**Introduction**

Climate change will affect the fish species composition in Arctic marine ecosystem.

The Thick-billed murre, a generalist diving predator present throughout the Arctic, already samples the marine ecosystem throughout its diet.

Why not use the bird's diet to indirectly monitor the aquatic ecosystem?

**Problem:** We need an efficient, remote way to assess thick-billed murre diet. Camera loggers can record prey captures, but are short-lived. Accelerometers record for a long time, but we must first link acceleration profile and feeding behaviour for murres.

**Objective:** Pair camera loggers with accelerometers to establish the link between acceleration and foraging, so that accelerometers alone can be used in the long term.

**Material & Methods**

1: Study area: **Coats Island**, Nunavut

2: Equip murres with camera loggers and accelerometers and link the behaviour recorded by the camera with acceleration.

**Results**

1. **Descending:** Vigorous flapping masks the prey capture acceleration signature.

2. **Bottom searching:** Wingstrokes are less pronounced. Prey captures are discernable.

3. **Gliding back up:** Small prey captures are distinct, large prey even more.

**Discussion**

Acceleration signature of a prey capture varied depending on:

1. **Dive phase** (descending, bottom search, ascending)
2. **Prey size** (small static prey vs large mobile prey)

Accelerometers could be used to determine the murre diet during the bottom and ascending phase, but not during the descending phase.

**Main Sources**
