Effects of Recurrent Inclement Weather on a Songbird Species

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Global Change Affecting Songbirds

- Climate change is causing an increased frequency of inclement weather
- Many species have already adapted, shifted ranges, or become threatened/extinct
- How is recurrent inclement weather impacting avian communities?

What Did We Do?

- Simulated inclement winter weather using a hypobaric climatic wind tunnel
- Simulations occurred once per week over 9 weeks
- Measured baseline stress levels & body composition weekly

Temperature	Pressure
11°C	Ambient
1°C	96.19kPa

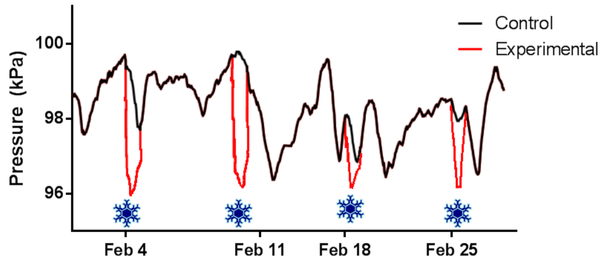

Figure 1: A partial overview of the simulated inclement weather.

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Effects of recurrent inclement weather

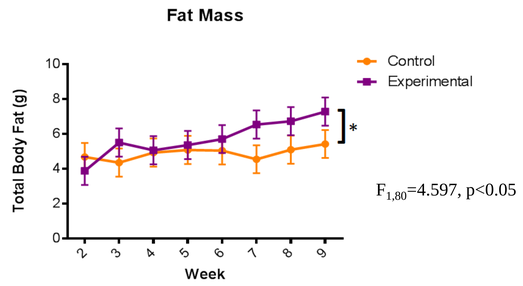
Physiology
- Stress levels
- Body composition

Behaviour
- Feeding duration

What Did We Find?

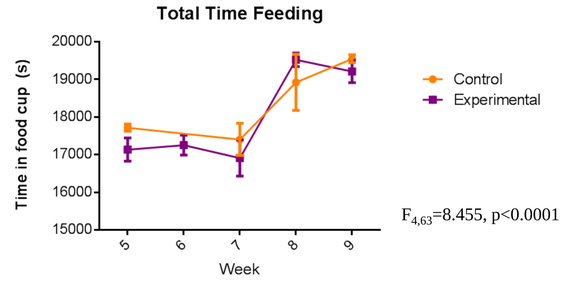
Increased frequency of inclement weather caused …

- A significant increase in fat & lean mass



$F_{1,80}=4.597$, $p<0.05$

- A significant increase in feeding duration over time



$F_{4,63}=8.455$, $p<0.0001$

- No effect on baseline stress levels

What Does This Mean?

- One simulated storm was enough to elicit a change in body composition
- Although baseline stress levels were not affected, it likely acted as an acute stressor which will become chronic over time
- Further provides evidence birds are detecting changes in environment