



Wildlife Hazard challenge in a changing World

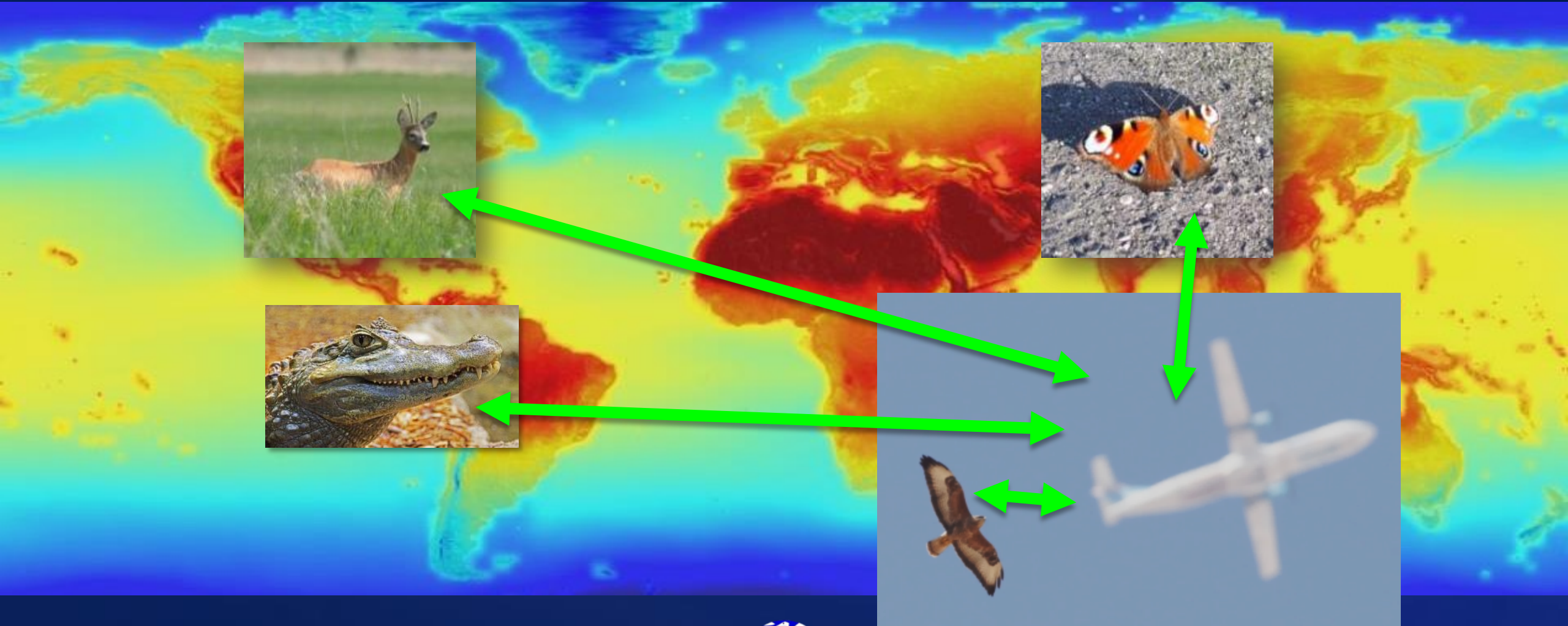
dr Michał Skakuj



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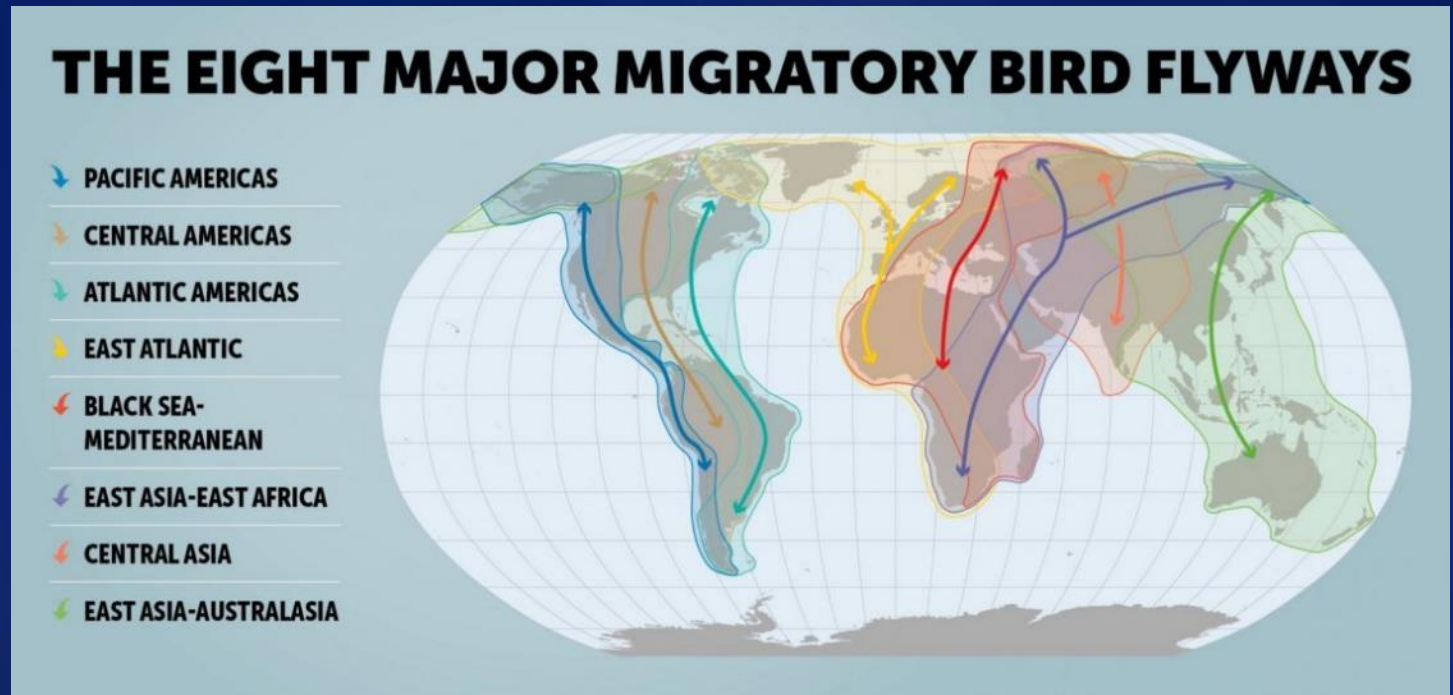
ANTHROPOGENIC CHANGES

AVIATION – ENVIRONMENT INTERACTIONS



Anthropogenic changes impact on wildlife including birds

- World migration pattern and timing
- Concentration areas
- Behaviour
- Population
- Abundance





Flying to the future?

How to predict the future risk



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Aerodromes become and more and more attractive to wildlife



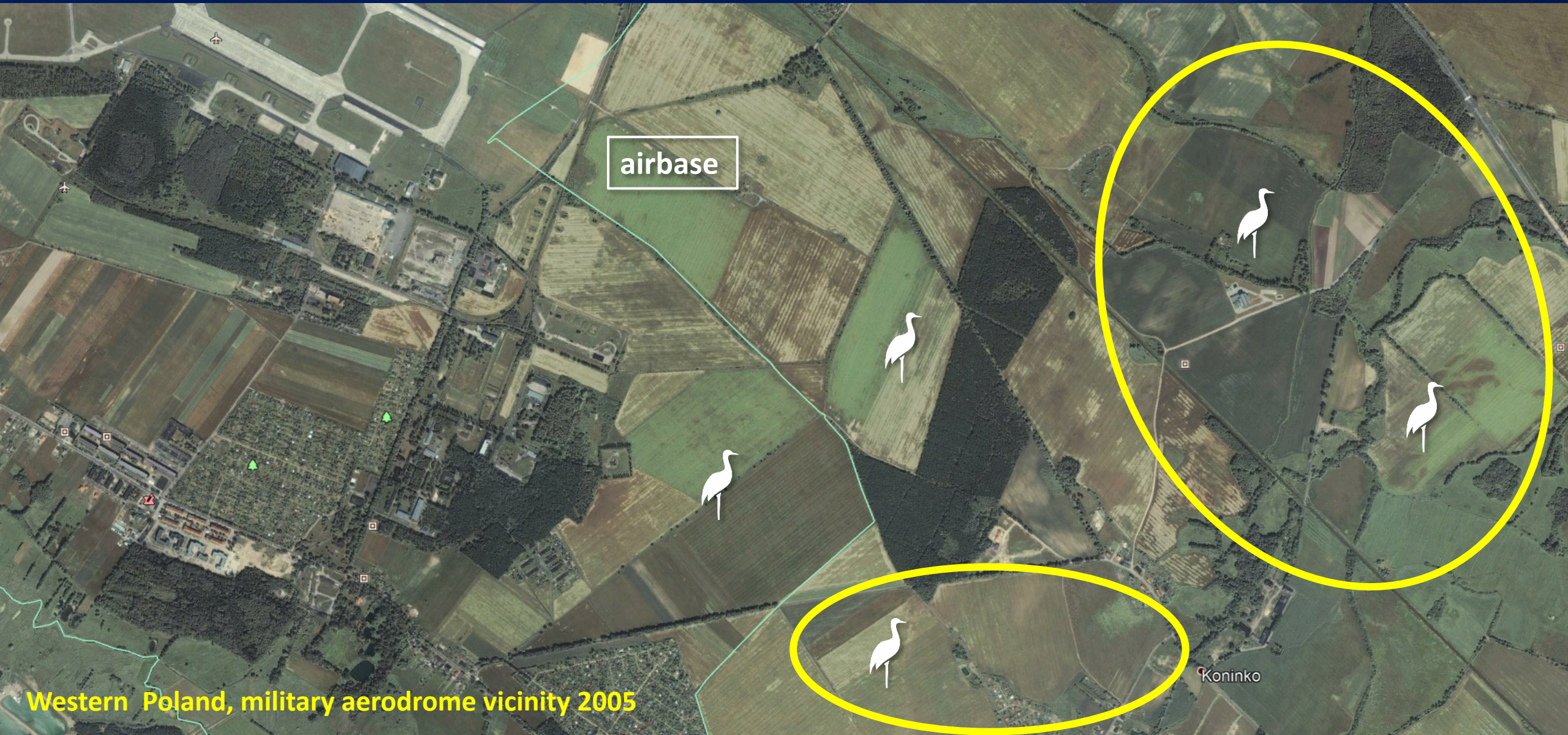
Eurasian Crane



**Some species of concern to aviation
become abundance on and around aerodromes**

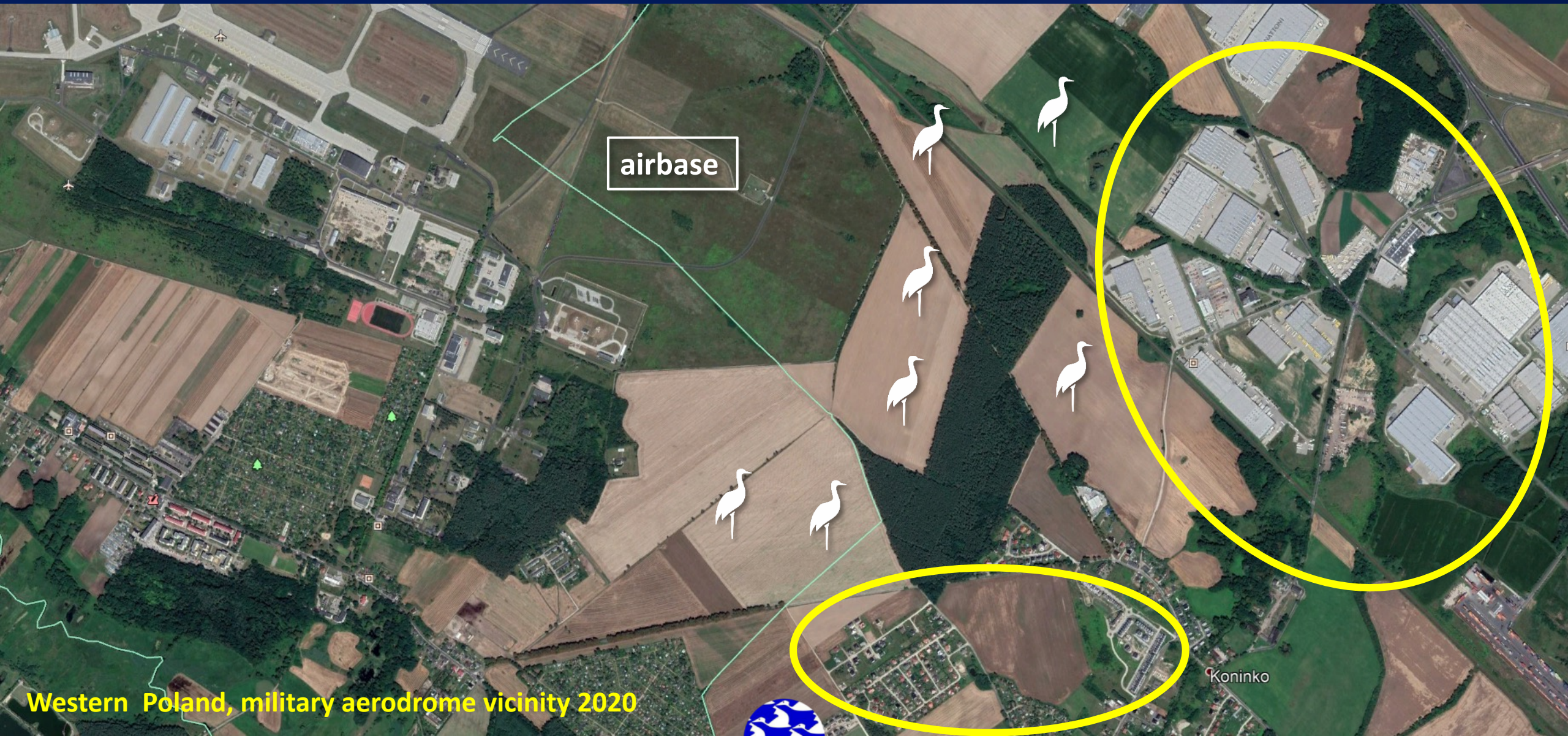


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Western Poland, military aerodrome vicinity 2005

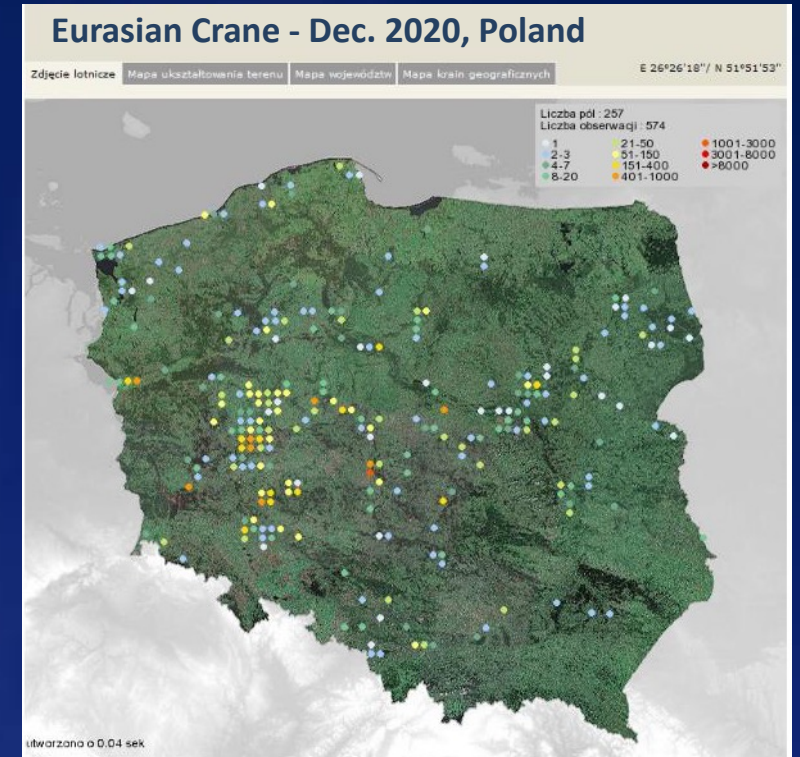
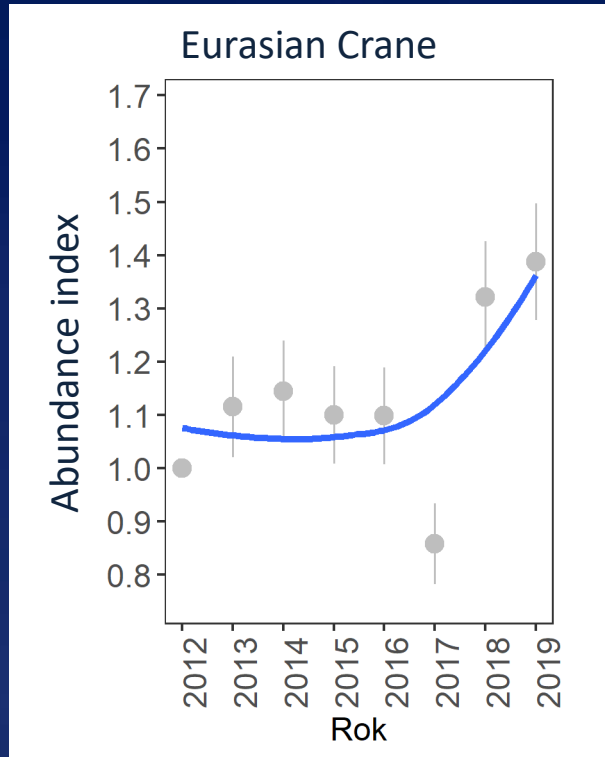
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Western Poland, military aerodrome vicinity 2020



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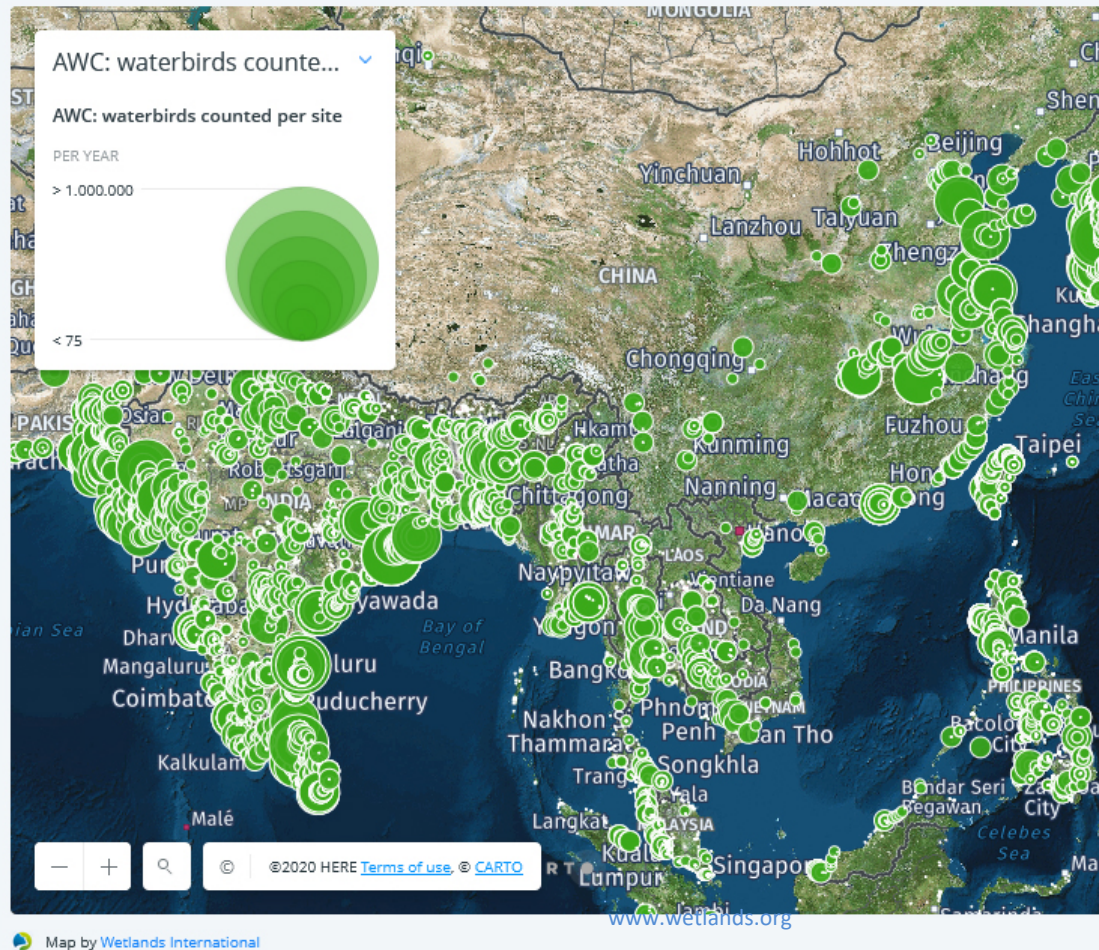
www.ornitho.pl

Monitoring species of concern – an important element of pro-active measures



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Total number of waterbirds counted in a year



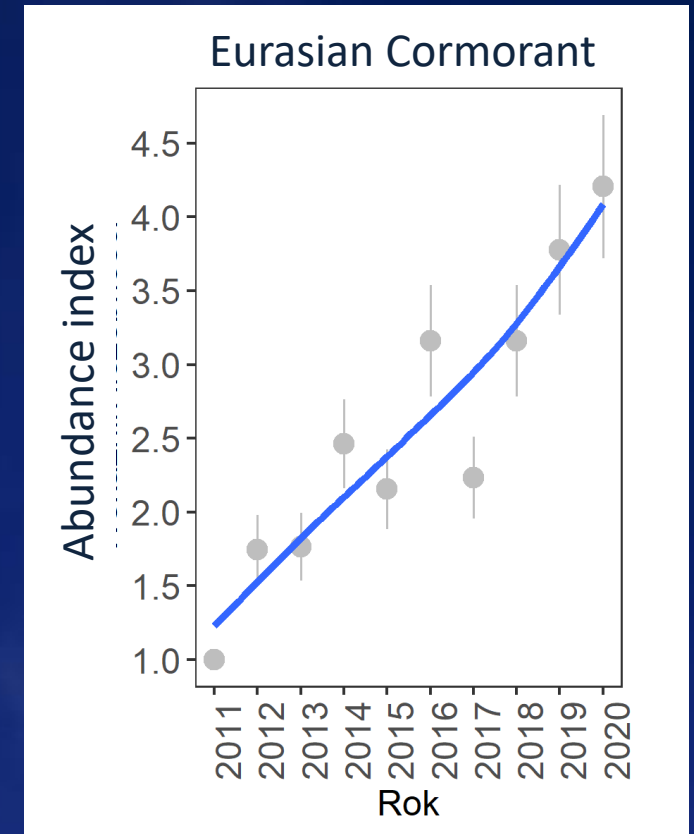
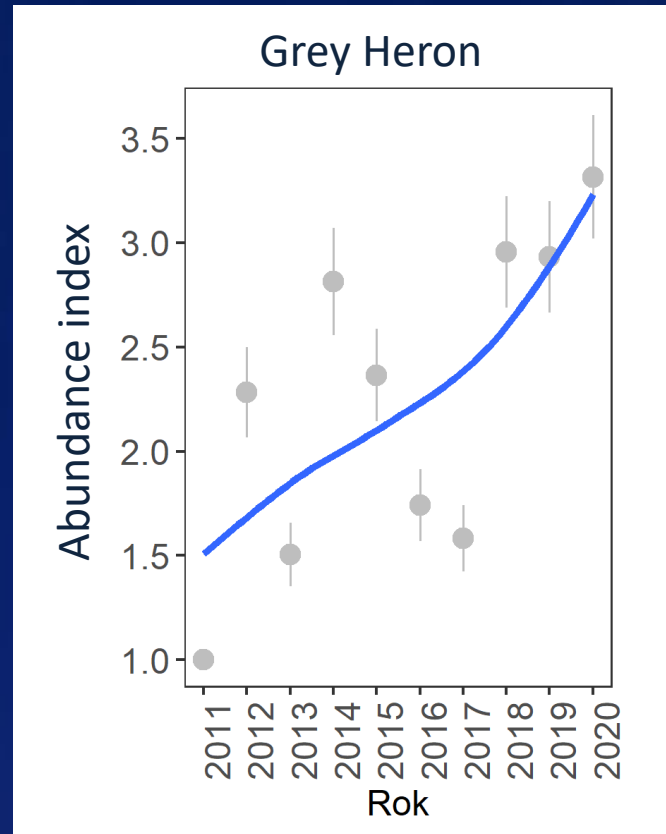
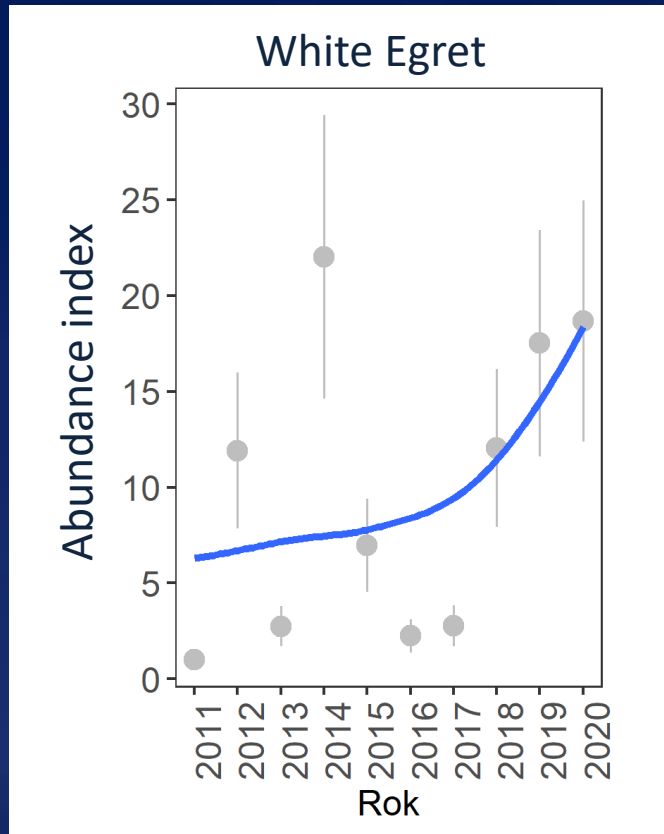
There are many states, international, professional and non-profit organization that gather huge amount of data concerning bird's migration, abundance and distribution.

The data are easy available through various websites, reports and scientific publications.

The cooperation between aviation experts and biology experts is important element of WH mitigations.



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<http://monitoringptakow.gios.gov.pl>

Data source: Monitoring of Birds of Poland (MBP) - a project implemented in Poland in 2006, to fill requirements of the EU Bird Directive: the effective protection and monitor of endangered species.



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on aerodrome Birdstrike Hazard

similar species



different measures

off aerodrome Birdstrike Hazard



DYNAMIC SITUATION DRIVEN BY ANTHOPOGENIC CHANGES

Current

- More large bird on agricultural area's
- Shifting wintering area's more north
- habituation
- Increased risk

2030

- Changes in dynamic large scale migration
- Increased wintering close to urban areas
- Increase habituation
- Increased risk

INCREASING HAZARD & RISK DUE TO ANTROPGENIC CHANGES



Need for widespread understanding of:



- Anthropogenic changes
- Climate changes
- Wildlife behavioural response
- Aviation – Wildlife interaction



Global call for:

- High quality data/information
- Cooperation with biologists/scientists
- Identify & prepare for future risk
- Invest in new technologies & education



We have to accept

- We are part of the Earth ecosystem
- Environment is our heritage

„...the wildlife strike prevention measures should serve,
besides the safety of flight, the environment as much as possible.”

NATO STANAG 3879



**We can fly side by side, but we must understand
Aviation-Wildlife interactions and be pro-active**



Thank you very much for your attention

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