

Farallon Islands Monthly Report

Report to the U.S. Fish and Wildlife Service

Farallon Islands National Wildlife Refuge

July 2021

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**Island Visitors**

**Point Blue**: Olivia Boisen, Danielle Devincenzi, Katie Douglas, Rebecca Forney, Sarah Hecocks, Theresa Rizza, Stella Solasz, Amanda Spears, Pete Warzybok.

**San Fransisco State University:** D’Andre (DJ) Alejandro

July 1st: **“Outer Limits”** (skipper Jim Robertson) brought out FWS personnel Gerry McChesney and Alyssa Clevenstine and eight USCG staff to tour the island for the day.

July 17th: **“Starbuck”** (skipper John Wade) brought out Pete Warzybok and DJ Alejandro, and departed with Danielle Devincenzi, Sarah Hecocks, and Katie Douglas. Two people toured the island.

July 24th: **“So Good”** (skipper Harmon Shragge) brought out Andrew Carothers-Liske to repair the closet flange of the PRBO downstairs toilet.

July 31st: **“Valkyrie”** (skipper Jamis MacNiven) brought out food and supplies and departed with DJ Alejandro, Rebecca Forney, and Pete Warzybok. Two people, Diana and Joycelyn from the Point Blue marine lab, toured the island.

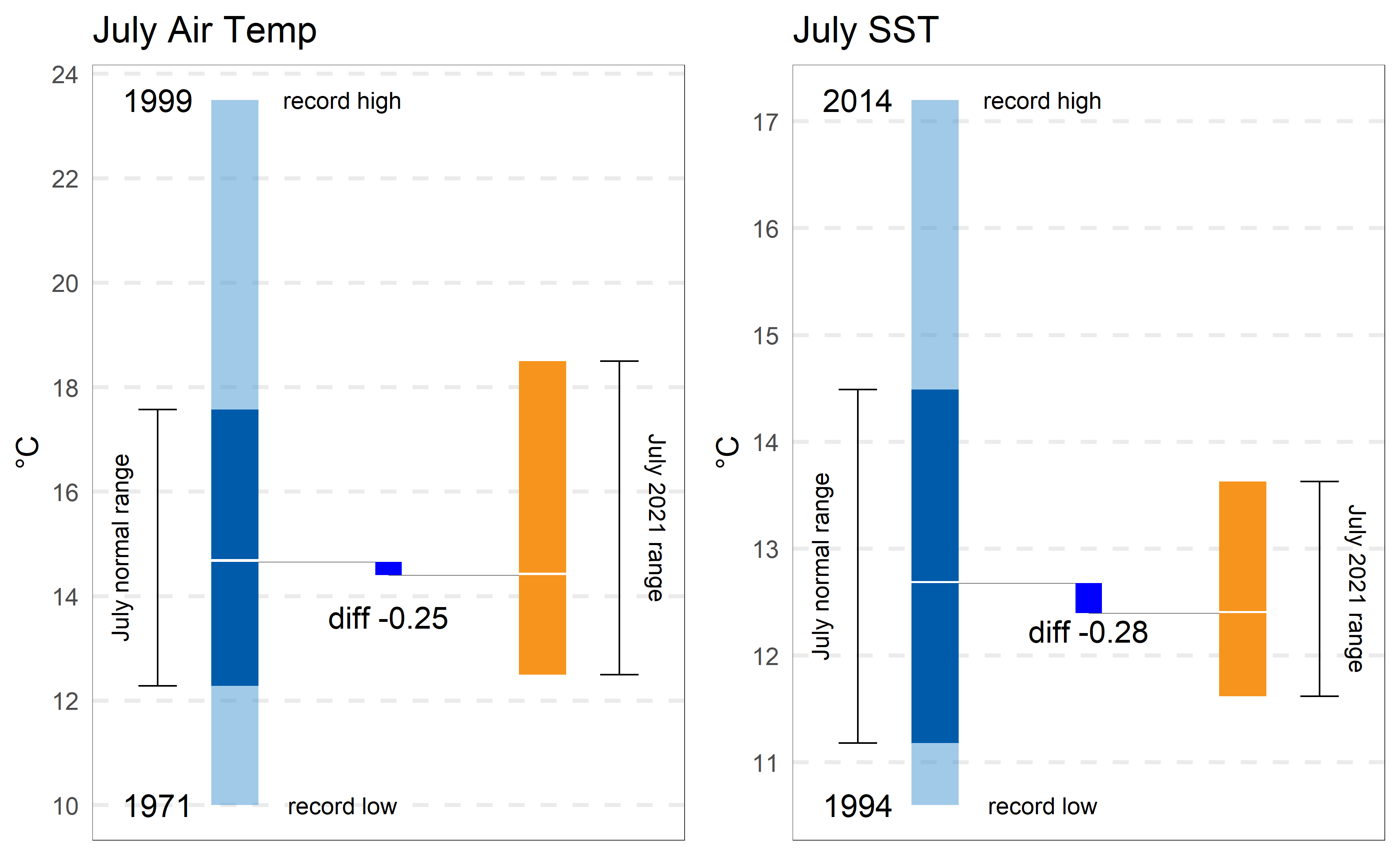
**West End Island Visitors**

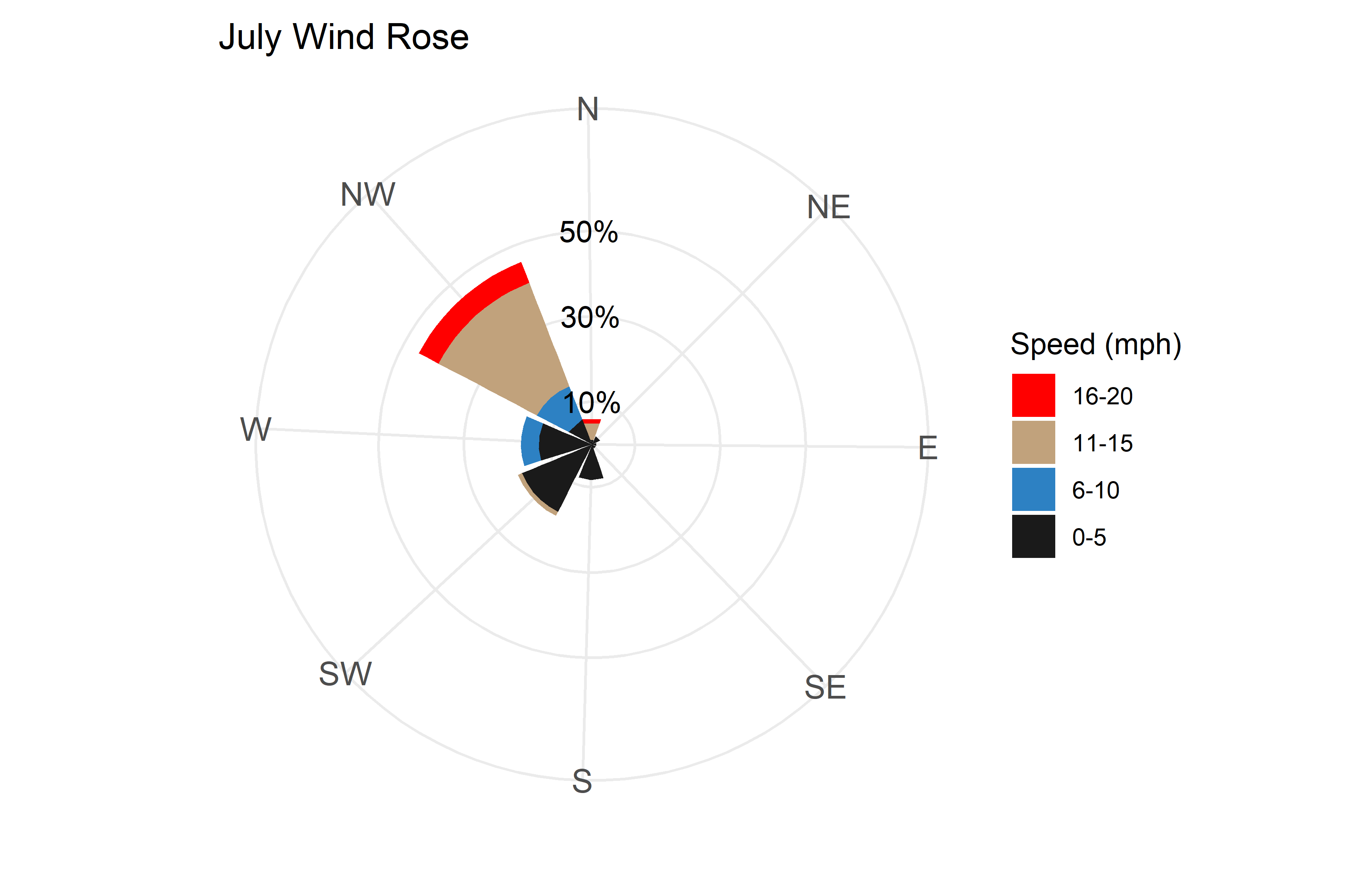
None

**COVID-19:** In response to ongoing concerns over impacts of this global pandemic, certain precautionary measures have been employed to minimize the risk of COVID-19 infecting island personnel. We have been following a strict protocol that has allowed continued, safe operations on the island.

**Weather/Ocean**

Monthly weather is summarized in Figure 1. Light to moderate NW winds dominated this month, with occasional light winds from the S and SW. The island received only trace amounts of rain. Although the range of midday air temperatures extended 0.93°C above the long-term normal range for this month, the average midday air temperature was 0.25 °C lower than the long-term average at 14.40 ± 1.43 °C. Sea surface temperature (SST) readings from the island fell within the long-term normal range for this month, with an average of 12.34 ± 0.54 °C. This was 0.28 °C below the long-term average for the month.





**Figure 1**. Noon air and sea surface temperature data summary. Light blue depicts the long-term (1971 – 2020) range of observations with years given for record highs and lows; dark blue shows the long-term range of averages for this month. Orange depicts the range of current (2021) observations. Differences between the long-term and current means are shown in red if above normal, and blue if below normal. Daily wind speed (color scale) and direction binned into sectors for morning, noon, and afternoon observations for this month. Larger bars indicate more wind from that direction.

**Oiled & Entangled Wildlife**

Three immature male and two adult female Zalophus were observed with monofilament or a packing strap embedded in their necks.

**Feeding Flocks**

July 26th: One feeding flock was observed at 0830, northwest of the island, with 40 pelicans feeding on unknown prey.

**Breeding Birds**

**Storm-Petrels** – Two standard 3-hour mist netting sessions were conducted on Lighthouse Hill and at the Carp Shop on July 4th and July 14th, respectively. On the 4th, 82 total birds were captured, including: 79 new ashy storm-petrels, 2 recaptured ashy storm-petrels, and 1 recaptured fork-tailed storm-petrel with a bare brood patch). On the 14th, 70 total birds were captured, including: 58 new ashy storm-petrels, 10 recaptured ashy storm-petrels, and 2 new Leach’s storm-petrel.

The first chick was seen in a crevice on Lighthouse Hill on July 3rd.

Social attraction efforts for ashy storm-petrels resumed at the Ashy Castle on July 17th. Playback occurred throughout each night during the two-week window around the new moon. One adult was confirmed over an egg at a new site in the ashy castle on July 18th (figure 2).

**Brandt’s Cormorant** – Nest attendance remained high as many pairs continued to brood and provision young chicks. Chicks at nearly 70% of nests followed at the Corm Blind sub-colonies hatched this month, compared to 25% at the Sea Lion Cove sub-colony nests. Some chicks at Corm Blind hatched as late as July 24th. The first fledges were observed on July 26th.

**Figure 2** An adult ashy storm-petrel incubating a fresh egg at a new site in the Ashy Castle, July 18th, 2021. Photo by Stella Solasz/Point Blue Conservation Science.

Two chick banding sessions occurred at the Sea Lion Cove and Corm Blind colonies on the 27th and 30th, respectively. A total of 344 chicks were banded with the banding combo 00bm, 129 chicks at Sea Lion Cove and 215 chicks at Corm Blind.

Rebecca Forney began deployment of Ornitela GPS/GSM tags harnessed to adults on July 24th for her pilot study examining intra- and inter-annual foraging strategies of Brandt’s cormorants. Seven tags were deployed on adults at followed nests at the Sea Lion Cove and Corm Blind colonies.

**Pelagic Cormorant** – The majority of followed nests (60%) had fledged chicks by the end of the month. Sixteen active nests (28%) will continue to be monitored through August to document fledge success of the remaining chicks.

**Double-crested Cormorant** – The first fully-feathered chicks were observed on July 1st, and many chicks were of fledging age by the 26th. Counts of well-built nests, adults, and chicks continued through the end of the month, as a few adults continue to brood young chicks.

**Western Gull** – The first confirmed fledges at followed sites in C-plot and H-west occurred on the 18th, followed by H-east on the 26th and K-plot on the 30th. Chick resighting began in all followed plots on the 18th. To boost our sample size of potential future known-age recruits, C-plot saturation banding occurred on the 7th, followed by H-east and H-west on the 9th, and finally K-plot on the 13th. A total of 588 chicks were banded this season, including the 308 additional chicks that were banded during these sessions.

**California Gulls** – A noticeable increase in dispersing juveniles occurred mid-month. The first fledges in the West Marine Terrace colony occurred on July 26th, and most chicks remaining at the end of the month were fully-feathered.

**Common Murre** – Monitoring efforts concluded for the season at the Upper Shubrick study plot when the last remaining chick was seen fledging on July 14th. The last chick fledged in the Upper Upper study plot on July 25th. Newly hatched chicks were observed as late as the 15th in the Corm Blind and Sea Lion Cove sub-colonies, though many of these chicks disappeared by the end of the month.

Diet watches concluded on the 4th. Preliminary results show Northern anchovy was predominate in the chick diet this season, making up 71% of all observed feeding events. Juvenile rockfish made up 16% of the diet, a decrease in proportion from last year. Between the first half of June and last half of June this season, the proportion of Northern anchovy in the diet increased from 62% to 89%, and the proportion of juvenile rockfish decreased from 22% to 6%, indicating a change in prey availability or foraging strategy around June 21st.

**Pigeon Guillemot** – The first chicks fledged from a followed Garbage Gulch site on the 6th, and at a site on Lighthouse Hill on the 11th. Of the 97 sites active this year, 49 (51%) hatched two chicks, of which 21 (43%) successfully fledged both chicks. Thirteen sites (13%) remain active by the end of the month. Adults began to raft in large numbers just off the island on the 28th in preparation for their fall migration north.

Diet watches at both Garbage Gulch and Lighthouse Hill concluded on July 25th. Preliminary results show the diet mostly consisted of sculpin (39%), flatfishes (21%), and juvenile rockfish (19%). Interestingly, Northern anchovy made an appearance in the diet, starting on July 3rd, and peaked on July 25th, when 41 (21%) feedings were observed.

**Rhinoceros Auklet** – The first fledge in a followed nest box occurred on July 10th, and from a natural site on the 11th. The final round of standard netting sessions to collect diet samples began at the PRBO Catacombs on the 19th and concluded at the Rabbit Cave Catacombs on the 25th. All diet samples collected in July (n=54) were of Northern anchovy.

**Tufted Puffin** – Late season puffin surveys began on the 22nd. Several adults carrying bill loads of larval fishes and northern anchovy were seen in the third week of July, indicating a productive season.

In an attempt to collect genetic samples from puffin this year, several active crevices were discovered on the eastern slope of Lighthouse Hill on July 26th, but all were too deep to grub for chicks.

**Cassin’s Auklet** – Most birds remaining in the nest boxes continued to incubate eggs or attend to chicks of their second broods. Roughly two-thirds of relays and second brood attempts failed this month, when eggs were left unattended for an extended amount of time around the full moon in late June and early July. Thirty-one diet samples were collected this month; krill was absent from nearly all samples; mysids were the predominant prey this month.

All RFID readers installed this season, in a continuation of a study by Amy Miles examining parental attendance at breeding sites, were disassembled on the 5th.

**Black Oystercatchers\*** – On July 4th, an adult was seen attending a juvenile on Shubrick Point. On July 18th, two adults were seen attending three fully-feathered chicks on East Marine Terrace.

*\*We no longer conduct dedicated monitoring of this species, and only incidental breeding behaviors and attempts are noted.*

**Pinnipeds**

**California Sea Lion –** On average there were 7,174 (std ± 2774) individuals counted during the weekly pinniped census from the Lighthouse, with a high count of 10,673 individuals on the 22nd. The high count for pups was 780 on the 22nd.

Twenty-six scat samples were collected this month from various locations around the island.

**Steller Sea Lion –** On average there were 183 (std ± 25) individuals counted, with the high count of 215 on the 3rd. There were at least 20 bull males at several sites around the island. The high count for pups was 69 on the 3rd.

**Northern Fur Seal –** Numbers continued to grow for the colony on West End this month. On average there were 1,876 (std ± 226) individuals counted, with the high count of 2,130 observed on the 15th. The high count for pups was 809 on the 15th.

**Harbor Seal –** On average there were 26 (std ± 9) individuals counted, with a high count of 36 on the 15th.

**Northern Elephant Seal –** Numbers remained low this month, with an average count of 8 (std ± 3) individuals. A high count of 12 individuals observed on the 15th. One bull and several subadult males arrived and hauled out on Sand Flat this month.

**Canada Goose**

All four remaining juveniles successfully fledged this month.

**Cetaceans**

**Standard Survey** – Five one-hour standard whale watches were conducted this month from the Lighthouse using the Ocean Alert app. Daily high counts from standard watches combined with incidental observations are summarized in Figure 3. Detectability of cetaceans was somewhat inhibited by high winds and/or poor visibility this month. Blue whales were noticeably absent this month, with only a few animals documented on the 3rd and the 5th. Several gray whales (at least 9 individuals) continued in nearshore waters.

**Figure 3.** Daily high counts of cetaceans observed from Southeast Farallon Island for July 2021.

**Sharks**

Four Zalophus were detected on the island this month with large, fresh shark bites; one on the 16th and three on the 23rd.

**Salamanders**

No salamander surveys were conducted this month.

**Owls**

No burrowing owls were detected this month.

**Crickets**

A quarterly cricket survey was conducted this month at Rabbit Cave and the Corm, Gap, and North Landing pocket caves. It began on July 12th and ended on the 16th. Rabbit Cave had an average of 86 (std ± 42) individuals counted on the inside, and 6 (std ± 5) on the outside; Corm Blind Cave had an average of 10 (std ± 5) individuals on the inside, and 0 individuals on the outside; Gap Cave had an average of 27 (std ± 10) individuals on the inside, and 6 (std ± 3) on the outside; and the North Landing Cave had an average of 17 (std ± 10) individuals on the inside, and 6 (std ± 5) on the outside.

**Bats**

No bats were detected this month.

**Mice**

The number of mice detected in and around the houses steadily increased this month.

**Inverts & Intertidal**

Dragonflies made an appearance this month, including spot-winged gliders and a variegated meadowhawk.

The crew made a visit to Jewel Cave to explore the intertidal zone on the 26th; many species were observed, including harbor seal, purple urchin, owl limpet, tidepool sculpin, striped shore crabs, green anemone, pink volcano barnacles, hermit crabs, California mussels, acorn barnacles, gooseneck barnacles, ochre sea star, sea lemon nudibranch, gumboot chiton, aggregating sea anemone, Christmas tree worm, and sea snails.

**Plants**

Very few live invasive plants were present in accessible areas, an indication of successful control efforts by FWS in May.

**Violations**

July 28th: One small recreational fishing vessel (CF 6972PW) was observed fishing 0.5 miles SW of the island in Mirounga Bay. 2 POB. Vessel was hailed, but no response.

July 29th: One small recreational fishing vessel (WN 0179SU) was observed fishing and landing rockfish just off Low Arch within the Special Closure and Marine Reserve. 4 POB. Vessel was hailed, but no response. No wildlife disturbance was observed.

**Maintenance**

Island biologists Spears and Warzybok conducted routine weekly maintenance checks on the PV system and generators. Monthly changes of water filters and crane greasing were conducted. The water quality test for July came back negative for Coliforms and E. Coli. The crew conducted one NL training on the 8th.

Annual maintenance of the Honda 60hp and the Yamaha 9.9hp outboard motors was conducted on the 26th. Engine oil, lower gear oil, oil filter, fuel strainer, in-line fuel filter, spark plugs, and sacrificial anodes were replaced. The fuel-water separator under the bench of the Safeboat was replaced on July 1st.

On July 1st, trouble with both outboard motors stalling during a landing revealed that the gasoline in the fuel tanks had expired. From this point forward, only ethanol-free racing fuel will be used and stored on the island for landing operations to eliminate this issue going forward.

Additional maintenance performed this month are as follows:

* The faulty diesel fuel meter in the Powerhouse was replaced.
* The toilet in the downstairs bathroom of the PRBO house was replaced.
* Plumber Carothers-Liske made a trip out to the island and replaced the broken closet flange that connects the toilet to the sewer pipe in the PRBO downstair bathroom.
* The faulty freshwater flow meter in the PRBO water closet was replaced.
* The metal grating on the path at the gap was reaffixed to the ground.
* All RHAU and CAAU boxes were relabeled with paint.

**Maintenance Needs**

* PV system charge controllers 3 and 4 are not functioning and need to be replaced.
* The cistern and other elements of the water catchment system are showing their age and are need of major repairs or replacement. The cistern continues to lose water at a rate ~250 gallons per month.
* The Settling Tank has a leak in it when water is above 5.1 feet.
* The PRBO house kitchen counters especially around the sink continue to deteriorate. Replacement sometime in the next year is recommended.
* The HADS weather station is no longer transmitting data to the web. Attempts to reset the unit have failed and will require expert guidance to fix.
* The gutters and flashing on both houses are degrading and will need to be improved or replaced.
* Aluminum railings at East Landing and the Lighthouse need repair.
* Powerhouse roof-access ladder mounts are badly corroded and need to be replaced.
* There are several locations in the PRBO house that show evidence of moisture penetration in the ceiling and/or walls. This includes a small leak in the closet next to the downstairs bathroom and recent water staining in the Walk-Through Room. Will continue to monitor but a professional roof inspection is recommended.
* The load cell battery and antenna at the EL crane were replaced, but now the load cell needs to be recalibrated. A2B is also non-functional.
* The Speedwagon generator continues to encounter rotor lock shutdown faults. This is likely due to a bad starter solenoid.
* The rail cart axles are badly corroded and may need replacement soon.
* There is a new leak in the copper pipe at the base of the gray water shut-off valve. There is a temporary patch currently, but a more permanent fix is need.
* A faulty check-value in the gray water line may be allowing pressure to slowly leak out, causing the pump to operate more than necessary. A replacement value is requested so it can be replaced.
* There is visible corrosion in the freshwater pipes between the 5- and 1-micron filters in the PRBO water closet and the kitchen sink. A full replacement of the PRBO freshwater pipes is long overdue.
* Shut-off valves along the gray water lines to the Coast Guard house are severely corroded and need to be replaced.
* Fire hose station shutoff value is starting to fail, allowing water to slowy leak out.
* Box housing fire hose for the Coast Guard house has been blown apart by strong winds this spring and needs to be rebuilt. The fire hose is currently in the boot room of the Coast Guard house.
* Two side-impact helmets necessary for crane operation safety are missing straps need to be replaced.
* A safety railing on the port side, near the stern, of the Safeboat is cracked and has completely detached at the connection point, causing the railing to rattle when the tag line is attached.
* Metal mesh on several “windows” along the perimeter of the cistern have corroded open, allowing sediment, debris, and potentially birds to enter the cistern.
* An air hose on the Yamaha 9.9hp (kicker) outboard motor is damaged and needs to be replaced.
* Post-installation testing of the freshwater flow meter revealed that the flow meter is unable to detect water usage at low flow faucets and shower, thus underestimating the amount of water used in the PRBO house. It is recommended that a more sensitive flow meter is installed.
* **Annual maintenance of the Honda 15 and Yamaha 25 at North Land are overdue and need to be performed asap.**
* Air flow gaps on the gravity tank are open, no longer covered by mesh, and present a hazard to wildlife. The tank either needs to be disassembled or the gaps need to be covered with a permanent fix.

**Solar/Electric/Fuel/Water**

**PV System**

Distilled water used: 14 gallons

Distilled water reserves: 30 gallons

**Generator run times**

Kohler 30REOZJC (Speedwagon): 17.1 hours (709.2 on meter)

Kohler 40REOZK (Zeke): 11.4 hours (623.6 on meter)

Kohler 15REOZK (PeeVee Herman): 8.9 hours (79.3 on meter)

Webasto: 0 hours

**Power use**

Facilities power use: Start = 92,872; End = 93,571; for total of 699 kWh

**Fuel Reserves**

Diesel used: 19.0 gallons

Diesel drums: 5@55gal 294 gallons

Kohler 15REOZK (PV) Tank: 3/4

Kohler 30REOZJC (Speedwagon) Tank: Full

Kohler 40REOZK (Zeke) Tank: Full

Webasto Tank: 3/4

Gasoline for boats (racing fuel): 7 gallons

6 gallon boat tank: 1/3

3 gallon boat tank: Full

**Water Reserves**

Fresh water used this month: Start = 326,500; End = 329,911; for a total of 3,411 gal

Cistern: 4’11” or ~ 58,750 gallons

Settling Tank: empty

Drinking water: 7 five-gallon jugs

Gray water used this month: Start = 15,743; End = 20,857; for a total of 5,114 gal

**Sightseeing Boats**

July 4th: Sea Wolf, 17 POB

July 10th: Salty Lady, 8 POB; New Captain Pete, 25 POB

July 11th: Salty Lady, 10 POB

July 12th: Outer Limits, 10 POB

July 17th: Salt Lady, 20 POB; Hulicat, 25 POB

July 18th: Salty Lady, 20 POB

July 19th: New Captain Pete, 20 POB

July 24th: Salty Lady, 10 POB

July 25th: Salty Lady, 12 POB

July 28th: The Marine Mammal Center, 4 POB

July 31st: Hulicat, 30 POB; Salty Lady, 27 POB

**Non-breeding birds**

Black-footed Albatross, Pink-footed Shearwater, Sooty Shearwater, **Fork-tailed Storm-Petrel,** Northern Gannet, Brown Pelican, **Great Blue Heron**, Canada Goose\*, Peregrine Falcon, Wandering Tattler, **Marbled Godwit,** Black Turnstone, **Short-billed Dowitcher**, Red-necked Phalarope, **Ancient Murrelet,** Eurasian Collared-Dove\*, “Western” Flycatcher, **Ash-throated Flycatcher**,Hermit Warbler, **Bullock’s Oriole**.

***Bold*** *indicates an unusual or noteworthy species.*

*\* Confirmed breeder 2021*