

# 2014-2015 Weekly Field Reports

## Cape Shirreff, Livingston Island

Report 5  
December 1, 2014

### Seabirds:

1. Gentoo penguins nesting activity appears to be constrained by snow fall this year. The majority of nests that have been initiated in the last two weeks have been abandoned. Two gentoo pairs have nested on colony 29 (historically a chinstrap colony) and many more are seen in a different colony every day trying to find a spot to nest that is melted out.
2. Peak gentoo penguin clutch initiation occurred on 30 November. To date 30% of the gentoo penguin reproduction study nests are incubating partial clutches, 14% are incubating full clutches, 12% have failed and 42% have yet to initiate clutches.



3. The peak chinstrap penguin clutch initiation occurred on November 27<sup>th</sup>. To date, 39% of the chinstrap penguin reproduction study nests are incubating partial clutches, 40% are incubating full clutches, 3% have failed and 18% have yet to initiate clutches.
4. On November 28, we weighed a sample of adult chinstraps and measured their first egg. Mean masses of males, females and eggs were comparable to the previous 15 year mean.
5. A yearling chinstrap was seen on colony 10 on 30 November. It was not banded.
6. We continue to monitor known-age penguins. To date, 16 known-age gentoo penguins have initiated clutches and 34 known-age chinstraps have initiated clutches.

7. We continue to monitor brown skua territories for nesting activity.

Many of the hilltops where the skuas breed are still snow covered. No eggs were seen but nest bowls were observed on several territories.



## **Pinnipeds:**

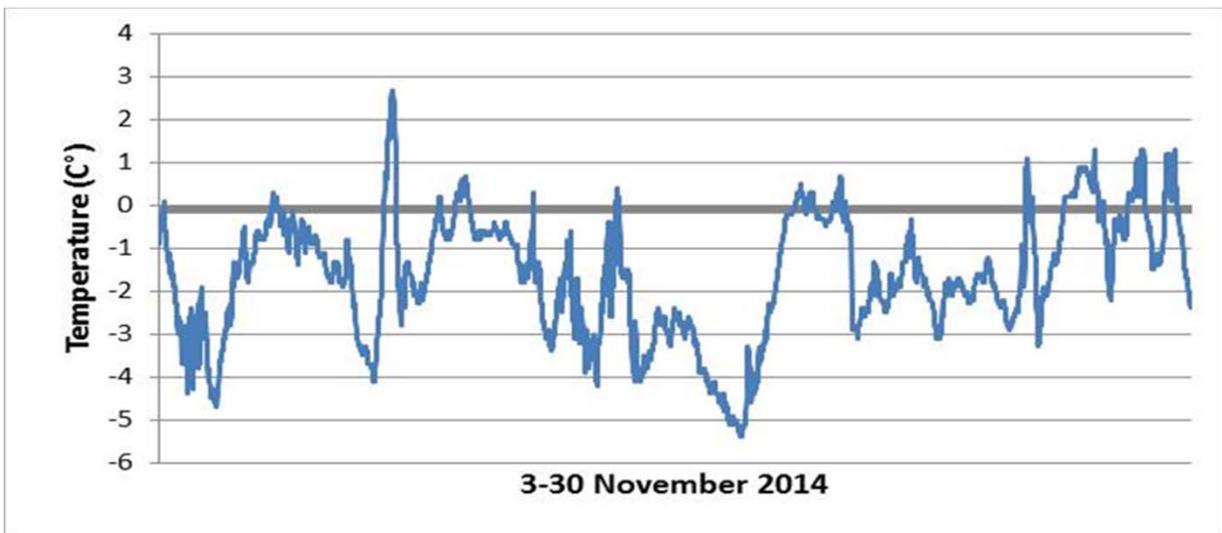
8. We recovered six geolocating light sensor (GLS) units and two time-depth recorders (TDR) deployed overwinter on Antarctic fur seals. One GLS had a damaged IO port and will be returned to the manufacturer to recover the data. The other five GLS units all provided daily latitude-longitude positions from 218-274 days at sea. Both TDRs provided depth and temperature for the entire duration of the deployment at a 1 sec. sampling rate. The TDRs also provided detailed light data at 60 sec intervals for the entire duration. The raw light data will be available for calculations of an independent estimate of latitude-longitude for comparison to the GLS-derived estimates. Two animals carried both types of instruments overwinter. They are the first two returns of ten dual-instrument deployments last summer.
9. We began perinatal fur seal captures for attendance and foraging behavior on 29 November. This is two days earlier than our usual protocol for attendance data. Two females are now providing VHF data at 30 minute intervals.
10. Our automated VHF receiving stations (2) are recording without incident and we downloaded our first round of data from them. The two females we have instrumented will not depart on their first trip to sea for approximately another five days. Their departures will be recorded and downloaded in the next weekly download of these receiving stations.
11. At the last census of fur seal study beaches on 30 November, we recorded a total of 129 pups (125 live and 4 dead), 269 adult females, and 223 adult males on territory (60 with females and 163 without). These counts are for the US-AMLR fur seal study site which comprises an area of approximately 30% of all fur seal breeding areas on the Cape.
12. Thus far only 26.4% of our tagged female population have returned to Cape Shirreff (i.e. 32 of the expected 121 present last year).
13. At the last phocid census of the Cape we had 88 elephant seals; an increasing number are expected in the coming weeks as juveniles arrive to molt. We had a total of 19 Weddell seals. We counted three leopard seals, and as with our last census, crabeater seals were not seen. All three leopards were untagged. Photos of the leopards were taken for the AMLR photo ID database.



14. We deployed the first of three time-lapse cameras that will eventually be used to monitor primary leopard seal haul out beaches overwinter. The cameras will provide data on presence of leopard seals at the Cape from March through November.
15. We took our annual photos of cape snow cover for the last week of November and the start of the Antarctic fur seal breeding season. These photos can provide an independent estimate of snow cover for comparison to the three point snow gauges we use to measure snow depth.

### Weather:

16. Daily high temperatures this past week have finally climbed above 0°C (see plot below). The high for the week was 1.4°C and the low was -3.3°C. Mean temperature for the week remained below freezing at -1.0°C. Mean wind speed was 16.3 mph with maximum of 50 mph. Winds continued to be dominated by easterlies (46.7%). Westerlies prevailed 30.9% of the time. Total precipitation this week was 0.21 inches. Sunrise and sunset are now 03:16 and 22:19. Mean daily solar radiation this week was 12,909 W/m<sup>2</sup>.



## Camp:

17. The Cape is still completely covered in snow and the recent above-freezing weather has not perceptibly diminished snow cover. Several storms from the east have left drifts at camp as high as when we arrived. The snow around camp is still as high as some of the windows. This affords the occasional seal the opportunity to approach the windows at eye level and peer in, amusing AMLR researchers and likely entertaining the seals too (see photo below)!



18. Our fresh water supply remains frozen. We are still working on our third barrel, which was brought into the main camp to thaw, and we are able to supplement this stash with snow melt.
19. We celebrated Thanksgiving with the usual smoked turkey and all the fixings of a traditional feast. We had two small smoked turkeys that provided delicious leftovers for several days. We are all grateful to have a well-supplied camp in such a remarkable place as Cape Shirreff and to be doing such valuable research.

*Submitted by AMLR researchers currently recovering from a turkey-induced coma at the Cape Shirreff field station, Livingston Island. Images taken by Mike Goebel and edited by S. Sexton.*

