



The Antarctic Society

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Ronne Archive Donated to Library of Congress

Karen Ronne Tupek, daughter of Antarctic explorers Captain Finn Ronne (1899–1980) and his wife Edith “Jackie” Ronne (1919–2009), announced the donation of the Ronne Antarctic Collection to the Library of Congress. After eight years of sorting, the collection is now available to researchers and has already been used for Joanna Kafarowski's 2022 biography about Jackie (reviewed in an earlier newsletter), who was inducted into the Maryland Women's Hall of Fame during a ceremony in March 2023.

The collection includes expedition planning records, correspondence, diaries, articles, maps, original and published scientific results in many fields. Additionally, tens of thousands of photos (originals and digitized versions, **which Karen also recently donated to our Society - see below**), more than 80 original 16 mm films and other memorabilia, were also donated. They cover the four major Antarctic expeditions in which Finn Ronne participated: the Byrd Antarctic Expedition II (1933–1935); the U.S. Antarctic Service Expedition at East Base (1939–1941), when he was second in command; and the two expeditions he led: the Ronne Antarctic Research Expedition (1946–1948); and the U.S. IGY Expedition at Ellsworth Station (1956-1957).

Jackie accompanied Finn on the Ronne Antarctic Research Expedition (1946-48), making her the first woman to winter-over as a full participating member of an expedition, having served as historian, archivist and assistant scientist. A highlight of the LOC collection are Jackie's handwritten diaries. Also featured are original films documenting the new territories discovered using aerial flights covering 39,000 air miles, and mapping 450,000 square miles of Antarctica, including the last unknown coastline, which proved that the Antarctic continent is one landmass, all in the area of the Ronne Ice Shelf, named for Jackie. Finn and Jackie were both members of the Antarctic Society and the Explorers Club.

Finn was the son of Norwegian sailmaker Martin Rønne, who participated in Roald Amundsen's Antarctic expedition (1910–1912) on *Fram* when Amundsen reached the South Pole in Dec. 1911. Martin later joined Byrd's First Antarctic Expedition (1928–1930) as the only member to have been there. Some records from Martin's life are included in the Library of Congress gift.

For researchers, there is also additional material about Finn Ronne at the National Archives and Records Administration in Washington, D.C., the Byrd Polar and Climate Research Center at Ohio State, Archives of the American Geographical Society Library, University of Wisconsin–Milwaukee, British Antarctic Survey Archives and the Scott Polar Research Institute. Donations of artifacts were previously given to the U.S. Naval Museum in Washington, D.C. For more information about the Ronne family, see Karen's website: www.RonneAntarcticExplorers.com

2024 Gathering Update



Garden Path in Colorado Chautauqua

The 2024 Gathering in Boulder, CO from Aug. 11-14 at Colorado Chautauqua is gaining momentum. Eighty-five people are registered and 43 of the 45 Colorado Chautauqua lodging units have been reserved. If you'd like to reserve a unit, now is the time! See the end of this newsletter or go to www.antarctican.org.

Also note that the Gathering registration fee increases to \$275 on Jan. 1, 2024.

The 2024 Gathering Planning Guide contains information on transportation, Colorado Chautauqua, other lodging in the area, dining and attractions in the Boulder-Denver area. See <https://www.antarctican.org/2024-gathering>. A preliminary list of the invited speakers, along with their biographies, is also there.

Do you have something you can donate to the Gathering Auction? Take a ramble through your Antarctica memorabilia and consider donating to benefit your Society. Or maybe you'd prefer to offer a service like creating a picture book of digital images or a catalog of souvenir patches or making a digital recording of selected text. You get the idea. How might you share your expertise with your fellow members for the benefit of the Society? Send information on what you may like to donate as well as ideas, questions, and comments to the Auction Committee Chair, Diana Logan, at antarctican.auction@gmail.com.

Register early for this outstanding Gathering — you won't want to miss it!



The Holidays are Coming!

The holiday season will be here before we know it. Here are 3 reminders for December:

1. Gifts of membership in the Antarctic Society to friends and family are inexpensive ways to fulfill your holiday gift lists. Recipients will be reminded of your generosity throughout the coming year with the quarterly publications of our newsletters.

2. We'll hold our annual Holiday Social Dec. 9 at 4:00 p.m. ET. This will be an open Zoom call in which members can drop in, share a story, greet friends, and generally catch up.

3. Many members are taking Required Minimum Distributions (RMDs) from their retirement deferred compensation accounts before the end of the year. The IRS allows RMD recipients to donate directly to charitable organizations to partially offset the otherwise-taxable distribution. As a 501(c)(3) charitable organization, the Society is eligible to receive such donations. Please consider supporting the Society and reducing your taxes in the process!

Huge Addition to Society Archives

by Charles Lagerbom and Tom Henderson

In early August, we were contacted by Karen Ronne Tupek about the possibility of the Society housing her family's tremendous polar collection of Antarctic photographs, documents and books. Needless to say, we were ecstatic to accept this wonderful gift and make it available to our membership and researchers. The Ronne collection numbers in the tens of thousands of items, including roughly 23,000 images, and will join the 37,000 images currently in our images database.



**Jackie and Finn Ronne on the 1947-48 Ronne Antarctic Research Expedition
Photo from the Ronne Archive**

The accumulation of digitized and archived visual data is a cornerstone of the Society. So far, 46 members have made use of our efforts to have their Antarctic photos, maps, films and other polar memorabilia digitally preserved for free.

The Society continues to offer its free slide scanning service to our members. Members retain the copyright on their slides but agree, through a written consent agreement, to grant the Society use of their slides for Society purposes. Slides are scanned at a very high resolution and digitally “cleaned” using infrared technology. The submitted slides are then returned to the owner along with the digital versions of their slides and a catalog of the slides. The Society also offers digitizing of film and important historical documents. For more information, see <https://www.antarctican.org/slide-scan-service>

Board of Directors Update

by Liesl Scherthanner

With deep appreciation, we bid Mark Leinmiller best wishes for his retirement from our Board. Mark became involved with the Society at nearly the same time as his deployment to Antarctica in 1978 as the 3rd Eagle Boy Scout (after Paul Siple and Dick Chappell) to venture south. He worked with

Antarctic legends Charles Swithinbank and George Denton in the Darwin Mountains and Byrd Glacier, and visited the South Pole, USCGC Polar Star, Cape Washington, Erebus Glacier Tongue, Vanda Station, Taylor Valley, Lake Wilson, Cape Royds and Siple Station II. Antarctica remained an interest and his name peppers our Newsletters (Bergy Bits) throughout the years. In 2014, he joined the Board of Directors, serving as our Vice President since 2020. As Mark steps more into the role of Granddad.



Kathy Covert with Emperor penguin “friends,” 1986

Stepping into the VP position is Kathy Covert. Kathy studied Geography at the University of Colorado at Denver, practiced cartography, and led the USGS satellite surveying and seismology team at South Pole Station during the 1981-82 winter. She was also a senior member of the geodetic control party at Minna Bluff, Mount Discovery, White Island, and Beaufort Island in the 1986-87 season. During her career, she completed M.A.’s in Geography and Public Administration. Now retired, Kathy has been a key volunteer in helping organize our recent Gatherings, and we thank her for joining our Board of Directors.

Happily, the rest of the Board remain in their seats until our next elections in 2026. To learn more about this terrific cross-section of Antarcticans, please see our website (<https://www.antarctican.org/board-of-directors>). Don’t forget that you can learn more about our membership, too, by logging-in and perusing the members list

(<https://www.antarctican.org/members-1>). It is possible to add more information to your membership profile by updating your preferences and even uploading biographical information. See <https://www.antarctican.org/privacy-policy-member-preferences> to learn more. If questions arise, please contact webmaster@antarctican.org.

Our next board meeting is scheduled for December 10th on Zoom; members are welcome to attend – the link will be on our website.

MacTown bars ban alcohol sales

by Nick Perry, *Associated Press*, Sept. 28, 2023

Workers at McMurdo will no longer be able to walk into a bar and order a beer beginning Oct. 1, but the station will not be going entirely dry, NSF confirmed. Residents will still be able to buy a weekly ration of alcohol from the station store.

The changes come as concerns grow that sexual misconduct has been allowed to flourish at McMurdo. An investigation by the AP last month uncovered a pattern of women who said their claims of harassment or assault were minimized by their employers, often leading to them or others being put in further danger.

In some of the cases outlined by the AP, alcohol played a role. But the NSF told AP the changes involving alcohol were related to morale and welfare at the base, and were not aimed at preventing sexual harassment or assault.

Under the new rules, workers will be able to order only alcohol-free drinks at Southern Exposure and Gallagher's bars. They can still bring their own alcohol to drink at the bars. The Coffee House, will become entirely alcohol-free but will now stay open 24 hours a day.

McMurdo residents can buy up to the equivalent of 18 beers, three bottles of wine or a 750ml bottle of spirits each week.

NSF said it's also instituting several new measures during the Southern Hemisphere spring and upcoming summer aimed at preventing sexual harassment and assault at the base, where typically around 70% of workers are men. These include enhanced training, a new survey to collect data and monitor trends and visits to the ice from experts.

The AP investigation found a pattern of problems at McMurdo. One woman who reported a colleague had groped her was made to work alongside him again. Another woman who told her employer she was sexually assaulted was fired two months later. Another woman said bosses at the base downgraded her allegations from rape to harassment.

Jennifer Sorensen, who told the AP she was raped at McMurdo in 2015, said the NSF had tried before to blame alcohol for the high rates of sexual misconduct at the base.

"They know full well that all the rationing or denial of alcohol sales being forced on us isn't going to do a damn thing," she said.

If the NSF and lead contractor Leidos were serious about stopping sexual misconduct, they should start believing survivors and ensure they aren't retaliated against, she said. They should also stop rehiring perpetrators, she added.

"Alcohol can obviously blur the lines of consent, there's that issue at play, but overwhelmingly, sexual assault has occurred even when neither party has been consuming alcohol, as was the case with me," Sorensen said. "So, it's definitely not going to eliminate the problem."

Sorensen said that if the NSF wants to reduce drinking, it should provide alternative diversions, such as the bowling alley, ceramic studio and greenhouse, which used to be features at McMurdo but have disappeared because of budget cutbacks.

Britt Barquist, who said she was groped at McMurdo in 2017, said in an email it was positive that the NSF was trying to improve the culture at the base. But she remained concerned that incidents were still being swept under the rug when it put a contracting company's primary objectives at risk.

"For example, my incident took place during work hours, at a job site, no alcohol involved, and was corroborated and reported through official channels," Barquist wrote. "I was later told by my company's HR that I would have to work with the perpetrator again because his job was mission-critical and there was no one else to fill his role. None of these new policies implemented by the NSF would prevent that from happening again."

Under another new initiative to improve morale, the NSF said it will be expanding internet access through the satellite network Starlink, allowing workers to stay better connected to people back home.

Antarctic winter sea ice hits 'extreme' record low

by Jake Spring, *Reuters*, Sept. 26, 2023

Sea ice that packs the ocean around Antarctica hit record low levels this winter, the U.S. National Snow and Ice Data Center (NSIDC) said on Monday, adding to scientists' fears that the impact of climate change at the southern pole is ramping up.

Researchers warn the shift can have dire consequences for penguins who rear their young on sea ice, and hasten global warming by reducing how much sunlight is reflected back into space.

Antarctic sea ice extent peaked this year on Sept. 10, when it covered 16.96M km² (6.55M mi²), the lowest winter maximum since satellite records began in 1979, the NSIDC said. That's about 1 M km² less ice than the previous winter record set in 1986.

The summer Antarctic sea ice extent also hit a record low in February, breaking the previous mark set in 2022.

NSF-Ice Core Facility Update

by Curt LaBombard



Current USGS Ice Core Storage Facility

I'm the new curator at the NSF-Ice Core Facility (formerly known as NICL). I took the helm in fall of 2022, after a year turnover with the previous curator, Geoff Hargraves. I wore quite a few hats over my Antarctic career (from field carpenter to deputy science manager) which set me up nicely to work for the USGS caretaking such an important part of our nation's climate research effort.

Over the past 30 plus years the NSF-ICF has successfully archived ice cores, facilitated numerous onsite grantee core processing lines, provided 1000's of samples to researchers around the world and hosted untold numbers of visitors to experience what -40°C feels like. While the mission is as important as ever our facility is starting to show its age.

To that end, after many years of planning we're in the early stage of building a new facility. We'll break ground in early 2024 and with a little luck and lots of hard work by multiple organizations, the new facility will be open for business Spring of 2026.

We'll have a slightly larger freezer footprint than our current facility due to changes in our exam space and will be installing rolling storage racks to increase our overall capacity about 40%, which is welcome news since we're rapidly reaching capacity with several ice core projects such as Hercules Dome and COLDEX on the horizon. Our new facility will utilize a trans critical CO2 system which will be a technological leap away from our current R-22 system. We estimate we'll need to move about 1 million lbs. of ice so if anyone is pining for some hard physical labor at -40°C or wants to help us in any capacity, let me know.

After a pause during Covid, we're back to providing public tours and we've been busy processing recently drilled ice cores from Allan Hills, filling samples requests from around the country and keeping the facility running.

With the Antarctic gathering in Boulder next year, I wanted to let folks know they can contact me directly at clabombard@usgs.gov whenever they're in the area to set up a facility visit, grab lunch or just pop in to talk shop about Antarctica.

Most intense heat wave ever was in Antarctica

by Kasha Patel, *Washington Post*, Sept. 24, 2023

In March 2022, temperatures near the eastern coast of Antarctica spiked 70°F (39°C) above normal — making it the most intense recorded heat wave to occur anywhere on Earth, according to a recent study. Scientists elsewhere said such a high in that region of the world was unthinkable.

“It was just very apparent that it was a remarkable event,” said Edward Blanchard-Wrigglesworth, author of the study. “We found that temperature anomaly, the 39° anomaly, that’s the largest anywhere ever measured anywhere in the world.”

Temperatures in March, marking a change into Autumn on the continent, are typically around minus 54°C on the east coast near the Dome C. On March 18, 2022, temperatures peaked to minus 10°C. That’s warmer than even the hottest temperature recorded during the summer months in that region — “that in itself is pretty unbelievable,” said Blanchard-Wrigglesworth, an atmospheric scientist at the University of Washington.

He and his colleagues found the extreme heat is largely part of Antarctica’s natural variability, though the warming climate did have some effect. It began, he said, with unusual winds. Typically, winds blow from west to east around Antarctica and help isolate the continent from warmer regions farther north, allowing it to stay cold. But just as occurs with heat waves in the United States, the winds meandered and allowed a warm mass of air from southern Australia to move to East Antarctica in just four days — “probably the first time that at least it’s happened that fast,” Blanchard-Wrigglesworth said. The northerly winds also brought a lot of moisture, bringing significant snow, rain and melting on the eastern coast of the ice sheet.

At the same time, Antarctica was experiencing its lowest sea ice on record, though the team said their work suggests that did not appear to influence the heat wave.

Big swings in weather aren’t completely out of the ordinary in the polar regions, the study found. In an analysis of global weather station data and computer simulations, the team found the largest temperature changes from normal occur at high latitudes. Places like Europe or the United States’ Lower 48 never experience such anomalous heat waves.

There’s a basic reason the largest anomalies happen at these high latitudes, he said — there’s more cold air to remove near the ground. Typically, air becomes colder higher in the atmosphere. But some places — like at high latitudes with a lot of snow and ice — have colder air near the ground and warmer air above it, called an inversion layer. In these spots, a warm air mass can swoop in to displace the cold air and create warm weather. These warm events often happen during or around winter when the inversion layers are the strongest. “That’s what we saw for the Antarctic heat wave. These events sort of erode that inversion, you get rid of it.”

Meteorologist Jonathan Wille, who was not involved in the study, said he’s not surprised that this Antarctic heat wave registered as the largest observed temperature anomaly anywhere. After all, the Antarctic Plateau has some of the highest temperature variability in the world.

The complete role of climate change is still under investigation, although the new study asserts that the warmer atmosphere didn’t play a large role boosting temperatures. The team ran a suite of computer models running scenarios that included increased greenhouse gas emissions vs. a world that did not. They found climate change only increased the heat wave by 2 degrees Celsius. By the end of the century, climate change could boost such a heat wave by an additional 5 to 6 degrees Celsius.

“A 2°C boost for a heatwave that was 39°C above average means that this heat wave would have been record shattering without the climate change signal,” Wille, a researcher at ETH Zurich, wrote in an email. But climate change could have had another effect the models didn’t test, such as the effect on the anomalous winds that brought the warm air mass to the continent in the first place. Wille said unusual tropical downpours in the weeks

beforehand created an atmospheric circulation pattern that was never observed before - leading to the extreme heat.

“It’s possible that climate change influenced the atmospheric dynamics like the tropical convection anomalies that led to the heat wave, but this is very difficult to quantify these things,” Wille said. Blanchard-Wrigglesworth said more heat waves like this in Antarctica in a warmer world could have dire effects on the ice sheet. “If you add another five or six degrees on top of that, you’re starting to get close to the melting point,” Blanchard-Wrigglesworth said. If these events were to become more common in 50 or even 100 years, “this kind of event might trigger some impacts that maybe we didn’t have on our radar.”

U.S. Cancels/Curtails 50% of Projects

by Jeffrey Mervis, *Science* 381 (6663), Sept. 14, 2023

This summer, NSF decided to cancel or curtail 67 - more than half - of the 131 projects and activities funded for the 2023-24 austral summer after concluding it couldn’t provide them with the necessary logistical support.

A housing shortage is part of a triad of factors generating a perfect storm that is battering the USAP. Covid-19 shut down most research for 2 years and then, when cases spiked, severely disrupted the 2022-23 season. The pandemic has also stretched out a \$500M renovation project at McMurdo, reducing the number of available beds for both scientists and those who provide them with essential logistical support. Simultaneously, the rising cost of providing that support has forced NSF, which operates the research program for the U.S. government, to curtail the scope and duration of projects its program managers have already approved.

The resulting dysfunction poses a significant risk to the endeavors of hundreds of Antarctic scientists.

“It used to be that getting an NSF grant to work in Antarctica was the hard part, and that once you got the award you knew you could get some really

cool science done,” says marine biologist Jennifer Burns of Texas Tech University, a former NSF Antarctic program officer with extensive experience in the field. “But something has changed. And unless and until we can get a good handle on why it’s gone so wrong, I’d be very cautious about telling anybody that they should build a career around research in the Antarctic.”

A renovation project at McMurdo includes a new 285-bed dorm—one of several at the station—on the site of an aging 150-bed building razed in 2019. Within months of its demolition, the pandemic halted work. The new dorm should be ready in 2026, 3 years late.

The resulting bed shortage impinges on every aspect of Antarctic logistics, limiting not just the number of researchers, but also the pilots, cooks, mechanics, IT technicians, construction workers, and other personnel who support the research effort.

The shortage is exacerbated by NSF’s decision to set aside 50 beds at McMurdo this season for people testing positive for Covid-19, a response to last year’s muddled handling of a midseason surge in cases. Palmer Station will only have one of its 44 beds reserved for Covid patients, but an overdue heating repair project will claim eight beds that otherwise would have been filled by researchers.

Rising costs have meanwhile crimped NSF’s ability to fly people and cargo to and from Antarctica. The hourly rate for LC-130s has more than tripled since 2017, says James Ulvestad, acting head of the Office of Polar Programs. And the fleet’s advanced age means more downtime for repairs. Costs have also curtailed helicopter support; they will stop flying in early December, 3 months earlier than usual. An annual 6-week cruise from Palmer will become biennial after this season.

Ulvestad says a flat OPP budget has robbed NSF of the option of simply paying more to provide the same level of support. “We understand [researchers’] disappointment, and we can’t pretend there won’t be negative impacts,” he says.”

Many Antarctic scientists believe NSF and lead contractor Leidos should have been able to better anticipate how Covid, construction, and rising costs would affect the Antarctic program. “They knew last year how many beds would be available,”

Burns says. “And the projects that have been canceled have been on the books for years. So why these decisions [to cancel the 2023–24 field seasons of so many projects] were made so late is beyond me.”

Ulvestad says a major factor for the last-minute notifications is the recurring failure of Congress to approve annual budgets for every federal agency until well into the next fiscal year. “We have a very detailed planning process, but we can’t get very far along until we have a known budget,” he says. Stephanie Short, who manages NSF’s Antarctic logistics office, cautions scientists not to look for a simple explanation for why their season was canceled. “The pandemic, budget, and space constraints all play a role,” she explains.

Russia’s war disrupting Antarctic science

by Loyal Liverpool, *Nature*, Sept. 12, 2023

Antarctica is demilitarized, but Russia's invasion of Ukraine is posing a threat to important climate data collected at Ukraine’s research station, Vernadsky. Staff shortages at the station resulting from the war are threatening globally significant data sets that researchers say are crucial for showing the rapid effects of human-induced climate change.



Ukraine’s Vernadsky Research Base
Photo: Ukraine National Antarctic Scientific Center

The challenges facing Ukraine’s Antarctic research program represent a loss for science globally, says Olena Marushevska, press secretary

for Ukraine’s National Antarctic Scientific Center in Kyiv. Vernadsky - formerly a UK base called Faraday established in 1947 and transferred to Ukraine in 1996 - has been a key site for the gathering of data on long-term temperature trends that are crucial for studying climate change. Marushevska says few polar researchers can participate in expeditions, because many are fighting or have fled the conflict.

“For decades now, Antarctic scientists have been able to identify the western Antarctic Peninsula as an area of unusually fast warming because of the temperature dataset that has been collected at Vernadsky Station,” says Luis Huckstadt, an Antarctic ecologist at the University of Exeter, UK. “But the importance of the research conducted at Vernadsky is not limited to air temperature data, as that area is of enormous ecological relevance to the entire Antarctic community,” says Huckstadt.

“Long-term datasets from Antarctica are absolutely critical to our ability to continue conducting research on that continent,” says Michael Tift, a marine biologist at the University of North Carolina Wilmington. “We rely on them to make models for predicting the impacts of climate change in Antarctica and around the world,” he says.

“It’s not that we collect data for ourselves, we collect data for the world,” says Marushevska.

In Ukraine, Russian missiles - including one that struck the Antarctic scientific center in Kyiv last October - threaten staff members and precious data and samples. (Neither Russia’s Arctic and Antarctic Research Institute in St. Petersburg nor its ministry of science responded to *Nature*’s requests for comment.)

“It’s not easy,” says Bogdan Gavrylyuk, head of Ukraine’s current Antarctic expedition. Gavrylyuk, a geophysicist at the Institute of Radio Astronomy in Kharkiv who has years of experience in Antarctic research, spent 11 months fighting in the war before he was called to lead the expedition. “Changing from Antarctic activity to army, for me, it was difficult,” he says. “I was ready to lose my life for my country and for my family.”

His experience isn't unique. Andrii Zotov at the Institute of Marine Biology in Odessa was at Vernadsky when Russia invaded Ukraine in February 2022. "The captain of the Antarctic yacht Selma agreed to ferry me through the Drake Passage to Argentina," says Zotov. From there he travelled to Ukraine, where he returned to a military brigade in which he had fought in 2014 and 2015, after Russia invaded Crimea.

Zotov had been investigating the effects of climate change on the Southern Ocean phytoplankton communities that form the base of the Antarctic food chain. He is one of relatively few Ukrainian specialists in this field and his expertise is valuable to the Antarctic program, says Marushevska.

"He was at the war for a year and a half, and he was really seriously wounded," says Marushevska. "Only now, after some rehabilitation, he will be able to return to his algae."

Despite the war, Ukraine has continued its yearly Antarctic expeditions. Since April, Gavrylyuk has led a team of 14 scientists and technical staff at Vernadsky Station, monitoring weather patterns and atmospheric conditions, measuring ocean salinity and studying the behavior of marine mammals. "Fortunately, our Ukrainian government and our ministry of science and education gave money for this expedition and now we [are] working," says Gavrylyuk. But "we don't know when war can stop".

The large economic cost of the war means the future of the research program is uncertain. Before the war, there were "big plans for station modernization", says Gavrylyuk; these are now on hold. "If you stop our activity and stop [the] base, later it's impossible to work here," he says, because the station requires regular maintenance.

Antarctic Braces for Arrival of Bird Flu

by Harriet Barber, *The Telegraph*, Sept. 25, 2023

Thousands of penguins could be wiped out across Antarctica as the continent braces for the arrival of bird flu, experts fear.

In an exclusive interview with the Telegraph, the head of polar regions for the Foreign, Commonwealth and Development Office warned that the infection, which has killed millions of birds across the globe over the past year, will have deadly consequences once it reaches the region.

"It could be absolutely devastating," said Dr Jane Rumble, OBE. "We're saying when, not if."

H5N1 is expected to emerge in the coming weeks as birds migrate from South America to breeding sites in the Antarctic.

The death toll could be exceptionally high, scientists say, as the continent is the breeding ground of more than 100 million birds.

Dr Tom Hart, a biologist who has been developing guidance on avian flu, said: "I don't want to put a number on it but it's extremely serious. Certain groups like seals, terns and penguins are likely to be impacted severely.

"Penguins are likely to be susceptible to it as they have fallen to other similar viruses. It could be pretty profound."



Cape Hallett Adelie penguin rookery, 1981

Although the disease predominantly spreads among birds, it has been shown to infect mammals too, including seals and sea lions.

To combat the risk, tourists visiting Antarctica this season may not be able to disembark from cruise ships if the worst-case scenario arises.

"They will keep everybody on board or just do Zodiac cruising," said Dr Rumble. "Tourists might not necessarily have the holiday they expected."

The huge concentration of bird flu cases in South America and speed of transmission has heightened the threat facing the Antarctic.

H5N1 was first detected in South America last October – after 2022’s migration had already begun – and spread rapidly from Colombia to Chile in just three months.

Chile and Peru alone have since lost more than 500,000 wild birds of at least 65 species and 20,000 mammals, according to a new report by the OFFLU, a global network of flu experts.

Actual mortality is thought to be many times higher due to the difficulties in testing.

Many species in Antarctica, like the emperor penguin and Antarctic fur seal, crowd together in large and dense colonies which could speed the spread of disease.

“Animals tend to concentrate together. Some sites will have gentoo penguins, chinstrap penguins, elephant seals, fur seals, and they’re all basically together,” said Dr Rumble. “Their natural predators are in the water, so they don’t avoid each other on land.”

Local marine mammals face a similar risk; 95 per cent of Antarctic fur seals live around just one island, making them particularly vulnerable to an outbreak.

H5N1 also threatens the conservation of several species – 36 per cent of the endangered Peruvian pelicans and 13 per cent of Chile’s vulnerable Humboldt penguins have been wiped out, for example.

As Antarctica has never had an outbreak of the highly pathogenic bird flu circulating the globe – only one of two continents not to have been affected – its species are thought to have little immunity to the virus.

Preventing wild birds from spreading the virus is an impossible feat, but officials have increased biosecurity measures for researchers and tourists.

We are enhancing the biosecurity protocols to prevent human exacerbation. Visitors are getting hoovered – literally – to get seeds out of clothes and bags. Boots will be disinfected when they go ashore so they’re not transmitting any kind of disease from one site to another,” Ms. Rumble said.

“For the first time, we’re asking tourists not to sit down as it runs the risk of contamination. We’re saying keep a distance from the animals. Tour operators are even saying ‘Don’t crouch’ – it’s the gateway to the sit.”

Such measures are increasingly important as the number of tourists has skyrocketed.

This season, which runs from October to March, more than 115,000 tourists are expected to set sail to the continent – the highest number recorded. In the 2015-16 season, the total was just 38,478.

Scientists who interact with birds as part of their job are also being asked if their work must be undertaken this season or if it can be put back a year.

While avian flu is Antarctica’s most urgent problem this season, Dr Rumble said many of the birds are facing other threats, from overfishing to climate change.

Antarctica is warming twice as fast as the rest of the world. Last month it was reported that up to 10,000 emperor penguin chicks were killed after the sea-ice melted and broke apart before they could develop the waterproof feathers needed to swim in the open ocean.

George Alexander Doumani, 1931-2021

by Larry Lackey



Dr. George A. Doumani

Dr. George A. Doumani, of Washington, DC, was born in Akko in British Mandate of Palestine in

1931. He died March 16, 2021. He is survived by his wife, Anne Davenport Doumani; and his children, from his first marriage, Alexandra (John Ludwig), Victor, and Aziza (Gary Jones). He is also survived by his sister, Jawhara Farah, nieces and nephews, and many friends.

Dr. Doumani was a Lebanese Palestinian/American geologist and explorer. He attended Terra Sancta College in Jerusalem and was awarded the Palestinian matric in 1948. During the 1948 Palestinian exodus he left with his family to Bkassine in Lebanon. He traveled to Saudi Arabia in 1949 and worked for ARAMCO as a laboratory tester and petroleum inspector. He applied to the University of California Berkeley, was accepted, returned to Beirut, and left Lebanon by oil tanker, arriving in New Jersey Oct. 6, 1952.

Dr. Doumani earned a B.A. in Geological Sciences and a M.A. in Paleontology at the University of California Berkeley, in 1956 and 1957, respectively. He was awarded a Ph.D. in Environmental Sciences from Pacific Western University in 1985.

After completing his master's thesis, Dr. Doumani worked as an engineer for Shell Oil Company in Bakersfield, CA. While there, he answered an ad in *Geotimes* Magazine for a position to do Antarctic work and near the end of IGY (International Geophysical Year, 1957-58) was hired by George Toney as a geophysicist. He began training in Washington, D.C. at the National Science Foundation (NSF) and the Rand Corporation to study the gyrocompass. His first trip to Antarctica was in the fall of 1958 where he ended up at Byrd Station via McMurdo and Little America V. From Byrd, he flew by R4D out to meet a party doing seismic and glaciology studies led by Charles Bentley. He stayed with the party until it completed its work and returned to Byrd Station on Jan. 21, 1959. George wintered over at Byrd, then participated in another traverse across Marie Byrd Land the following summer.

He returned to Antarctica for the austral summers 1960-61 and 1961-62 as a paleontologist on geological expeditions to the Horlick Mountains. His work centered on marine fossils of Devonian Age and leaves, trees and coal beds of Permian

Age. In the Antarctic summer of 1962-63 he led his own expedition, The Mount Weaver Expedition, to the southernmost peak and the southernmost outcrops in the world (Saxum Ultimum). His final trip to Antarctica was the 1964-65 summer season when he returned briefly to the Horlick Mountains to collect bulk samples of fossiliferous material, a task completed by helicopter.



Doumani in Horlick Mountains, Antarctica, 1960

In 1963, Dr. Doumani started a long career in public service when he started work at the Library of Congress, helping to establish an Antarctic Bibliography through the NSF. It included the existing bibliography of snow, ice, and permafrost, primarily within the Arctic regions. He was eventually appointed Head of Cold Regions Section, Science and Technology Division. In 1966, he moved to the Science Policy Research Division of the Library's Congressional Research Service. From 1966 to 1975, he was science adviser to the U.S. Congress in Earth Sciences and Oceanography.

From 1985 to 1987, he served as Peace Corps Director in Yemen, where he worked on the development of a pipeline, dedicated in 1987. After his return, he became the Director of the Office of Technology Policy for the Department of Energy. In 1988, he won a career appointment in the Senior Executive Service as Director, Office of Technology Policy at the U.S. Department of Energy. In 1990, he moved to NSF as Director of Earth and Environmental Sciences programs in the Directorate for Education and Human Resources. In

1991, Dr. Doumani was working for the Environmental Protection Agency as a consultant on global warming and desert reclamation.

Two Antarctic features are named after him: Mount Doumani and Doumani Peak. In 1999, he published *The Frigid Mistress: Life and Exploration in Antarctica*.



The Antarctic Society

webmaster@antarctican.org

August 11-14, 2024 Boulder, CO Gathering Registration

Name (s) _____

Address _____

Email _____ Phone _____

Registration

_____ \$250.00 Full Registration per person. Increases to \$275.00 on January 1, 2024. 100% refund until April 1, 2024.

Full Registration includes the day programs, 2 lunches, Reception on Monday evening, Auction on Tuesday, and the Tour and Picnic on Wednesday.

_____ \$125.00 Guest Registration(s) per person

Guest Registration includes the Reception, 2 lunches, Auction, Tour and Picnic **only**. The day programs are **not** included.

Guest(s): _____

\$_____ Donation

Donations toward the Gathering are very much appreciated and are tax deductible.

Do you or another of your registrants have ADA accessibility needs? ___ Yes ___ No

Please indicate the need: _____

Do you or another of your registrants have a special dietary need? ___ Yes ___ No

Please indicate the need: _____

Proceed to page 2 if you wish to reserve a lodging unit on the Chautauqua campus.

August 11-14, 2024 Boulder, CO Gathering Lodging

Lodging Reservation and Deposit

The Antarctican Society has reserved and paid for 39 lodging units on the Chautauqua campus. Registrants may select and hold the lodging unit of their choice by indicating the type of unit and paying a deposit of one day’s lodging cost for the selected unit. The balance of the lodging cost will be due by June 1, 2024. Deposits may be refunded only if another registrant agrees to assume the reservation for that unit. **Deposits for Chautauqua lodging will be refunded only if another registrant assumes the reservation for your unit and pays the appropriate deposit. This includes confirmed “shoulder” dates.** Lodging registrants may request “shoulder dates” before or after the basic days of the Gathering, depending on the availability of those dates. This can be done by specifying the extra dates below. **Shoulder days must be paid for at the time they are requested.**

There are **two options** for reserving a lodging unit:

Option 1: Deposit one day’s lodging cost for holding **3 days of lodging** (Aug. 11-13)

Note: All prices include taxes.

_____ \$281.00 1-bedroom Cottage

Option 2: Deposit one day’s lodging cost for **4 days of lodging** (Aug. 11-14)

Note: All prices include taxes.

_____ \$281.00 1-bedroom Cottage

Do you wish to reserve “shoulder” days (extra lodging days before or after the Gathering? List dates:

Total Registration and Lodging Deposit

\$ _____ Total Registration and Donation (from page 1)

\$ _____ Lodging Deposit

\$ _____ Total Registration and Donation plus Lodging Deposit

Mail your check and registration form to:

The Antarctican Society
 35 Cherry Street, Unit 701
 Burlington, VT 05401

or go to the 2024 Gathering page on the Antarctican Society website to pay by credit card.