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Project: Hoiho Population and tracking: POP2018-02
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Monthly report for the period 21 July 2019 – 1 September 2019

Summary

Low numbers of penguins in the Catlins breeding areas continued to complicate the tracking work. Of the three birds still presumed to carry data loggers, one could be recaptured at Penguin Bay 5 weeks after device deployment; the device was lost. Due to the unpredictability, methodology was changed from data logging devices to a combination of satellite transmitters and time-depth recorders. Two birds from Penguin Bay – one female and one male – have been fitted with transmitters and are currently being actively tracked. The female performed five multiple-day long foraging trips during which she principally foraged 20-25 km from the shore close to the continental shelf-edge due south of Penguin Bay. The bird was recaptured on 31 August 2019; satellite data suggests that the bird did not leave the colony since 25 August. The male conducts one- to two-day trips and generally stays within 10 km of the coast. The deployment of two GPS dive loggers that transmit data through the cell phone network so far could not be deployed due to a lack of birds.

Results

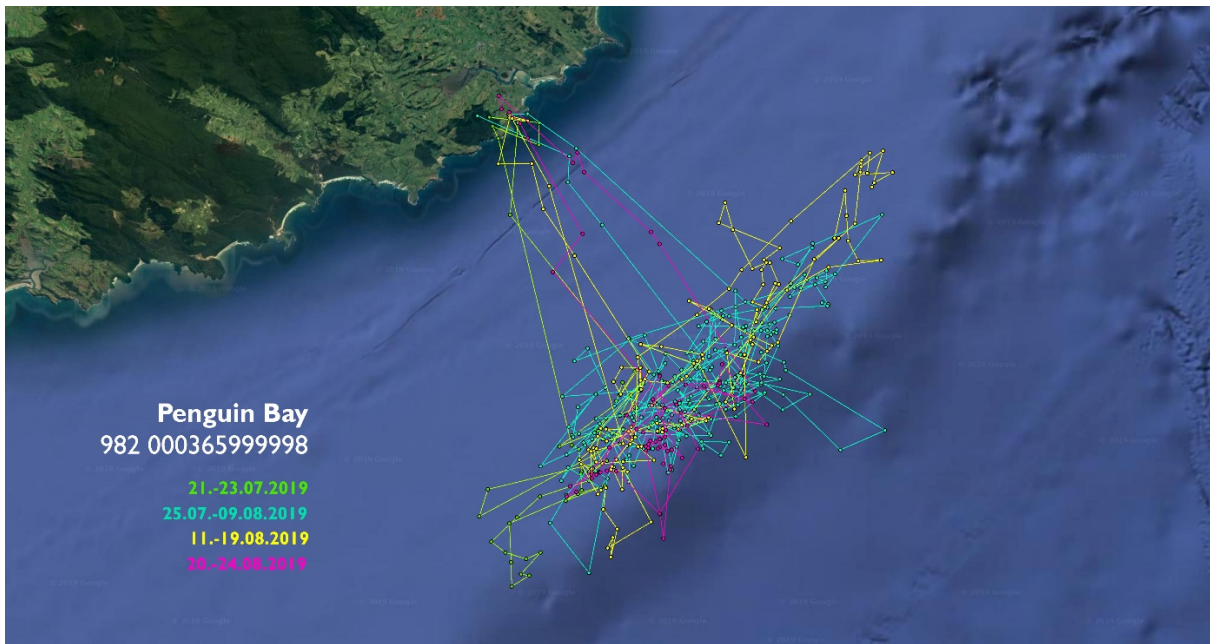
Penguin Bay, female, bird id: 982 000365999998, tracked 10 July – 31 August 2019

The bird was fitted with a satellite transmitter and a TDR on 9 July 2019 but was refitted with a differently programmed satellite tag on 18 July (see also July 2019 report).

Over the course of the 7 weeks, the penguin performed a total of five foraging trips. The average trip duration was 7.3 days ranging from 2.4 to 14.5 days. As previously, the bird foraged along the continental shelf edge between 35 and 55 km from the coast concentrating its activities in an area some 50 km in length and 12 km in width. The bird also foraged here during the breeding season 2018/19. The satellite data suggests that the bird covered distances of 252.5 to 1126.9 km on its five trips travelling between 33 and 107 km per day. However, these distances may be somewhat exaggerated by the significant location error compared to GPS tracking.

The dive logger recorded 5.1 GB worth of dive data representing the time period from 9 July 2019 to 8 August 2019. Conversion of the raw dive data is currently ongoing and detailed analysis of the dive data will be conducted at a later stage.

A recovery attempt was made on 10 August, but the bird returned to the colony late at night after the recovery team had departed already. The penguin was finally captured, and the device removed on 31 August 2019.

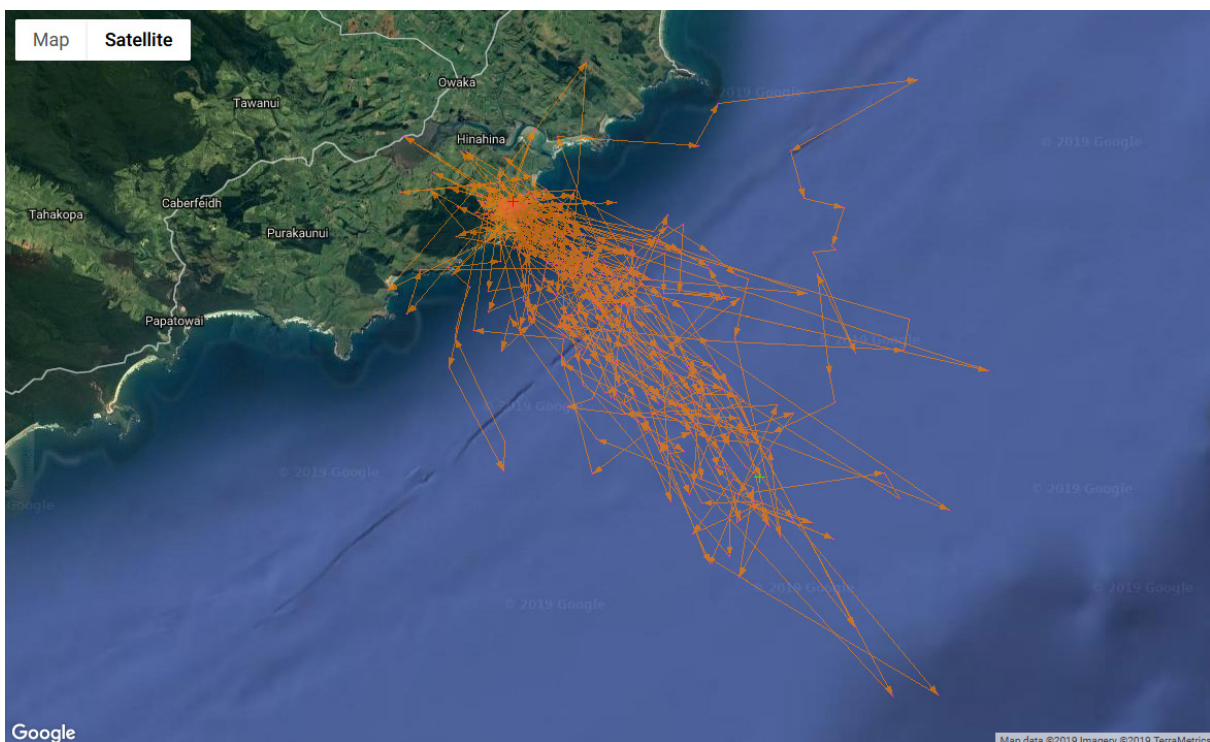


Foraging tracks of female 98200036599998 recorded with satellite transmitter between 21 July and 24 August 2019 (hourly satellite uplinks).

Penguin Bay, male, bird id: 982 000405532372, tracked since 18 July

The penguin was fitted with a satellite tag and dive logger in mid-July; the bird has been tracked using hourly uplinks since then. Detailed filtering of the satellite data will be conducted once the devices have been recovered and the data set is completed.

Preliminary analysis suggests that the bird forages much closer to the coast than the other satellite tracked female. Most location fixes are recorded within a 20 km radius due southeast of Penguin Bay with only infrequent forays towards the edge of the continental shelf.



Unfiltered satellite data of male 982 000405532372 tracked since mid-July 2019.

Trials of GSM GPS loggers

On 17 August 2019, an attempt was made to deploy two Ornitela GSM dive loggers on birds from Nugget Point. However, despite intensive searches no penguins were found. Satellite tracked birds indicating long foraging trip durations combined with the low numbers of penguins observed over the past few weeks at both Nugget Point and Penguin Bay make any device deployments extremely difficult at this stage. The decision was made to wait for a few weeks until the penguins start preparation for the coming breeding season.

Next steps

In the coming days, new attempts will be made to deploy GSM GPS loggers on penguins from Nugget Point. Considering the low numbers of birds at both Nugget Point and Penguin Bay, we only plan further deployments of satellite transmitters if the trials of the GSM loggers prove unsuccessful.

Plans for the upcoming breeding season are currently being made. The focus of the tracking work will be on southern Catlins, specifically the region between Te Rere and Long Point for which there is virtually no tracking data to date.

Final decision on which sites will be worked at depends on the number of breeding pairs found in the region. At this stage we expect to find a substantial reduction in active breeding pairs due to the rehabilitation requirements for large portions of the mainland hoiho population in the past months as well as the low numbers of birds observed in the breeding areas we are currently active in.

Moreover, in late November GPS tracking and camera logger work is planned for the Bravo Group in Patterson Inlet/Rakiura.