

Science Report

Seabirds

1. The first chinstrap penguin chick was seen on 22 December. Currently 0% of the nests in the chinstrap reproductive study have begun to hatch, 86% are incubating partial or full clutches and the other 14% have failed. No gentoo penguin chicks have been seen yet. To date, 62% of the gentoo reproductive study nests are incubating partial or full clutches and 38% have failed.
2. None of the known-aged chinstrap penguin nests have begun to hatch. Of the 58 chinstraps that initiated clutches 57% continue to incubate clutches and 43% have failed. Of the 33 known-aged gentoo penguins that initiated clutches 55% continue to incubate partial or full clutches and 45% have failed.
3. We continue to monitor brown skua territories for nesting activity. 15 pairs of brown skuas have initiated clutches, 87% of these pairs are incubating partial or full clutches and 13% have failed. Currently 11 of 20 overwinter GLS instruments have been recovered.
4. We saw our first Kelp gull chicks on 17 December. To date, we have observed 31 gull nests, three of which have chicks.
5. On the evening of 17 December we were fortunate to have an immature emperor penguin visit Cape Shirreff.
6. The Blue-eyed shags on the west side of Cape Shirreff are currently brooding chicks. We have also seen a pair of snowy sheathbills scavenging around the colony.
7. Wilson's and Black-bellied Storm petrels have begun to show up in larger numbers this past week. On 20 December we saw Cape petrels incubating clutches at the cliffs on the south west side of Cape Shirreff.

Pinnipeds

8. As of yesterday all but six of our CCAMLR females have completed one trip to sea. Of those completing their first trip to sea the mean trip duration was 3.86 days (s.d.: 1.88, n=23, range: 1.19-7.23). However one of the six females has been gone for 13 days. Six females have completed three trips to sea.



9. At the time of last week's report we had not completed early-season perinatal captures. We completed them on 17 Dec. Total mean capture time was 30 min (st. dev.: 4.3; n=31; range: 20-42 min). Mean total time on gas anesthesia was 16 min (st. dev.: 3.05; n=31). Our entire sample for CCAMLR trip duration protocol is known-aged with a mean age of 13.5 years (st. dev.: 3.7; n=31). Mean mass for the 31 females was 51.6 kg (st.dev. :6.7; n=31; range: 40.4-69.8 kg). All females were captured and weighed within 48 hours of parturition.
10. We continue to census pups, live and dead, on the U.S. AMLR study site which comprises approximately a quarter of total fur seal production. Our maximum count, thus far, was on 21 Dec we recorded a total of 896 pups (871 live and 25 dead). We are still observing an occasional pregnant female arrive and give birth. Median date of pupping was 5 Dec.
11. We are still recording an occasional tagged female arriving for the first time. The last tagged female to arrive did so on 23 Dec.
12. Of the 59 over winter deployments of geolocation light sensors 44 have returned (74.6%). Thirty-one of the 44 have been recovered thus far. One of the 44 returned without its GLS leaving 12 more recoveries. We expect more to arrive in the coming weeks.
13. Elephant seals are returning to molt in increasing numbers. Most of these have been juveniles and adult females. However, all but five of the 25 pups born on the Cape have left to sea. The total number of southern elephant seals in the last weekly phocid census was 262.
14. Leopard seals are increasing and we observe new animals tagged in previous years arriving almost daily. In the last Cape wide census on 20-21 Dec two leopards were observed hauled out. To date we have observed three tagged leopards returned. This is fewer than for the same time last year. We have recorded four sightings of untagged leopards. All untagged leopards were photographed. We also observed two adult male crabeater seals in the last phocid census.
15. We collected our first sample of fur seal scats for studies of diet. We collect ten every week. All scats collected this week were composed primarily of krill.



Weather

16. It continues to be colder and drier than normal with more sun than usual. The mean temperature was 1.4°C and the high temperature for the week was 10.3°C. The low was -3.2°C. Winds were mostly from the west and south this week with a mean wind speed of only 6.0 mph and maximum of 30.0mph. We did not record any precipitation this week and total cumulative precipitation since arriving remains at less than 0.5 inches. Sunrise and sunset on 21 Dec was 02:56 and 22:57. Mean daily solar radiation this week was 22,368 watts per sq. meter.

Camp

17. We are finishing water barrel #5 and have yet to see any significant precipitation at the Cape since our arrival. We have been conserving water as much as possible by using snow for showers and dishes.
18. The Cape remains completely snow covered except for patches on steep slopes on the hills around the cape. Our camp still has deep drifts around it and as a result, the crew has worked diligently to keep decks and pathways around camp clear of snow.
19. The 12v freezer has been connected, fur seal lab and supply hut have been organized, kitchen sink tubing has been installed and parts of the main hut interior were cleaned, sanded and painted this week. We also cleaned mildew from some of the walls in the main hut and repainted with mildew resistant paint.
20. The battery bank has been satisfactory and a 12 v power outage has yet to reoccur. A combination of regularly scheduled battery testing, energy conservation and personal accountability have resulted in an ideal system to maintain 12 v power until next field season.
21. Christmas Eve morning we awoke to a thin blanket of snow outside of our main hut. We rejoiced in the holiday spirit with a batch of freshly made Cinnabons. We have two turkeys thawing for tomorrow's Christmas dinner.
22. Everyone at the Cape sends their thanks to all those family and friends that sent Christmas presents and cards with the camp opening in November. Their thoughtfulness will make Christmas at the Cape that much more special. Best wishes to all for a Happy New Year from the AMLR Cape Shirreff crew.





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