2023 NIR Trial Summary

* Sept 4th:
  + 3 small conical traps were immersed on Sept 4th off of WCB (2022 Snow crab trawling station 330: 46 49.8667; 60 54.1591. depth: 93.2m).
  + Found lost gear (46 59.9397; 60 59.0244) equipped with a ropeless fishing unit. Reported to C&P in Cheticamp.
* Sept 5th and 6th: Crew change and weatherbound day.
* Sept 7th:
  + Retrieved lost gear (approval from C&P and Captain); collected crab from 4th trap (total 5 traps) and placed in chiller.
* Sept 8th:
  + Hauled small conical traps and placed crab in chiller (separated in fish pans from crabs from lost traps); reset traps closer to Cheticamp for comms.
  + Started measuring lost gear crab (NIR and associated measurements).
* Sept 9th:
  + Continued measuring crab for NIR until battery died (3.5 hours) (lost and small conical traps; crabs from lost traps were completed).
* Sept 10th:
  + Finished measuring crab for NIR (crabs from small conical traps were completed); kept some in chiller for UdeM.
* Sept 11:
  + Retrieved conical traps off Cheticamp and kept sub sample of crab for UdeM; comms was onboard for interview and pics. ½ day at sea.
  + Chiller was not working well so froze ~20 crab for UdeM instead of bringing live samples.
  + Returned to Moncton in PM. End of survey.

Summary:

* A total of 74 crabs were measured for NIR trials;
  + Crab #1-34: NIR covered with cling wrap;
  + Crab # 35-70 and #74: NIR covered with glass cover slip;
  + Crab #71-73: both NIR techniques were used
  + Crab #74: only completed for comms to take pics of activities.
* Work flow: 6min per crab (3 people)
  + Person 1:
    - Collect crab from chiller
  + Person 2:
    - Take image (1 )dorsal and 2) ventral for each crab
    - Take hemolymph
    - Record data
  + Person 1:
    - CC, missing legs, CW, CH, duro, colorimeter: (1) Chela, 2) Merus 2nd leg, measurements.
  + Person 3:
    - NIR measurement : 1) Chela; 2)Merus 2nd leg
  + Person 1 or 3:
    - Sample second leg, put in tagged ziplock and freeze. Return crab to chiller or release at sea.
    - Frozen crab and leg samples are in walk in freezer in cooler
* Data (other than NIR): will be stored on W drive (offshore crab common)
* NIR Data: on tellspec program

Concerns and next steps:

* First day lost connection of NIR and could not reconnect; did not happen again
* Overall NIR worked well; used charger to extend battery life on 2nd sampling day.
* Slow to scan (especially for fast paced sc trawl survey); if a large quantity of crab need to be measured, a chiller is a must.
* Measured at wharf, not sure how well NIR would work in inclement weather/not sheltered
* Leg samples are individually identified if we would like to know the effects of freezing on NIR results (before drying legs).
* Organize measurement session with frozen crab (UdeM) at DFO?