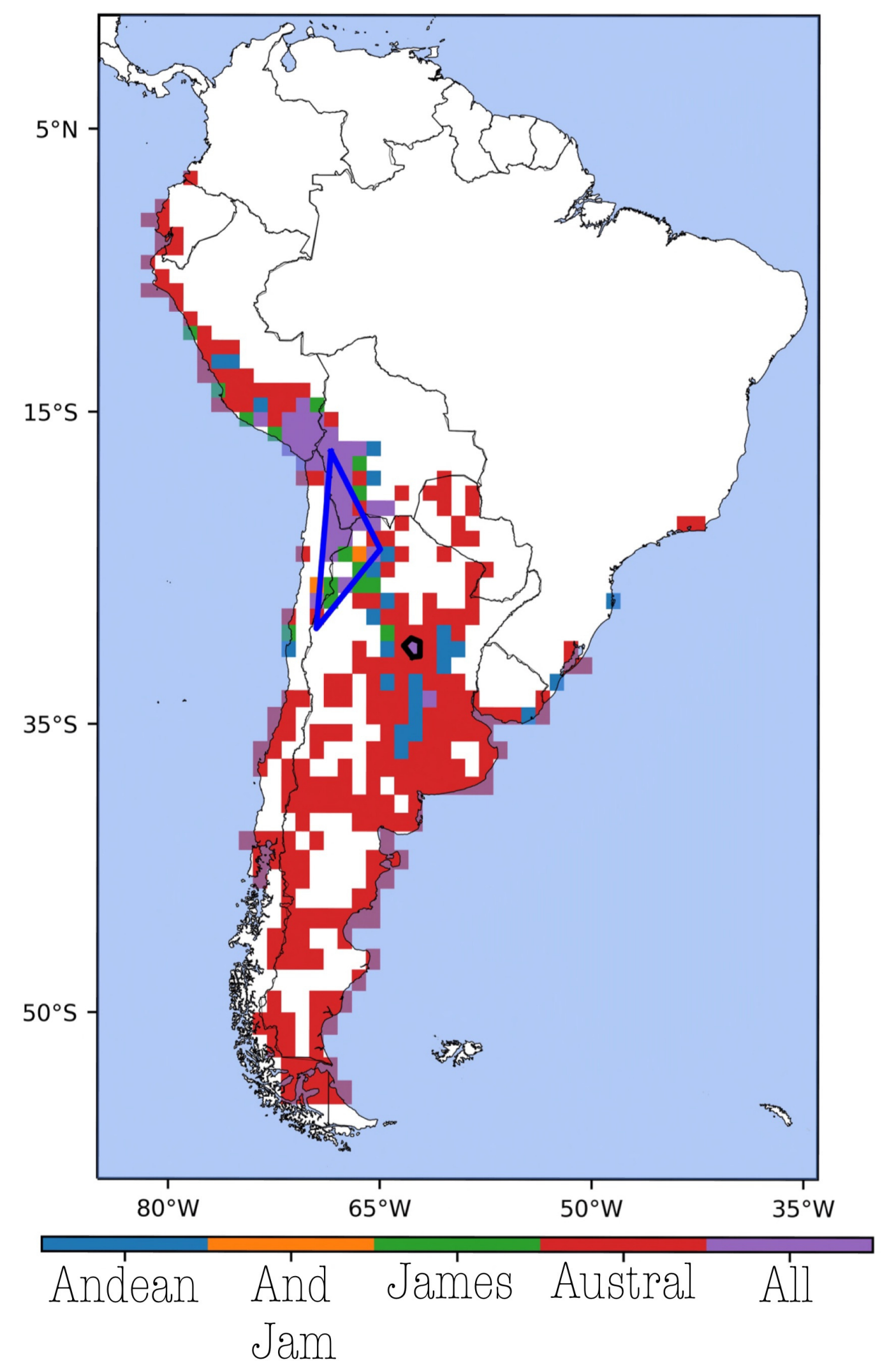


James' (Puna) flamingo (NT)
Phoenicoparrus jamesi



Austral (Chilean) flamingo (NT)
Phoenicopterus chilensis

Winter records (eBird)



Review of pressures

Global change



Review of species intrinsic traits

- Seasonal distribution assessment (eBird records)
- Reproductive population review (global simultaneous census)
- Connectivity and seasonal movements (satellite tags)

1 Climate change

Elevated potential evapotranspiration predicted in High Andes (mainly focused in Bolivia)

Local impact on populations (n=1)

High uncertainty

2 Mining

4 lithium projects

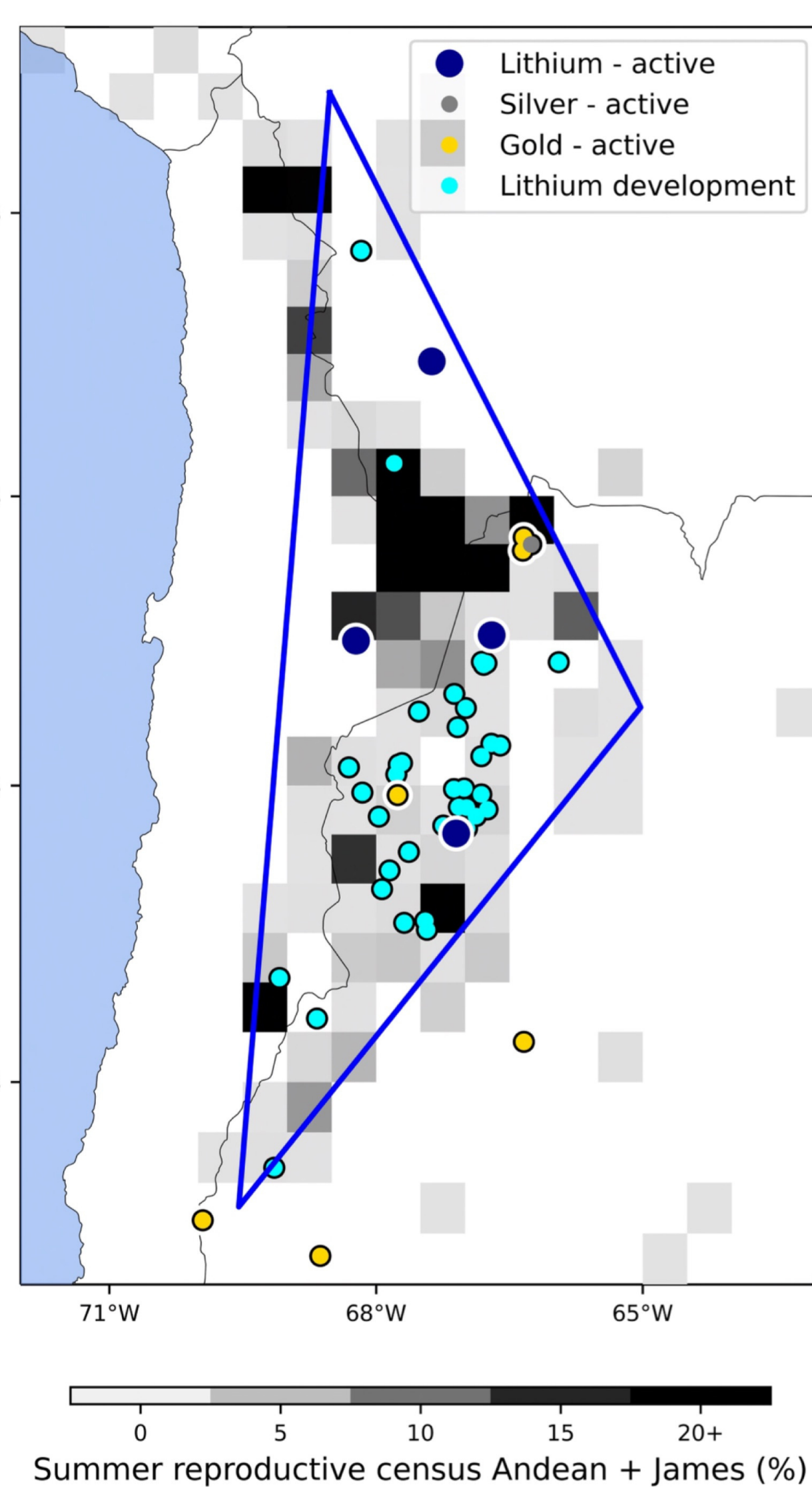
30 new projects to be developed within the next six years.

Low uncertainty on development trend

High uncertainty on impact (spp level)

3 Agriculture

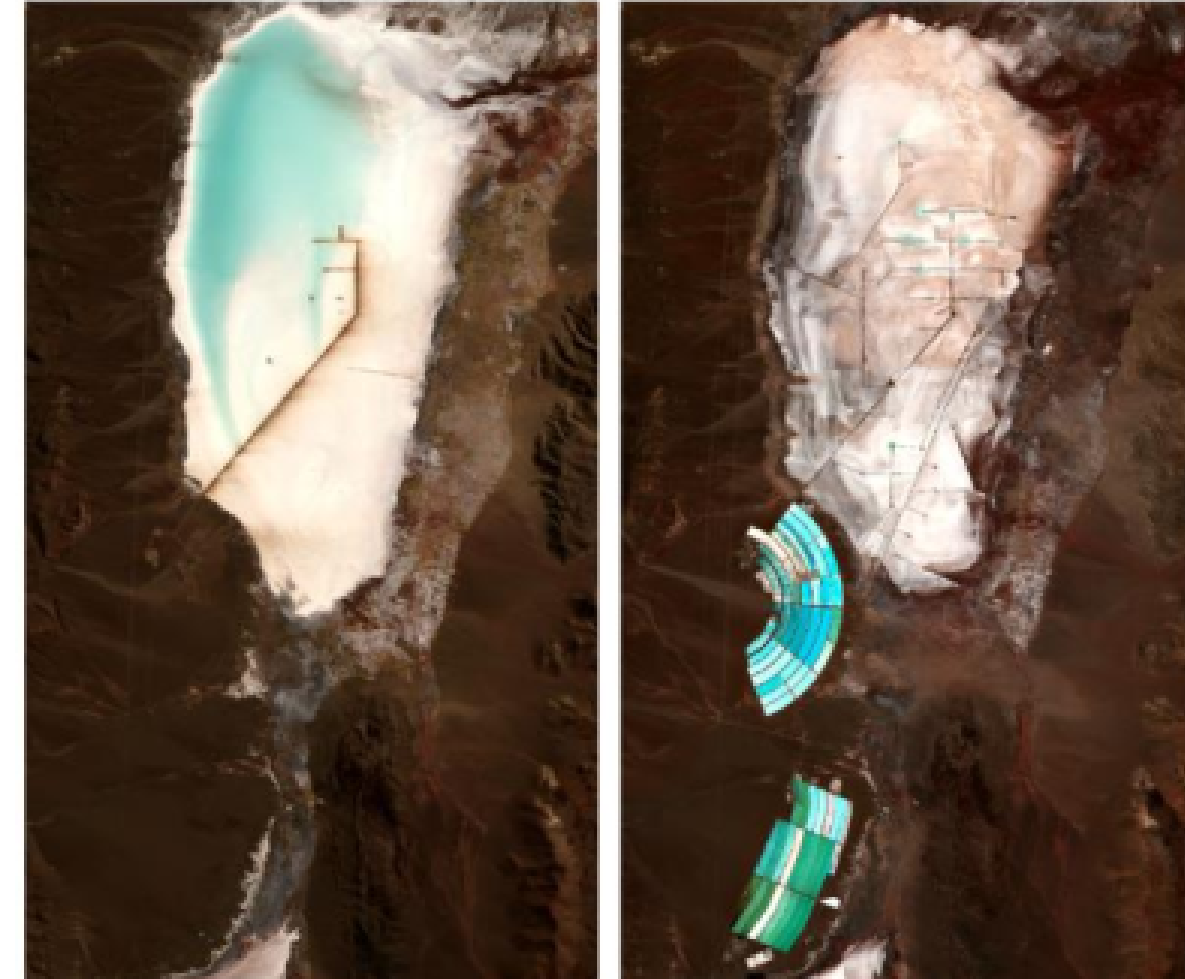
Consistent and enduring pressure on lowland wetlands, emerging as the most persistent threat.



Mar Chiquita, Córdoba
 2013 2023



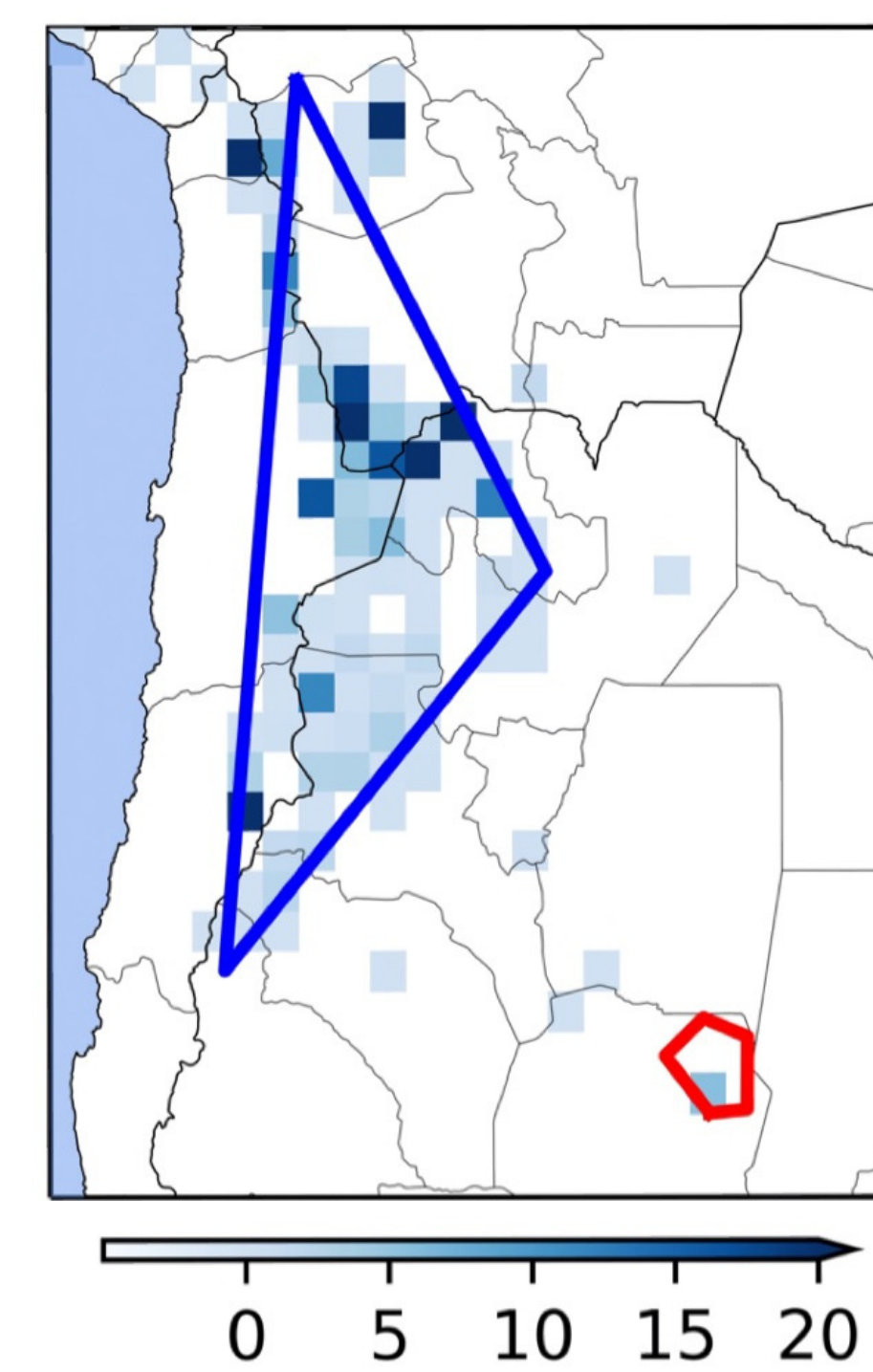
Salar de Oloroz, Jujuy
 2013 2023



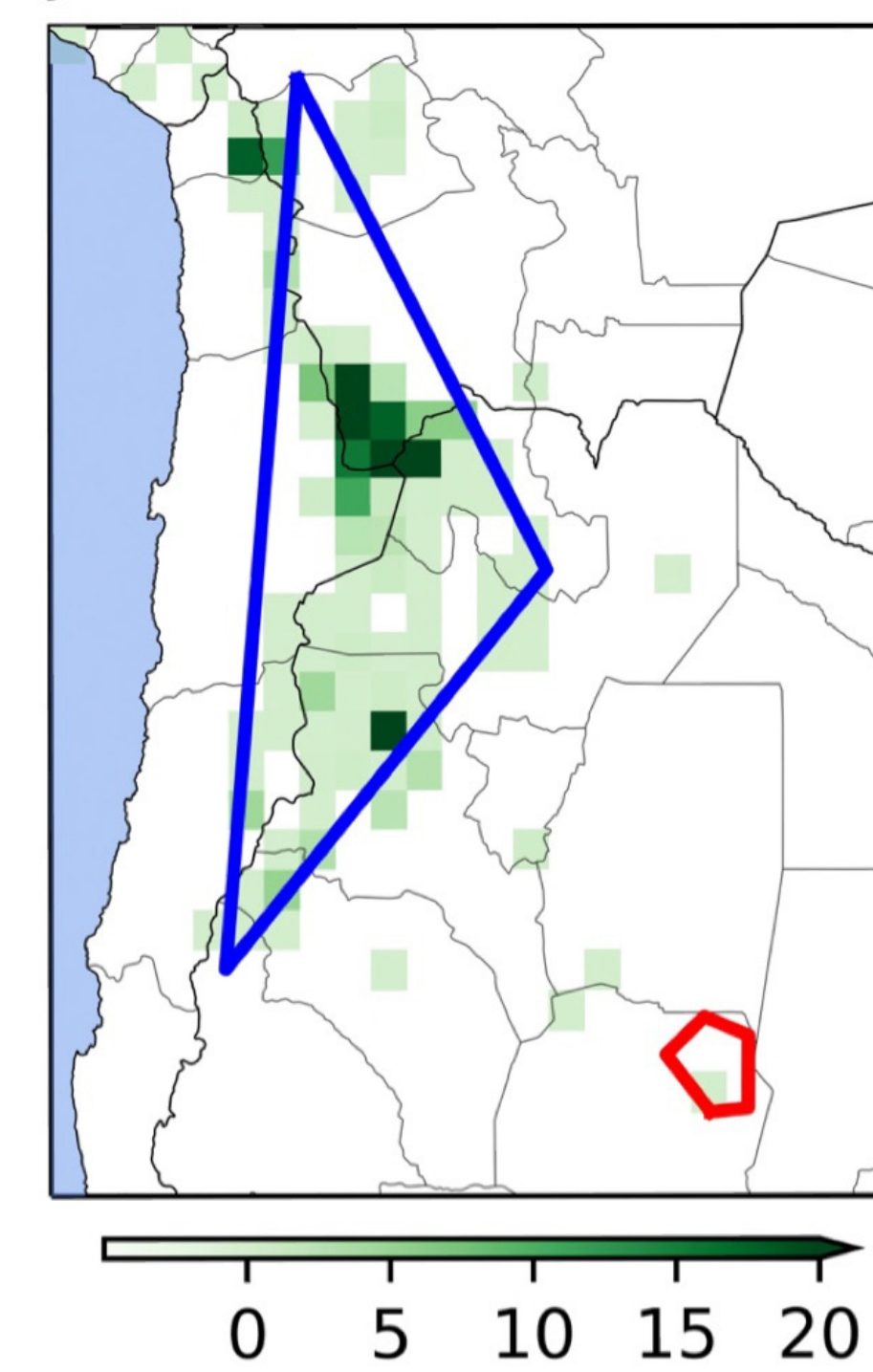
Reproductive census densities (%)

Marconi et al. 2020

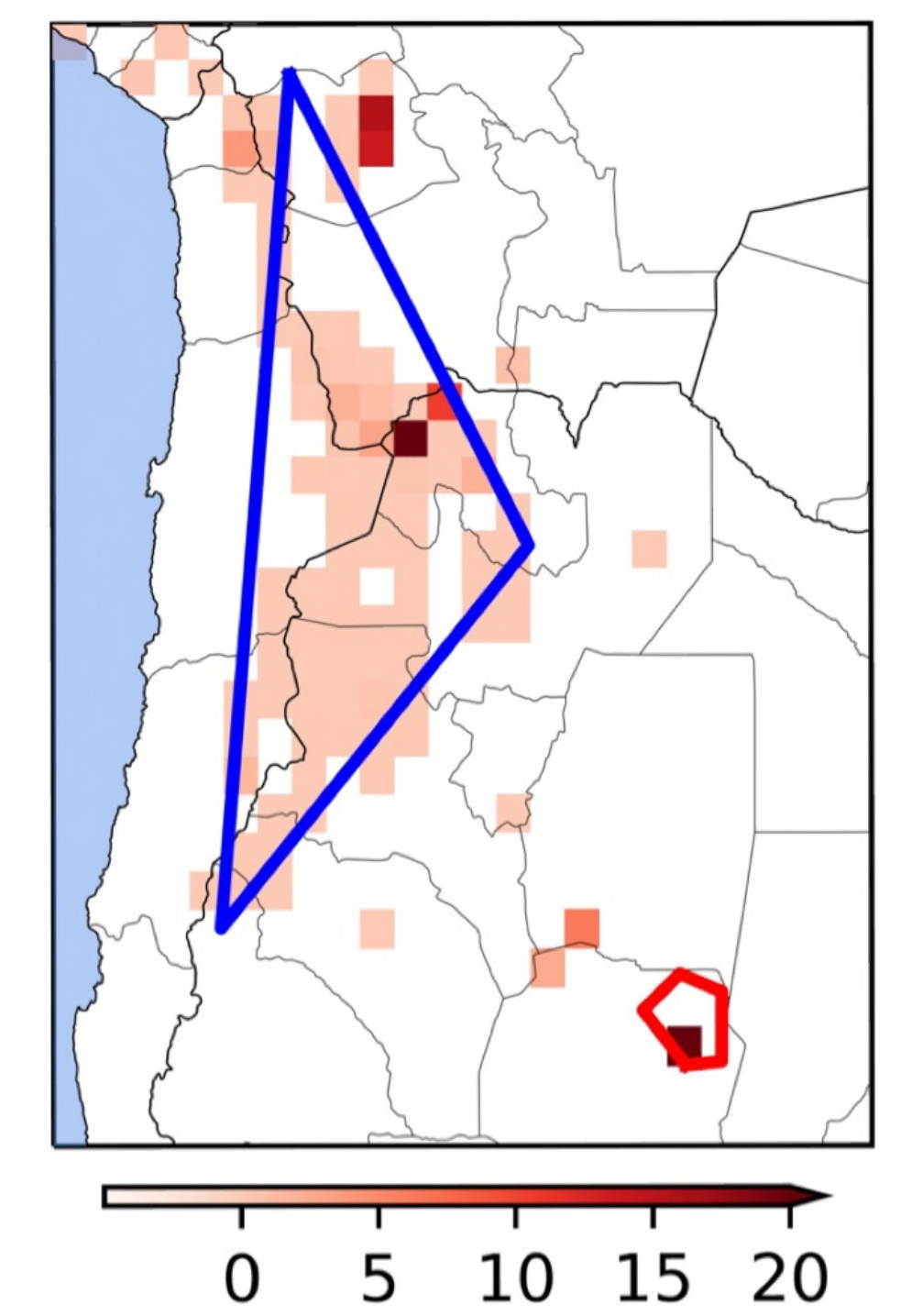
Andean



James



Austral



Conclusions

- Jujuy province in Argentina holds over 40% of Andean reproductive population and 20% of James. Mar Chiquita and associated wetlands presents high abundance of all three South American flamingos year round.
- Rapid long-distance movements in Argentina, Bolivia, and Chile, highlight the need for international conservation efforts for these species.
- Weighted indexes for exposure and sensibility drivers can aid conservation status assessments

Seasonal movements (Andean)

