

Deriving Essential Biodiversity Variables (EBVs) and Indicators from eBird Citizen Science Data

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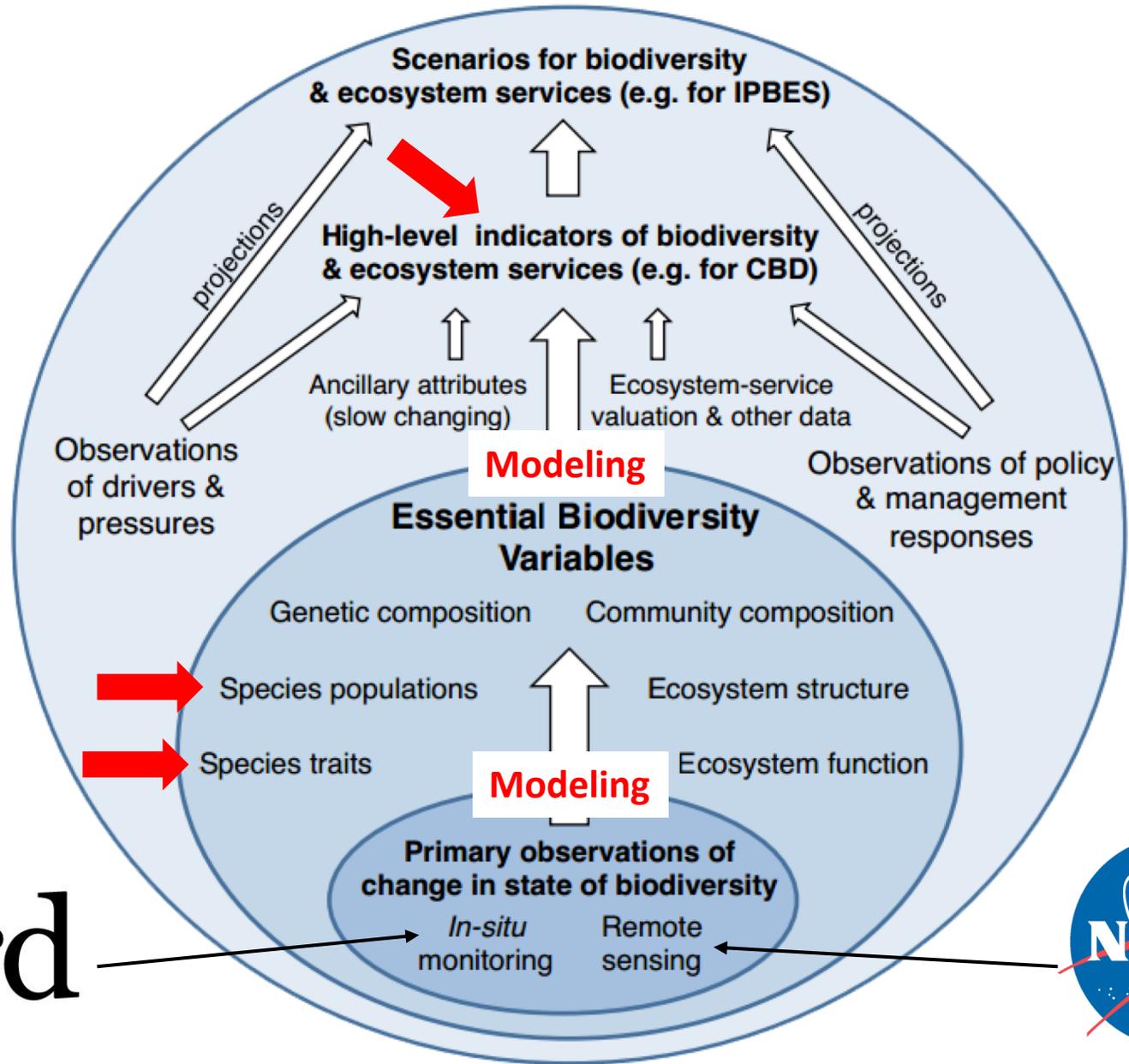


Essential Biodiversity Variables

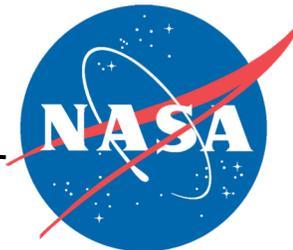


“the derived measurements required to study, report, and manage biodiversity change, focusing on status and trend in elements of biodiversity”

Pereira et al., Science 2013



eBird



Deriving EBVs from eBird Observations

12M Checklists
2004-16
Western
Hemisphere



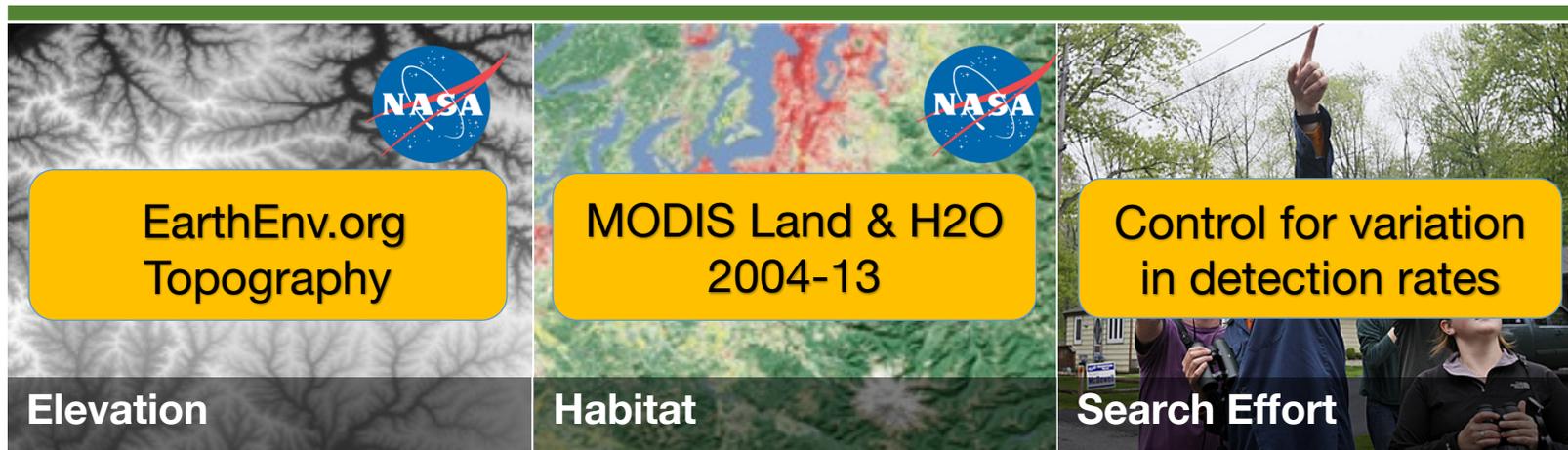
Challenges

- a) Harmonizing measurement units
- b) Dealing with different spatial scales
- c) Correcting for imperfect detection
- d) Interpolation and extrapolation
- e) Quantifying uncertainties

Kissling et al., Biological Reviews 2017



Johnston et al. 2015
Fink et al. 2014



eBird EBVs

- EBVs
 - Range (Area of Occupancy) – Species Populations
 - Relative Abundance – Species Populations
 - Habitat Association/Avoidance – Species Traits
- Indicator
 - Relative Abundance Trend



Range



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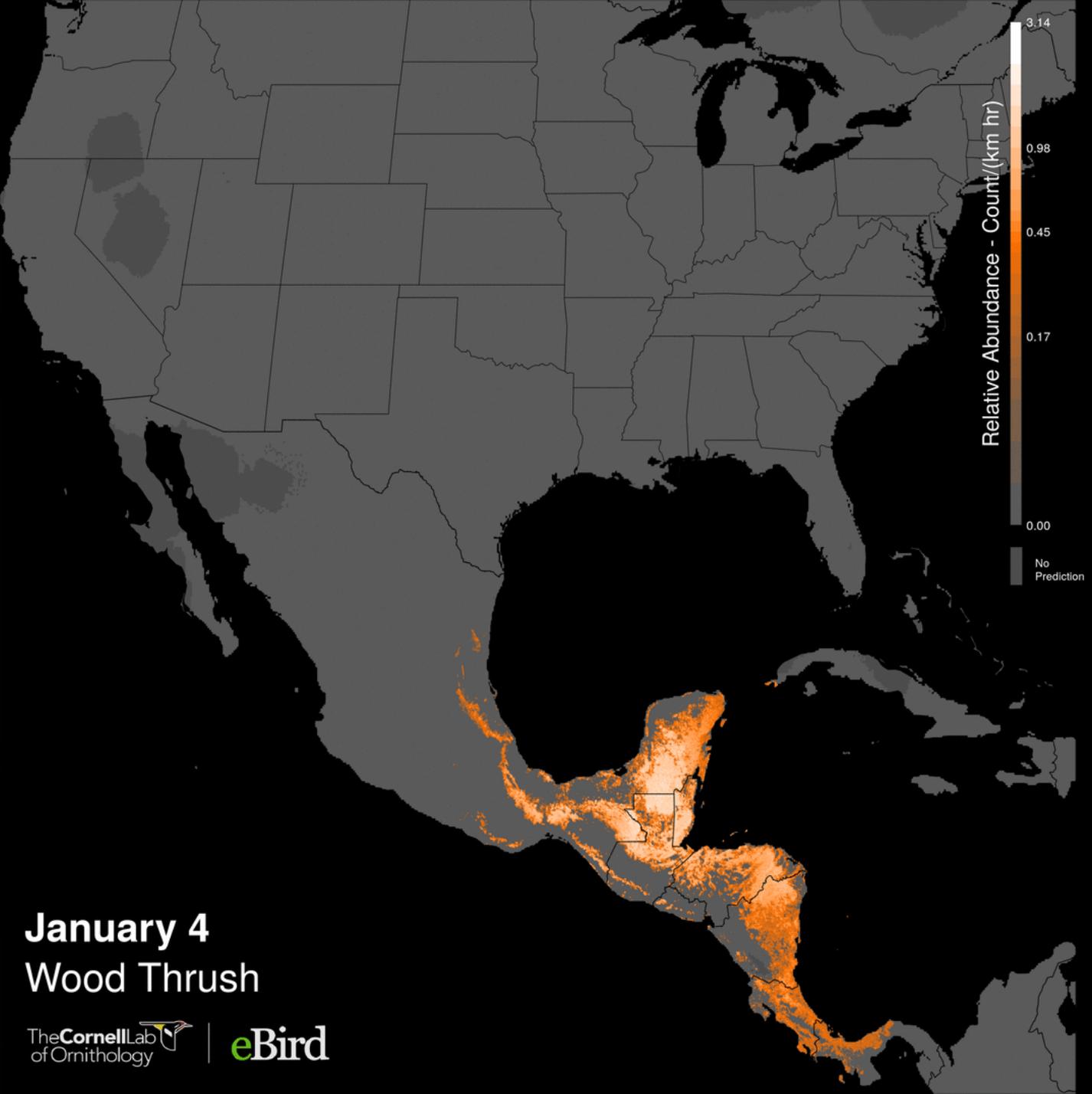


Wood Thrush

Relative Abundance



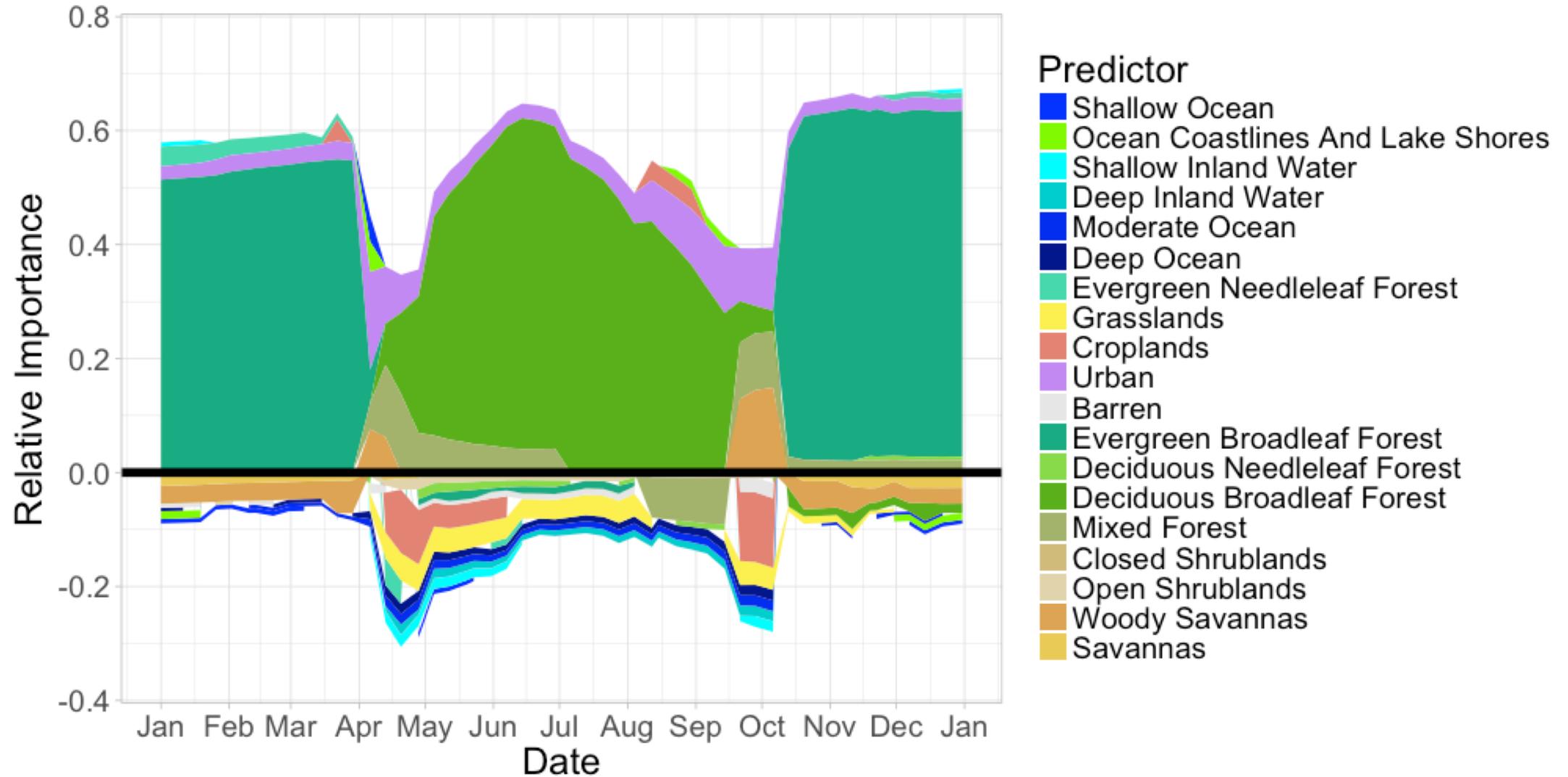
© John Petruzzi



January 4
Wood Thrush

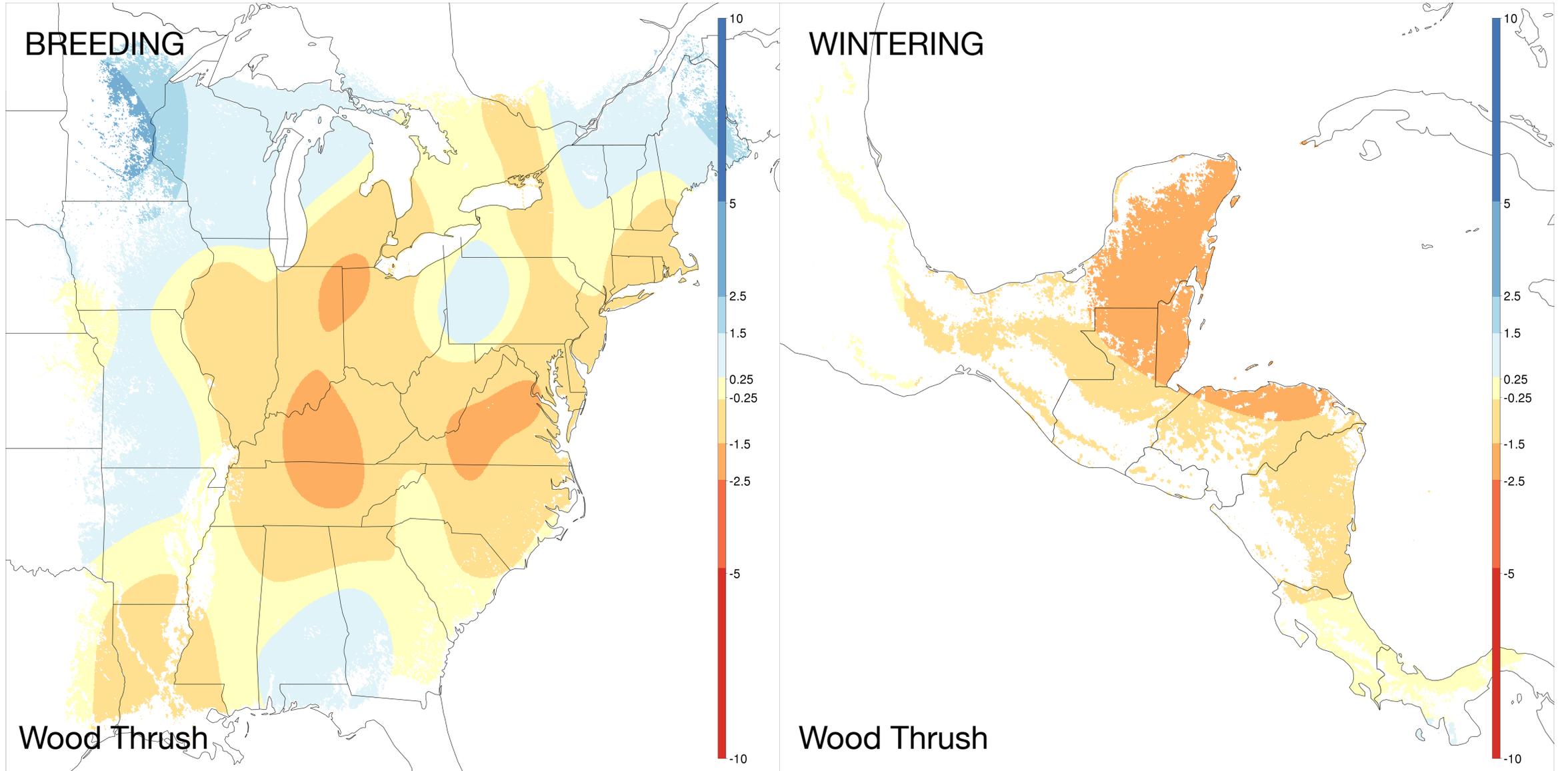
Habitat

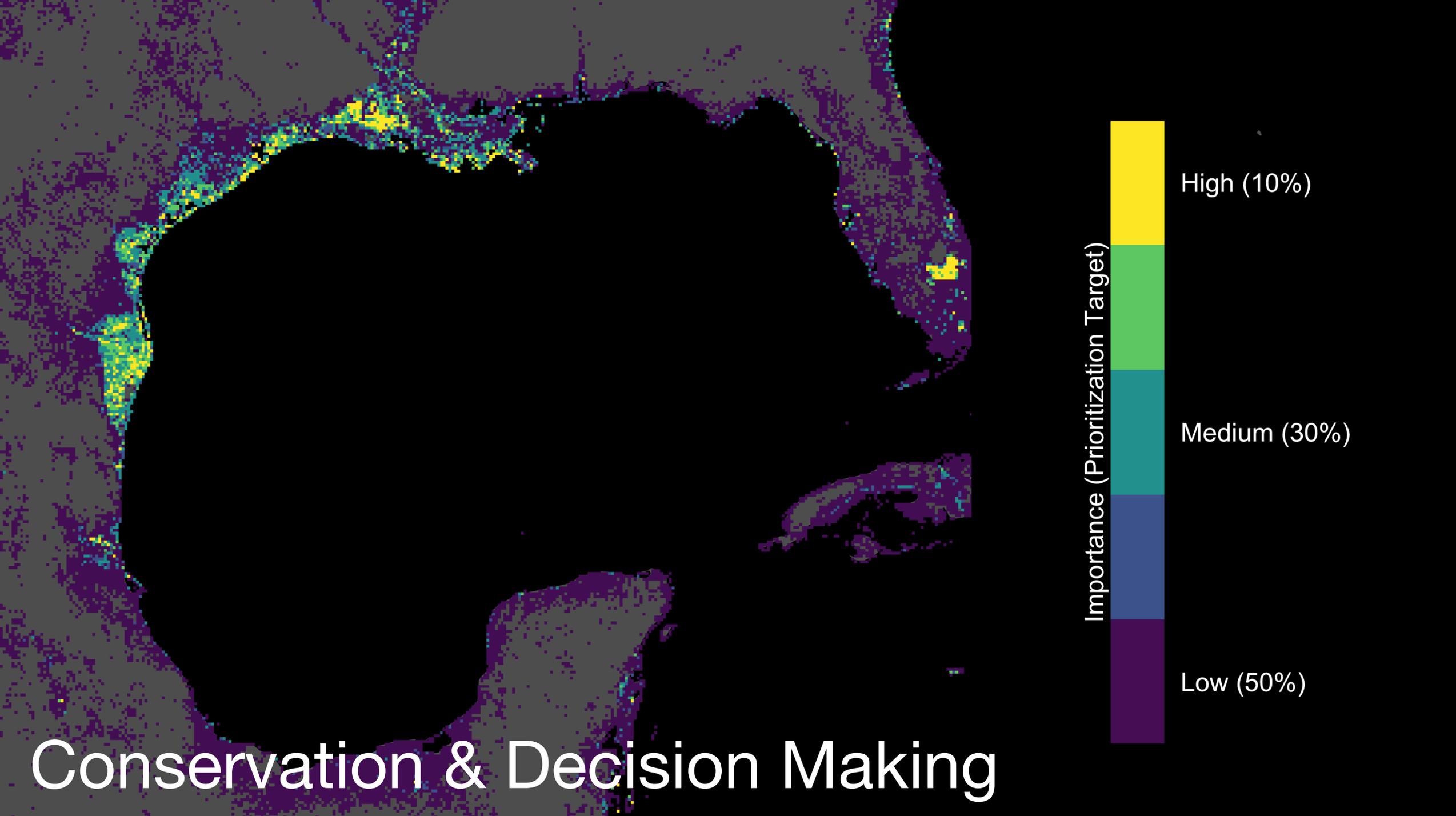
Wood Thrush



Abundance Trends

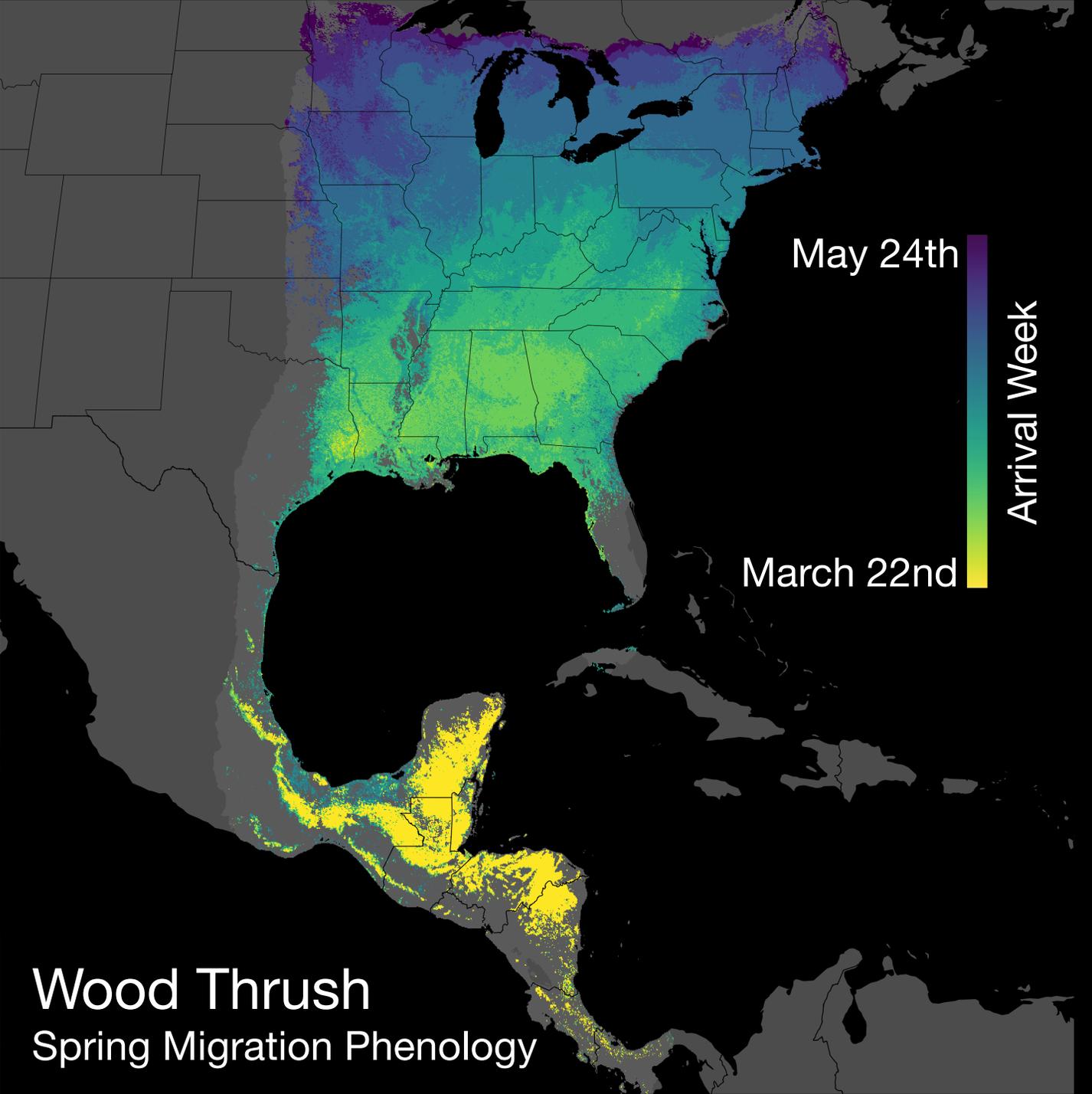
DRAFT





Conservation & Decision Making

What's Next



Wood Thrush
Spring Migration Phenology