Future BirdScenarios

31 May 2022

NEXT GEN EU

SLU Swedish University of Agricultural Sciences

NINA Norwegian Institute for Nature Research

UNIVERSITY OF TURKU

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biodiversa

Climate-driven range shifts of waterbird abundances and its implications for the protected area target of the EU Biodiversity Strategy

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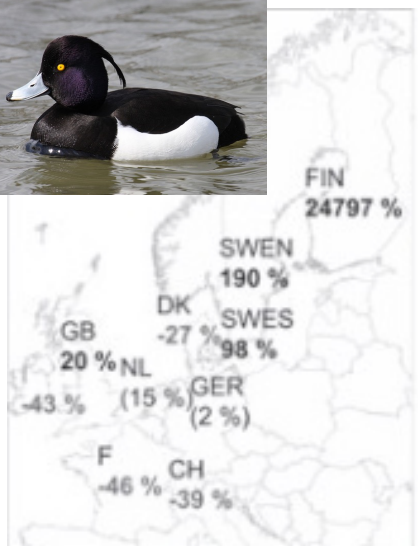
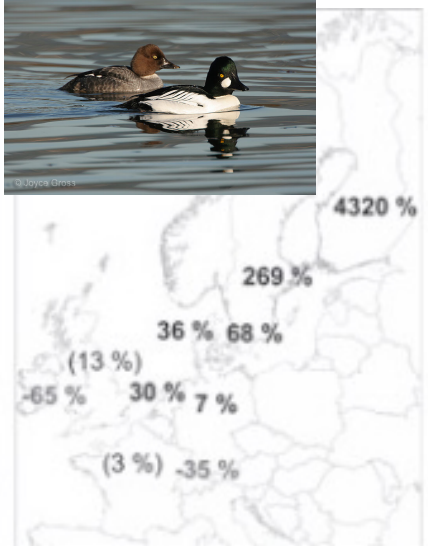
Norwegian Institute for Nature Research (NINA)

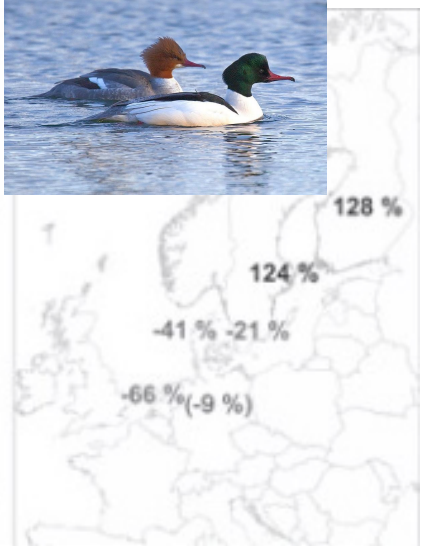
NINA

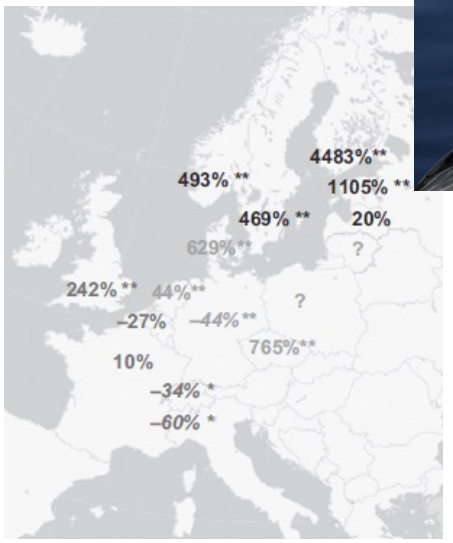
Norwegian Institute for Nature Research

Change in winter distributions...









Lehikoinen et al. 2013. *GCB*, 19: 2071–2081

1980 - 2010

Pavón-Jordán et al. 2015. *Div Distr*, 21: 571–582

1990 - 2013

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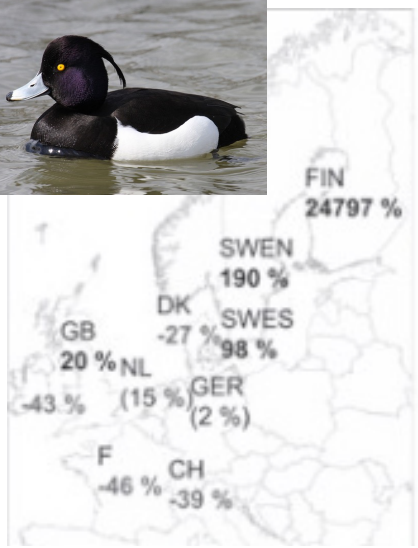
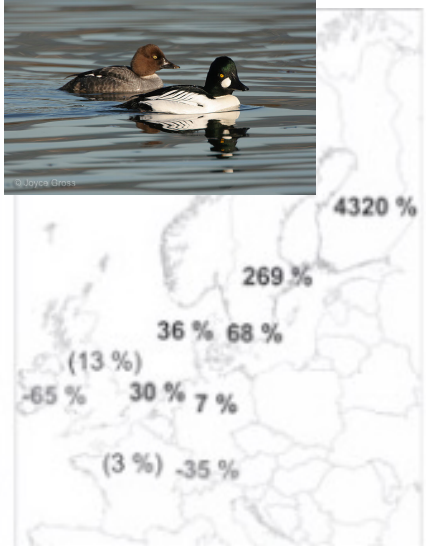
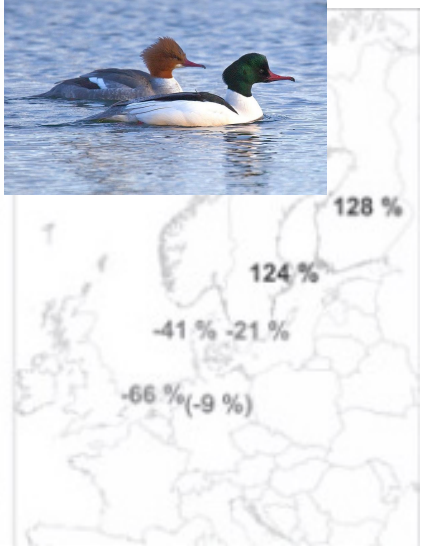
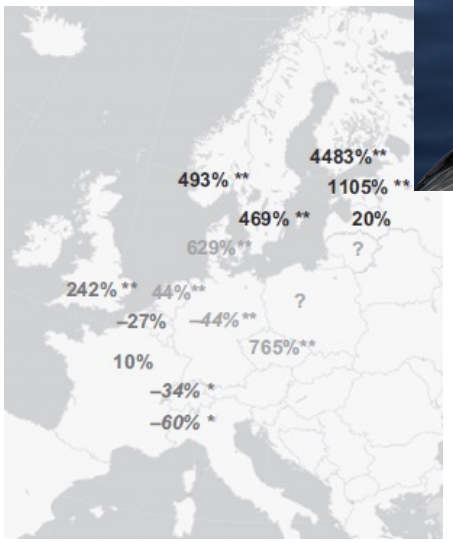
...associated with winter warming









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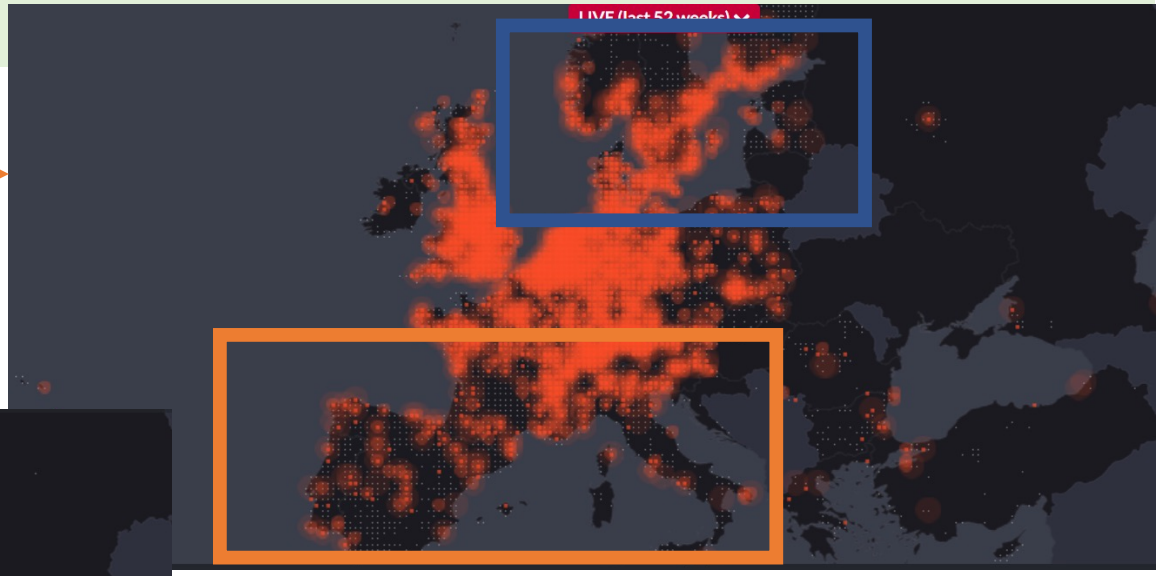
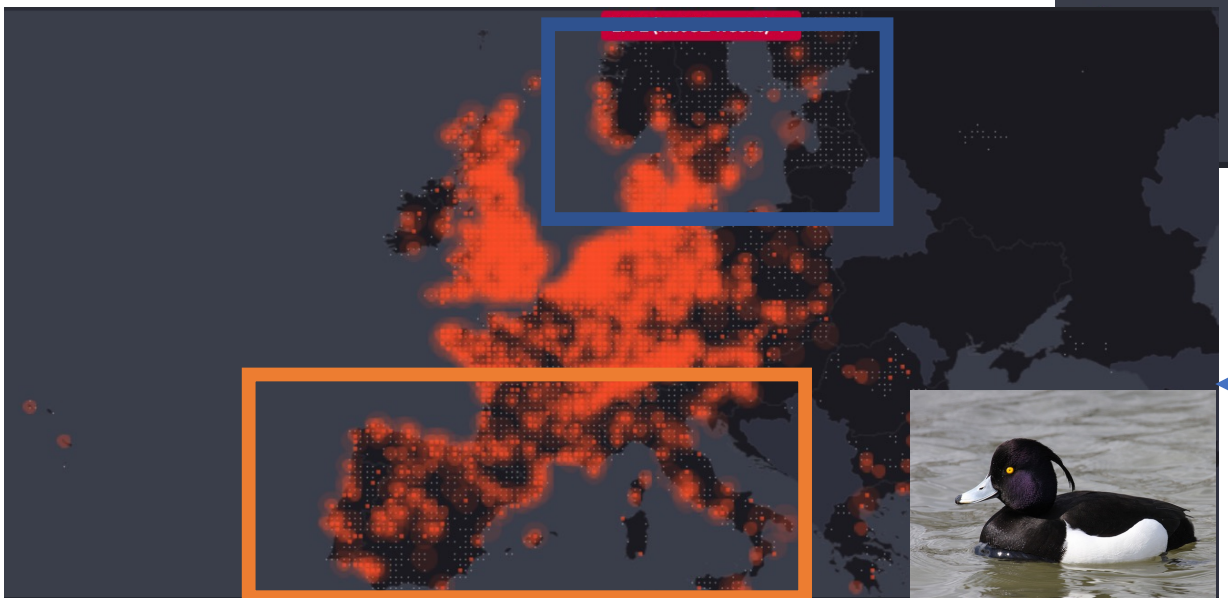
Short- and long-term responses to winter warming

Warm winter





Cold winter

Maps: eurobirdportal.org

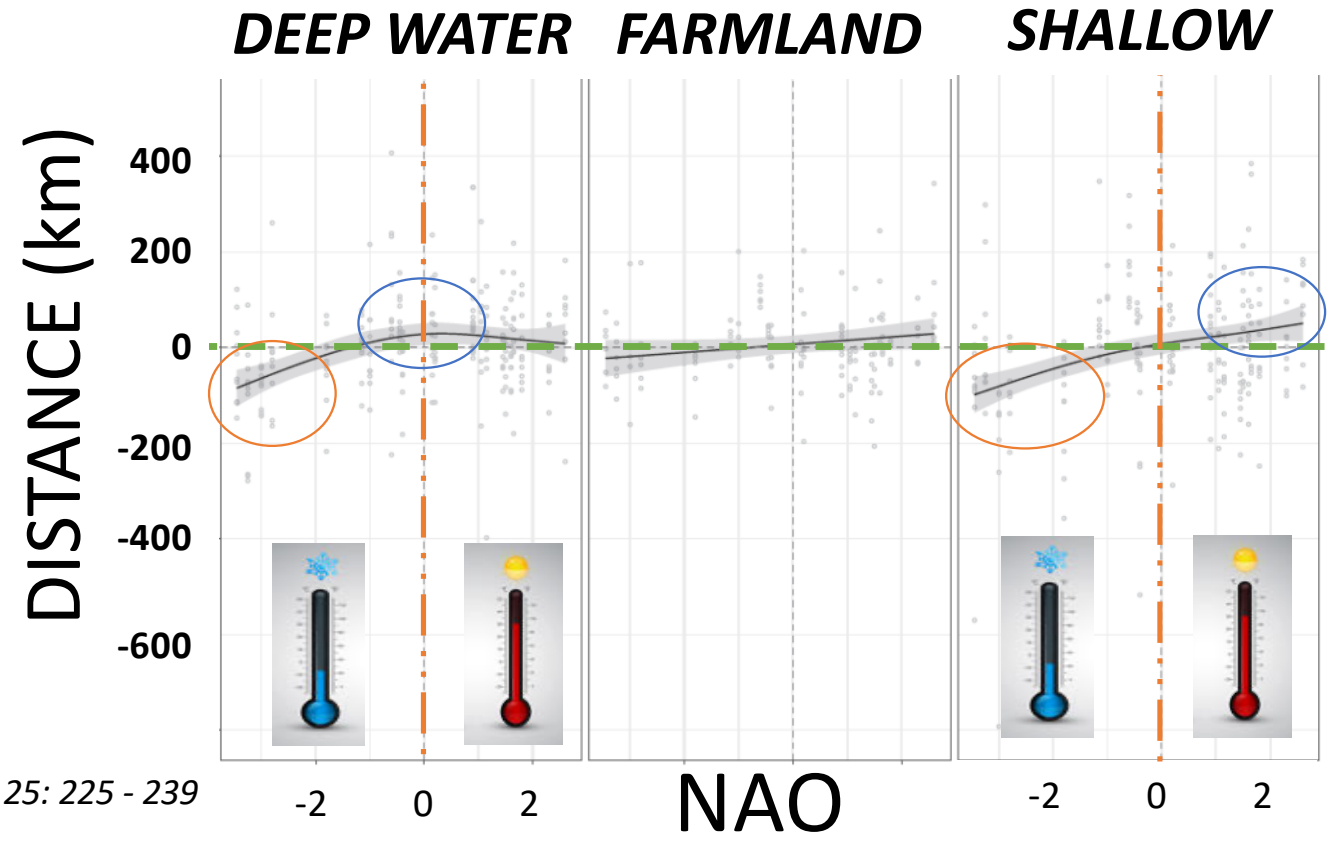
Short- and long-term responses to winter warming

- Year-to-year changes

Towards NE

NO MOVEMENT

Towards SW



Pavón-Jordán et al. 2019 *Div Distr 25: 225 - 239*

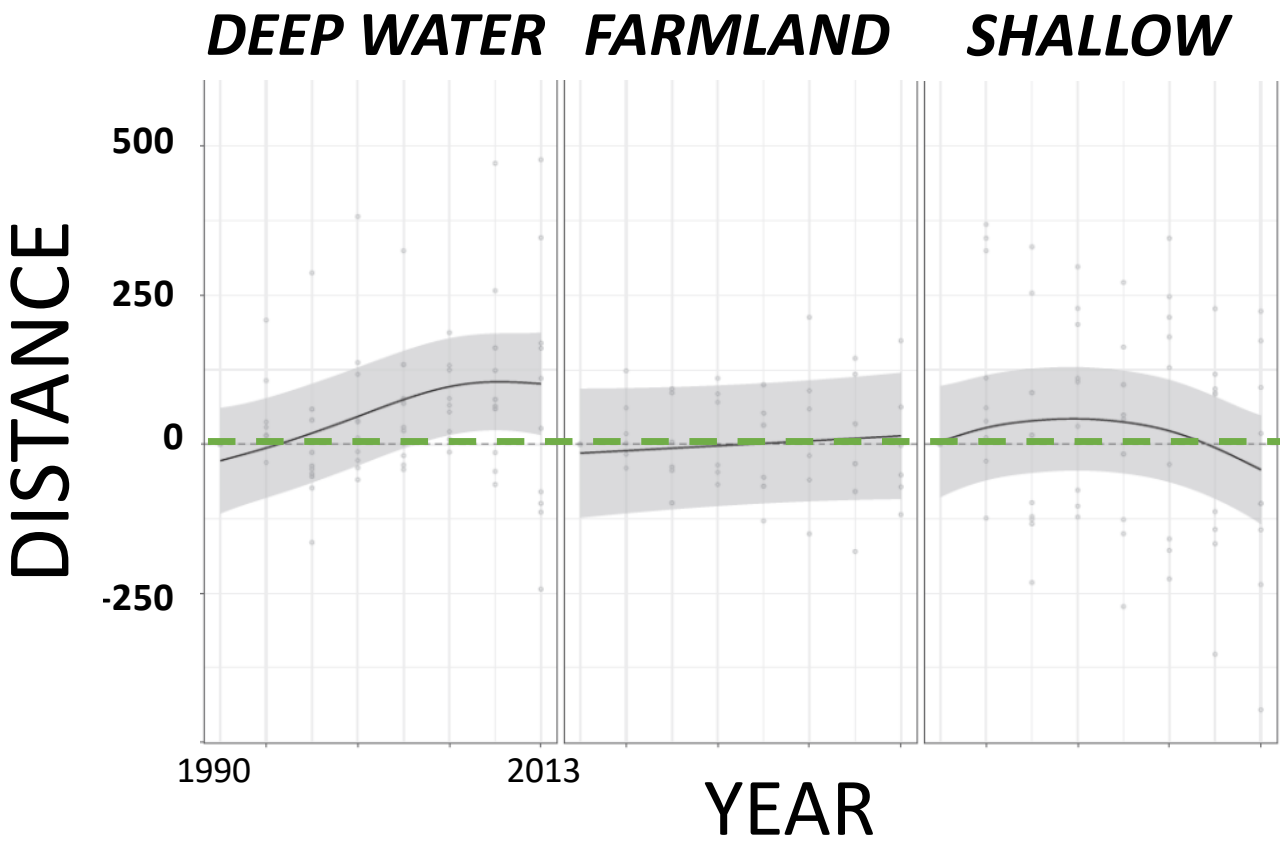
Short- and long-term responses to winter warming

- Long-term changes

Towards NE

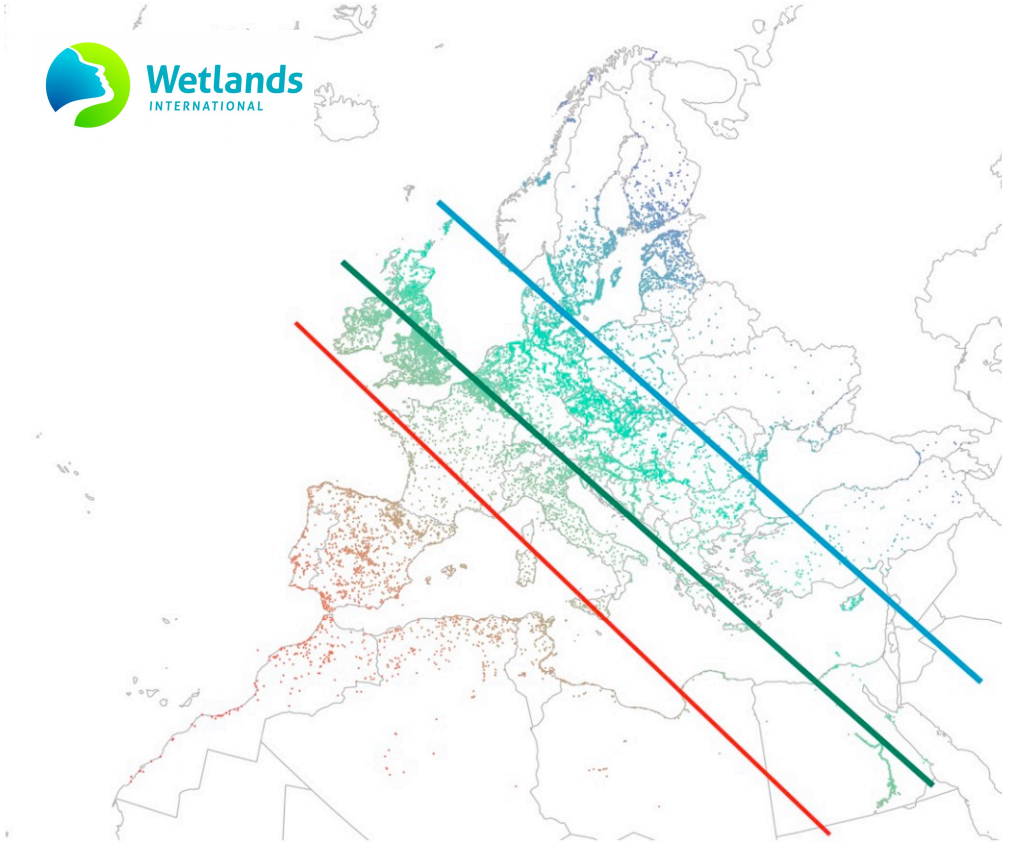
NO MOVEMENT

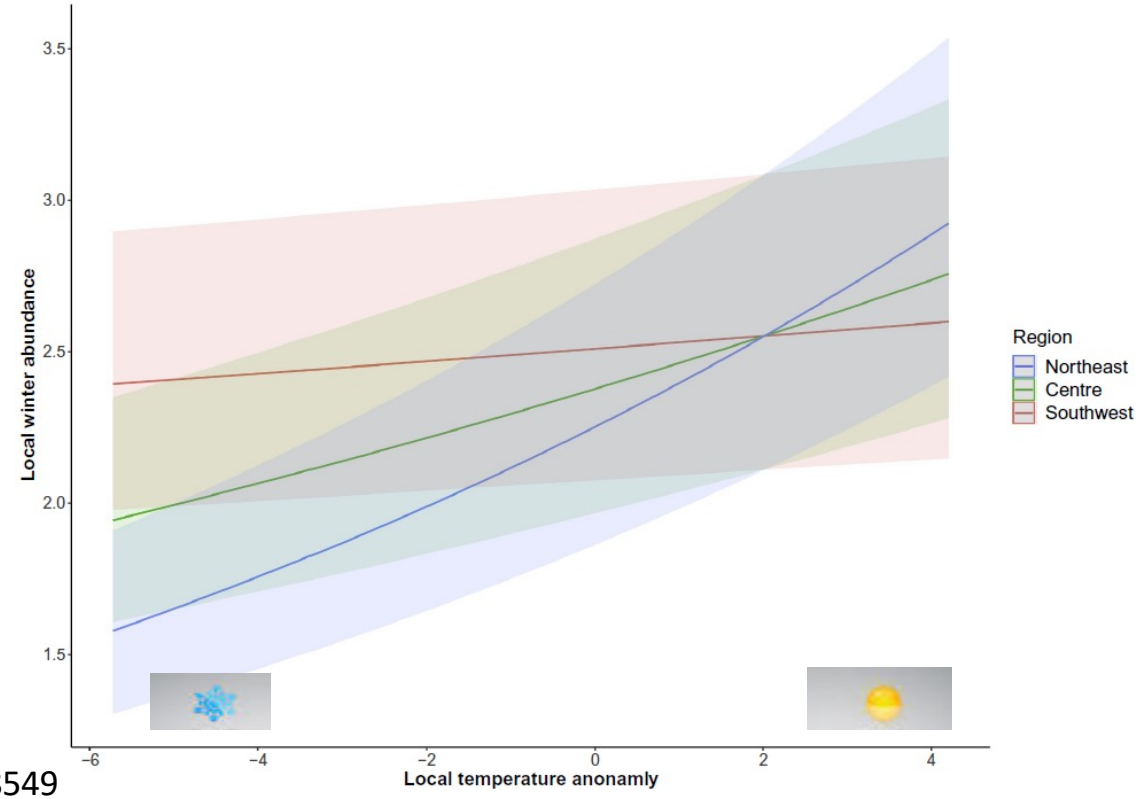
Towards SW



Pavón-Jordán et al. 2019 *Div Distr 25: 225 - 239*

Geographical differences

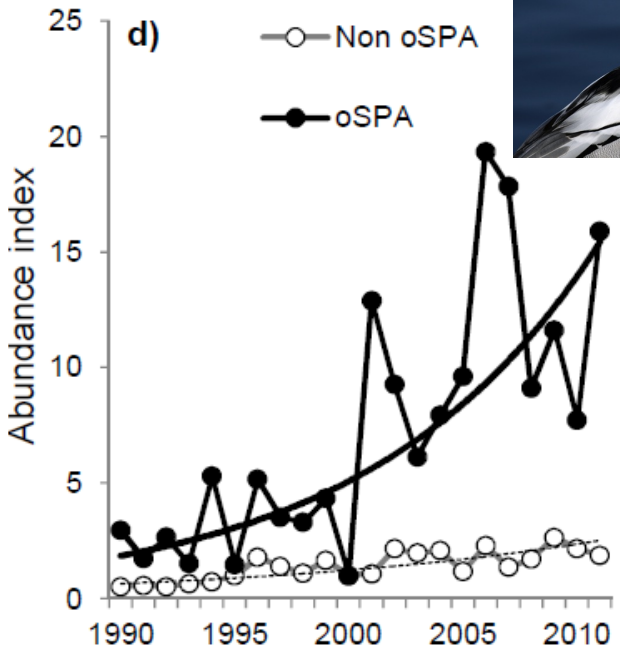




Pavón-Jordán et al. 2020 *Biological Conservation,* 246 (2020) 108549

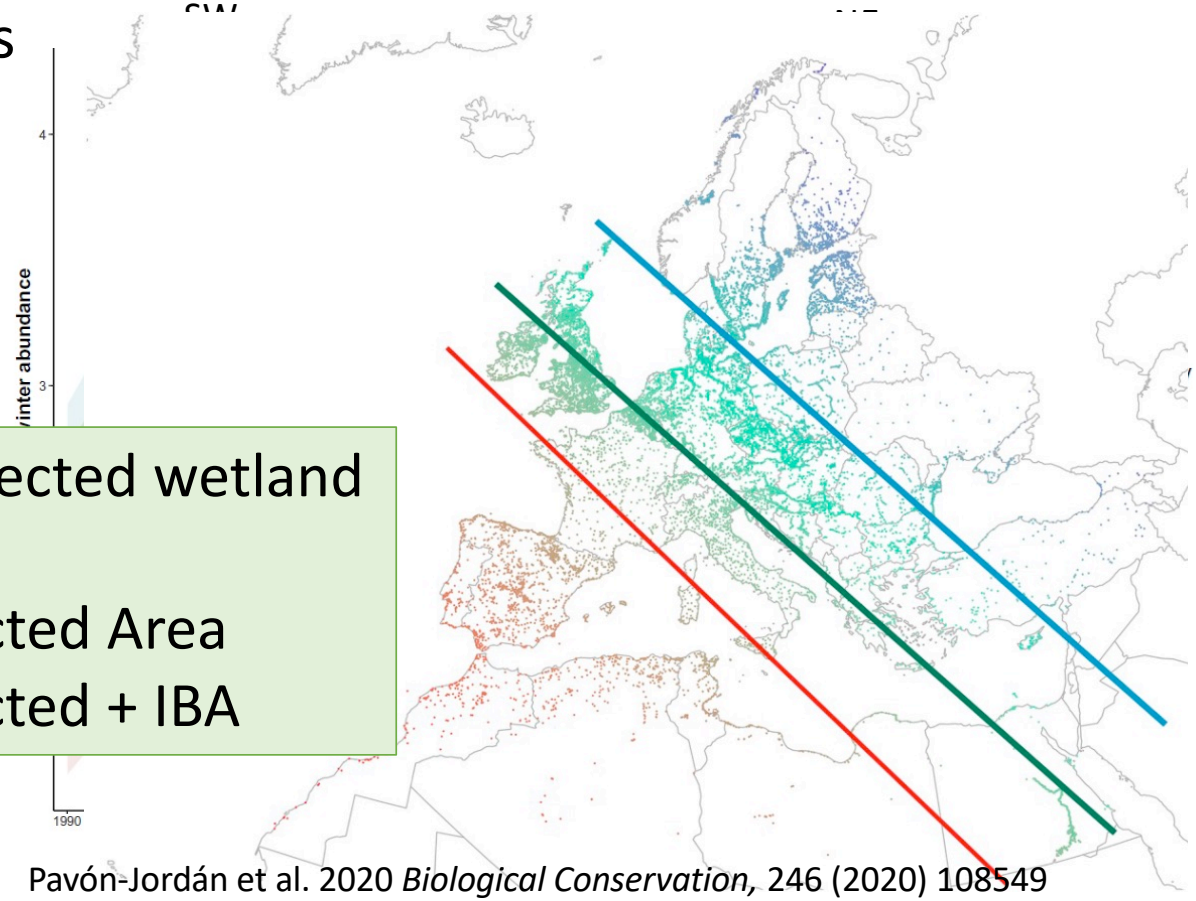
Consequences for conservation strategy

- Moving out vs. stepping stones



Pavón-Jordán et al. 2015. *Div Distr*, 21: 571–582

i) Unprotected wetland
ii) IBA
iii) Protected Area
iv) Protected + IBA



Pavón-Jordán et al. 2020 *Biological Conservation,* 246 (2020) 108549

Consequences for conservation strategy

- General trend of abundance **shift** towards northern and eastern Europe
- Protected areas **can accommodate** changes in distribution and abundance
  - Wintering numbers increased in protected areas (especially those that were listed as IBA)
- Large numbers winter **outside** the network of protected areas
  - Especially northern and eastern Europe - Newly available sites
- Need to keep in mind both year-to-year and long-term changes
  - Important to **keep cold-weather refugia**
- Designation of **non-protected IBAs** can contribute to EU protected area target and climate change adaptation of waterbird populations

Thank you very much for listening
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