Location: IMAS - Hobart

Present: Dahlia, Mark, Clive

# ****Bigger picture of this research question:****

Goal of research is multi-pronged:

1. where do the seals go? (do they disperse at random? what determines where they go - ocean currents?
2. did they get fat and if so where did this happen – where there “hotspots”?
   * **Drift dive analysis/body condition:**
     + Fernando's slimmingDive method may be too conservative for our dataset - filtered out many more dives that Martin's method
     + We're not concerned which method is used to determine drift dives/body condition so happy to use Martin's results if he already has them
3. who survived?
   * Clive provided Dahlia with survival, capture mark-recapture data
   * Likely that the analysis will focus on the first trip and use the 6 month re-sight data as it is hypothesised that the first 6 months are crucial for future survival of the seals

# ****Quality control of tracks:****

* did visual quality check on individual ssm-filtered tracks as a group during the meeting
* some duds were identified and we’ll excluded these from the analyses
* some tracks seemed to have spurious sections - looked too smooth - need to double check again.

# ****Actions:****

Mark and Clive suggested more exploratory plots and summaries moving forward

## 1. ****Where do seals go?****

**Determine first foraging trips:**

* options:
  + plot distance from colony over time - include raw data + smoothed data
  + within 5 – 20 km of island
  + ≥ 4 day haul-out - e.g. some seals ended first trip at Campbell Island, Antipodes
* extract ocean data for each location
* plot tracks and colour locations to current direction – do they go with or against current?
* generate trip duration summary stats
* table with columns: id, lon, lat, trip # (0 = haul out, 1 = 1st trip, 2 = 2nd trip etc.), keep (flag weird locations)

## 2. Did seals get fat?

* Dahlia to request drift dives and body condition results from Martin
* Generate plots that show body condition over time

## 3. Did they survive?

* plot of tracks coloured by seen vs not seen (was the individual seen again after the first capture?)
* plot of tracks coloured by size (birth weight, weaning weight)
* create frequency distribution of weights when tagged (as there was a specific procedure to which individuals were captured and tagged)
* While Dahlia's analysing data, keep in mind that we're trying too find a way to categorise the trips to link to their survival e.g. by sector of ocean?

## Other next steps

* Group zoom?

# Other interesting questions:

* histogram of tag duration, tag loss
* weaned weight vs tag loss / dead?
* how long was it to see an animal again (using the complete sighting history for individuals)?
* We also have return masses for some animals that may be useful