Incidents of Travel, San Francisco
Amy Balkin

Includes four views across water: East across the Bay from Heron's Head Park, North from the Hamon observation tower towards the Marin Headlands, West to the Pacific at Ocean Beach, and North from Pier 39.

Includes research and observation and related infrastructures and fortifications, temporally located within the strengthening El Niño and before COP21.

Heron's Head Park
8–9am
+ Hunters Point Naval Shipyard: Superfund site (featured in *Invisible-5*, 2006, a self-guided critical audio tour along the Interstate 5 freeway between San Francisco and Los Angeles. It used the format of a museum audio tour to guide the listener along the highway landscape. The project investigated the stories of people and communities fighting for environmental justice along the I-5 corridor, through oral histories, field recordings, found sound, recorded music, and archival audio documents. The project also traced natural, social, and economic histories along the route.)
+ Former PG&E Power Plant site, 1000 Evans Ave. (*Invisible-5*)
Chert from Islais Creek, North of Pier 94 was contributed to *A People's Archive of Sinking and Melting* (2012–ongoing)

City College of San Francisco, Diego Rivera Theatre
9:30–10:30am
Diego Rivera's 1940 mural *Unión de la Expresión Artistica del Norte y Sur de este Continente* (The Marriage of the Artistic Expression of the North and of the South on this Continent) commonly known as *Pan American Unity*.

EPA (Environmental Protection Agency) Region 9 (Pacific Southwest) Library, 75 Hawthorne St.
11–11:45
Research & archival video stills for *Invisible-5*, protest site

SBC Communications Building, 611 Folsom Street
12–12:15pm
One location for large-format lumber crayon rubbings of architectural signage in *Sell Us Your Liberty Or We'll Subcontract Your Death* (2008)
http://www.nytimes.com/2015/08/16/us/politics/att-helped-nsa-spy-on-an-array-of-internet-traffic.html

DeYoung Museum
12:45–1:45pm
Lunch at DeYoung Museum. Hamon Observation tower, and James Turrell's *Three Gems* (2005). Reconciliation: Meditation under surveillance

World Famous Camera Obscura, Sutro Ruins Ocean Baths
2:15–2:30pm
On a clear day you can see the Farallon Islands. On Sunday, Alvaro Jaramillo reported

Guadalupe Fur Seals, Bonito, and Sei/Bryde's Whale all seen on a trip to the Farallons from Half Moon Bay. Last week, 10,000 parasitic jaegers were seen off Ocean Beach. The Giant Camera plays a central role in a film I haven't yet made. The rocks north of the Cliff House once sited the earliest experiments in wave power and tidal energy in California.
http://birding.aba.org/mobiledigest/CA12
http://www.giantcamera.com/
http://www.outsidelands.org/wave-motor.php

Sutro Forest
3–3:30pm
Sutro Forest loop hike

Grace Cathedral
4–4:30pm
United Nations Founding Mural

Pier 39
5pm
Sea Lions. Something we might not see again. Seven times the annual average number of sea lion pup have stranded this year, owing to movement of "anchovies, hake, squid and shellfish" in response to warming waters related to the current 'blob' and El Niño.

Realised on 3 September 2015 as part of Latitudes' residency at Kadist Art Foundation, San Francisco.

This and two other tours by Megan and Rick Prelinger and the collective Will Brown were progressively documented as part of Kadist' Instagram takeover #ArtistNotAtTheStudioCuratorNotAtTheOffice and archived https://storify.com/lttds/latitudes-take-over-of-kadist-art-foundation-s-ins

LTTDS.org/projects/kadist

Hunters Point Shipyard EIR ignores doubled ocean rise predictions with potential 'Big One'

February 12, 2010

by Carol Harvey

Mother of Bayview Hunters Point Espanola Jackson at the Redevelopment Commission hearing on the Draft EIR Dec. 17 – Photo: Carol Harvey

In December 2009, leading climatologist Dr. James Hansen cited new satellite data doubling or tripling previous sea level rise predictions. Climate change, he said, "is really a moral issue analogous to that faced by Lincoln with slavery," an apt comparison considering the dangers for peoples of color in the Bayview Hunters Point neighborhood of San Francisco.

Dr. Ray Tompkins, toxic cleanup expert, and Marie Harrison, Greenaction activist, expose some of the dangers in their comments on the Candlestick Point-Hunters Point Shipyard Draft Environmental Impact Report, a prerequisite to Lennar's plans to build over 10,000 condominiums. Planners don't anticipate increased flood hazards from the currently projected sea level rise combined with a "Big One" – a major earthquake – on the Shipyard, an EPA Superfund site.

I. Updated global ocean rise predictions affect Bay estuary and Bayview Hunters Point flood hazard levels; Lennar's project under-calculates doubling ocean rise effects

In mid- December 2009, both the San Francisco Redevelopment and Planning Commissions held hearings to receive public comment on the Draft EIR for Lennar's massive development project planned for Hunters Point and Candlestick Point. Written public comments were mandated for submission by Jan. 12, 2010, the day of the massive Haiti earthquake.

The 4,400 pages of the Redevelopment Agency's Draft Environmental Impact Report omits considerations of doubling ocean rise predictions combined with a potential "Big One." In light of the

tragic effects of the Haiti quake, Lennar's plans to "reconstruct" a toxic Superfund site between two huge faults that brought down the Cypress Freeway in 1989, are particularly significant.

Planning, Redevelopment and Lennar are currently in the process of formulating answers to the public comments, the major portion of which condemn the entire project as completely unsafe for Bayview Hunters Point residents and the huge population of the Bay estuary, the San Francisco Bay shoreline – not to mention the habitat destruction the project has already wrought.

New climate change data released in late 2009

Also in December 2009, Democracy Now's Amy Goodman hosted leading climatologist Dr. James E. Hansen, New York's NASA Goddard Space Studies Institute director. Decades before Al Gore's "An Inconvenient Truth," Dr. Hansen addressed global warming.

He warned we dare not push past climate system tipping points. "Glaciers around the world are melting; coastlines moving inward," he said. "Once [an ice sheet] begins to disintegrate and slide into the ocean, you have passed the point where you can stop it."

Hansen noted 2002 satellite data measuring earth's gravitational field with precise measurements of "the mass of the Greenland and the Antarctic ice sheets. In 2002 to 2005, we were losing mass from Greenland at about 150 cubic kilometers per year. That's doubled to about 300 cubic kilometers per year."

Antarctica mass loss also doubled, Hansen said: "We're moving toward a tipping point where those ice sheets will disintegrate more rapidly, and sea level will go up."

The video, "Melting Trends: Arctic Ice Completely Gone by 2020," featuring climate change expert Dan Miller, predicts destruction of all North Pole arctic ice in five to 10 years.

The Times Online for Dec. 1, 2009, in "Major Cities at Risk from Rising Sea Level Threat," reports, "The Scientific Committee on Antarctic Research (SCAR) calculated, if temperatures increase at the present rate, by 2100 the sea level would rise by up to 1.4 metres — twice that predicted two years ago."

Many late 2009 videos and news reports document accelerated ocean rise, foreshadowing unanticipated flooding along the entire Bay estuary, including the Bayview Hunters Point waterfront.

Environmental Justice Advocacy Director Francisco Da Costa at the Redevelopment Commission hearing on the Draft EIR Dec. 17 – Photo: Carol Harvey

Mitigations in both the San Francisco Redevelopment Agency-Lennar Corp. 2006 Final Bayview Hunters Point Environmental Impact Report and the 2009 Draft EIR are based on lower ocean rise projections.

Volume II, Section III.M, of the 2009 Draft EIR's introduction, "Hydrology and Water Quality," sources underestimations by the San Francisco Bay Conservation and Development Commission (BCDC) of estuary water rise impacts. Page 2 of the BCDC Draft Staff Report and Revised Preliminary Recommendation for Proposed Bay Plan Amendment 1-08 Concerning Climate Change states, "Global warming is expected to result in sea level rises in San Francisco Bay of 16 inches (40 cm) by mid-century and 55 inches by the end of the century."

Redevelopment planners formulating 2009-2010 BVHP Draft EIR also under-calculated flooding along Bayview Hunters Point's waterfront.

Section III.M states project implementation places neither housing nor Candlestick Point nor Hunters Point Shipyard Phase II structures nor Yosemite Slough Bridge construction within a 100-year flood hazard area. Project implementation would not expose people or structures to significant loss, injury or death from flooding, including flooding from levee or dam failure, according to the EIR.

II. Bayview Hunters Point ocean rise-earthquake combination

Organic chemist Dr. Raymond Tompkins, San Francisco State University associate researcher whose company cleans Iraq toxic wastes, asserted Bush administration global warming denials blocked research.

No scientific reviews addressed Bay water rise, impact on aquifers under Shipyard Parcels A and B, hydraulic pressure measurements mitigating shoreline impacts or retention wall construction.

U.S. Geological Survey maps place Hunters Point in a red zone. No scientist reviewed, nor does the draft EIR adequately address, earthquake zones, liquefaction or amplification affects on the aquifer or the shore.

Earthquake amplification

Geological land formations ricochet quake energy waves against rock, creating an "echo effect" that amplifies ground shaking. Similar geological rock formations around the Cypress Freeway and Hunters Point Shipyard can produce shock wave amplification, making both highly vulnerable to a "Big One." Loma Prieta quake amplification converted 6.8 to 8, collapsing the Cypress Freeway.

Amplification of underground shaking can cause liquefaction and the crumbling of structures on water-soaked soil.

Dropping earth moves water with it. Bayview cove water could convert to seiche or an underwater wave, reducing fragmented soil to impassable mudflows, undermining shoreline integrity.

This deadly water rise-earthquake-amplification-liquefaction combination casts doubt on the EIR statement that "(i)mplementation of the Project would not expose people or structures to inundation by seiche, tsunami, or mudflow."

Toxic substances and pollution

Dr. Tompkins worried the U.S. Geological Survey has not offered – nor have independent geologists reviewed – test model data determining how and where ocean rise and earthquake amplification would affect the movement of toxic substances and pollution spreading to and contaminating Bay aquifers.

The Redevelopment-Lennar Draft EIR inadequately addressed these questions.

III. Faulty toxin, radiation testing and monitoring

The Navy, EPA, Lennar and the Bay Area Air Quality Management District all were charged with testing soil, air and water for poisons, toxic chemicals and radiation materials in the Hunters Point Shipyard Superfund site.

Dr. Tompkins noted that in the early '90s the Navy drilled widely scattered bore holes, taking one toxic chemical core sample per acre on 23-acre Parcel E-2 without 2009 site comparison samples.

Toxic fire

Dr. Tompkins and Marie Harrison, a Bayview resident and Greenaction activist, described the 2000 underground fire that burned for three months, re-igniting four times. Did the fire, said initially by the Navy to have been set by a "homeless man," flare from toxic gas pressure?

Dr. Tompkins confirms there has been no testing for the deadly fire byproduct, dioxin.

Radiation testing

The Navy, charged with remediating radiological contamination, provided data from surface scans, according to Tompkins, not "bores of radiation to determine where all this stuff is located."

Dr. Tompkins reports that in the late '90s, Lennar and two other firms competing to be designated Redevelopment's "Master Developer" of the Shipyard came before the Hunters Point Shipyard Restoration Advisory Board (RAB) stating they did not have the background for cleanup of the magnitude required at the Hunters Point Shipyard. Once the '49ers stadium came under discussion, an expedited timetable was created that relieved the Navy of responsibility for some of the chemical cleanup. At that point, the Navy tried to pass part of this cleanup back to the City and Lennar, the chosen "Master Developer."

Bayview Hunters Point community activist Nyese Joshua at the Planning Commission hearing on the Candlestick-Hunters Point Draft EIR Dec. 15 – Photo: Carol Harvey

Lennar told the RAB the company was unqualified to clean radiation contamination. Lennar insisted the Navy do cleanup, but the Navy wanted "to get out of town, leaving the City and the developer holding the bag," Tompkins said.

Monitoring and testing dust thrown up by Lennar's excavation

Many residents suffered chronic nosebleeds when Lennar's excavation of serpentinite rock in the Hunters Point Shipyard threw up dust laced with antimony, arsenic and asbestos.

Marie Harrison reported when Parcel A was turned over to the City, Lennar blocked two federal agencies, the Environmental Protection Agency (EPA) and the Department of Toxic Substances, from independent dust testing and evaluation, providing federal officials dust mitigation data and information only for review.

Marie verified that Lennar promised if it followed its own dust mitigation plan – washing trucks, watering dust, measuring dust from working monitors, halting work in 25 mph winds – there was a "likelihood," not a certainty, these measures would stop the dust from sickening the community.

Marie further reported that, when Lennar began heavy grading, it set out monitors "after the fact," neglecting to install self-recharging batteries. Threadwell & Rollo, an environmental and geotechnical

consultant firm, was charged with retrieving and analyzing data each night from air monitor tapes. After some of the monitors went off "helter-skelter," she said, the company checked them only on alternate weeks.

Marie reports what she and other Bayview Hunters Point residents witnessed: "For 389 days, no monitoring, no water, no nothing. They didn't water until we found out [or] stop work when the wind picked up to 25 miles an hour [or] for 24 hours after the dust went above their standards."

"If you're not going to do it, what good is putting it on paper?" Harrison asked.

Though the Lennar-Redevelopment Draft EIR promises mitigation, a 2-foot ocean rise and earthquake would exponentially exacerbate the effect of Lennar's poor track record in Hunters Point.

IV. Soil and air toxins

Public records substantiate Marie Harrison and Dr. Tompkins' testimony that Parcel E-2 on the Hunters Point Shipyard contains hazardous poisonous chemical elements, including deadly radioactive wastes, polychlorinated biphenyls (PCBs) and toxic heavy metals. Present in air and soil are 50-plus toxic elements, including arsenic and antimony, culprits in chronic nosebleeds. Hair samples expose the presence of arsenic, the blood thinner in the prescription drug Coumadin. Such substances rapidly move and spread with muddy ocean rise water.

Both Harrison and Tompkins testified that radium dials and radiated animal carcasses – many not contained in metal drums – were dumped in the Parcel E landfill. Animals – including people – were used to test how well they could tolerate radiation poisoning. The many carcasses are testament to its extreme toxicity.

Jaron Browne of POWER at the Redevelopment Commission hearing on the Draft EIR Dec. 17 – Photo: Carol Harvey

Radium dial radiation converts to radon gas, Dr. Tompkins explained, which reaches the surface through muddy groundwater. After four days, radon vaporizes in air as polonium, a chemical element more deadly than cyanide with a 1,600-year half life.

V. Inadequate cleanup

The Navy resists removing this deadly radium-radon-polonium gas combination. "Proposed … containment include(s) a geotextile barrier and soil cap over the landfill, and a (shoreline) barrier wall … to prevent migration of contaminated water into the Bay," wrote Dr. Peter Palmer in his October 2007 Asian Weekly article, "Pandora's Box – What to Do With the EPA Superfund Site on Parcel E-2 in the Shipyard?"

The Redevelopment-Lennar Draft EIR planners support the capping alternative, vulnerable to tree root penetration and burrowing animals, easily dissolved by water.

In ranciscans voted to clean the Shipyard to "residential standards" – complete cleanup. A for excavation and removal of toxins from the landfill in Parcels E-1 and E-2, covering the ar tal tent while workers in protective "space suits" transfer radioactive toxic soil to trucks bo ah toxic waste dump.

D[redacted]insists removing the cap and the toxins underneath is more cost effective than 1,600 polonium half life years worth of taxes to maintain the cap.

The Navy plans to reduce pollution volumes by digging 15-20-foot trenches around the periphery of the Parcel E landfill, a paltry barrier to the coming floods.

Replicating the failure of the Bush administration to recognize climate change, global warming and ocean rise, the Obama administration has not yet assigned objective scientists to review data and establish sound standards. "The force of an object in motion [stays in motion]," observed Tompkins.

VI. Civil rights violations

At a Gandhi-style protest on the Boston Commons, Dr. Hansen of NASA explained: "This is really a moral issue analogous to that faced by Lincoln with slavery or by Churchill with Nazism, because what we have here is a tremendous case of intergenerational injustice. We are causing the problem, but our children and grandchildren are going to suffer the consequences."

Comparison to the moral issue facing Lincoln with slavery is apt when applied to peoples of color representing the larger Bayview Hunters Point population. Predominantly white, rich developers have, through political subterfuge, stolen for development the land of this poverty-ridden population, leaving them without homes, property or jobs.

When developers construct businesses, houses, condos, roadways, bridges, stadiums and shopping malls on this non-remediated Superfund site, their future children and grandchildren, too, pay with a seriously reduced natural habitat and wildlife. Toxins remaining in the soil may cost lives.

Attributions

This report could not have been written without the generous input of the people listed below:

Eric Brooks, grassroots organizer and San Francisco Community Choice advocate, coordinator of the San Francisco-based environmental, consumer protection and social justice organization, Our City

Marie Harrison, Bayview resident and community organizer with Greenaction on issues of environmental justice and green energy

Ahimsa Porter Sumchai, M.D, licensed medical doctor, since 2000 the health and environmental science editor for the San Francisco Bay View newspaper, environmental toxins expert

Dr. Raymond Tompkins, Bayview resident, organic chemist and associate researcher at San Francisco State University, whose private company specializes in toxic waste cleanups outside the U.S.

Francisco Da Costa, Bayview resident, director of Environmental Justice Advocacy

Jaron Browne, POWER organizer, Bayview Organizing Project, working on campaign for sustainable community development to build racial, economic, gender and environmental justice.

For a map showing the effects of a 2-meter sea rise on Southeast San Francisco, see http://flood.firetree.net/?ll=37.7463,-122.4023&z=4&m=2.

Carol Harvey is a San Francisco writer whose work is published by many Bay Area periodicals. Email

SAN FRANCISCO PUBLIC PRESS
INDEPENDENT NONPROFIT IN-DEPTH LOCAL NEWS

Major S.F. Bayfront Developments Advance Despite Sea Rise Warnings

By Kevin Stark (/members/kevin-stark), **Winifred Bird** (/members/winifred-bird) and **Michael Stoll** (/members/michael-stoll)

San Francisco Public Press — Jul 29 2015 - 2:39pm

Builders plan to invest more than $21 billion in offices and homes in flood-prone areas, where waters could climb 8 feet above today's high tide by the end of this century

Like every body of water that opens onto a global ocean, San Francisco Bay is virtually guaranteed to rise several feet in coming decades, climate scientists say. But that has not deterred real estate developers from proposing and building billions of dollars worth of new homes and offices in bayfront areas that current climate change predictions show could flood by century's end.

Land-use records and environmental applications reveal that the building boom, fueled by a white-hot tech economy, is moving too fast for regulators to keep pace. Most cities and regional agencies have not yet adopted tools to address flooding in areas where thousands of acres are threatened by sea level rise.

Developers say they have engineering and financial solutions to deal with any reasonable future flooding risk. But critics, including climate scientists, urban planners and environmental activists, say the current wave of construction might leave taxpayers on the hook for enormously expensive emergency protections and repairs.

Researchers studying climate change predict that the rise in ocean levels will accelerate later this century as the atmosphere heats the ocean and melts glaciers. Many of their models show that by 2100, occasional flooding could reach as high as 8 feet above current high tide, in the event of a severe coastal storm.

Even the scenario widely considered "most likely" — 3 feet of permanent rise — would put thousands of acres of the current shoreline underwater.

Developers are planning or currently building at least 27 major commercial and residential complexes around the bay on land lower than 8 feet above high tide, as estimated by recent aerial surveys. And more than a dozen Bay Area cities continue to issue permits for plans that address future flood risks vaguely, if at all.

An ap
Jack V
house
rise, h
Public

The 18
champ
500,0

Google, Microsoft, LinkedIn and Facebook are among the marquee corporate names driving the bayfront explosion. Some cities are even courting companies to build near sea level, often on landfill created in the mid-20th century in former salt marshes. Much of that land could **return to the sea** (http://www.scientificamerican.com/article/can-silicon-valley-adapt-to-climate-change/) , unless cities erect seawalls, levees and other monumental edifices.

In many areas new development includes desperately needed housing. Projects now in the pipeline in San Francisco would add 25,000 new apartments. On Treasure Island alone, developers are ready to break ground on a forest of residential towers that could house 12,000 people, and at Mission Rock and Pier 70, developers have pledged to build more affordable apartments than the city requires.

Public Costs

Corporate and government data show that the highest-profile building projects on the shorelines of San Francisco, Silicon Valley and the East Bay will cost more than $21 billion to build, excluding the value of the land underneath them.

That does not account for the likely public cost, coming within decades, of protecting these settlements with dikes, levees and artificial wetlands — or for the economic toll of abandoning development in designated buffer zones as waves rise.

A few local governments, including Mountain View, are beginning to spend money on sea level rise infrastructure projects that can protect waterfront business districts.

And San Francisco is in its second year of interdepartmental planning to address sea rise. But the city has yet to update its flood plain ordinance or planning and building codes to address increasing flood risk on the waterfront.

The San Francisco Public Utilities Commission has **updated** (http://www.climatecentral.org/news/san-francisco-threat-of-sea-level-rise-18189) its flood maps, which guide public works investments, but other agencies do not impose those guidelines on private property.

Mayor Ed Lee and the Board of Supervisors last year resisted a call from the chair of the city's civil grand jury to stop approving new shoreline development until stricter building rules are passed. Officials said that changes to city codes might be necessary, though until now state environmental laws and reviews have been sufficient.

Official maps upon which the city's 2008 **flood ordinance** (http://sfgsa.org/Modules/ShowDocument.aspx?documentid=7520) is based do not account for future sea rise. Developers say this means the city lacks the legal grounds to prevent building there.

In the past five years, San Francisco land-use agencies have approved residential, entertainment, retail, medical and office projects on nearly 50 waterfront parcels that are less than 8 feet above sea level. Major projects are somewhere in the approval process for Treasure Island and in parts of South of Market, Pier 70, Candlestick Point and Hunters Point.

The most **contentious** (http://ww2.kqed.org/news/2015/07/28/a-big-if-in-ucsf-golden-state-warriors-arena-talks) is the Golden State Warriors' $1 billion plan for a mixed-use facility in the Mission Bay neighborhood south of downtown. Opponents of the project, centered around an arena for the 2015 NBA champions, have focused on how it would affect traffic and bay views. But the basketball team's engineers admit in an **application** (http://www.sf-planning.org/index.aspx?page=1828) for environmental review that the site could under some scenarios temporarily flood "to depths between 2 and 4 feet" by the year 2100.

Oppor
report
clarity

Durin
align '
look li
these
Hunte
Franc

On a r
high t
Scient
is now
chang
can al
magni
elevat
Franc
Resea
studie
Chang
Coasta
Public

MORE

In re
proj
th
mo
pe
pla

Al

Team engineers express confidence that they can design the buildings to resist storm surges by raising entrances, waterproofing basements, installing floodgates in the garage and judiciously deploying sandbags. The Warriors are expected to present the proposal to the Planning Commission this year before the scheduled release of a city-sponsored report showing Mission Bay's vulnerability to sea rise.

Also at potential risk are hundreds of millions of dollars worth of facilities that opened this year in other parts of Mission Bay, where many streets and sidewalks are less than 10 feet above the bay's current level. That includes University of California, San Francisco, Benioff Children's Hospital and the San Francisco Emergency Services Center, where the city's Police and Fire departments have set up new headquarters.

Some nearby projects do include plans to address sea rise. At the San Francisco Giants' $1.6 billion Mission Rock development, which includes 1,500 apartments with views of AT&T Park, the plan is to elevate the land to accommodate 4.6 feet of sea rise, plus storm surge.

Development projects are springing up all around the southern half of the bay, from San Francisco to San Jose, and north to the Port of Oakland and the island of Alameda.

Maps created for the San Francisco Public Press by graduates of the Geography Department at the University of California, Berkeley, using published development plans and oceanographic data, show that current or proposed building projects that are at least partly in low-lying areas add up to more than 5,100 acres.

Around the Bay

Regional planning is hard, and the Bay Area is struggling to coordinate. There are efforts underway. Individual cities are planning to build expensive protections, and new organizations are aligning the responses of cities and public agencies. Some state-level responses are in the works. The challenge is that local development is governed by a patchwork of inconsistent zoning and differing interpretations of state law.

In a survey of 13 communities around the bay with the most intense waterfront development, the Public Press found that six had progressed beyond studying the threat of sea rise but none had an action plan. And only two — San Francisco and San Jose — had changed rules for any departments that oversee land use.

When asking for details about flood protection, cities typically rely heavily on developers to summarize which predictions for sea rise are as relevant. These predictions are sometimes based on shorter time frames than the period it will take to finish paying for the construction. Developers' long-range engineering suggestions are often based on just 3 feet of permanent inundation by 2100, and do not account for storm surge.

Climate change science is still evolving, but the San Francisco Public Utilities Commission found that government and academic experts, including the **National Research Council** (http://www.nationalacademies.org/nrc/), the **Intergovernmental Panel on Climate Change** (http://ipcc.ch/), the **National Climate Assessment** (http://nca2014.globalchange.gov/), state and regional climate agencies and independent research groups, largely agree on a matrix of predictions that endorse the 3-foot "moderate" benchmark.

None of the 13 cities surveyed requires developers to prepare for the less likely 4.6-foot scenario. The debate in local planning circles is whether to plan for the moderate outcome, or a less likely high-end one.

Several public and private science groups have posted interactive maps

online in the past three years that show which areas would flood under various scenarios. But their creators say it has been hard to persuade city planners to use them to assess flood hazards.

In a 2009 report for the California Energy Commission, the Pacific Institute, an Oakland-based research group advocating for corporate environmental stewardship and social equity, **estimated** (http://pacinst.org/publication/the-impacts-of-sea-level-rise-on-the-california-coast/) that property lost in the event of 4.6 feet of sea rise by 2099 would cost the Bay Area $62 billion (nearly two-thirds the cost for all of California). This inundation would require rebuilding the airports serving San Francisco and Oakland, and moving parts of interstates 101 on the Peninsula and 80 in the East Bay. It could also put 270,000 people in danger during severe floods, the report warned, and "continued development in vulnerable areas will put additional areas at risk and raise protection costs."

Follow the Money

"Now is the time to look seriously at what will happen 50 or 100 years down the road," said Gary Griggs, who directs the Institute of Marine Sciences at the University of California, Santa Cruz, and contributed to the National Research Council's **most recent report** (http://www.nap.edu/catalog/13389/sea-level-rise-for-the-coasts-of-california-oregon-and-washington) on sea level rise on the West Coast. "What is the value of making a development, housing project or mall if we know it will have to be removed later, except for some short-term temporary gains?"

Developers stand to profit handsomely from the waterfront land rush, but governments also benefit in the short run. The proposed megaprojects promise tens of millions of dollars in tax revenue. Some cities are offering developers tax credits, low-cost land and flood-control infrastructure to encourage building on their shorelines.

But there are signs of change. The Port of San Francisco in 2012 sketched a $2.7 billion concept to wrap a 10-mile-long, elevated supplemental pier around the existing Embarcadero piers, and is considering adding pumping stations and dikes.

Acting alone, cities risk pushing floodwaters into neighboring areas. In the short term, to avoid ringing the whole bay with barriers, communities could surround themselves with small levees and extend them inland up creeks. This would keep water from neighboring communities out, until it got too high.

The **Bay Conservation and Development Commission** (http://www.bcdc.ca.gov/), formed 50 years ago to stop developers from filling in the bay, is urging caution and trying to play a regional coordinating role. But its jurisdiction stops just 100 feet inland from the current shoreline. The commission was chartered to ensure public access to the land, not to tell developers how to build.

To address the commission's concerns, many development plans propose a strip of grass — heralded as "parkland" or "open space" — separating buildings from the bay. This does little to protect property if seas rise even a few feet vertically, sending floodwaters thousands of feet inland.

The common roadblocks that environmentalists face nationwide in raising concern over adaptation to climate change, such as distrust of science or lobbying by the fossil fuel industry, play only a small role in Bay Area politics. Here, the obstacles involve pressure from the real estate, construction and tech businesses emphasizing short-term economic opportunity over more precautionary environmental perspectives.

Capitalizing on Uncertainty

5.

Loca

6.

Cities

Bay

RE
Lorger
Kevir
and B
Eri
La

San Francisco planning staffers say they evaluate each application for its response to the threat of sea level rise and suggest a range of adaptation strategies. According to public records, in the last five years the city has approved more than 50 projects, each worth at least $1 million, in low-lying waterfront areas. The estimated development costs of these projects exceed $4.5 billion.

A report in June 2014 from the city's civil grand jury — a volunteer committee that examines local government — concluded that San Francisco was **not moving nearly fast enough** (http://civilgrandjury.sfgov.org/2013_2014/2014_CGJ_Report_Rising_Sea_Levels_w_correction.pdf) to protect public safety in the event of sea rise. David Behar, climate program director for the San Francisco Public Utilities Commission who last year headed the city's interagency **Sea Level Rise Technical Committee** (http://onesanfrancisco.org/wp-content/uploads/San%20Francisco%20SLR%20Guidance%20Adopted%209.22.14%20121820 14.pdf), said scientists' increasing confidence in their projections and the degree of agreement among them support taking action.

This year, Mayor Ed Lee convened a new panel, the Sea Level Rise Coordinating Committee, chaired by Gil Kelley, the director of citywide planning, and Fuad Sweiss, the city engineer. He said the group would produce a "high-level assessment" of risks and vulnerabilities, and consider recommending stricter rules for private development.

Maryta Piazza, corresponding secretary of the civil grand jury, told a Board of Supervisors committee in September 2014 that the city should impose a moratorium on private developments until its codes are updated.

"If we don't stay ahead of the trend," Piazza said, "as we are now we'll be forever catching up, fixing up, and ending up spending much more money in the long run."

Kristina Hill, an associate professor of landscape architecture and environmental planning at UC Berkeley, said **long-range planning** (http://www.harvarddesignmagazine.org/issues/27/design-for-rising-sea-levels) is essential because sea level rise will be exponential.

"We are living in the last two stable decades of sea level rise," Hill said. "Around 2045, 2050 or 2060, it's going to get faster."

Roger Kim, a representative of Lee's office, said more research was needed. Lee said in a **memo to the civil grand jury** (http://civilgrandjury.sfgov.org/DepartmentResponse/Rising_Sea_Levels_Report_Responses/Rising_Sea_Level_Responses_Consolidated_City.pdf) that requiring new buildings to withstand sea levels projected for 2050 or 2100 was unnecessary because many developments are not designed to last that long. He echoed developers, who often argue that if sea level rise becomes a problem, future generations can find engineering and financial solutions.

He added that any future regulation should be written with more nuance than determining whether a new building will flood. Rather, each development faces a different threat from storms, depending on its unique geography and the consequence if it is flooded. For example, a park is resilient to flooding in a way that an electrical substation is not. Regulations need to let planners adapt approvals to the circumstances, he said.

"It may be unwise — and expensive — to require immediate measures to adapt to wide-ranging, highly uncertain SLR projections further out in time," Lee wrote.

Rethinking Mission Bay

On April Fools' Day 2009, the cover story of Synapse, the student-run weekly paper at UCSF, was headlined "Mission Bay: The Underwater

Campus." With sea waters likely to threaten the health science school's new campus within decades, the paper joked, adaptations could include a "campus housing fishing hole," "surgical scuba gear," and a 10-block "Third Street Ridge" cutting through Mission Bay to act as a seawall. Little did the editors know that at least one of these farcical suggestions could become reality.

In September 2014, consultants **drafting a report** (http://onesanfrancisco.org/wp-content/uploads/Agenda-Item-5-Mission-Creek.pdf) to the city's Public Utilities Commission and the Capital Planning Committee said sea level rise should not be addressed in a piecemeal fashion. The 303-acre neighborhood, which was an inlet of the bay before it was filled and used for a sprawling rail yard, must be rethought comprehensively. One suggestion from the consultants is to put Third Street on top of a levee that would reduce flooding risk in most of Mission Bay.

"The entire shoreline is too low to be protected, so what can we do about that?" Laura Tam, environmental director at SPUR, a Bay Area urban planning and advocacy group, asked at a City Hall hearing. "We cannot just protect individual buildings. We need something that protects the whole area in the long term."

Tam co-authored the forthcoming report with Peter Wijsman, a consultant with the Dutch engineering firm ARCADIS, which has engineered solutions to sea rise in the Netherlands. Wijsman said options for Mission Bay ranged from "learning to live with water" to "armament" for the shoreline. Officials also discussed a "Venice-style" system allowing water to flow around flood-proof ground-level shops and building entrances. (**See video** (http://sanfrancisco.granicus.com/MediaPlayer.php?view_id=22&clip_id=21191).)

When UCSF began planning its new medical center in the 1980s, it stabilized the land in Mission Bay by adding more fill on top of the sand brought in from SoMa during the 19th century and debris added after the 1906 earthquake and fire.

Paul Franke, a senior planner for the medical center, said the grade was raised by 2 to 5 feet to ensure that hospital and research buildings could withstand 3 feet of sea level rise. He said that was meant to make the project last "in perpetuity."

When the city reviewed Mission Bay's original sitewide permits in 1998, officials generally planned for 100-year floods, those with a 1 percent chance of happening each year. They used older predictions of sea rise and less precise topographic mapping, focusing on relatively short time horizons (8 inches by 2025). But Franke said UCSF will monitor the science over the next 50 years to ensure "we were not tragically off in our predictions."

Meanwhile, the hospital is planning more facilities even closer to the bay and recently bought a parcel east of Third Street near 16th. As an arm of the state, UCSF gets its permits from the Division of the State Architect, not the city. But San Francisco planners do have regulatory power over the Warriors arena. Developer Strada said it plans to explain in reports mandated by state law how it will safeguard the facility, whether by raising the land, permitting some flooding or building barriers.

With the Warriors' environmental review scheduled months before the Mission Bay sea level rise report is due, and given the mayor's unwavering support for the sports facility, it is hard to see the Planning Commission derailing the plan because of the threat of sea level rise.

Representatives of Prologis, the developer overseeing all Mission Bay planning, did not respond to repeated calls for comment on long-term plans.

Costly Fixes

At Treasure Island, the towers approved by city officials will include 8,000 homes and 235,000 square feet of retail space. Kheay Loke, a manager with development firm Wilson Meany, says the project makes sense because the area already has roads and electricity, so developing there is more environmentally sustainable than building in the suburbs. For the company, it means not having to install new infrastructure.

For years, the property's developers have emphasized their plans to conserve energy, maintain open spaces and build walkable neighborhoods, linked to the rest of the city by public transit, including ferries. In an interview in a downtown conference room with a view of the island, Loke said there was an easy — if "sacrilegious" — solution to sea level rise.

"Fill in the bay," he said. "You go 50 feet out, and you build yourself a levee."

Wilson Meany and co-developer Lennar Urban already plan to fortify existing berms around the 400-acre island to make them broad enough to build higher in the future. And they plan to raise the land, at a cost of $1.2 billion. Construction will continue through 2035.

"We can adapt and protect," Loke said. "Sea level rise and flood protection are problems that money can solve."

In this case, the money probably will come from the island's future taxpayers. Treasure Island property owners will pay a special fee, called a Mello-Roos tax, to fund any future adaptation measures needed after the developers leave.

Brad McCrea, regulatory program director at the Bay Conservation and Development Commission, said Treasure Island's developers brought "eyes-wide-open expertise" to their planning. But he said he was skeptical of applying this kind of technology-centered approach everywhere around the bay, given that sea level rise could continue for centuries. "At the end of the day, this will be a levee-protected community," McCrea said. "There's no getting around that."

McCrea said Bay Area communities should be talking about retreating from the riskiest shoreline areas. "This is not about Treasure Island, but there are some basic questions here about where is the right place to build."

Will Travis, who headed the commission for 16 years until 2011, said the region needed a more "thoughtful, reasoned, rational and financially sound solution.

"It will buy you 50 years of time to get our heads around this notion of 'permanent temporary' development," he said. "Getting developers and local governments to think half a century ahead is very hard."

Developers are spending millions of dollars on public relations to persuade voters that they are building safe and environmentally benign projects. In November, San Francisco voters approved Proposition F — which technically exempted Pier 70, a development south of Mission Bay, from height limits, but in effect endorsed the construction of commercial space and 2,000 homes (600 affordable) on 28 waterfront acres. Our maps suggest that large portions of the former industrial area could be submerged under several feet of water by 2100 in the event of 6.4 feet of flooding (the intermediate prediction for sea rise and extreme storm surge).

After three years of public outreach, developer Forest City **spent almost $3 million** (http://nf4.netfile.com/pub2/AllFilingsByFiler.aspx?id=151555212) on the campaign, including paying $15,000 to the San Francisco Democratic Party, $10,000 to the Republican Central Committee and $25,000 the Sierra Club for mailing campaign fliers.

The project won endorsements from the city's last three mayors, all 11 current members of the Board of Supervisors and more than 50 community groups. Activists with the Sierra Club's local chapter told a reporter last fall they never pressed the developer about sea rise.

Forest City has not yet sought environmental permits, so its specific plans are not public.

Other proposed waterfront projects that still need some approvals include the sprawling Hunters Point development that includes 1,600 homes now under construction at the old Naval Shipyard, and a commercial and residential complex rising at Candlestick Point to replace the eponymous stadium. Developers are raising the land there to keep buildings, streets and key infrastructure above the moderate estimate of the 100-year flood level — a few feet of storm surge on top of 3 feet of sea level rise.

Planners Value Flexibility

Chris Kern, a senior environmental planner for the city, said the lack of firm city codes allows easier adjustment to new scientific projections. It is sufficient that state law requires the city to assess whether new projects "expose people or structures to a significant risk of loss, injury or death involving flooding," he said. The city interprets that to include future flooding from sea rise.

The San Francisco Public Utilities Commission's Behar said it was common for government to test regulations by applying them to public property before forcing compliance in the private sector. Perhaps surprisingly, the real estate and development industries are not uniformly opposed to regulation. Developers say working under clear rules makes it easier and less expensive to plan. "Sea level rise adaptation should be government mandated," said Loke, of the Wilson Meany development firm.

Piazza, the civil grand jury member, said San Francisco should halt the rapid pace of development until it adopts comprehensive policies that protect both public safety and private property. If the city takes too long, all the gaps in the waterfront skyline will have been filled in by the time the rules go into effect.

Tam, a longtime advocate for regional climate adaptation planning at SPUR, sees hope in the city's new approach.

"Five years ago, this topic was virtually unknown," she told John Upton, a reporter for Climate Central, a nonprofit that researches and reports on climate change. "Today, many city departments have not only participated and worked together to produce this guidance, but they are working collaboratively to develop solutions."

Kelley, the director of citywide planning, said it was too soon to recommend new planning codes. "We need to know what the problem is before we come up with an answer," he said. "This will lead to some discussion of what we might do."

Silicon Valley Growth

When Google first proposed in February to build a massive new headquarters in Mountain View, it issued **promotional videos** (http://googleblog.blogspot.com/2015/02/rethinking-office-space.html) and renderings showing 3.4 million square feet of office space under undulating canopies of glass and plastic.

Peter Gleick, president of the Pacific Institute, **blasted** (http://www.huffingtonpost.com/peter-h-gleick/flooding-google-googles-n_b_6804300.html) the tech giant's choice of location.

"Their property at the south end of San Francisco Bay is extremely

vulnerable to projected sea-level rise," Gleick blogged. "Google is a forward-looking company. But are they looking forward to, and planning for, the now-unavoidable impacts of climate change as they design new multibillion dollar infrastructure investments?"

Mountain View's North Bayshore neighborhood hosts Google's current headquarters, as well as offices for Microsoft, Intuit and other companies. The city's **plan** (http://www.mountainview.gov/depts/comdev/planning/activeprojects/northbayshore_.asp) envisions a walkable community of corporate campuses, stores, hotels, services and entertainment. Flood maps show that much of the zone could be underwater with 8 feet of combined sea rise and severe storm surge. But the plan looks only to predictions for the year 2064, when, it asserts, seas are expected to rise a maximum of 3 feet.

Mountain View has set aside more than $43 million for proposals to bolster existing levees, pump stations and tide gates, the Bay Area News Group **reported** (http://www.santacruzsentinel.com/environment-and-nature/20150621/san-francisco-bay-water-level-could-rise-65-inches-by-2100) in June.

In May, the City Council **voted** (http://bits.blogs.nytimes.com/2015/05/06/google-loses-to-linkedin-in-silicon-valley-headquarters-pitch/) to award the majority of the developable office space to LinkedIn's Shoreline Commons mixed-use concept, based largely on its claims that it would "preserve business diversity" — a reference to Google's already dominant footprint in the city.

But Google has designs on several additional waterfront properties. In neighboring Sunnyvale, it took over a 60-year lease from NASA for part of the land at Moffett Federal Airfield, where the space agency had concluded it needed a buffer zone to keep rising waters out.

In Menlo Park, Facebook recently finished a **new campus** (http://qz.com/373448/photos-facebooks-new-headquarters-designed-by-frank-gehry/) with a 430,000-square-foot building, featuring 9 acres of rooftop foliage, designed by Canadian architect Frank Gehry. According to recent U.S. Geological Survey data, parts of the site were below 8 feet in elevation before it was developed.

In its environmental impact report, Facebook said that although the average height of the land was 9 feet, the buildings themselves would be "raised above future flood risk."

The environmental report also argued that Facebook was not technically obligated, under state rules, to judge environmental risk to the facilities, even though the company had taken various protective measures.

As the report put it, the purpose of state-mandated review "is to evaluate the effects of the project on the environment, not the effect of the environment on the project."

Facebook representatives declined to speak on the record about the company's flood plain adaptation strategies.

Charlie Knox, a principal at PlaceWorks, a firm in Berkeley that helps cities plan for sea level rise, said the main Facebook building would probably be safe from flooding through the 22nd century. "They are pretty hip and they have over-anticipated sea-level rise," he said.

In an extreme event such a building, elevated on concrete pillars, would probably survive, though the land around it would be submerged. "People would be sitting in their offices looking at the water," he said. "It is a model for adaptation."

Knox said technology firms know the risks they are taking by proposing and building tens of millions of square feet of new research and development facilities.

"There is a ton of good jobs, meaningful stuff that will help medicine and human life, and it is all going up like crazy," he said. "And it is all in a place that sea level is going to rise."

East Bay Renewal

Large swaths of underused East Bay waterfront have been under construction for years, with some projects originally financed by redevelopment funds that the state pulled back after falling into deficit. At Oakland's Jack London Square, the newest project includes a 1,700-seat movie theater, restaurants, supermarkets and a 250-room hotel with a marina and small beach. Developers said it faced no flood risk, though they did not address sea level rise in their 2004 environmental impact report.

But an addendum to the report released this May asserted that the company was not "required to analyze or mitigate impacts pertaining to the impact of the environment on the project." The construction, the company explained, "is not causing sea level rise, sea level rise will occur regardless of the proposed project."

Construction also is underway on 1 million square feet of warehouse space at the former Army base in West Oakland. Local officials laud this project as a restoration of the "working waterfront" because it will bolster a growing freight industry by connecting cargo ships with trains.

In Alameda, development is continuing on the site of a Naval Air Station that shut down in the 1990s. Currently in the works are 800 apartments and 600,000 square feet of retail space in a $500 million project by Alameda Point Partners, which proposes to raise the land and build levees in the future to keep land below sea level from flooding.

In addition to 26 current major development plans the Public Press found to be at least partly below the projected 8-foot elevation, we found a 27th that for now seems to be off the table. Starting in 2009, Arizona-based DMB Pacific Ventures sought permission from Redwood City to build 12,000 homes on 1,478 acres of bayside salt evaporation ponds owned by agricultural giant Cargill. It was withdrawn in May 2012 after a firestorm of protest from neighbors, some of whom were concerned about the environmental effects of building farther into the bay. Project attorney David Smith said there was "currently no development proposal whatsoever pending for the site," though the project's website said a "scaled back" plan was in the works.

The U.S. Army Corps of Engineers concluded in 2014 that the federal government had no jurisdiction over most of the Redwood City site. But the federal Environmental Protection Agency — which has spent more than $40 million to restore San Francisco Bay wetlands — announced in March that it was investigating whether the land falls under the Clean Water Act. This could be a test case for whether the EPA can include sea level rise in assessing future flood risk or limiting shoreline development.

Search for Solutions

Several regional initiatives aim to coordinate how bayfront cities cope with sea level rise. Most notable are the **Resilient Shoreline Program** (http://www.abag.ca.gov/jointpolicy/pdfs/130315shorelines.pdf), the **San Francisco Bay Regional Coastal Hazards Resiliency Group** (http://www.acfloodcontrol.org/SFBayCHARG/) and **Our Coast, Our Future** (http://data.prbo.org/apps/ocof/).

The state has created a $2.5 million California Climate Resilience Account to pay for planning. Legislation is also pending on a statewide database of preparedness work.

In the South Bay, a **coalition** (http://www.southbayshoreline.org/about.html) of

federal and state agencies including the Army Corps of Engineers, the Coastal Conservancy and the Santa Clara Water District are proposing the federal government spend $162 million for wetlands restoration and levee construction. Also in the South Bay, a **regional authority** (http://sfcjpa.org) is widening old levees and building new horizontal ones around San Francisquito Creek.

But creating consistent rules governing private property could be a challenge. “Regulations around climate change are in their infancy, or nonexistent,” said Behar of the San Francisco Public Utilities Commission.

Jasper Rubin, a professor of urban planning at San Francisco State University, said the common solution of raising land to raise the height of buildings fails to address the “larger systemic issues.” If one property is raised, he said, it “doesn’t mean the rest of the waterfront’s not going to get inundated.”

Kristina Hill, the UC Berkeley planning professor, said more experimentation is needed in waterfront construction techniques. But few businesses are invested in fortifying the properties they build beyond midcentury. It is hard to fund resilient architecture, Hill said, when developers “do not have a shared interest with the public about what will happen with those properties in the future.”

Some environmental and planning experts are appealing directly to the public to change sea level rise policies. The King Tides Project publishes reports on coastal erosion and flooding that occur when sun and moon align, known as king tides. These events offer a preview of sea level rise.

Project co-founder Marina Psaros started working with the Bay Conservation and Development Commission to urge cities to pass new flood zone regulations. “Our theory was we need to get heads of planning and public works directors aware, concerned, activated on climate change,” Psaros said.

Discouraged by institutional inertia, she shifted her focus to public outreach, publishing dramatic photos of high tide events on social media.

Knox, the consultant who works on adaptation planning around the bay, said that the time horizons of developers and governments are too short to deal with the effects of climate change. The waterfront will change noticeably even in a single lifetime, but sea level rise will plague coastal communities for generations.

“One of the problems we face is that we do not live very long,” Knox said. “We think, ‘I’m going to move into this house and have kids here.’ People do not care what the house will be in 200 years. But now we have to think differently.”

-
- Browse:
-
-
-
-
-
-
-

print

Pan-American Unity

From FoundSF

Historical Essay

by Masha Zakheim

DIEGO RIVERA'S LAST BAY AREA FRESCO: PAN-AMERICAN UNITY (True fresco mounted on portable steel frames; 6.74 X 22.5 m.; 1940. Painted at Treasure Island; moved to City College of San Francisco)

Watch Diego Rivera and his team paint this fresco in a live 15-minute silent movie from the Treasure Island Fair in 1939.

Photo: Chris Carlsson

The largest and most complex wall painting that Diego Rivera created in San Francisco is the comprehensive marriage of the themes of Mexican artistry and US technology in *Pan-American Unity*. Confronted by the untimely removal of an exhibit of Old World Masters on loan for one year at the Golden Gate International Exposition on man-made Treasure Island, architect Timothy Pflueger called on Rivera to return to San Francisco in 1940 to fulfill the art commitment of the second year of the Fair: working in public every day he would paint in ten sections a large fresco to be moved into the library of the new community college campus that Pflueger was designing. After the Fair ended, this Art-in-Action project would be boxed and moved off Treasure Island to the City College campus for installation.

Timothy L. Pflueger (holding blueprint in brown suit) 1892-1946, San Francisco architect and Rivera's friend, patron and main collaborator on this mural project, as well as the 1931 Pacific Stock Exchange mural, "Allegory of California." Pflueger died unexpectedly in 1946.

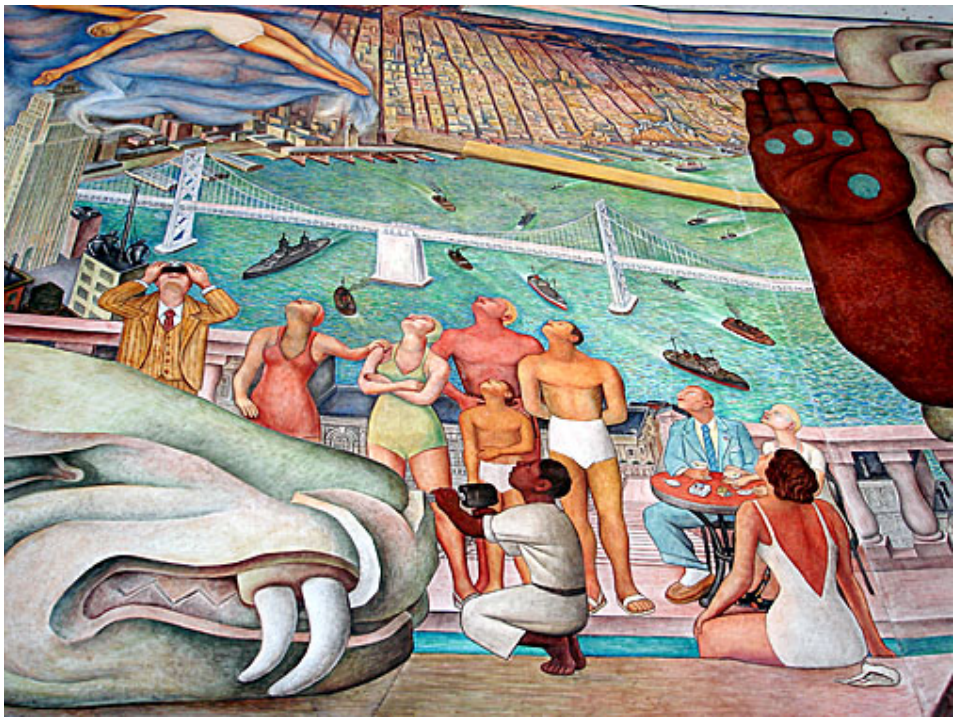
Photo: Chris Carlsson

However, fate altered the plans--World War II intervened, Timothy Pflueger died suddenly of a heart attack in 1946, and Diego Rivera of cancer in 1957. Thus it remained to Timothy's younger architect brother Milton Pflueger to determine the ultimate site of the fresco. The ten crated fresco panels had sat for twenty-one years in storage. Then in 1961 Milton Pflueger altered his new auditorium design in order to accommodate them on a bowed-out wall where they remain today in the present Diego Rivera Theater.

The complex composition of *Pan-American Unity* requires explication--Rivera wrote copious notes on his blending of the arts of ancient Mexico and the technology of modern United States. The composition does not "read" linearly. Rather, on the left-hand side is a half-parenthesis that consists of the brightly colored tail of the feathered serpent Quetzalcozatl flowing from a temple and ending in a stone head which Madronio Magano is sculpturing; a Toltec totem serves as an anchor. At far right are early US pioneers entering a "new and empty land" above the right-hand half-parenthesis formed by a curved gravel conveyor belt, with a wine-press screw as anchor. These two outer border configurations embrace the intensely woven internal scenes.

Photo: Chris Carlsson

The striking central image, which Rivera called "The Serpent Fanged Machine", is a synthesis of Coatlique, the Aztec Goddess of Earth and Death, and a stamping press from the Detroit Ford Automobile plant. To the goddess, with her symbols of serpents' heads, her skirt of braided serpents, and a human heart and skull, Rivera has appended a large brown hand with four turquoise jaguar spots to halt the tyranny of approaching World War IL Two diving figures (Helen Crlenkovich, a City College diving champion at the Fair) arch away from the central image in either direction, lending a sense of circularity to each half of the composition. The left diver, her body reflected in the fog typical of San Francisco, is superimposed upon the city; beneath her stand two recognizable buildings designed by patron Timothy Pflueger: the 450 Sutter Street Medical Dental skyscraper; and the Pacific Telephone building on New Montgomery Street, both of which have lobbies designed by Michael Goodman. Pflueger also influenced the design of the 1936 Bay Bridge, which here lies behind the goddess figure and links the city to Treasure Island, portrayed at upper right, beneath the second diver. In front of the "serpent-fanged machine" are three portraits of Northwest carver Dudley Carter, with ax: first he carves the big *Mountain Ram* later the mascot for CCSF; next as a timber cruiser he swings the ax; and finally he holds it standing next to Timothy Pflueger, both "patrons" of the mural.



Photos: Chris Carlsson

Two types of war balance each other. Rivera shows such figures from wars of revolution, which he admires, as Bolivar, Hidalgo, and Morelos, as well as Washington, Jefferson, Lincoln and John Brown. The balancing gaseous war cloud at right encompasses dictators Stalin (portrayed with blood-tipped pickax as the murderer of Trotsky), Hitler, and Mussolini to represent the onset of World War II, a war that in 1940 he perceives to be totalitarian aggrandizement.

Photo: Chris Carlsson

Other portraits depict Frida Kahlo in Tehuantepec dress; Paulette Goddard and Charlie Chaplin in the movie *The Great Dictator*; Emmy Lou Packard, his assistant; US inventors Henry Ford, and Thomas Edison; American artist Albert P. Ryder; and artist-inventors Samuel Morse and Robert Fulton. In two self-portraits he shows himself first as a fresco painter and then possessor of the Cieba Tree, tree of Life and Love. The three air exhaust vents on a roof have shrunken in size, but the red hand on the pressure gauge has crept dangerously close to explosion. And the imagery of working hands pervades the entire mural.

Photo: Chris Carlsson

This work is both intricate and monumental. It is an incredible history, both local and universal, with the strong message of our need for Pan-American Unity. Although Rivera himself had training in the best European tradition, including a year in Italy studying frescoes, he here emphasizes two themes of the *western* hemisphere: art and technology, extending the ideas

with which he began at the Stock Exchange in 1930, where he featured California agriculture and industry. Thus, in his San Francisco frescoes within a decade Diego Rivera comes full circle in 1940 with his final work, *Pan-American Unity*.

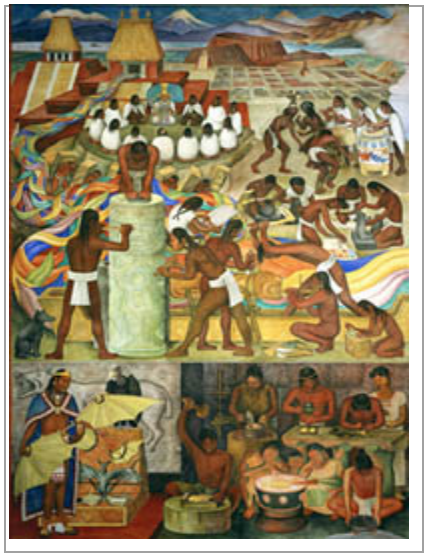
Photo: Chris Carlsson

Photos: Chris Carlsson

--Masha Zakheim, from Diego Rivera en San Francisco © 1998 Crculo de Arte

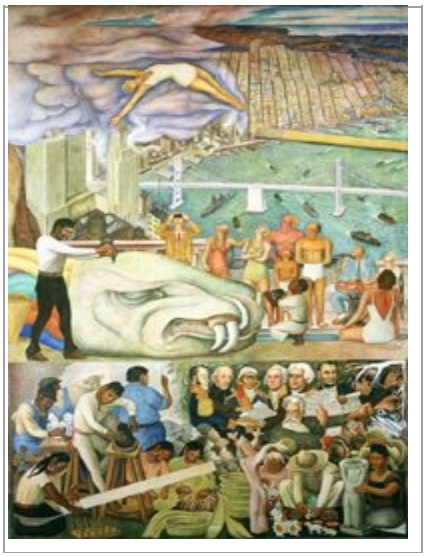
Prev. Document Next Document

Panel 1: The Creative Genius of the South Growing from Religious Fervor and a Native Talent for Plastic Expression



Panel 1 is a celebration of Mexico's indigenous past, artistic genius combined with religious fervor set in a dramatic natural background. Rivera wrote, "I depicted the South in the period before Cortes. The outstanding physical landmarks were the massive and beautiful snow-crowned Popocatepetl and Ixtaccihuatl. Nearby were the temples of Nahuatl and Quetzalcóatl and the temple of the plumed serpent. Also portrayed were the Yaqui Deer Dancers, pottery makers, and Netzahualcoyotl, the Aztec poet-king of Texcoco who designed a flying machine." Panel 1 forms the left side of a visual parenthesis that balances North and South. The right side of the mural completes the parenthesis with a celebration of Northern California's technological boom of the nineteenth century. See Panel 5.

Panel 2: Elements from Past and Present

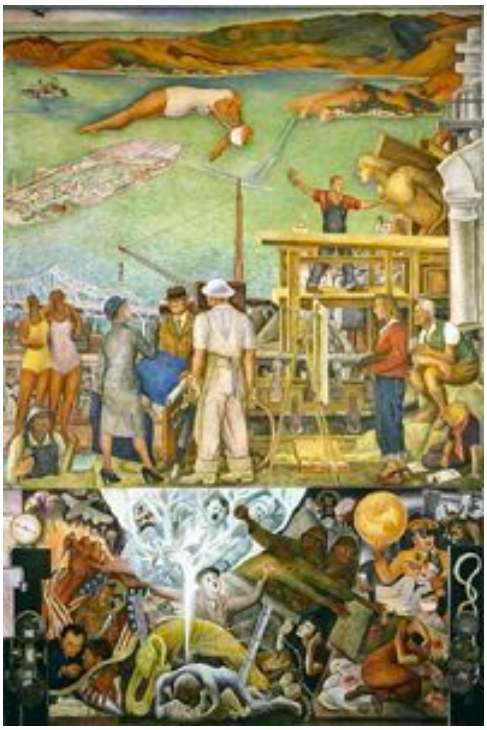


With a graceful swan dive, the City College diver Helen Crlenkovich blends ancient Mexico into the Bay Area. Rivera wrote, "The conquest of time and space was symbolized by a woman diving and the Golden Gate Bridge spanning San Francisco Bay." In the upper section, the contemporary Mexican artisan carving the sculpture of Quetzacoatl, the plumed serpent god, represents the continuity of Mexican ancient culture. In the lower section, Rivera depicted himself painting the "portraits of the great liberators--Washington, Jefferson, Hidalgo, Morelos, Bolivar, Lincoln, and John Brown."

Panel 3: The Plastification of Creative Power of the Northern Mechanism by Union with the Plastic Tradition of the South

Rivera anchored the mural with the central figure, the Aztec goddess Coatlicue combined with a Detroit Motor Company stamping machine. Rivera wrote: Symbolizing this union (between North and South) was a colossal Goddess of Life, half Indian, half machine. She would be to the American civilization of my vision of what Quetzacoatl, the great mother of Mexico, was to the Aztec People.
This idea was elsewhere expressed in a portrait of Dudley Carter an engineer who returned to a pure expression of plastics, using only primitive materials and implements, such as a hand axe. I also painted a portrait of my wife Frida, a Mexican artist of European extraction, looking to the native traditions for her inspiration. Frida represented the vitality of these traditions in the South as Carter represented their penetration into the North. The kinship of the Mexican and American traditions was further represented by an old Mexican planting a tree in the presence of a Mexican girl, as an American boy looked on. Nearby I painted a portrait of Paulette Goddard, holding in her hands what she called in a press release, "the tree of life and love." Representing American girlhood, she was shown in friendly contact with a Mexican man.

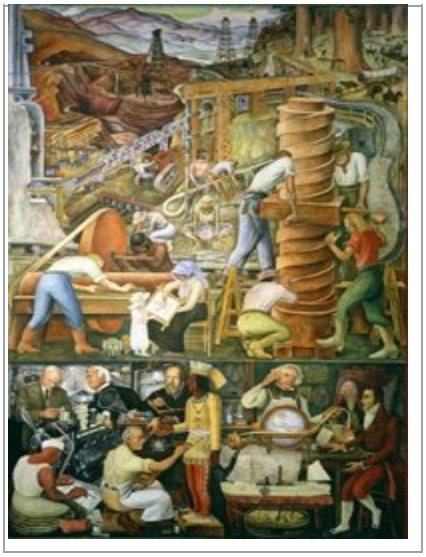
Panel 4: Trends of Creative Effort in the United States and the Rise of Woman in Various Fields of Creative Endeavor through Her Use of the Power of Manmade Machinery



Helen Crlenklovich continues to balance the right side of the mural, as her dive flows above the Treasure Island, the setting of the Golden Gate Expo. Rivera wrote, "The creative force of the United States and the emancipation of women were symbolized by a woman artist, a woman architect, and a sculptress. In the lower part of this panel, I represented two scenes from that typical art form of the North, the movies. One was from Charlie Chaplin's film The Great Dictator, showing in a tragicomic grouping Hitler, Mussolini, and Stalin; the other from the Edward G. Robinson film Confessions of a Nazi Spy. Both works dramatized the fight between the democracies and the totalitarian powers. A hand rose up out of a machine as if to ward off the forces of aggression, symbolizing the American conscience reacting to the threat against freedom, in the love of which the history of Mexico and the United States were united."

Rivera was an avid movie fan. He saw movies as a type of modern day fresco, an art form that could carry important political messages to the masses. To learn more about Treasure Island and the fair, click here.

Panel 5: The Creative Culture of North Developing from the Necessity of Making Life Possible in a New and Empty Land



As a parallel to Panel 1, Rivera celebrates the technological genius of the North here in Panel 5. Rivera wrote, "Just as the plastic tradition of the South penetrated into the North, the creative mechanical power of the North enriched life in the South. I depicted the greatness of the North in such engineering achievements as Shasta Dam, oil derricks, bridges set near the American peaks of Mount Shasta and Mount Lassen, and in portraits of such geniuses as Ford, Morse, and Fulton, the last two of whom were artists as well as inventors."

Coordinates: 37°47′07″N 122°23′48″W

Room 641A

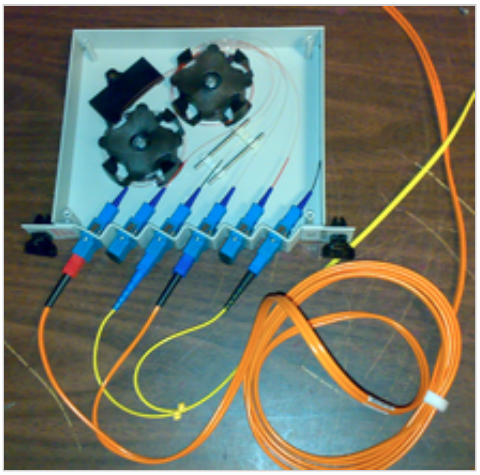
From Wikipedia, the free encyclopedia

Room 641A is a telecommunication interception facility operated by AT&T for the U.S. National Security Agency that commenced operations in 2003 and was exposed in 2006.[1][2]

Contents

Description

Room 641A is located in the SBC Communications building at 611 Folsom Street, San Francisco, three floors of which were occupied by AT&T before SBC purchased AT&T.[1] The room was referred to in internal AT&T documents as the *SG3 [Study Group 3] Secure Room*. It is fed by fiber optic lines from beam splitters installed in fiber optic trunks carrying Internet backbone traffic[3] and, as analyzed by J. Scott Marcus, a former CTO for GTE and a former adviser to the FCC, has access to all Internet traffic that passes through the building, and therefore "the capability to enable surveillance and analysis of internet content on a massive scale, including both overseas and purely domestic traffic."[4] Former director of the NSA's World Geopolitical and Military Analysis Reporting Group, William Binney, has estimated that 10 to 20 such facilities have been installed throughout the United States.[2]



A fiber optic tap

The room measures about 24 by 48 feet (7.3 by 14.6 m) and contains several racks of equipment, including a Narus STA 6400, a device designed to intercept and analyze Internet communications at very high speeds.[1]

The existence of the room was revealed by former AT&T technician Mark Klein and was the subject of a 2006 class action lawsuit by the Electronic Frontier Foundation against AT&T.[5] Klein claims he was told that similar black rooms are operated at other facilities around the country.

Room 641A and the controversies surrounding it were subjects of an episode of *Frontline*,[6] the current affairs documentary program on PBS. It was originally broadcast on May 15, 2007. It was also featured on PBS's *NOW* on March 14, 2008. The room was also covered in the PBS *Nova* episode "The Spy Factory".

Lawsuit

Main article: Hepting v. AT&T

The Electronic Frontier Foundation (EFF) filed a class-action lawsuit against AT&T on January 31, 2006, accusing the telecommunication company of violating the law and the privacy of its customers by collaborating with the National Security Agency (NSA) in a massive, illegal program to wiretap and data-mine Americans' communications. On July 20, 2006, a federal judge denied the government's and AT&T's motions to dismiss the case, chiefly on the ground of the States Secrets Privilege, allowing the lawsuit to go forward. On August 15, 2007, the case was heard by the Ninth Circuit Court of Appeals and was dismissed on December 29, 2011 based on a retroactive grant of immunity by Congress for telecommunications companies that cooperated with the government. The U.S. Supreme Court declined to hear the case.[7] A different case by the EFF was filed on September 18, 2008, titled *Jewel v. NSA*.

Gallery

Page 17: Basic diagram of how the alleged wiretapping was accomplished. From EFF court filings[4]

Page 9: More complicated diagram of how it allegedly worked. From EFF court filings.[3]

See also

- Cabinet noir
- ECHELON
- Fiber tapping
- Main Core
- NSA warrantless surveillance controversy
- President's Surveillance Program
- PRISM (surveillance program)
- Signals intelligence

- Upstream collection
- Utah Data Center

References

1. "AT&T Whistle-Blower's Evidence" (http://www.wired.com/science/discoveries/news/2006/05/70908). *Wired*. May 17, 2006. Retrieved February 27, 2009.
2. Bamford (http://www.wired.com/threatlevel/author/james-bamford/), James (15 March 2012). "The NSA Is Building the Country's Biggest Spy Center (Watch What You Say)" (http://www.wired.com/threatlevel/2012/03/ff_nsadatacenter/all/1). *Wired (magazine)*. Retrieved 23 April 2012.
3. "Klein Exhibit" Document from Hepting vs AT&T lawsuit from 2007. Reported by Ryan Singel in Wired Magazine, article "AT&T 'Spy Room' Documents Unsealed; You've Already Seen Them" (http://www.wired.com/politics/law/news/2007/06/spy_room) 6/13/07, Documents posted at the Electronic Frontier Foundation File "SER_klein_exhibits.pdf website (http://eff.org/legal/cases/att) (PDF)
4. "Marcus Declaration" Document from Hepting vs AT&T lawsuit from 2006. Reported by Ryan Singel in Wired Magazine, article "AT&T 'Spy Room' Documents Unsealed; You've Already Seen Them" (http://www.wired.com/politics/law/news/2007/06/spy_room) 6/13/07 , Documents posted at the Electronic Frontier Foundation File "SER marcus decl.pdf website (http://eff.org/legal/cases/att) (PDF)
5. "NSA Multi-District Litigation" (http://www.eff.org/cases/att). Electronic Frontier Foundation. Retrieved February 27, 2009.
6. "Spying on the Homefront" (http://www.pbs.org/wgbh/pages/frontline/homefront/view/). *Frontline*. PBS. Retrieved 2013-08-01.
7. "Hepting v. AT&T | Electronic Frontier Foundation" (https://www.eff.org/cases/hepting). Eff.org. 2006-01-31. Retrieved 2014-02-12.

External links

- Electronic Frontier Foundation's web page about NSA's domestic spying (http://www.eff.org/issues/nsa-spying)
- Technician Mark Klein discussing Room 641A (https://www.youtube.com/watch?v=QP2tKBtUpVg) on YouTube, *Countdown* episode from November 7, 2007 (link removed from YouTube)

Categories: AT&T | George W. Bush administration controversies | History of cryptography | Locations in the history of espionage | National Security Agency facilities | Privacy of telecommunications | Signals intelligence | Privacy in the United States | Organizations based in San Francisco, California

---

The New York Times | http://nyti.ms/1WteOo8

U.S.

AT&T Helped U.S. Spy on Internet on a Vast Scale

By JULIA ANGWIN, CHARLIE SAVAGE, JEFF LARSON, HENRIK MOLTKE, LAURA POITRAS and JAMES RISEN AUG. 15, 2015

The National Security Agency's ability to spy on vast quantities of Internet traffic passing through the United States has relied on its extraordinary, decades-long partnership with a single company: the telecom giant AT&T.

While it has been long known that American telecommunications companies worked closely with the spy agency, newly disclosed N.S.A. documents show that the relationship with AT&T has been considered unique and especially productive. One document described it as "highly collaborative," while another lauded the company's "extreme willingness to help."

AT&T's cooperation has involved a broad range of classified activities, according to the documents, which date from 2003 to 2013. AT&T has given the N.S.A. access, through several methods covered under different legal rules, to billions of emails as they have flowed across its domestic networks. It provided technical assistance in carrying out a secret court order permitting the wiretapping of all Internet communications at the United Nations headquarters, a customer of AT&T.

The N.S.A.'s top-secret budget in 2013 for the AT&T partnership was

more than twice that of the next-largest such program, according to the documents. The company installed surveillance equipment in at least 17 of its Internet hubs on American soil, far more than its similarly sized competitor, Verizon. And its engineers were the first to try out new surveillance technologies invented by the eavesdropping agency.

One document reminds N.S.A. officials to be polite when visiting AT&T facilities, noting, “This is a partnership, not a contractual relationship.”

The documents, provided by the former agency contractor Edward J. Snowden, were jointly reviewed by The New York Times and ProPublica. The N.S.A., AT&T and Verizon declined to discuss the findings from the files. “We don’t comment on matters of national security,” an AT&T spokesman said.

It is not clear if the programs still operate in the same way today. Since the Snowden revelations set off a global debate over surveillance two years ago, some Silicon Valley technology companies have expressed anger at what they characterize as N.S.A. intrusions and have rolled out new encryption to thwart them. The telecommunications companies have been quieter, though Verizon unsuccessfully challenged a court order for bulk phone records in 2014.

At the same time, the government has been fighting in court to keep the identities of its telecom partners hidden. In a recent case, a group of AT&T customers claimed that the N.S.A.’s tapping of the Internet violated the Fourth Amendment protection against unreasonable searches. This year, a federal judge dismissed key portions of the lawsuit after the Obama administration argued that public discussion of its telecom surveillance efforts would reveal state secrets, damaging national security.

The N.S.A. documents do not identify AT&T or other companies by name. Instead, they refer to corporate partnerships run by the agency’s Special Source Operations division using code names. The division is responsible for more than 80 percent of the information the N.S.A. collects, one document

states.

Fairview is one of its oldest programs. It began in 1985, the year after antitrust regulators broke up the Ma Bell telephone monopoly and its long-distance division became AT&T Communications. An analysis of the Fairview documents by The Times and ProPublica reveals a constellation of evidence that points to AT&T as that program's partner. Several former intelligence officials confirmed that finding.

A Fairview fiber-optic cable, damaged in the 2011 earthquake in Japan, was repaired on the same date as a Japanese-American cable operated by AT&T. Fairview documents use technical jargon specific to AT&T. And in 2012, the Fairview program carried out the court order for surveillance on the Internet line, which AT&T provides, serving the United Nations headquarters. (N.S.A. spying on United Nations diplomats has previously been reported, but not the court order or AT&T's involvement. In October 2013, the United States told the United Nations that it would not monitor its communications.)

The documents also show that another program, code-named Stormbrew, has included Verizon and the former MCI, which Verizon purchased in 2006. One describes a Stormbrew cable landing that is identifiable as one that Verizon operates. Another names a contact person whose LinkedIn profile says he is a longtime Verizon employee with a top-secret clearance.

After the terrorist attacks of Sept. 11, 2001, AT&T and MCI were instrumental in the Bush administration's warrantless wiretapping programs, according to a draft report by the N.S.A.'s inspector general. The report, disclosed by Mr. Snowden and previously published by The Guardian, does not identify the companies by name but describes their market share in numbers that correspond to those two businesses, according to Federal Communications Commission reports.

AT&T began turning over emails and phone calls "within days" after the warrantless surveillance began in October 2001, the report indicated. By

contrast, the other company did not start until February 2002, the draft report said.

In September 2003, according to the previously undisclosed N.S.A. documents, AT&T was the first partner to turn on a new collection capability that the N.S.A. said amounted to a " 'live' presence on the global net." In one of its first months of operation, the Fairview program forwarded to the agency 400 billion Internet metadata records — which include who contacted whom and other details, but not what they said — and was "forwarding more than one million emails a day to the keyword selection system" at the agency's headquarters in Fort Meade, Md. Stormbrew was still gearing up to use the new technology, which appeared to process foreign-to-foreign traffic separate from the post-9/11 program.

In 2011, AT&T began handing over 1.1 billion domestic cellphone calling records a day to the N.S.A. after "a push to get this flow operational prior to the 10th anniversary of 9/11," according to an internal agency newsletter. This revelation is striking because after Mr. Snowden disclosed the program of collecting the records of Americans' phone calls, intelligence officials told reporters that, for technical reasons, it consisted mostly of landline phone records.

That year, one slide presentation shows, the N.S.A. spent $188.9 million on the Fairview program, twice the amount spent on Stormbrew, its second-largest corporate program.

After The Times disclosed the Bush administration's warrantless wiretapping program in December 2005, plaintiffs began trying to sue AT&T and the N.S.A. In a 2006 lawsuit, a retired AT&T technician named Mark Klein claimed that three years earlier, he had seen a secret room in a company building in San Francisco where the N.S.A. had installed equipment.

Mr. Klein claimed that AT&T was providing the N.S.A. with access to Internet traffic that AT&T transmits for other telecom companies. Such

cooperative arrangements, known in the industry as “peering,” mean that communications from customers of other companies could end up on AT&T’s network.

After Congress passed a 2008 law legalizing the Bush program and immunizing the telecom companies for their cooperation with it, that lawsuit was thrown out. But the newly disclosed documents show that AT&T has provided access to peering traffic from other companies’ networks.

AT&T’s “corporate relationships provide unique accesses to other telecoms and I.S.P.s,” or Internet service providers, one 2013 N.S.A. document states.

Because of the way the Internet works, intercepting a targeted person’s email requires copying pieces of many other people’s emails, too, and sifting through those pieces. Plaintiffs have been trying without success to get courts to address whether copying and sifting pieces of all those emails violates the Fourth Amendment.

Many privacy advocates have suspected that AT&T was giving the N.S.A. a copy of all Internet data to sift for itself. But one 2012 presentation says the spy agency does not “typically” have “direct access” to telecoms’ hubs. Instead, the telecoms have done the sifting and forwarded messages the government believes it may legally collect.

“Corporate sites are often controlled by the partner, who filters the communications before sending to N.S.A.,” according to the presentation. This system sometimes leads to “delays” when the government sends new instructions, it added.

The companies’ sorting of data has allowed the N.S.A. to bring different surveillance powers to bear. Targeting someone on American soil requires a court order under the Foreign Intelligence Surveillance Act. When a foreigner abroad is communicating with an American, that law permits the government

to target that foreigner without a warrant. When foreigners are messaging other foreigners, that law does not apply and the government can collect such emails in bulk without targeting anyone.

AT&T's provision of foreign-to-foreign traffic has been particularly important to the N.S.A. because large amounts of the world's Internet communications travel across American cables. AT&T provided access to the contents of transiting email traffic for years before Verizon began doing so in March 2013, the documents show. They say AT&T gave the N.S.A. access to "massive amounts of data," and by 2013 the program was processing 60 million foreign-to-foreign emails a day.

Because domestic wiretapping laws do not cover foreign-to-foreign emails, the companies have provided them voluntarily, not in response to court orders, intelligence officials said. But it is not clear whether that remains the case after the post-Snowden upheavals.

"We do not voluntarily provide information to any investigating authorities other than if a person's life is in danger and time is of the essence," Brad Burns, an AT&T spokesman, said. He declined to elaborate.

Correction: August 15, 2015

An earlier version of a picture caption with this article misstated the number of emails the National Security Agency has gotten access to with the cooperation of AT&T. As the article correctly noted, it is in the billions, not trillions.

A version of this article appears in print on August 16, 2015, on page A1 of the New York edition with the headline: AT&T Helped U.S. Spy on Internet on a Vast Scale.

---

de Young

James Turrell: Three Gems, 2005

Also commissioned for the de Young is a new work of art by renowned California artist James Turrell (b. 1943), best known for his visionary work with light. Created specifically for a site in the new de Young's Osher Sculpture Garden, it is a gift of Mr. and Mrs. Osher. This "skyspace," titled *Three Gems,* is the first work by Turrell to enter the museum's collections. It is a subterranean installation that will feature a view of the sky altered by L.E.D. lighting effects, and that highlights changing light and weather conditions outside.

Although Turrell has created other skyspaces, his project for the de Young will be his first skyspace to adopt the stupa form. The sculpture will be sited in a grass-covered hill in the Osher Sculpture Garden. Viewers will walk through a short tunnel cut into the hill, and then enter into a cylindrical space carved out of the hill. The retaining walls of this cylindrical space will be white concrete and the floor will be red stone. At the center of this cylindrical space will be a rough-hewn, black basalt stupa form. Entering the round stupa through a door, viewers will sit on a stone bench that runs around the circumference of the skyspace and view the sky through an oculus cut in the roof of the chamber. Viewers' perceptions of the sky color will be subtly altered by an L.E.D. lighting system inside the chamber, and by changing light and weather conditions outside the chamber.

James Turrell

James Turrell, one of the most important contemporary artists, is a major figure in the Earth, Conceptual, Minimal, and Process Art movements. Turrell's works are included in numerous museum collections, including the Art Institute of Chicago, the Solomon R. Guggenheim Museum, the Hirshhorn Museum and Sculpture Garden, the Museum fur Moderne Kunst, the Museum of Modern Art, the National Gallery of Art, and the Whitney Museum of American Art.

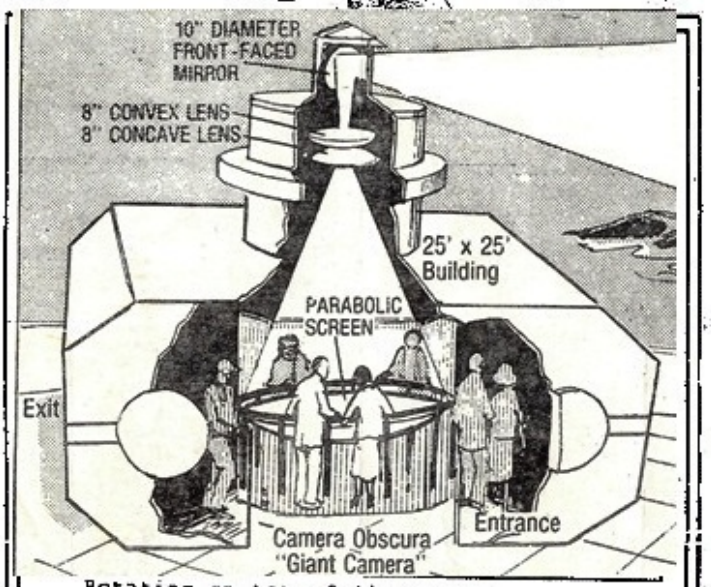
CAMERA OBSCURA
SAN FRANCISCO

1096 POINT LOBOS, SAN FRANCISCO, CA 94121, Tel: (415) 750-0415

Seal Rock area magnified 360°

HISTORY:

The word Camera Obscura is Latin and means translated the 'dark room'. Today it is not quite known, when and by whom exactly the Camera Obscura was invented. In the 11th. century the Arabian scholar Alhazen theorized that light waves travel in straight lines and he tried to proof it with a pinhole. What happened between then and the end of the 15th. century is obscure. The oldest forms of the Camera Obscura surviving, are sketches by Leonardo da Vinci and others, probably from around the late 15th. century. He was most likely not the only one, because around 1490 John Baptista della Porta revealed the phenomena in a book called 'Natural Magic'. While it was to the amusement of those scholars, other people condemned it as an invention of the devil.
In the following centuries, the Camera Obscura became a wonderful tool for artists and astronomers. Artists, such as Vermeer, used the Camera Obscura as portable instruments for their paintings and portrait drawings.



Rotating on top of the camera in the copper pyramid is a 10" surface coated mirror of high brilliance which reflects an image through the condensing lenses mounted horizontally directly beneath the mirror. The condensing lenses are simple plano-convex lenses mounted in opposition to each other. They focus the un-focused image from the mirror at a specific distance, in this case 12'. The lens size is 8" and the lens aperture is fixed at F8.

EXPERIENCE THE CAMERA OBSCURA EFFECT

This rare optical device, shows you SEAL ROCK AREA in a new way.
It produces a spectacular **LIVE IMAGE**, magnified seven times.

History

The Camera Obscura is the last remaining structure of the World Famous Playland at the Beach. Built by Floyd Jennings in 1946. It was built with the permission of George K. Whitney Sr., then owner of the Cliff House, Sutro Baths and Playland. Mr. Whitney later suggested, to making it look like a Camera, hence the name Giant Camera. This rare attraction is in keeping with Sutro's plan for recreational activities at Point Lobos. This structure provides scenic panoramic views, so spectacular with vivid colors. Making it a fun and learning experience. Walk through this optical instrument, which produces 360 degrees of spectacular **Live Images** of the **Seal Rock Area.** Magnified **Seven Times** on a Six foot Parabolic Table. **Now** you can expeience this **Special Effect.** You will be truly amazed, the **Images** standing up and coming at you. After this you will want to learn everything you can about the **CAMERA OBSCURA.** You will be telling your friends. Don't miss it.

The Giant Camera is now a National Landmark, and is on the National Register of Historic Places. Now, you can share this Treasure box with your family and friends. You have been exposed to the Camera Obscura Effect. Tell everyone to visit today.

The Camera is Always open from 11:00 am. till 5pm on beautiful days, and probably a little bit shorter on other days. To make sure, give us a call at (415) 750-0415.

General Admission - Three Dollars Each

Seniors 65 and up - Two Dollars Each

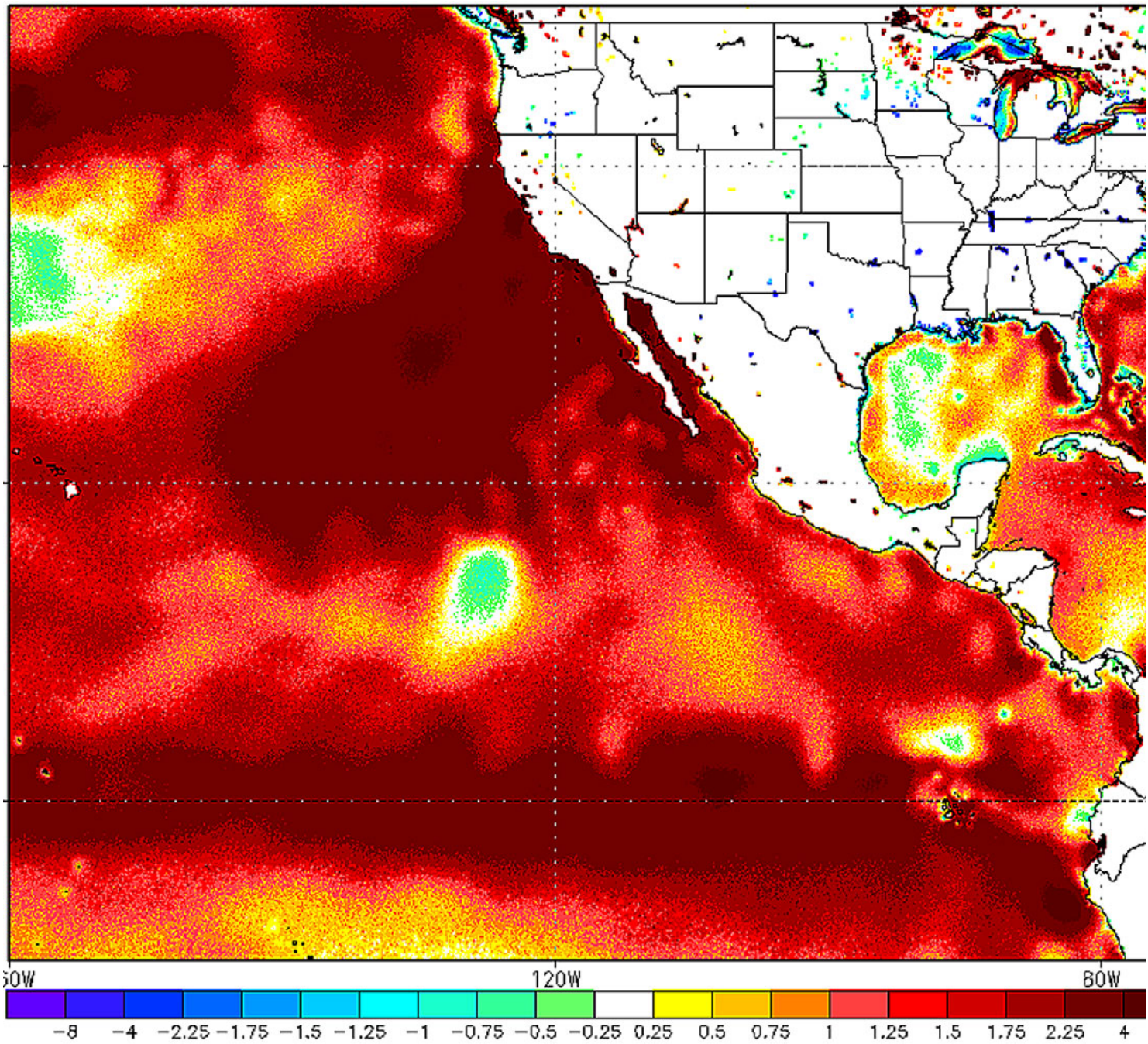
CHILDREN 12 and under- Two Dollars Each

SUNSETS~Observe the sun with safety and amusement. See sunspots, solar flares and such phenomena as the **GREEN FLASH.**
The sunsets are spectacular and should be seen by everyone.

You can forward more information to your family and friends
http://www.giantcamera.com

Today in El Niño Advice: Don’t Worry About The Blob

by Eric Simons on September 01, 2015



Sea surface temperature anomalies for the North Pacific Ocean on August 30, 2015. (Image generated by National Weather Service Environmental Modeling Center)

A

bove is an image, generated on Monday, of current sea surface temperature anomalies — that is, the difference between the current temperature and the average temperature between 1961-1990. It shows the hottest temperatures in the North Pacific Ocean since we started keeping records. That’s following July, which was the hottest month ever recorded on Earth. Just about everything about this picture is historically unprecedented.

The ocean, says University of Washington Research Meteorologist Nicholas Bond, is prepartying. We’ve seen widespread above-average temperatures in the North Pacific before (although never like anything this high), but only following El Niños, like in 1958 and 1998. Those cases, Bond says, were “more of a hangover from El Niño.” Now, he says, with a historically strong El Niño just beginning, “we’re going into the party with a snootful.”

Here’s a more stylized look at temperature anomalies in the eastern Pacific Ocean this July:

In this one, red represents degrees above average between 1981-2001. You see the classic signature of El Niño, that *tres haute* red sash around the globe. You also see, again, what no one has ever seen before: the heat is everywhere. It’s hot at the Equator, it’s hot inshore, and it looks like there’s lava spilling off of California and

southeast Alaska.

The pattern has given rise, recently, to concern. The unprecedented warm water in the North Pacific has come to be known as "The Blob," and it's been sitting there for two years. You might have seen headlines about "El Niño Vs. The Blob" — this is the question they're worrying about: If one of the dominant features of the last two years of heat and drought is The Blob, and The Blob is still there when the El Niño starts, what if The Blob and the El Niño get into a tug of war over the jet stream and The Blob wins and it doesn't rain?

Short answer: don't worry about it. It's a misplaced competition, like worrying about the threat sharks pose to cows. Even if it wanted to, The Blob is simply not capable of doing anything to El Niño.

"There's just no evidence that this is a feature that will be important this winter," says Stanford graduate student climate scientist Daniel Swain, who runs the California weather blog.

"T

he Blob" is a label first applied by Bond, who used it while on air on his weekly weather show for Seattle's NPR affiliate (he says he noticed that the host immediately perked right up). He originally coined it, he writes in a 2015 article in the journal Geophysical Research Letters, to describe an extremely unusually warm region of water in the Northern Pacific south of Alaska, and west of Oregon and Washington. (Technically, between 40°-50°N and 150°-135°W.) But like any good blob, this one quickly escaped into the wider world, and now it is hard to pin down an exact definition — especially since the hot water region has morphed and stretched and evolved, into this summer's wide-ranging warmth that touches the continental shelf off the Pacific Northwest and spreads down all the way to Baja.

For marine life, warmer water has meant a changed ecosystem: whales inshore, birds failing to nest, sunfish and thresher sharks and skipjack tuna off the coast of Alaska, seals and sea lions ranging farther in search of fish and increasingly needing rescue. By August the Marine Mammal Center in Sausalito had already rescued 1,500 sea lions, double its annual average. Algal blooms have poisoned sea life across the Pacific Northwest, from otters to pinnipeds, and the effects of the blooms are still being felt.

On land, a warm ocean nearby has meant warmer air temperatures. San Francisco is usually cooled by fog blowing off an ocean that's in the mid-50s in the summer; this year it's blowing off an ocean in the mid-60s. "If you look at a place like San Francisco over the last year year and a half, almost every day its mean temperature is above normal," Bond says. "It's remarkable how particularly warm it's been."

The Blob, in other words, makes life a little less pleasant for most coastal life. It has significant *local* effects. What it almost certainly will not do is mess up any El Niño-related storms this winter, because The Blob can't influence atmospheric weather patterns. It can't change the storm track; it can't create its own winds. Perhaps the confusion arises, says NOAA atmospheric scientist Michelle L'Heureux, because in the tropics the ocean *can* influence the atmosphere — the two work in concert to create big-picture weather patterns. But outside the tropics, and with the exception of a few well-known areas like the Gulf Stream, the relationship only goes one way. "There's a dynamics 101 issue here," L'Heureux says. "In the extratropics, atmospheric circulation affects sea surface temperatures, but it doesn't work in the reverse."

The Blob is a symptom of an unusual atmospheric pattern, not a cause. An annoying symptom if you don't like a hot humid house in San Francisco, but one that won't dramatically outlive the far more villainous culprit in California's drought: "The Ridge."

"Even if we're underestimating the role of this Blob, most model simulations say it's going away this winter anyway," Swain says. "Not surprising; all the indications at this point are that The Blob didn't exist independently of the ridge in the first place. And the things that did lead to the ridge in the first place aren't really there anymore."

"T

he Ridiculously Resilient Ridge," as Swain has labeled it, is a region of unusually persistent and record-high pressure over that same part of the North Pacific. It too shifts and moves and sometimes briefly even disappears. But essentially for the last two winters the ridge has acted like a giant bubble dome over the ocean, deflecting the storm track northward away from the West Coast, and into the Arctic where it picked up a bunch of freezing air to dump ice and snow down America's backside. (The East Coast.)

With the ridge in place, the West Coast's typical northwest winds — which stir up the ocean and draw colder water from beneath the surface in the process known as upwelling — slackened, allowing the water to heat up. It's the ridge that caused The Blob, and blocked the storm track. It's the ridge, if it returned, that might block El Niño-inspired rain on the West Coast. In theory, The Ridge would be a worthy opponent to an El Niño. So what caused the ridge — and is that cause still out there? "In the hypothetical situation where there were to be a persistent ridge in the same region where there has been one for the last few winters, and at the same time there was a strong El Niño — in that hypothetical it's not entirely clear what would happen," Swain says. "But that's hypothetical, because it assumes you have no knowledge of what causes the ridge and whether it's likely to recur."

The ridge, University of Washington atmospheric scientist Dennis Hartmann writes in the journal Geophysical Research Letters, has been driven mainly by a configuration in the tropical western Pacific Ocean called the North Pacific Mode, characterized by a band of warm water between the North American West Coast and Micronesia, a finger of colder water stretching from Japan and the Philippines into the Pacific north of Hawaii, and a large swath of cold water off the West Coast of South America. (The last time the NPM was this strong, Hartmann writes, was just before the 1997-1998 El Niño.)

If you model the atmosphere based on that pattern, Hartmann writes, you see a region of persistent high pressure form over the North Pacific, aka, The Ridge. Observation over the past few decades backs up the models. Recently, of course, the ridge that's actually appeared has been something stronger than what the models predict, indicating there are other elements in play. (This is, in part, what Swain studies for his dissertation: the influence of factors like Arctic sea ice and greenhouse gases that contributed to the observed strength — the "ridiculous" resilience of the ridge.)

This is the important point: the NPM, which likely caused the ridge, which certainly caused our drastic two-year precipitation deficit — it's gone. El Niño has disrupted it. There's therefore no reason to believe the ridge will re-form, no reason to think the storm track will be deflected, and no reason to think The Blob will persist. "The climate models used for seasonal weather prediction are pretty emphatic about this," Bond says. "We don't expect a big ridge in the Northeastern Pacific this winter."

With the ridge gone, the storm track should return, stirring up the water and causing the warm surface water to slowly mix out with the cold water underneath. It will take a while, because the ocean doesn't cool down as quickly as the air does. "Even if you get a jet stream pattern perfectly placed to cool the ocean down, it's not going to change overnight," L'Heureux says. "There's enough inertia there that I suspect there will be warmth off the coast this coming winter."

Perhaps the best question is: when will the ocean be cold again? No one can quite say. Our ability to forecast beyond a year or so is essentially zero. Cooling La Niña events often follow El Niños, but there's no real indication that's necessarily going to happen, Bond says. "While I'm highly confident it's going to be warm along the coast into winter of 2016, probably into the spring, after that all bets are off," he says. "A year from now, it may just be kind of memory."

NOOZHAWK
the freshest news in Santa Barbara

PRINT THIS PAGE

Captain's Log: Anglers Reeling In Exotic El Niño Catches Off Coast of California

http://www.noozhawk.com/noozhawk/article/captains_log_exotic_el_nino_catches_off_california

By Capt. David Bacon, Noozhawk Columnist

El Niño redistributes fish for a season, giving them a long swim home when the party is over. This season has shown us some classic examples of the effects of the warm water event. Just in the past couple of weeks there have been some surprising catches off the coast of California.

Starting at the top of the state, the albacore bite has begun very early and the water temps are just right.

Out of Eureka this week, fisherman Chuck Chastain of Arcata jigged deep under some floating logs about 80 miles offshore and found himself doing battle with a 114-pound opah. The intense fight lasted an hour and 15 minutes on 30-pound leader, but eventually the big, bright-orange fish was on deck and destined

to feed families.

A feller fishing tuna off of Fort Bragg had a surprise. He was casting lures and baits to floating kelp paddies way offshore when he hooked into a yellowtail, which is a member of the jack family that is rarely caught much north of the Channel Islands. Well, that was a fine surprise but an even bigger surprise chomped his bait — a dorado, which isn't usually caught much north of Los Angeles County. You may know dorado by its Hawaiian name, Mahi Mahi. That name works in restaurants, but fisherfolk call them by the Spanish name dorado.

While fishing near the Farallon Islands off of San Francisco, Chris Smith of Pinole caught an eight-pound ocean whitefish. We catch them here off of Santa Barbara and at the Channel Islands, but the experienced skipper up north, Capt. James Smith, had never caught one in their waters.

A sheephead was caught on the popular party boat Kahuna out of Moss Landing. That is a fish that lives primarily south of Point Conception, and only a few have been caught in Monterey Bay.

Bluefin tuna catches have been reported along the backside of our Channel Islands in decent numbers. There have also been reports of billfish such as marlin. These fish are not unheard of here, but nothing seems to bring them to us like an El Niño.

I can recall an early El Niño when my charter passengers caught dorado under kelp paddies right here in the Santa Barbara Channel as little as six miles out. I keep looking for that to happen this year, and I will not be surprised if it does. There were reports of a surfer wrestling a ulua fish in the surf zone below Carpinteria.

This year will certainly be etched in the memory of a great many young anglers as the best fishing year they have experienced. And when later in life they ask why fishing isn't as good as they remember it when they were young, elders will tell them it's because they remember the best of times and they don't get many years like this one in the course of one lifetime.

Celebrate El Niño now, and I suggest a fishing trip. Because as great as El Niño is for the moment, it delivers a knock-out punch to the low end of the food chain, and we'll be paying the price of that for a few years to come as nature gets back to normal.

— Capt. David Bacon operates WaveWalker Charters and is president of SOFTIN Inc., a nonprofit organization providing seafaring opportunities for those in need. Visit softininc.blogspot.com to learn more about the organization and how you can help. Click here to read previous columns. The opinions expressed are his own.

http://www.noozhawk.com/noozhawk/article/captains_log_exotic_el_nino_catches_off_california

HISTORIC TRAIL
HISTORIC TRAIL
HISTORIC TRAIL
NORTH RIDGE
MYSTERY TRAIL
EAST RIDGE
WEST RIDGE
GARDENER'S
SOUTH RIDGE
EDGEWOOD TRAIL ("Woodland Canyon")
STANYAN TRAIL ("Kill-Trees")
Interior Green Belt
FAIRY GATES ("Topo Trail")
Native Garden
The Gash
Pumphouse
Private land
[steps]
Private/ city-owned
Parnassus Avenue
Medical Sciences
University of California, San Francisco
Medical Sciences
University of California Medical Center
Regen. Med Bldg
Medical Center Way
UCSF Dental School
Upper Service Road
Edgewood Avenue
Belmont Avenue
Woodland Avenue
Farnsworth Lane
Stanyan Street
San Francisco Fire Station 12
Johnstone Drive
Adolph Sutro Court
Behr Avenue
Nike Road
Christopher Drive
Crestmont Drive
Oakhurst Lane
Devonshire Way
Woodhaven Court
Forest Knolls Drive
Glenhaven Lane
Dellbrook Avenue
Lori Lane
La Avanzada Street
P
P

Keep the Dream Alive!
The UN Charter 70th Anniversary

Grace Cathedral, UN Mural. Photo by Mary Steiner.

Saturday, June 27, 2015, Grace Cathedral
1100 California Street, San Francisco, California

The Above Mural At Grace Cathedral Commemorates The Opening Session Of The United Nations. Flags Of The Founding Nations (US, France, Nationalist China, Greece, Brazil, UK, USSR, Egypt, India, Mexico) Flank The UN Emblem And Charter Preamble, Drafted In The Nearby

Fairmont Hotel. People Of All Nations Advance From The Ferry Building (Then Still A Major Transport Hub) Including The Mural Artist Bolivian-American Antonio Sotomayor (1902-1985) With Wife And Friends (Left) And Cathedral Archivist Michael Lampen (With Tie). At The Right-Center Are Mural Memorialee James L. Murphy And His Children.

People Of All Nations Fill Up The Rest Of The Lower Band. Allegorical Figures Are At The Sides - Peace (Roman Goddess Eirene Holding Olive Branch, Left) And War (War-Damaged Greek Nike Goddess Statue, Called 'Winged Victory', Right). The San Francisco-Oakland Bay Bridge (Left Rear) And Golden Gate Bridge (Right Rear) Symbolize Connection And Communication.

Plague dedication and pictures for t*he Brotherhood of Man* sculpture in Grace Cathedral. The sculpture was designed by Rodney M. Winfield and conceived by Meri Jaye and Associates.

It was commissioned commemorate the founding of the United Nations in San Francisco on June 26, 1945.

Photos by Janet Roberts.

Several Other Significant Historical Sites Contributed To The Formation Of The UN. They Include: Herbst Theatre, The Fairmont Hotel And Muir Woods. We Hope To Have Recognition Ceremonies At These Sites Prior To June 27.

Sponsored by

WITH SPECIAL THANKS AND GRATITUDE FOR OUR SPONSORS:

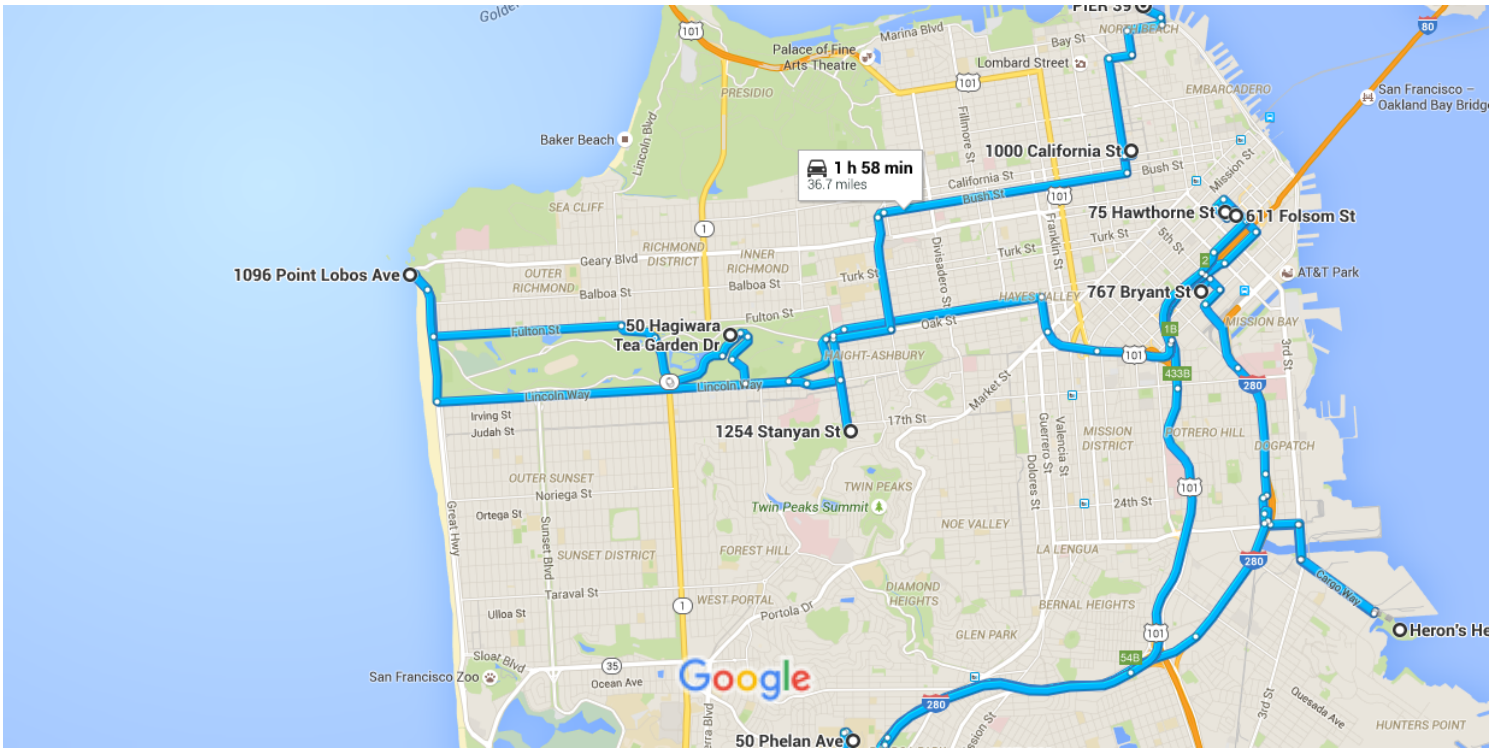
ETHIOPIAN AIRLINES, SISTERS OF THE HOLY FAMILY, GRACE CATHEDRAL, UNITED RELIGIONS INITIATIVE, PACIFIC CHOIR, SVENSKAKYRKAN, THE BARBRO OSHER PRO SUECIA FOUNDATION, PHILIP AND ALICIA HAMMARSKJOLD, UNITED NATIONS FOUNDATION, SWEDISH WOMEN ABROAD (SWEA), PABLO CASTRO, JR., UNITED NATIONS ASSOCIATION, USA, MID PENINSULA, UNITED NATIONS ASSOCIATION, USA, MONTEREY, CHEVRON, UNITED NATIONS ASSOCIATION, USA, EAST BAY, MUSEUM OF RUSSIAN, CULTURE, San Francisco, NOVA UKRAINE, MT DIABLO PEACE AND JUSTICE CENTER, CONGREGATION BETH CHAIM, SAN FRANCISCO, INTERFAITH COUNCIL, TARGET, TRI CITIES INTERFAITH COUNCIL, SAN RAMON VALLEY UNITED METHODIST CHURCH, FIRST UNITARIAN, UNIVERSALIST CHURCH, San Francisco, BAY AREA CONFERENCE OF ASSOCIATES & RELIGIONS, INC.(BACAR), UNIVERSITY OF SAN FRANCISCO

All UN Photos Used with Permission from the United Nations. Videos from Official

Google Maps

767 Bryant St, San Francisco, CA 94107 to PIER 39, San Francisco, CA

Drive 36.7 miles, 1 h 58 min



Map data ©2015 Google 1 mi

767 Bryant St

San Francisco, CA 94107

Take I-280 S to Pennsylvania Ave. Take the exit toward 25th St/C Chavez St from I-280 S

5 min (2.1 mi)

1. Head northeast on Bryant St toward Oak Grove St — 0.1 mi
2. Turn right onto 5th St — 0.1 mi
3. Turn right onto Brannan St — 0.2 mi
4. Use the left 2 lanes to turn left onto the Interstate 280 S ramp to San Jose — 0.6 mi
5. Merge onto I-280 S — 0.9 mi
6. Take the exit toward 25th St/C Chavez St — 0.2 mi
7. Keep left at the fork, follow signs for 25th Street/Cesar Chavez St — 230 ft

Use any lane to turn left onto Pennsylvania Ave — 46 s (0.2 mi)

Continue on Cesar Chavez St to Cargo Way

2 min (0.6 mi)

9. Turn left onto Cesar Chavez St

0.3 mi

10. Turn right onto 3rd St

0.3 mi

Follow Cargo Way to Jennings St

2 min (0.7 mi)

11. Turn left onto Cargo Way

0.7 mi

12. Turn left onto Jennings St

Destination will be on the right

82 ft

Heron's Head Park

Jennings Street, San Francisco, CA 94124

Get on I-280 S from Cargo Way and 3rd St

5 min (1.4 mi)

13. Head southwest on Jennings St toward Cargo Way

33 ft

14. Turn right onto Cargo Way

0.7 mi

15. Turn right onto 3rd St

0.3 mi

16. Turn left onto Cesar Chavez St

0.2 mi

17. Turn right onto Pennsylvania Ave

0.1 mi

18. Use the right lane to merge onto I-280 S via the ramp to Daly City/San Jose

0.1 mi

Follow I-280 S to Ocean Ave. Take the Ocean Avenue exit from I-280 S

4 min (4.0 mi)

19. Merge onto I-280 S

1.1 mi

20. Keep right to stay on I-280 S

2.6 mi

21. Take the Ocean Avenue exit

0.3 mi

Continue on Ocean Ave. Drive to Science Cir

2 min (0.4 mi)

22. Merge onto Ocean Ave
0.2 mi

23. Turn right onto Phelan Ave
387 ft

24. Turn right onto Cloud Cir
184 ft

25. Slight left onto Science Cir
Destination will be on the right
463 ft

50 Phelan Ave
San Francisco, CA 94112

Get on I-280 N from Phelan Ave and Ocean Ave
4 min (0.8 mi)

26. Head north on Science Cir toward Cloud Cir
417 ft

27. Turn left onto Cloud Cir
82 ft

28. Turn left onto Phelan Ave
0.2 mi

29. Use the left 2 lanes to turn left onto Ocean Ave
0.3 mi

30. Turn left onto the Interstate 280 N ramp
0.2 mi

Continue on I-280 N. Take US-101 N to Bryant St. Take exit 2 from I-80 E
8 min (5.8 mi)

31. Merge onto I-280 N
2.1 mi

32. Use the left 2 lanes to take exit 54B to merge onto US-101 N toward San Francisco Civic Center/Bay Bridge
2.4 mi

33. Use the right 3 lanes to take exit 433B for Interstate 80 toward Bay Bridge
0.4 mi

34. Continue onto I-80 E
0.6 mi

35. Use the right 2 lanes to take exit 2 for Fourth Street
0.2 mi

Continue on Bryant St. Take 2nd St to Hawthorne St
6 min (0.9 mi)

36. Use the left 3 lanes to turn slightly left onto Bryant St
0.3 mi

37. Use the left 2 lanes to turn left onto 2nd St

0.4 mi

38. Turn left onto Howard St

459 ft

39. Turn left onto Hawthorne St

Destination will be on the left

394 ft

75 Hawthorne St

San Francisco, CA 94105

40. Head southeast on Hawthorne St toward Folsom St

236 ft

41. Turn left at the 1st cross street onto Folsom St

Destination will be on the right

341 ft

611 Folsom St

San Francisco, CA 94107

Take I-80 W, Central Fwy, Fell St and Kezar Dr to Music Concourse Dr

18 min (5.6 mi)

42. Head northeast on Folsom St toward 2nd St

112 ft

43. Turn right at the 1st cross street onto 2nd St

0.1 mi

44. Turn right onto Harrison St

0.3 mi

45. Use the left 2 lanes to turn slightly left onto the ramp to U.S. 101 S/San Jose

0.2 mi

46. Merge onto I-80 W

0.7 mi

47. Use the right 2 lanes to take exit 1B to merge onto US-101 N toward Golden Gate Bridge

0.7 mi

48. Continue onto Central Fwy

0.4 mi

49. Continue onto Octavia Blvd

0.3 mi

50. Use any lane to turn left onto Fell St

1.6 mi

51. Use the left 2 lanes to turn slightly left to stay on Fell St

0.1 mi

52. Continue onto John F Kennedy Dr

335 ft

53. Use the left 2 lanes to turn left onto Kezar Dr
0.5 mi

54. Use any lane to turn slightly right onto Lincoln Way
0.3 mi

55. Turn right onto Martin Luther King Jr Dr
0.2 mi

Continue on Music Concourse Dr. Drive to Hagiwara Tea Garden Dr

2 min (0.4 mi)

56. Turn right onto Music Concourse Dr
0.2 mi

57. Keep left to continue on Bowl Dr
344 ft

58. Slight left onto Hagiwara Tea Garden Dr
Destination will be on the right
331 ft

50 Hagiwara Tea Garden Dr

San Francisco, CA 94118

Head southwest on Hagiwara Tea Garden Dr toward Music Concourse Dr
1 min (0.2 mi)

Continue on Martin Luther King Jr Dr. Take Crossover Dr and Fulton St to Point Lobos Ave

10 min (3.2 mi)

60. Turn right onto Martin Luther King Jr Dr
0.5 mi

61. Turn right toward CA-1 N/Crossover Dr
102 ft

62. Slight right onto CA-1 N/Crossover Dr
0.4 mi

63. Slight left onto Crossover Dr
0.3 mi

64. Turn left onto Fulton St
1.5 mi

65. Turn right onto Great Hwy
0.4 mi

66. Continue onto Point Lobos Ave
Destination will be on the left
0.2 mi

1096 Point Lobos Ave

San Francisco, CA 94121

67. Head southeast on Point Lobos Ave toward Great Hwy
0.2 mi

68. Point Lobos Ave turns slightly right and becomes Great Hwy
0.9 mi

69. Use the left 2 lanes to turn left onto Lincoln Way
2.9 mi

70. Continue onto Frederick St
0.3 mi

71. Turn right onto Stanyan St
Destination will be on the left
0.4 mi

1254 Stanyan St
San Francisco, CA 94117

72. Head north on Stanyan St toward Historic Trail
0.7 mi

73. Turn right onto Oak St
0.5 mi

74. Turn left onto Masonic Ave
0.9 mi

75. Use any lane to turn right onto Euclid Ave
331 ft

76. Continue onto Bush St
1.9 mi

77. Turn left onto Taylor St
0.1 mi

78. Turn right onto California St
Destination will be on the left
358 ft

1000 California St
San Francisco, CA 94108

Head west on California St toward Cushman St
21 s (344 ft)

Continue on Taylor St to Bay St
7 min (1.1 mi)

80. Turn right onto Taylor St
0.8 mi

81. Turn right onto Lombard St
0.2 mi

82. Turn left onto Powell St

0.2 mi

Turn right onto Bay St

1 min (0.3 mi)

Take The Embarcadero to your destination

2 min (0.2 mi)

84. Turn left onto Kearny St

318 ft

85. Turn left onto The Embarcadero

0.1 mi

86. Turn right

Destination will be on the right

243 ft

PIER 39

Beach Street & The Embarcadero, San Francisco, CA 94133

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.