**Effects of simulated recurrent inclement winter weather on the stress response and feeding behaviour of white-throated sparrows (*Zonotrichia albicollis*)**

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Climate change has been linked to increasing frequency and severity of violent, unpredictable winter storms and other extreme weather events at nearly all latitudes. As climate change becomes a more prominent issue in the present, it is important to study and understand the effects that climate change, particularly inclement winter storms, will have on species in future years. There has been prior research regarding how birds cope with winter weather and their ability to predict oncoming inclement weather, but limited research surrounding how birds respond, both physiologically and behaviourally, to recurrent inclement winter storms over a long-term period. The primary objective of my study is to determine the long-term effects that inclement winter weather has on white-throated sparrows’ (*Zonotrichia albicollis*) stress response system and feeding behaviour. I used a hypobaric climatic wind tunnel to simulate storms approaching, residing, and subsiding in the area by altering barometric pressure and temperature once per week for 10 weeks, and measured behavioural responses, body composition, and baseline corticosterone levels in birds exposed, or not exposed, to weekly simulated storms. This novel research is important for determining the effects of future environmental conditions with respect to physiology and behaviour in a migrating songbird. Understanding how species will respond to predicted environmental changes will give an insight into future conservation and management strategies surrounding climate change.