



The Santa Cruz Archaeological Society Newsletter—Summer 2020

Around the world with the SCAN: events and research in the news.

Most of us are probably suffering from a little cabin fever these days. We want to be out and about but with the recent growing increase in COVID-19 cases, let's stay home and travel the world with the SCAN.



Ol Doinyo Lengai and Engare Sero footprints, photo by Cynthia Liutkus-Pierce in [sciencenews.org](https://www.sciencenews.org)

Our first stop is in Africa. Pictured above in the background, is Ol Doinyo Lengai, a volcano in northern Tanzania. In the foreground, are human footprints, hundreds of them, imprinted in the ash of a late Pleistocene eruption of the volcano. The site is named Engare Sero, for a nearby village.

The prints appear to have been created as 14 women, a boy and two men as they walked across a muddy, ashy area just south of Lake Natron. This was not a single traveling group, but several groups moving at different speeds.

The lead researcher Kevin G. Hatala, is an evolutionary biologist of Chatham University in Pittsburgh, Pennsylvania. To read his report, visit <https://www.nature.com/articles/s41598-020-64095-0>, an open access article published 14 May 2020, and www.sciencenews.org/article/africa-biggest-collection-ancient-human-footprints-found

First Confirmed Underwater Aboriginal Archaeological Sites Found on the Continental Shelf in Northwest Australia

Reported in Science News July 1, 2020, and based on the original article published online in PLOS ONE July 1, 2020 (Benjamin et al.)

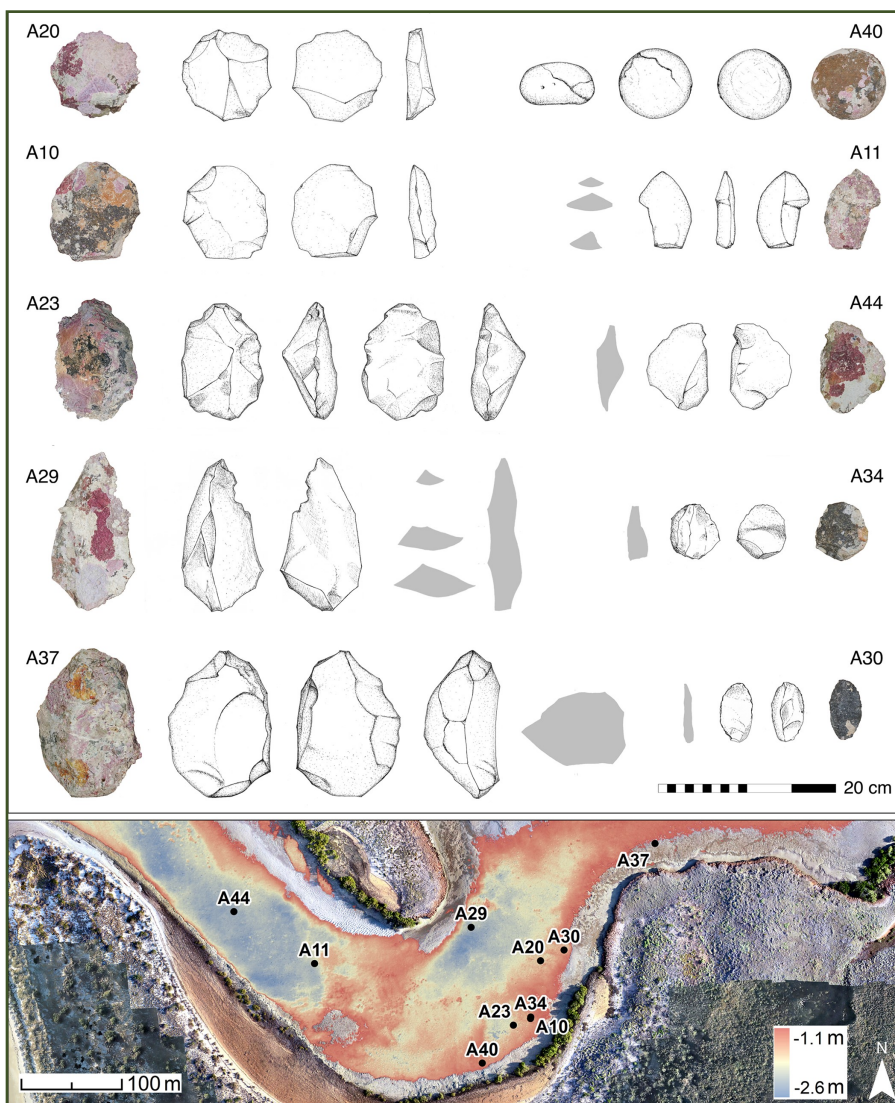
It should come as no surprise to West Coast archaeologists that due to sea level rise in the late Pleistocene, coastal archaeological sites which may help us understand the peopling of the Americas, may be found in offshore waters. Likewise, in the rest of the world, (see *Doggerland, this issue*), other inundated landscapes are being identified. This article reports on two of those sites, located near to shore in the Dampier Peninsula Archipelago in northwest Australia. One site is found at 2.4 meters deep with latest age being about 7,000 cal BP, and the other is near a (now underwater) fresh spring at about 14 meters depth and a latest age of about 8,500 cal BP

The team lead by Jonathan Benjamin, Michael O'Leary, Jo McDonald and others, with contributions by the Murujuga Aboriginal Corporation Council of Elders and Murujunga Land and Sea Rangers Unit, proposed that there must be underwater archaeological sites related to the First Peoples of Australia on this broad continental plain. When this plain was last exposed during the Last Glacial Maximum about 20,000 years ago,

sea level was about 130 meters lower, resulting in a coastline about 160 km offshore from the present shoreline.

The team conducted a purposeful survey based on predictive and iterated modeling, using aerial and underwater remote sensing technology during the years 2017 to 2019. They planned to study the underwater landscape as part of the wider regional landscape, comparing any sites and artifacts to similar-dated dry land materials. They found more than 260 stone artifacts including cores, core tools, possible grinding stones and flakes at two sites located close to shore. Most artifacts were left in place, but a few were collected for analysis.

The authors call upon the Australian government to revise the Underwater Cultural Heritage Act of 2018 to bring it into line with the UNESCO Convention on Underwater Cultural Heritage so that underwater sites in Australia older than 100 years will be protected. They also call for continued collaboration with the Indigenous Traditional Owners of these landscapes and sites.



(From Benjamin et al. 2020) Bathymetric data at the Cape Bruguieres Channel site, with location of example stone tools discovered in the numbered locations. Artefact drawings by K. Jerbić.

Whose History, Whose Voice?

Essays published by the Australian Museum

As Americans are grappling over our history, who gets to write it and who is written out or ignored, we should be reminded that social justice is not a uniquely American issue. In Australia, questions are being raised about the history portrayed by statues of such European icons as Captain James Cook, who “discovered” Australia in 1770, as if nobody at all had been living there for tens of thousands of years. First Peoples feel that their rights and history have been erased.

A series of essays was published by the **Australian Museum**, in which several Indigenous people write about what it means to them in the aftermath of the death of George Floyd, to address the lack of truthfulness as exemplified by colonial statues and history written by colonizers, *Terra Nullis*, and a Stolen Generation of children taken from their parents by government edict to be assimilated into society (See *Lousy Little Sixpence* (1983), *Rabbit Proof Fence*, a movie (2002) based on the book *Follow the Rabbit-Proof Fence* by Doris Pilkington Garimara, about her mother’s life.).

To read these thoughtful essays, please visit: <http://australian.museum/learn/first-nations/> for the essays by First People of Australia. Should statues be pulled down, reinterpreted with accurate information about the deeds of these individuals and what they represent, or joined by monuments to highlight Indigenous history? Does “tear it down” mean literally tear it down? Tear what down? Should we should tear down history and reconstruct it so that we can build a shared past and a future together?



Captain James Cook by Nathaniel Dance Holland in the National Maritime Museum, London.

Sweet Potatoes and Polynesian Voyages of Discovery

What do Polynesia and the west coast of South America share in common? It appears they share sweet potatoes, and the sharing happened long before Europeans sailed to the South Pacific in the mid 1700s.

Sharing between Polynesian Islanders and a group of ancestral people of Columbia is in the news this week, appearing in *Nature* (Ioannis et al. 2020), *Science*, and reported by Bruce Bower of *Science News.org* on July 8, 2020. Researchers have speculated for years about the possibility of contact between Native Americans and Polynesians which could have happened during the great voyages of discovery and colonization by Polynesians starting around 1000 years ago.

Bolstering the hypothesis was the appearance of the bottle gourd and sweet potato on Polynesian Islands well before European contact. Testing of samples, for instance, from sweet potatoes brought back from New Zealand by Capt. James Cook in 1769 (see *Nature* 21 Jan 2013 article by Brian Switek) show that the sweet potatoes are derived from South American stock that preceded later introductions. Also, the Polynesian word for sweet potato “kumala” is similar to the Quechuan word for sweet potato: “kumara” .

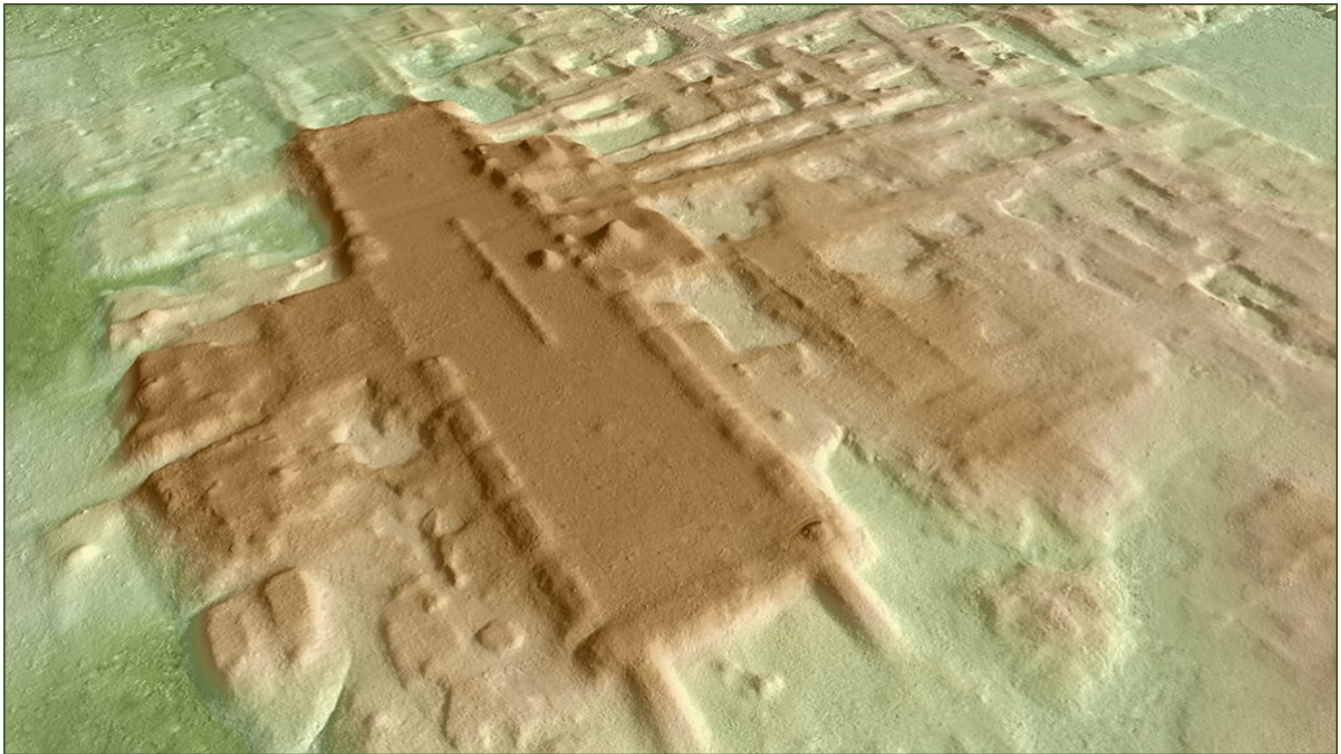
What is new about Native American and Polynesian contact? A large study conducted by the National Laboratory of Genomics for Biodiversity in Irapuato, Mexico, headed by Andrés Moreno-Estrada, looked at the genetic material of 807 individuals from 17 Polynesian Island populations and 15 South American Pacific coastal groups and found that there must have been a genetic mixing, possibly only once, and of a small group of South Americans with Polynesians during the period when Polynesians were conducting their farthest voyages outward. The contact was likely on the island of Fatu Hiva in the Southern Marquesas around the year AD 1150. The Native American DNA segments then show up on other island chains, and eventually on Rapa Nui around AD 1350. This is significant because in an earlier hypothesis, it was thought that contact first happened at Rapa Nui (Easter Island).

How did it happen? That is still open to speculation. If a raft containing a small group of Native Americans was lost and traveled west across the Pacific due to wind and currents, they most likely made landfall at Fatu Hiva, and the second most likely landfall would have been in the Tuamotu Archipelago, the center of Polynesian radiation. A small population may have arrived before the Polynesians, after the Polynesians on Fatu Hiva, or an individual of Native American origin, or someone with mixed parentage, traveled back from South America with Marquesans, and their DNA was carried to many different island chains. Perhaps they carried with them the bottle gourd, sweet potato as well? This is new and interesting evidence for contact, but more research, particularly looking at more Polynesian DNA including ancestral DNA, may create evidence or more lines of inquiry to solve the mystery.

Early Monumental Mayan Sites Identified with LiDAR

Last month *Nature* (Patricia A. McAnany) and *Science News* (Bruce Bower) reported on a newly discovered Mayan site near Tabasco, Mexico, named Aguada Fénix. Lead author Takeshi Inomata of the University of Arizona and his team used LiDAR (Light Detecting and Ranging) to map this site, which dates from about 3,000 years ago.

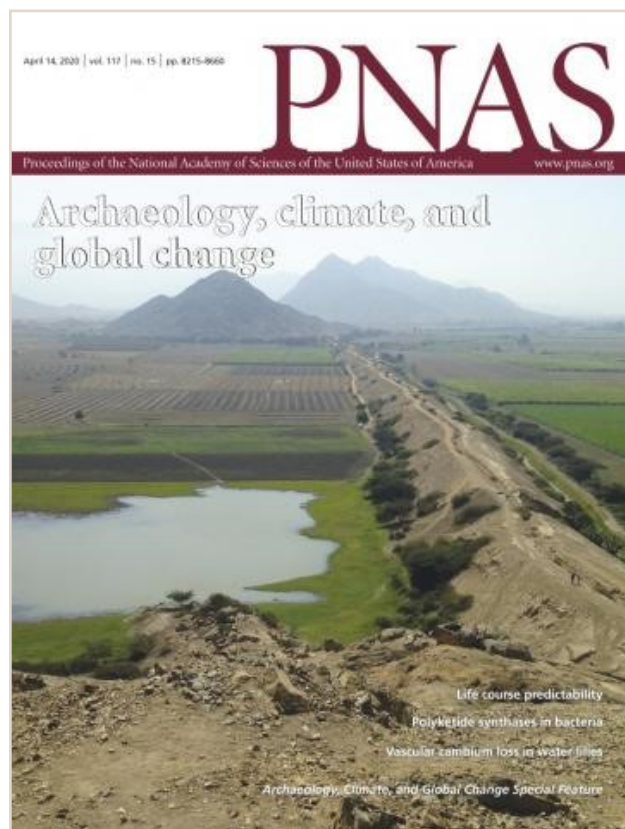
Their work detected a large artificial platform about 1400 meters long by 400 meters wide and 12-15 meters high, with nine causeways. It is believed to be the oldest large-scale (monumental) architecture built by the Mayan people. The work highlights how useful LiDAR technology is for archaeologists. Previous work of this type would require enormous effort slogging through heavily forested areas, clearing and measuring from the ground. The LiDAR technology is able to “see” the ground from an airplane or drone, without need for clearing or other ground disturbance. This technique has been used in other locations such as



A 3-D rendering of Aguada Fénix based on LiDAR. Photo from Science News, credit: T. Inomata

at Angkor Wat in Cambodia, and other locations in Central America. One of the ideas which has come out of this research is that the monumental architecture is so old, it was built when Mayan people did not have royalty, and a king to direct their work. This was a communal effort, possibly built as a religious or astronomical site, but it does show some influences from the Olmec. For more information on this spectacular site, visit: <https://www.nature.com/articles/d41586-020-01570-8>. The original article was published online in *Nature* June 3, 2020,(issue 582, pp.530-533) Takeshi Inomata, Daniela Triadan, Verónica A. Vázquez López et al.

The Proceedings of the National Academy of Sciences (PNAS) reports on Archaeology, Climate and Global Change



In a special section of the April 14, 2020 (117(15)) issue of the journal *PNAS* is a series of seven articles about the role of archaeology in addressing, climate change, environmental justice, citizen science and environmental change. This is not a small subject. How is archaeology relevant to these topics? Several groups of authors try to address it. I cannot do justice to the breadth of information in this series of articles, but I will highlight a few issues and leave the reader to visit the *PNAS* site—all of these articles are free online, can be downloaded, and are written with an audience of educated public in mind.

In Torben C. Rick and Daniel H. Sandweiss's introductory article, we learn why they think that archaeology is essential in this era of great change. Archaeology sites can be proxies for environmental and past climatic conditions. We

can learn from how past civilizations and communities dealt with change in their own times. How did they respond when their communities were at risk? Do they have something to teach us? It's not just archaeological sites, but collections archaeologists stored in repositories and museums which can be useful to a multidisciplinary team exploring climate change today. There are problems. Archaeological sites are at risk from large storms, sea level rise, urbanization and looting, especially in areas of conflict such as in Iraq.

Rick and Sandweiss introduce six other papers to us. They represent geographical areas from Arabia, Madagascar, Australia, Maine, Florida and Scotland, Peru and the Caribbean. For example, people in Arabia responded to drought with water management systems and the adoption of a nomadic lifestyle. In case studies from Maine, Florida and Scotland, we will learn about how citizens are taking part in managing their imperiled coastal heritage. How can we use collections to do climatic and environmental research? Another paper addresses and critiques oversight for cultural and archaeological heritage by the US Federal Government as various agencies attached to competing departments try, while chronically underfunded, to uphold environmental law over a patchwork of land ownership.

Doggerland: A Lost Land under the North Sea

This is ongoing research, not the latest headlines, but it is important for today's residents of coastal areas, and fits well with what is now happening in northwest Australia. Long ago, at the end of the Last Glacial Maximum in Europe, sea level was low enough that dry land joined England and Netherlands, and Mesolithic people lived there. 12,000 years ago, Doggerland, named for Dogger Bank, was hills, valleys, plains and coastal marshes. Then sea level started rising quickly. People retreated to high ground in the Netherlands and England. For a while Dogger Bank was an island, but by 5000 years ago, it was inundated as well, and evidence of this civilization vanished beneath the waves of the North Sea.

Over the years, fishermen have brought up in their nets human remains, antler point fishing spears, mammoth and rhinoceros skeletal parts and stone artifacts. A few years ago, a new off-shore windfarm, planned for a 280 square mile area about equidistant between Norfolk and Amsterdam began coring prior to construction and discovered an area about 32 square miles in

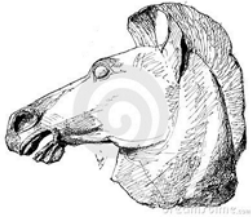
size, where there was peat in the cores, indicating this had been dry land in the past.

In North America, periodic failures of dams holding back glacial meltwaters would have contributed to the inundation. In about 6,200 BC, a massive landslide off the coast of what is today called Norway, possibly triggered by an earthquake, created a massive tsunami which surely affected nearby low lying areas.

The latest research I have found is in the area of Brown Bank, a linear feature south of Dogger Bank. The stated goal of this project is to determine the best areas for archaeological prospecting. Results of their geoarchaeological remote sensing project is available online at Elsevier's Quaternary International site (2020 Mes-siaen, Fitch, Muru et al, article in press). We will be hearing more about this fascinating area in the near future.

As this National Geographic map by William E. McNulty and Jerome N. Cookson shows, sea level was considerably lower 12,000 years ago.





Ancient History



SCr-107—Public Archaeology In Action -Continued

by past Editor Micki Farley (transcribed from the SCAN Vol 4, No 2, March 1975)

On February 25th, several more burials were discovered during controlled backhoe operations, bring the total to 36. That day “a contractor” notified a San Jose friend who is a television newsman, and a brief report appeared that night on San Jose’s Channel 11. As the news was known, the decision was made to release information to local TV and newspapers, and on February 26th a sensationalist report based on rumors and casual observations with no professional input was televised on Channel 11 and a more sensitive one appeared on Salinas Channel 8.

On February 27th, the Watsonville Register-Pajaronian printed the exact location of the site. Also on the 27th PG&E crews blundered into a historical Indian burial ground on the site of the second Santa Cruz Mission. That work was stopped and the news was soon overshadowed by events in Watsonville. Meanwhile, the owner of the property had returned from a relaxing Caribbean cruise to discover a great deal of interest in his warehouses. On the 28th a press conference was held at the site with John Fritz, Rob Edwards, Ken Boyd and other County representatives, the owner and volunteers from all the participating institutions. On March 1st, the Pajaronian printed a front page story headlined “Archaeology Buffs Hurry to Dig Up Remains” —an appalling treatment that further implied that all the work at the Berman site was being done by North County and Santa Clara County people while the Pajaro Valley was kept in the dark (a recurring local issue ready to be applied to any situation), but to its credit did emphasize the County’s preservationist policy and the methods of implementing it, and did accurately quote those interviewed at least 90% of the time. March 1st Bob Gibson brought his West Valley College Archaeological Field class to the site to assist in the salvage. In addition, some 20-30 volunteers were involved in work that day. On March 2nd the Santa Cruz Sentinel followed with a far more sensitive treatment by Mark Lawshe, Sentinel staff writer, although it too made no mention of the aid provided by PVHA. Extensive quotes again placed a value on site preservation and the joint effort of the entire professional—academic—avocational archaeological community in the county.

Also on March 2nd, a steady stream of visitors learned first-hand about public archaeology as many asked pertinent questions and showed great concern about the destruction of data and moral aspects of disturbing a cemetery. Up to 60 people at a time dug, scraped, picked, measured, noted, labeled, bagged, hauled hundreds of buckets of dirt, and patiently wet-

screened burial matrix through 1/8 inch screens, all in the spirit of comradery typical of archaeological field work. Many visitors offered observations of other unrecorded sites, and many others offered to help locate artifacts from this site and other sites for photographic. Several visitors noted that the site was well known by collectors, and others told of notifying the County Sheriff 40 and 15 years ago about skeletal material and artifacts eroding into the adjacent slough. The methods of salvage archaeology, particularly when under a time pressure as intense as this one are not the best introduction to archaeological field techniques, and work proceeded slowly as continuous education process went on for the directly supervised new workers and the great number of visitors.

Late in the day, as work was ceasing and the tired remaining volunteers were cleaning up the site, a local woman, Irene Avalos appeared, and in a state of justifiable agitation, berated, workers, owners and directors alike for interference with the natural processes of a cemetery. Claiming to represent local Indians on legal issues, especially cemetery preservation, Mrs. Avalos announced her determination to take legal action. She apparently had no contact with the previously consulted tribal descendants located through ethnographic research, and was unfamiliar with the tribal name. It was the first notice received by SCAS members, who have put in hundreds of volunteer hours in public education dealing with local prehistory Indian culture and as proponents of site preservation within agencies and at public hearings, that there was an active Indian group in the county. On March 4th Rob Edwards was contacted by representatives of the Northwestern Indian Cemetery Protection association in Arcata, and arrangements are being made to begin dialogue between Mrs. Avalos, the Association's representative, the property owner, the County and the Archaeologists. The association was invited to participate in the Annual SCA Meeting symposium dealing with Indian and Anthropologist conflicts Thursday, March 20th from 1:00 P.M. to 4:30 P.M. at the Holiday Inn.

That's where it stands—a story from which heroes and heroines and villains emerge and re-emerge in a constantly changing interface of cultural values. Much later information has indicated that the digging has been effectively stopped for any purpose, and a meeting has been set for March 12th with the above mentioned representatives to determine if there is a way to proceed that is legally and acceptable to all parties. Thanks are very much in order to Cliff Hathaway, untiring field director and organizer; Red Craney, foreman of the construction site who consistently offered as much assistance as possible within the confines of his job responsibilities and moral support beyond that; Ken Boyd, defender of environmental rights, Rob Edwards, commander of situations and field director, Loren Gingg and Dennis Wardell, who each stayed overnight at the site after it was publicized; Pat Pirtle of the Pajaro Valley Historical Association who contributed dynamic support of the first work stoppage and arranged volunteer help for the dig, Retha and Les Berman, daughter-in-law and son of the owner whose continued interest and support has been greatly appreciated, along with Bob Gibson's bead expertise, and his West Valley College field class, John Fritz and his UCSC archaeology students, Tim Ruckle and his Cabrillo Native Peoples of California class; Mark Heiksen and his Cabrillo

Archaeology class, SCAS volunteers, and a good number of participants from in and around Watsonville, especially from E. A. Hall Jr. High and Watsonville High School.



Follow-up on the Watsonville warehouse site.

(transcribed from the SCAN Vol 4, No 4, July 1975)

FROM THE June 19th General Meeting, Submitted by Tracey Buckman, SCAS Treasurer

A business meeting was called to order at 9:00 P.M. ...

A discussion of events concerning the Watsonville warehouse site (SCr-107) and their effects on the archaeological interests of the Monterey Bay area was held. Dr. Fritz gave a brief chronology of the events and chaired and questions and suggestions that followed. The need for communication between the Native American community and the archaeological community was stressed both as a means to overcome misunderstandings between groups and as a means of furthering common goals. Dr. Fritz emphasized the necessity for accurate pre-excavation research for the determination of burial discoveries. He stated that in instances where prehistoric burial disturbance is unavoidable, an Indian advisor should be working with the archaeological staff. Several members expressed the feeling that since the preservation of the cemetery at SCr-107 is a concern of both Native Americans and Archaeologists alike, SCAS should support the fund-raising project for Indian purchase of the site. The results of this discussion are presented in a separate article entitled "Native American Cemetery Preservation Fund" in this newsletter.

NATIVE AMERICAN CEMETERY PRESERVATION FUND

The Northwest Indian Cemetery Protection Association, the Santa Cruz County Chapter, has established a fund to purchase a portion of SCr-107, the Watsonville Lee Road site in order to preserve it as a Native American Cemetery. Fund-raising rallies held by the local group headed by Irene Avalos and by the Vietnam Veterans Against the War, including a well-attended Father's Day barbeque, have contributed towards the goal to raise the \$17,500 purchase price by April of 1976. At the June 19th meeting of SCAS, a motion was made by Tracey Buckman to establish a special collection fund for member contributions that would be combined with a treasury donation and sent to the Cemetery Preservation Fund, and a receipt will be returned. The amount collected by September 15th will be added to a treasury donation determined by the balance at that time, and forwarded to NCICPA, Santa Cruz County, in care of Mrs. Avalos.

From the SCAN Vol. 4 No. 6 November 1975 SEPTEMBER 18th GENERAL MEETING

The accumulated Society contribution towards the Ohlone Land Purchase was discussed, with Jean Stafford making an emphatic statement regarding the small amount contributed voluntarily by Society members. It was suggested that the interest from the Bickford Fund be withdrawn upon maturity, added to the contributions and matched from the general fund before being presented to the NCICPA. The motion was seconded, carried, and so ordered.



Stay-at-Home Citizen Science

In this time of COVID-19, and prudent social distancing, there are few opportunities for our Society members to take part in talks, walks and hands-on archaeological work. Here are the websites for two Citizen Science organizations which invite interested people to devote a few hours to tag, transcribe and locate, while sitting in front of their computers.

Citizen Archivist Project—US National Archives—<https://www.archives.gov/citizen-archivist>

Archaeology from Space—Global Xplorer <https://www.globalexplorer.org/>

Rob Edwards is pleased to announce that the **Lost Adobe** now has its own Wikipedia Page. Take a look!

SCAS Elections: This fall, we will be holding an election for the positions of SCAS President and Secretary. If any SCAS member would like to run for office, please contact Kevin Hildreth (*see below*) by August 9, 2020.

Archaeological Society Business

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Please share any archaeological interests or experience: