

MINUTES

REGULAR MEETING OF THE BOARD OF WATER SUPPLY

June 23, 2014

At 2:03 PM on June 23, 2014 in the Board Room of the Public Service Building at 630 South Beretania Street, Honolulu, Hawaii, Board Chair Miyashiro called to order the Regular Meeting.

Present: Duane R. Miyashiro, Chair
Mahealani Cypher, Vice Chair
Theresa C. McMurdo (arrived at 2:07 p.m.)
David C. Hulihee
Ross S. Sasamura

Also Present: Ernest Lau, Manager and Chief Engineer
Ellen Kitamura, Deputy Manager and Chief Engineer
Alex Ubiadas
Barry Usagawa
Daryl Hiromoto
Erwin Kawata
Joe Cooper
Karen Tom
Jill Kuramoto

Others Present: Krishna Jayaram, Deputy Corporation Counsel
Marilyn Ushijima, Deputy Corporation Counsel
Chris Cleveland, Brown and Caldwell
Craig Von Bargen, CDM Smith
Dave Ebersold, CDM Smith
Arlene Post, CDM Smith

Absent: Adam C. Wong
Ford N. Fuchigami

APPROVAL
OF MINUTES

Approval of the Minutes of the Regular Meeting held on May 27, 2014

DISCUSSION

Board Chair Miyashiro directed the Board's attention to page 17 of 24 of the May 27, 2014 minutes. Mr. Miyashiro stated that according to the minutes, he agreed to write testimony in support of opposition to City Council Resolution 14-63. He clarified that since the Resolution was tabled, he did not write and submit testimony, but in the event the Resolution resurfaces, he will submit testimony at that time.

MOTION
TO APPROVE

David Hulihee and Ross Sasamura motioned and seconded, respectively, to approve the Minutes of the Regular Session Meeting of May 27, 2014, as clarified. The motion was unanimously carried.



BOARD OF WATER SUPPLY
CITY AND COUNTY OF HONOLULU

RESOLUTION NO. 842, 2014

GLENN M. OKIMOTO

**IN APPRECIATION FOR SERVING AS AN EX-OFFICIO MEMBER
OF THE BOARD OF WATER SUPPLY**

WHEREAS, GLENN M. OKIMOTO, Ph.D., has ably served as an Ex-Officio member of the Board of Water Supply, City and County of Honolulu, since January 2011 and has recently notified the Board of his resignation; and

WHEREAS, as Director of the State's Department of Transportation and past positions as Budget Director of the University of Hawaii and State Comptroller of the State's Department of Accounting and General Services, DR. OKIMOTO's reputation in government and the business community and the esteem of his colleagues has resulted in additional recognition and respect for the Board; and

WHEREAS, the Board of Water Supply has greatly benefitted from DR. OKIMOTO's experience in managing a State Department and his extensive knowledge of matters such as budget, accounting, auditing, property management, engineering, and contracting; and

WHEREAS, as a Board member, DR. OKIMOTO has supported and encouraged initiatives that improve efficiency in overall Department operations and has volunteered his time and expertise to help effect business and policy decisions for the Board that will impact the direction and operations of the Board of Supply for many years to come; and

WHEREAS, DR. OKIMOTO's service is a testament to his commitment to maintaining a municipal water system worthy of trust from the public it serves; now, therefore

BE IT RESOLVED by the Members of the Board of Water Supply, City and County of Honolulu, that we do hereby express to GLENN M. OKIMOTO our deep appreciation and gratitude for his committed service to this Board and Department; and

BE IT FURTHER RESOLVED that the Members of this Board extend to GLENN M. OKIMOTO our sincere aloha and best wishes for his continued success in all his future endeavors; and

BE IT FINALLY RESOLVED that this Resolution be presented to GLENN M. OKIMOTO.



Resolution No. 842, 2014

Adopted this 23rd day of June 2014
Board of Water Supply, Honolulu, Hawaii

DUANE R. MIYASHIRO
Chair of the Board

MOTION TO
ADOPT
RESOLUTION
NO. 842, 2014

David Hulihee motioned to adopt Resolution No. 842, 2014, Glenn M. Okimoto, Resolution of Appreciation. The motion was seconded by Ross Sasamura and unanimously carried.

Mr. Okimoto was unable to attend the Board meeting. Mr. Lau will present Mr. Okimoto with a framed signed resolution and a commemorative mug at a later time.

RESOLUTION NO. 842, 2014, GLENN M. OKIMOTO, RESOLUTION OF APPRECIATION, WAS ADOPTED ON JUNE 23, 2014.			
	AYE	NO	COMMENT
DUANE R. MIYASHIRO	X		
MAHEALANI CYPHER	X		
THERESIA C. MCMURDO			ABSENT
ADAM C. WONG			ABSENT
DAVID C. HULIHEE	X		
ROSS S. SASAMURA	X		
FORD N. FUCHIGAMI			ABSENT

ELECTION OF
CHAIR AND
VICE CHAIR

Chair and Members
Board of Water Supply
City and County of Honolulu
Honolulu, Hawaii 96843

Chair and Members:

Subject: Election of Chair and Vice Chair of the Board of Water Supply
Beginning July 1, 2014

The Bylaws of the Board of Water Supply provides that the Chair and Vice Chair of the Board shall be elected annually from among and by the appointed members of the Board at the first regular meeting in June.

Accordingly, election of the Chair and Vice Chair of the Board for the ensuing year commencing July 1, 2014, is now in order.

Respectfully submitted,

/s/ ERNEST Y. W. LAU, P.E.
Manager and Chief Engineer"

NOMINATION
AND MOTION

Mahealani Cypher nominated Duane Miyashiro for Board Chair and was seconded by David Hulihee. Mahealani Cypher nominated Adam Wong for Board Vice Chair and was seconded by Ross Sasamura. Both Duane Miyashiro and Adam Wong were unanimously elected to serve as Chair and Vice Chair, respectively, of the Board of Water Supply for the ensuing year commencing July 1, 2014.

DUANE MIYASHIRO ELECTED AS CHAIR AND ADAM WONG ELECTED AS VICE CHAIR OF THE BOARD OF WATER SUPPLY FOR THE ENSUING YEAR COMMENCING JULY 1, 2014, AT THE JUNE 23, 2014 BOARD MEETING			
	AYE	NO	COMMENT
DUANE R. MIYASHIRO	X		
MAHEALANI CYPHER	X		
THERESIA C. MCMURDO			ABSENT
ADAM C. WONG			ABSENT
DAVID C. HULIHEE	X		
ROSS S. SASAMURA	X		
FORD N. FUCHIGAMI			ABSENT

ITEM FOR INFORMATION NO. 1

"June 23, 2014

MOANALUA
AND WAIMALU
AQUIFER
SYSTEMS
UPDATE

Chair and Members
Board of Water Supply
City and County of Honolulu
Honolulu, Hawaii 96843

Chair and Members:

Subject: Moanalua and Waimalu Aquifer Systems Update

The Board of Water Supply Water Quality staff will present an update of our Moanalua and Waimalu Aquifer Systems.

Respectfully submitted,

/s/ ERNEST Y. W. LAU, P.E.
Manager and Chief Engineer

Attachment"

The foregoing was for information only.

DISCUSSION:

Water Quality Program Administrator Erwin Kawata gave the presentation. He stated that on June 12, the Navy reported finding three small holes in Tank 5 and on June 21, they released a press release indicating that they found 12 more small holes, making it a total of 15.

Following the presentation, Board member Sasamura inquired about the slide that referenced the island of Oahu and various geographic boundaries served by specific aquifers. Mr. Kawata explained that there are 23 aquifer systems island wide, all of which are subdivided and have different kinds of sustainable yields. There are BWS wells in just about every aquifer. Mr. Kawata stated that the Waimalu and Moanalua aquifers are among the most productive.

Board Vice Chair Cypher asked Mr. Kawata if he was present at the meeting with the Commission on Water Resource Management (CWRM) and how they responded to BWS' concerns. Mr. Kawata replied that he was present at that meeting and BWS stressed the importance of both quantity and quality of water. He mentioned that both the State Constitution and the Water Code state the importance of water quality, as well as quantity, and the need to protect it. Mr. Kawata stated that the CWRM is certainly concerned about Red Hill and echoed BWS's concerns.

Mr. Miyashiro inquired about the frequency of monitoring the contaminants and flow. Mr. Kawata replied that testing is done every three months and the next samples will be collected in July. Mr. Kawata stated that all samples so far, including samples taken from the Moanalua Wells in response to the

Tripler findings, came out non-detect. Mr. Miyashiro asked when discussions would take place on correcting the problem of the fuel loss through the 15 holes. Mr. Kawata responded that the discovery of the holes is part of an ongoing investigation by the Navy. The Navy is staying in contact with the State Department of Health (DOH), and BWS continues to stay in contact with both the Navy and DOH on next steps going forward. Manager Lau added that there will be a Public Works and Sustainability Committee meeting this Wednesday, and the committee has asked for an update on Red Hill. BWS contacted DOH and the Navy to request their presence at this meeting.

Ms. Cypher inquired if 27,000 gallons of fuel could leak from three small holes. Mr. Kawata clarified that there are currently 15 small holes and the Navy is trying to determine if 27,000 gallons of fuel could leak from those holes. Ms. Cypher asked if the Navy shut down this tank. Mr. Kawata, replied yes, that it has been emptied and ventilated and currently still being investigated.

Board Member McMurdo inquired about the testing of the monitoring wells. Mr. Lau stated that the Navy indicated that contracts are being executed to drill about four monitor wells. The Navy will pay for installation and monitoring of the wells. Ms. Cypher asked if the Navy's water source is required to comply with the Safe Drinking Water Act and if the Navy is required to report their findings to the DOH. Mr. Lau replied yes to both.

Mr. Sasamura asked if the Navy uses its own water source when doing maintenance to their tanks. Mr. Lau was unsure and stated that he doesn't think they fill the whole tank with water and do pressure testing any more. Mr. Sasamura mentioned that he remembers back in the 1990's, people were in rowboats inspecting the tanks.

Ms. McMurdo asked how many times BWS tested the five BWS wells in the Red Hill area. Mr. Kawata replied that BWS has sampled the wells four times – one time each in January, February, March and April (and now quarterly starting April) and have not found any contaminants in the water.

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Board of Water Supply
City and County of Honolulu

Moanalua and Waimalu Aquifer Systems Update

Board Meeting
June 23, 2014



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City and County of Honolulu

Moanalua and Waimalu Aquifer Systems Location



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City and County of Honolulu





Update as of June 2014

- As of April 2014 - no fuel contaminants detected in 5 BWS wells near Red Hill Facility. Next sample collection in July.
- Working with USGS on GW flow direction and contaminant transport.
- Consultant peer review past Navy studies and information available to date.
- May 16, 2014 - Navy notified BWS of detecting TPH-d and lead in Tripler monitoring well

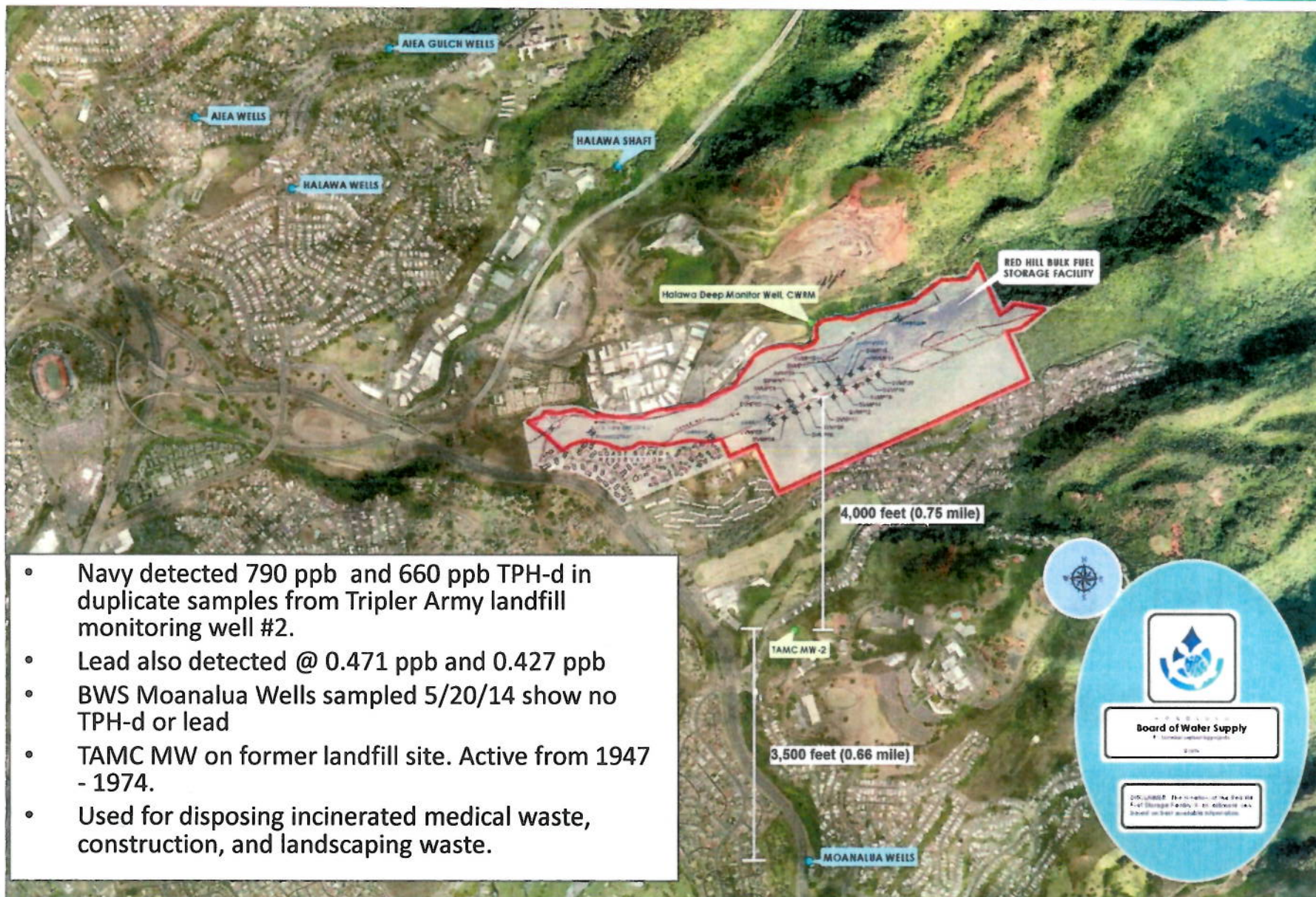


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City and County of Honolulu





Update as of June 2014 – cont.

- Assessing significance of TAMC MW 2 TPH-d finding with DOH and Army.
- May 20 – BWS receives letter from Navy
 - Tank 5 investigation continues
 - Tentatively identified locations for additional monitoring wells
 - Updating Navy groundwater protection plan in coordination with DOH
 - FY 2015 project to install oil tight doors at Red Hill
- May 22 – Mayor met with Navy admiral





Update as of June 2014 – cont.

- June 12 - Navy reported finding three small holes in Tank 5.
 - The holes not visible to the unaided eye, were found in areas that had undergone previous welding repairs.
 - The holes found using a vacuum box testing technique that determines if air can flow through the tank wall, giving an indication that liquid would also be able to escape the tank.
- June 18 – Discussed Red Hill issues with CWRM



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City and County of Honolulu

Questions/ Discussion



ITEM FOR INFORMATION NO. 2

"June 23, 2014

EFFECTS OF
SEA LEVEL RISE
PRESENTATION

Chair and Members
Board of Water Supply
City and County of Honolulu
Honolulu, Hawaii 96843

Chair and Members:

Subject: Effects of Sea Level Rise Presentation

The Board of Water Supply (BWS) Water Resources staff will present our current understanding of sea level rise and potential impacts to Oahu's water resources, coastal areas and BWS water systems.

Respectfully submitted,

/s/ ERNEST Y. W. LAU, P.E.
Manager and Chief Engineer

Attachment"

The foregoing was for information only.

DISCUSSION:

Water Resources Program Administrator Barry Usagawa gave the presentation.

Mr. Usagawa presented cause, trends, impacts and adaptation strategies to sea level rise. University of Hawaii models anticipate 1-foot by 2050 and 3-feet by 2100. He mentioned developing prioritized adaptation strategies such as hardening with stronger building codes to withstand intense storms and coastal retreat like establishing new shoreline setbacks that account for sea level rise. He stated that moving shoreline setbacks further inland has a negative effect and hasn't been done here because of a "takings" issue.

Ms. Cypher asked for clarification on the "takings" issue; would it apply only if someone's land was taken for the realignment of the road or facilities or would people who still purchase coastal lands today have to be compensated? Ms. McMurdo stated that if zoning setback policies change based on sea level projections, then people lose the ability to develop their property.

Mr. Usagawa identified areas of projected inundation from 3-feet of marine and groundwater rise such as Waikiki, McCully, Kakaako, and Mapunapuna. Ms. McMurdo asked Mr. Usagawa if he had a similar illustration of what the Kapolei area would look like. Mr. Usagawa replied that he does but he didn't include it because Kapolei wouldn't be affected unless there was about a 4- to 6-feet of sea level rise. Ms. McMurdo inquired about inundation in the Waianae area. Mr. Usagawa replied that he hasn't seen models of the Waianae area yet.

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City and County of Honolulu

Sea Level Rise Board Presentation

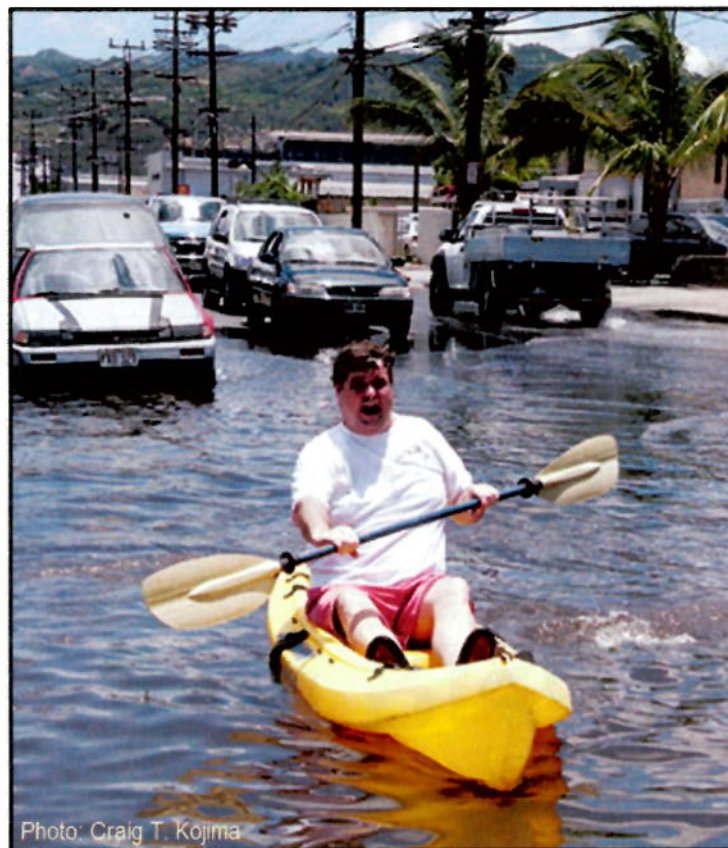


Photo: Craig T. Kojima

June 23, 2014



Sea Level Rise (SLR)

- Causes and Trends of SLR
- SLR on Oahu
- Impacts
- Adaptation Strategies



TIME

GLOBAL WARMING

The Causes • The Perils • The Solutions
The Actions: What You Can Do



CELEBRATING 125 YEARS OF EXPLORATION

ANTARCTIC
ADVENTURE

Australia's
Big Bird

NGM.COM SEPTEMBER 2013

NATIONAL GEOGRAPHIC

HOW THEY ARE
CHANGING OUR
COASTLINES

RISING SEAS

FREE POSTER

Mapping a World
Without Ice



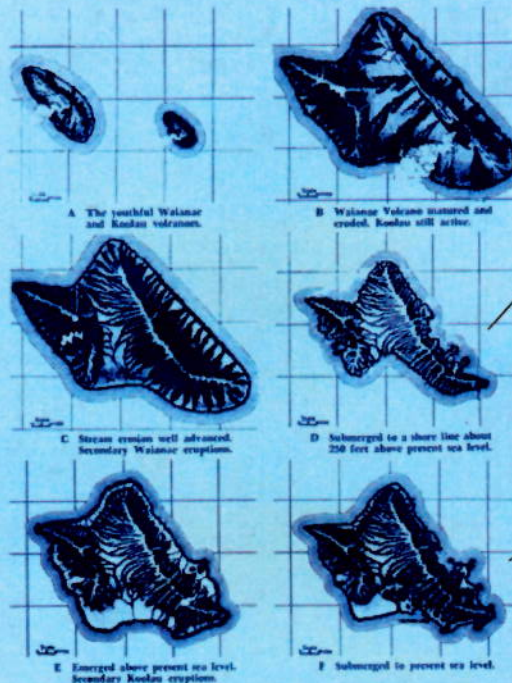
World Without Ice Oceans Would Rise 216'





Geologic History of Oahu

THE MAIN EVENTS IN THE GEOLOGIC HISTORY OF OAHU



Emerged above
present sea level.

Submerged to a
shoreline above
present sea level

Submerged to
present sea level

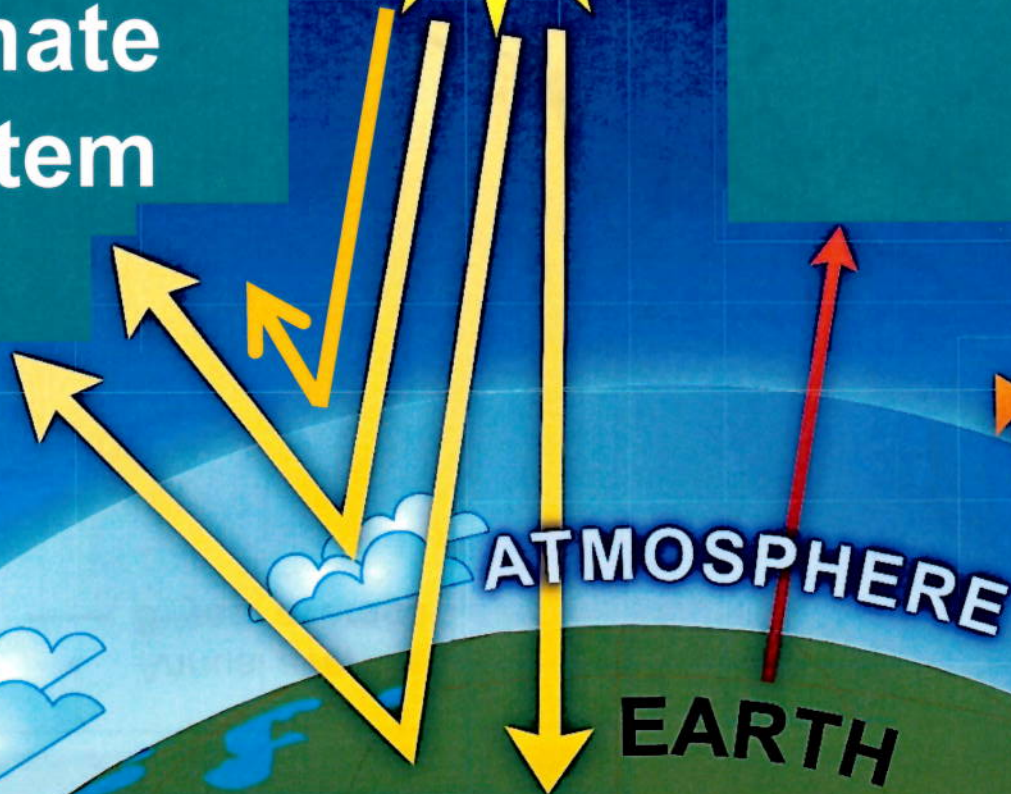
GROUNDWATER BODIES



Solar Radiation Powers the Climate System

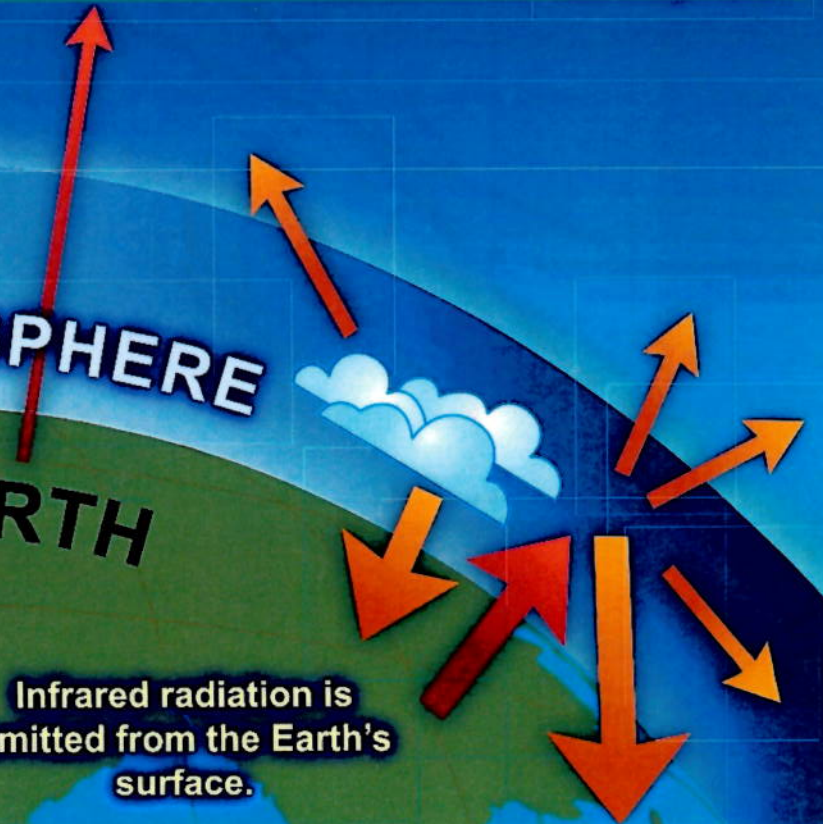
The Greenhouse Effect

Carbon dioxide,
Water vapor,
Methane,
Nitrous oxide



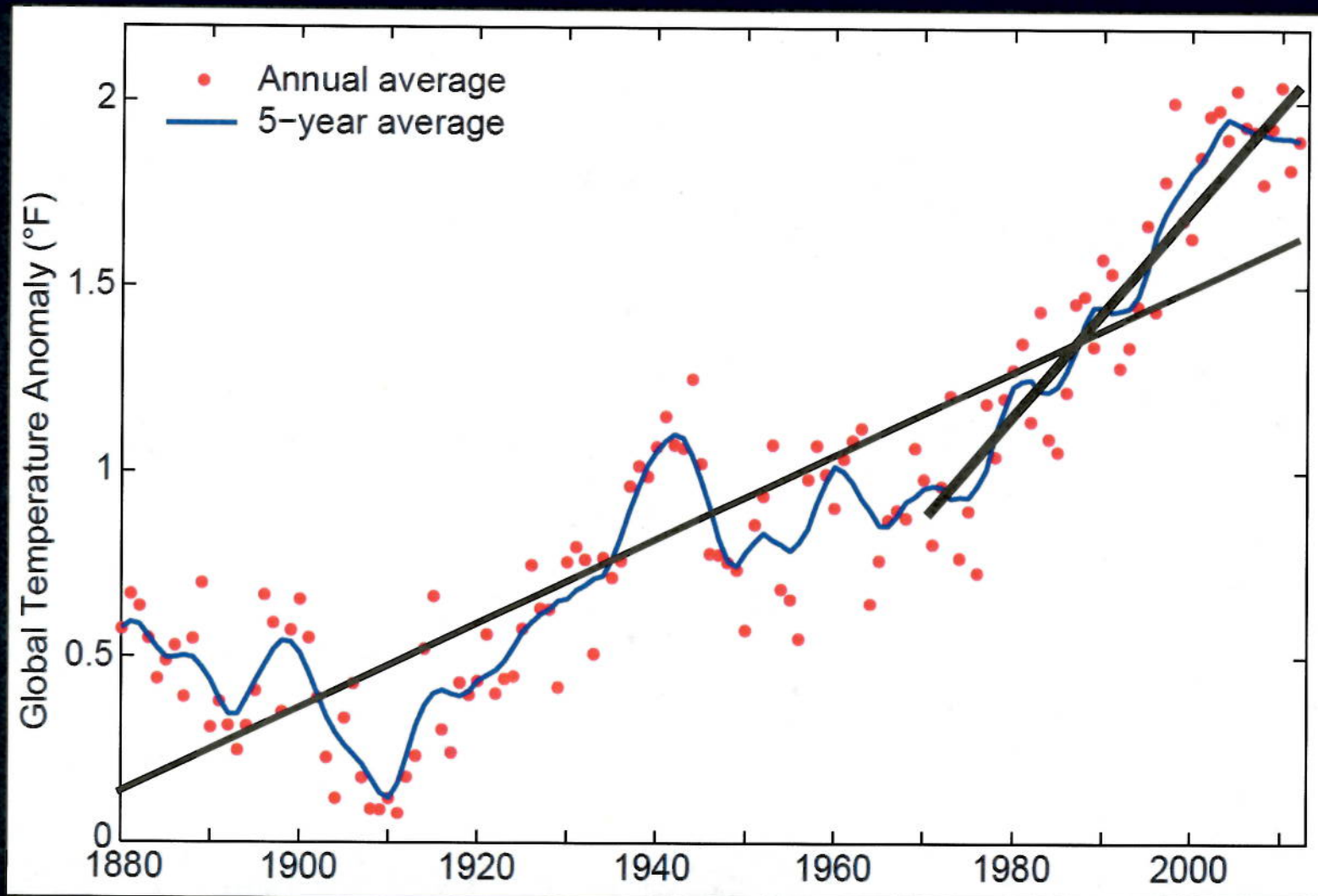
About half the solar radiation is absorbed by the Earth's surface and warms it.

Infrared radiation is emitted from the Earth's surface.



Global Temperature Rise

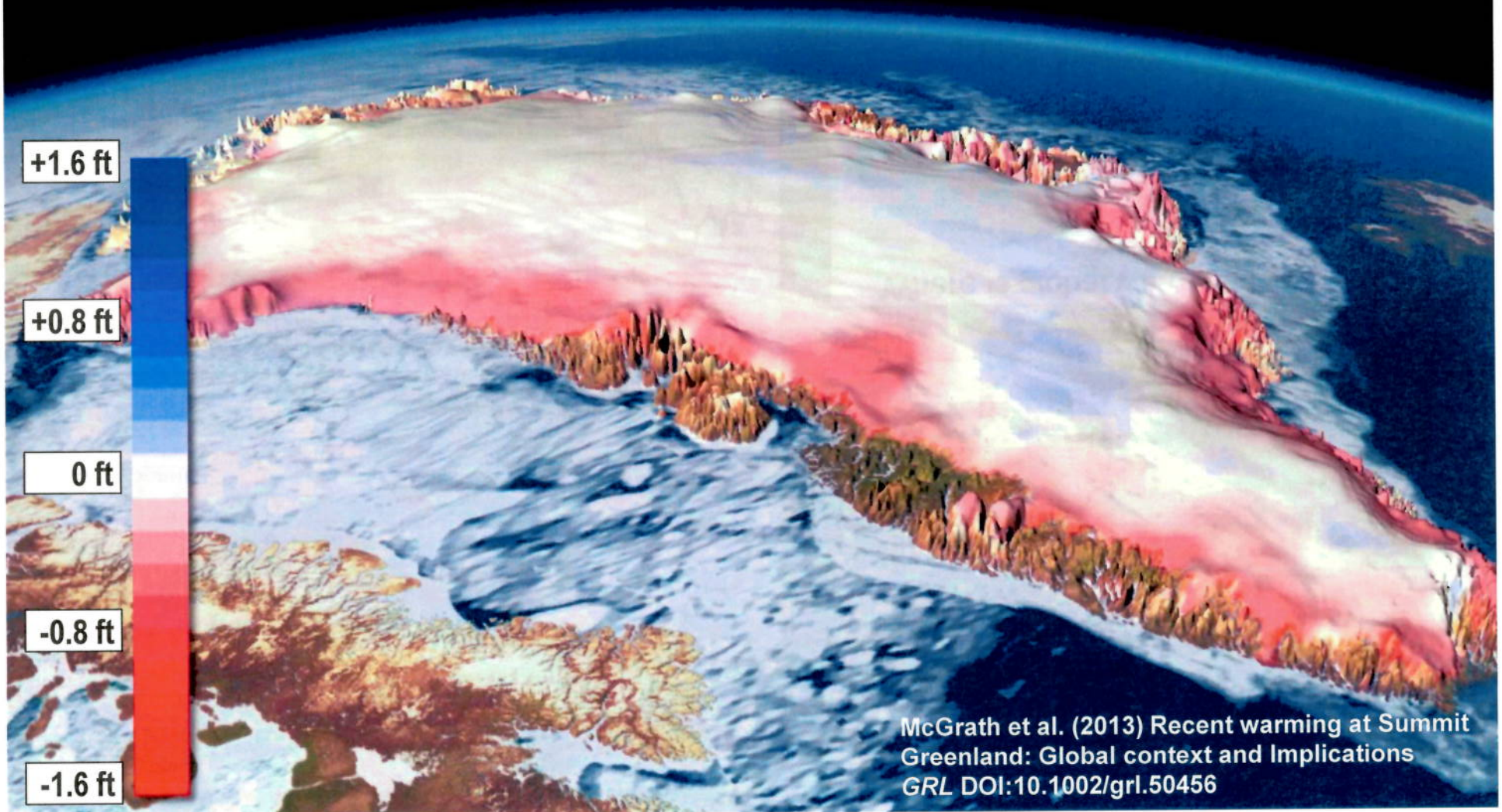
During the past 40 years, temperature has trended up at 0.3°F per decade

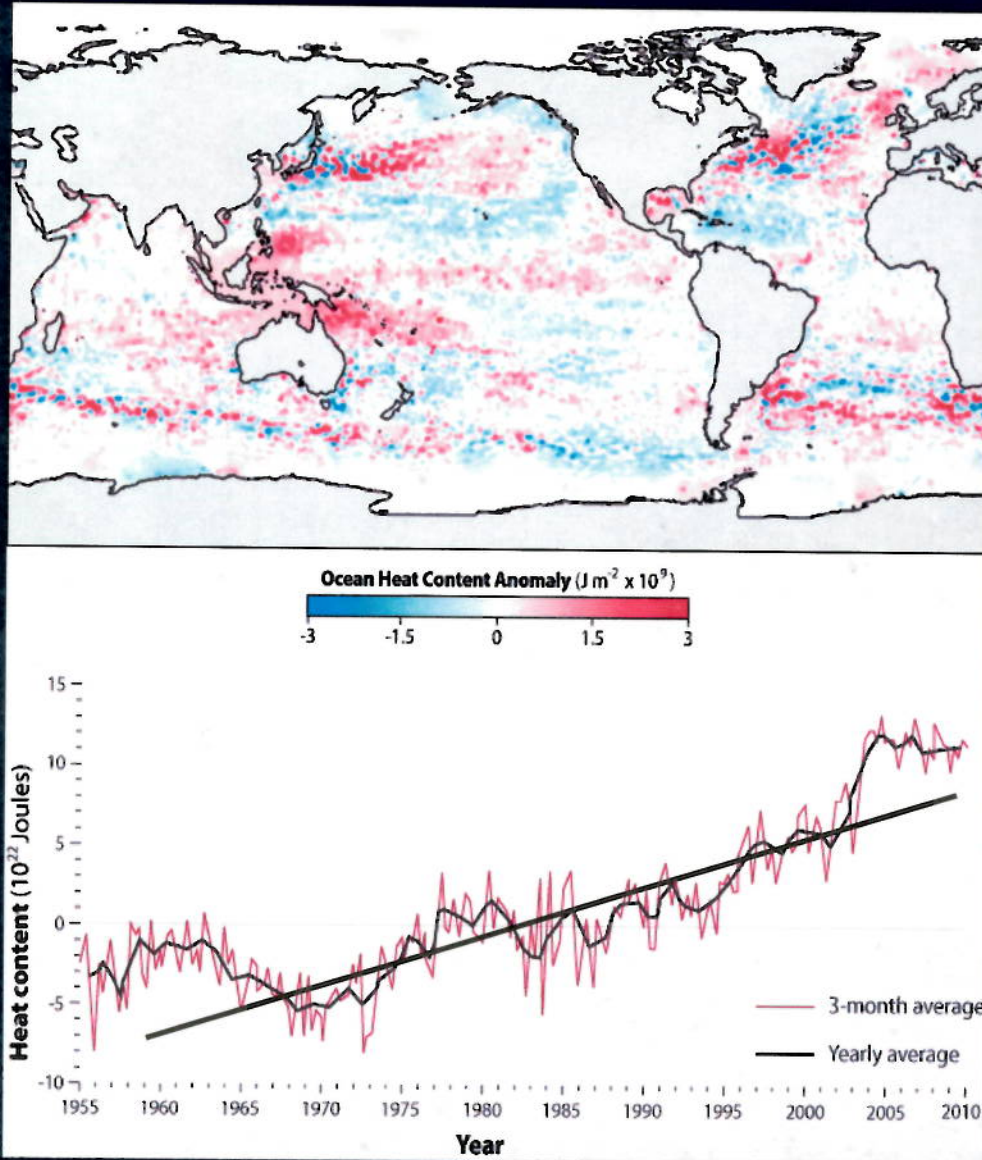


Ice Sheet Melting

At a 50% probability, the entire ice sheet will enter permanent melt by 2025

Change in Ice Sheet Thickness Per Year



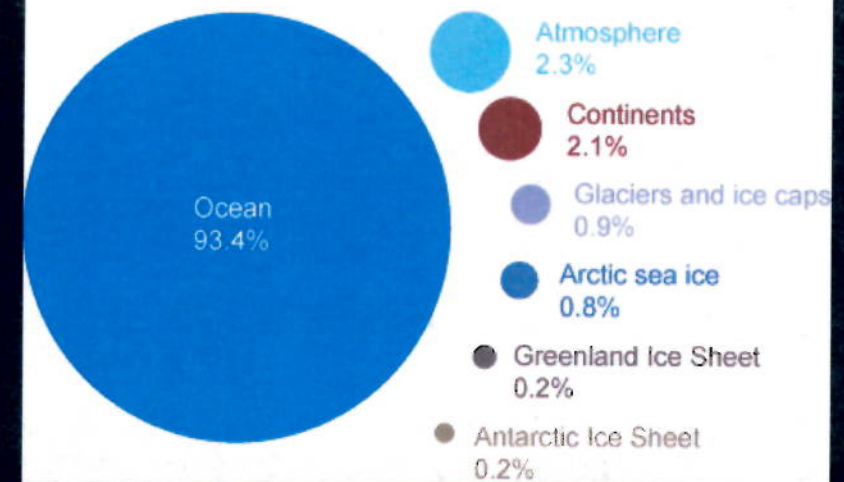


Thermal expansion of shallow ocean

9 ± 3cm sea level rise by 2050

Over 90% of warming since 1955 has gone into the ocean.

Where is global warming going?



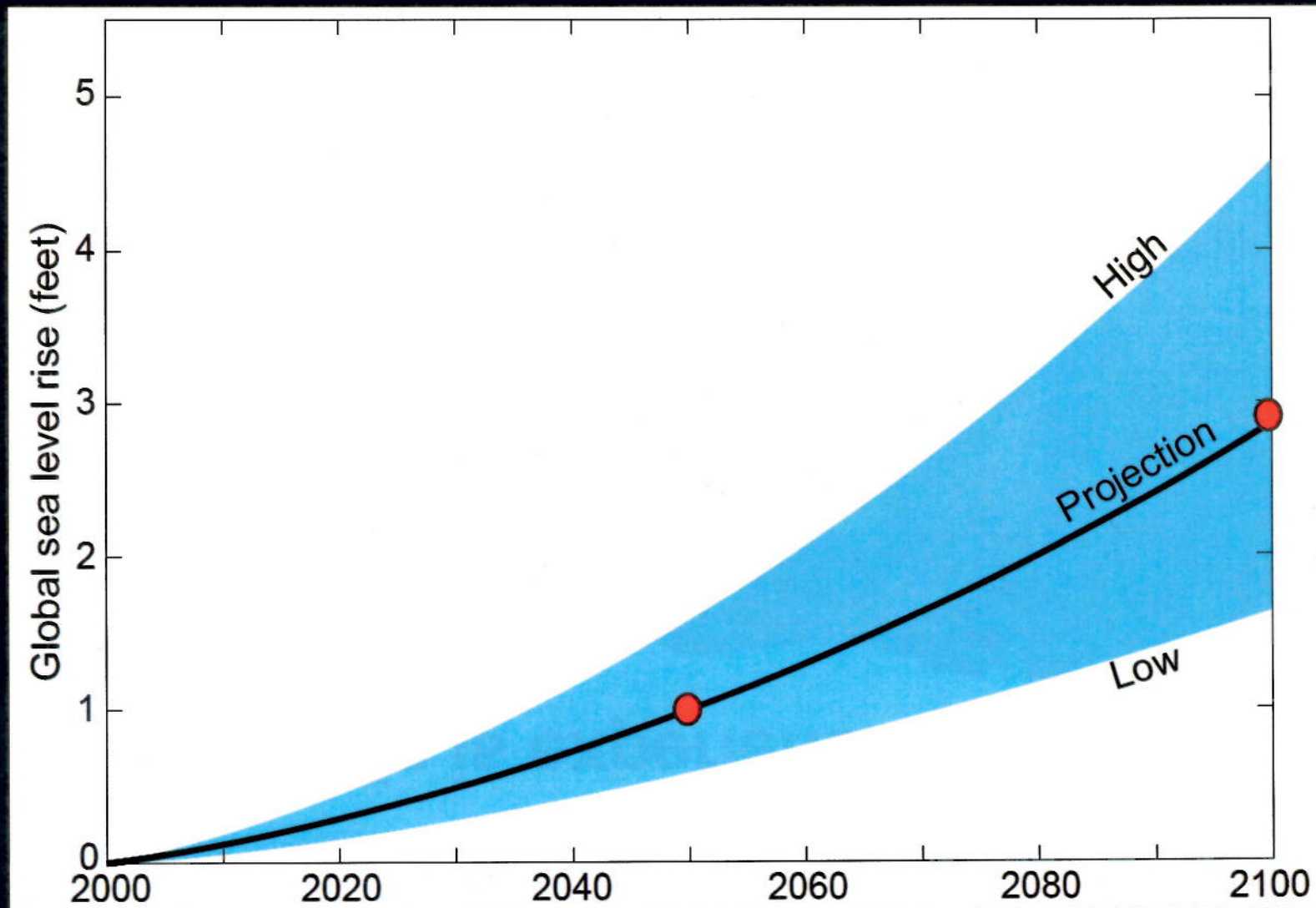
NOAA Climate Watch Magazine (on-line)

<http://www.climatewatch.noaa.gov/2010/images/new-evidence-on-warming-ocean>

Cazenave, A., Llovel, W., 2010, Contemporary sea level rise, Ann. Rev. Mar. Sci., 2:145-73

Projections of Sea Level Rise

1 ft by 2050 and 3 ft by 2100



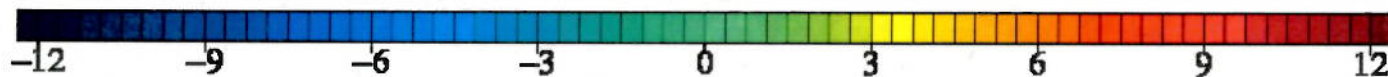
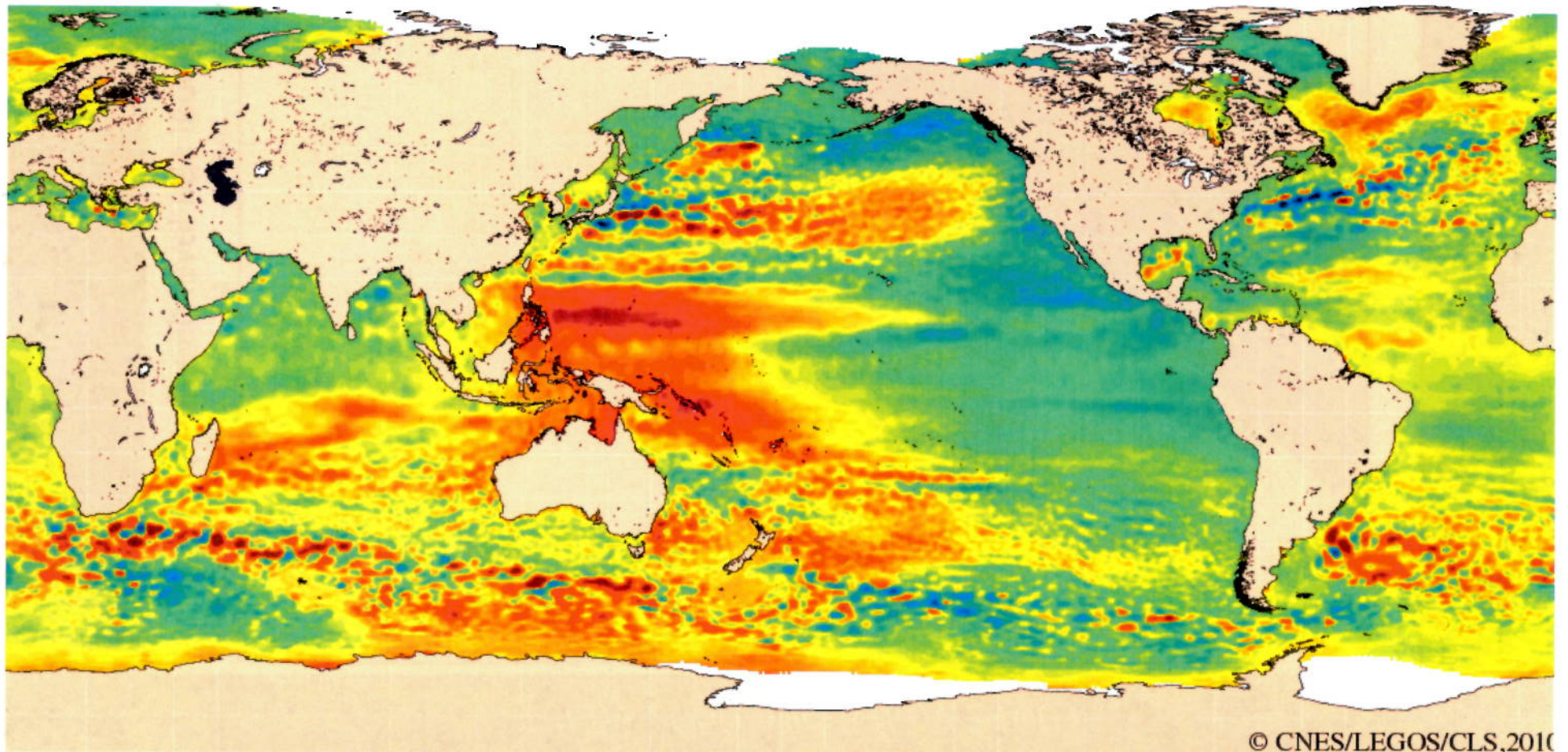
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City and County of Honolulu

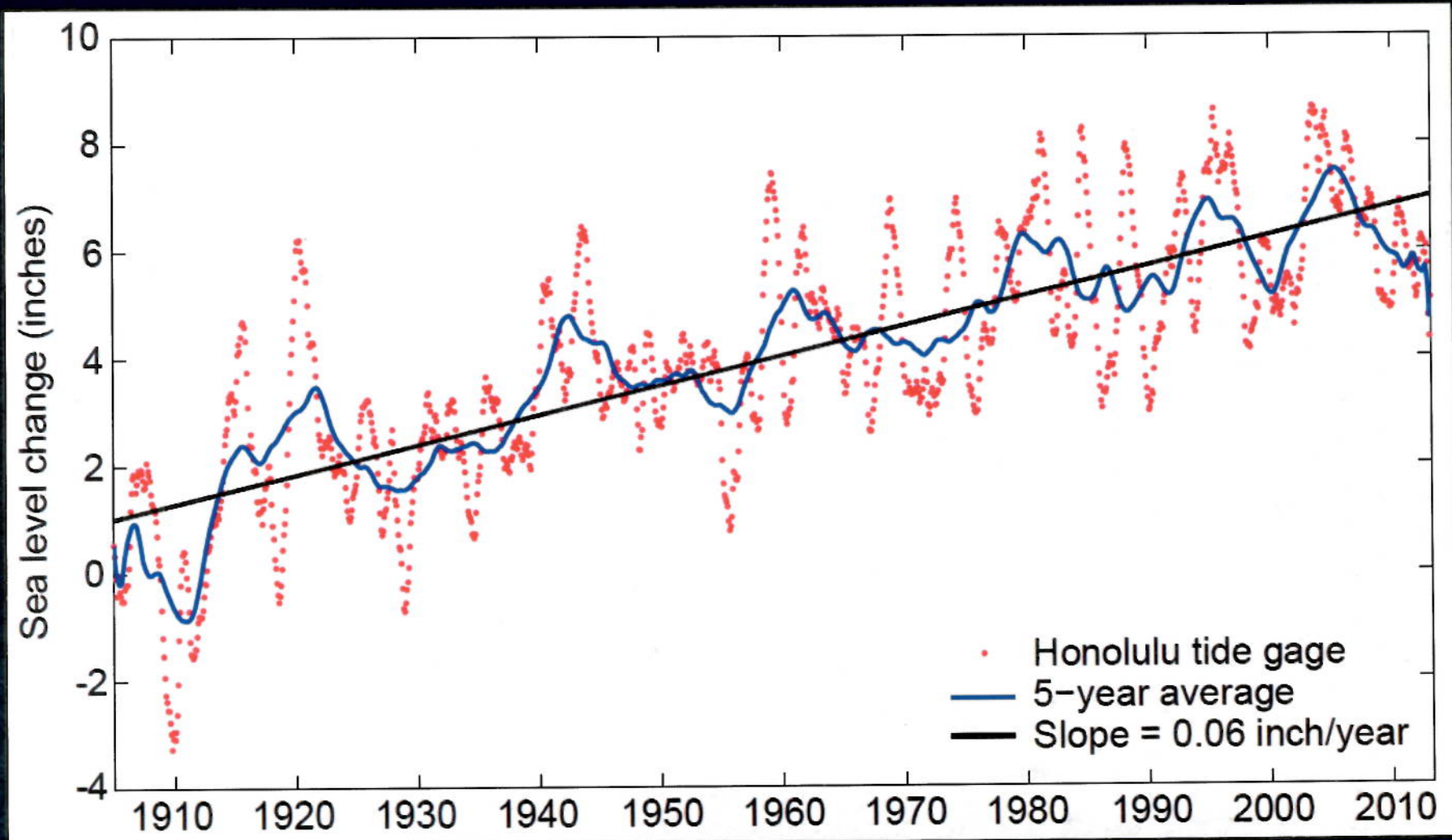
Western Pacific is experiencing sea-level rise



Regional MSL trends from Oct-1992 to Mar-2010 (mm/year)

Honolulu Sea Level Rise

Current rate of rise: 0.5 ft in 100 years



Sea level rise will be a significant problem where people live on the coast



Courtesy of Dr. Chip Flather, NOAA

Coastal Erosion

70% of all
Hawaiian
beaches
eroding

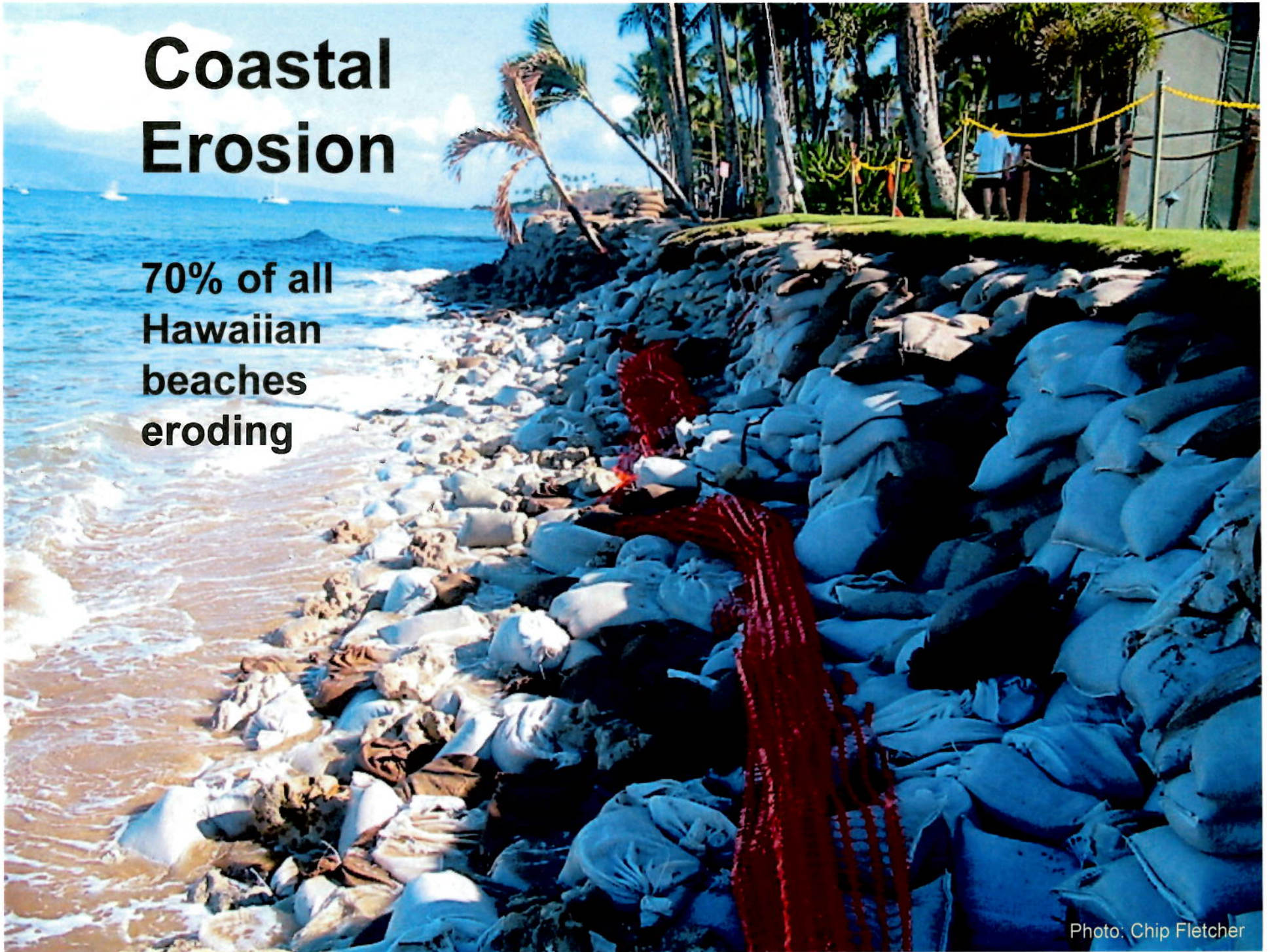


Photo: Chip Fletcher

Flooding in Mapunapuna

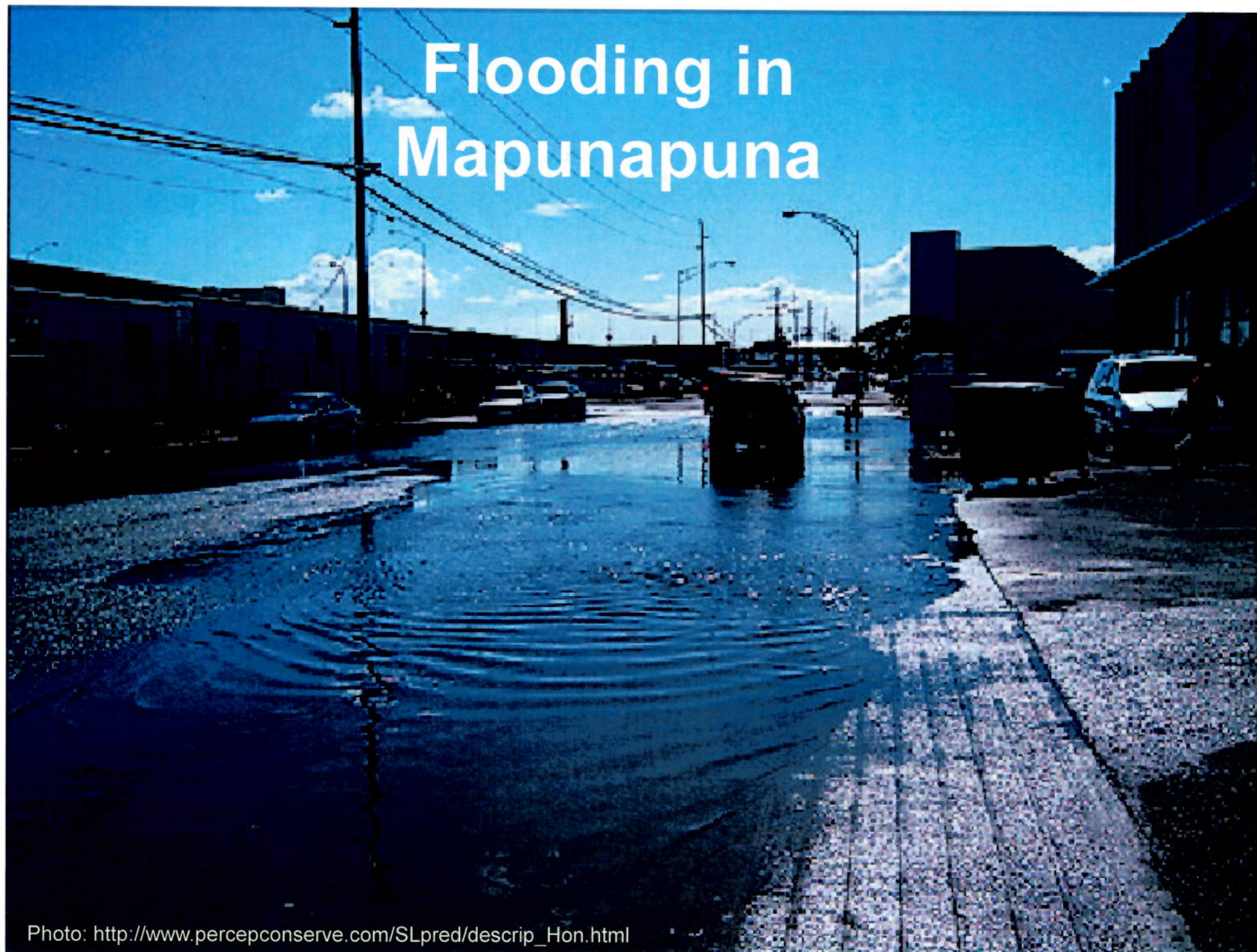
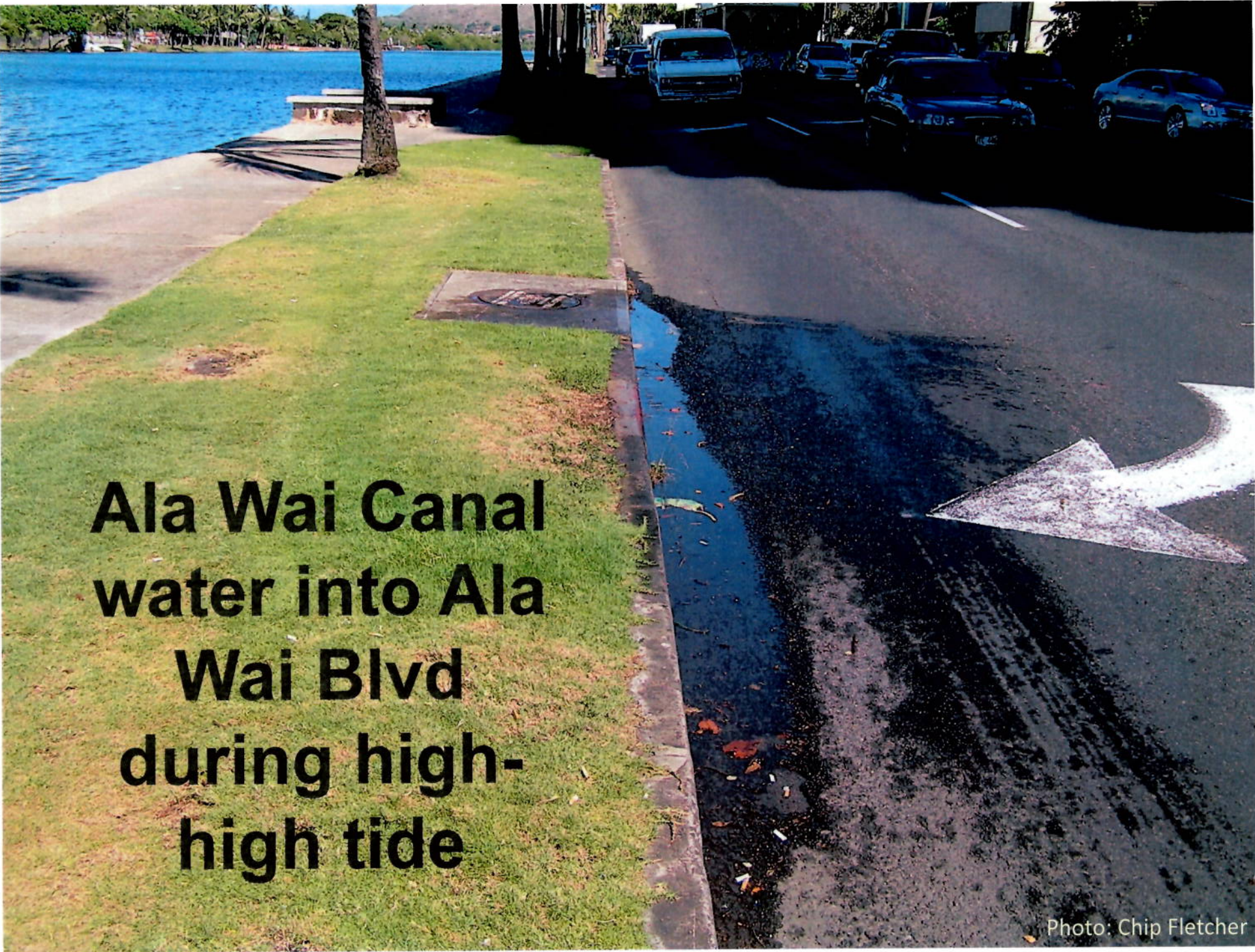


Photo: http://www.percepconserve.com/SLpred/descrip_Hon.html

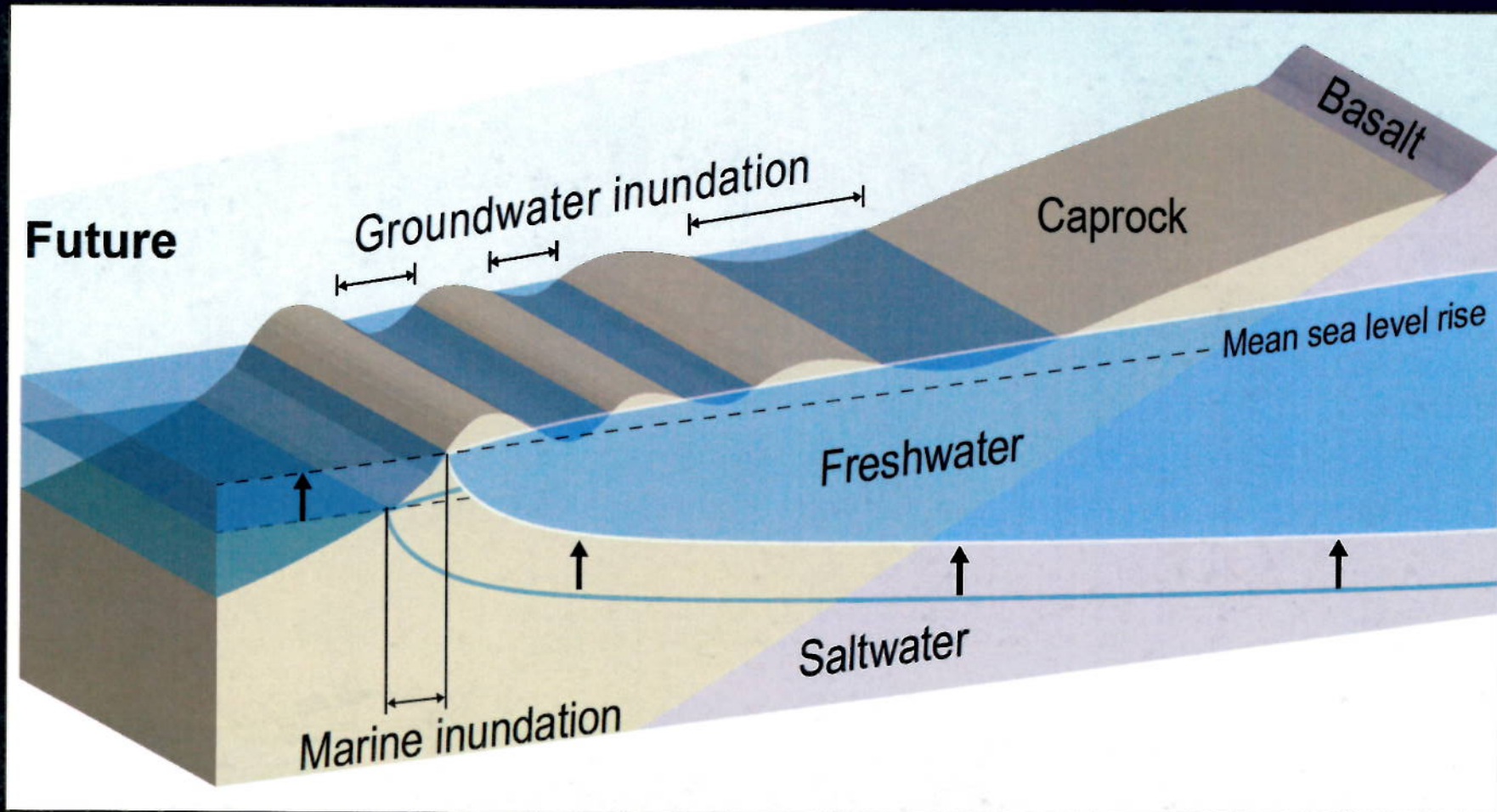


**Ala Wai Canal
water into Ala
Wai Blvd
during high-
high tide**

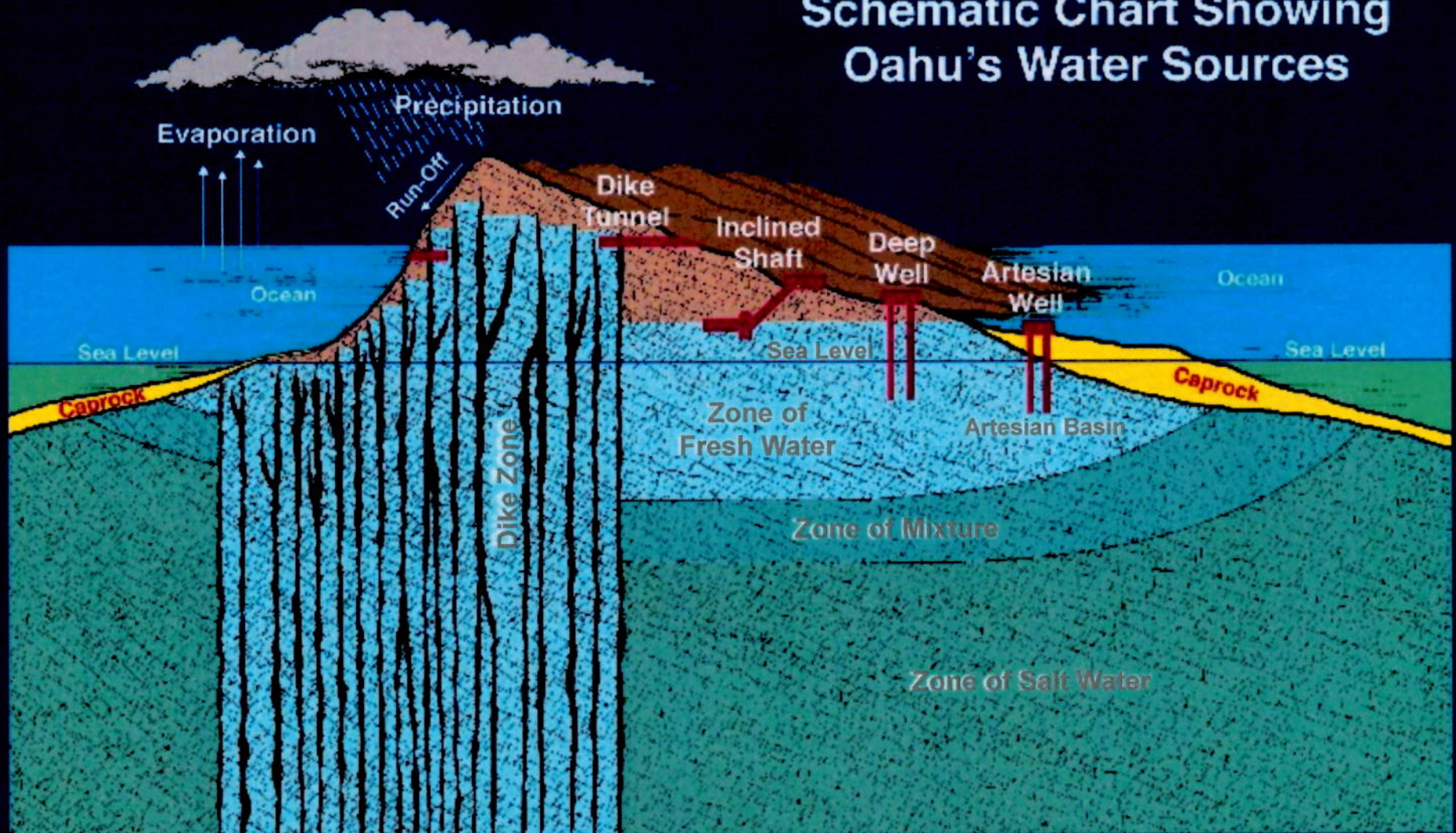
Photo: Chip Fletcher

Marine and Groundwater Inundation

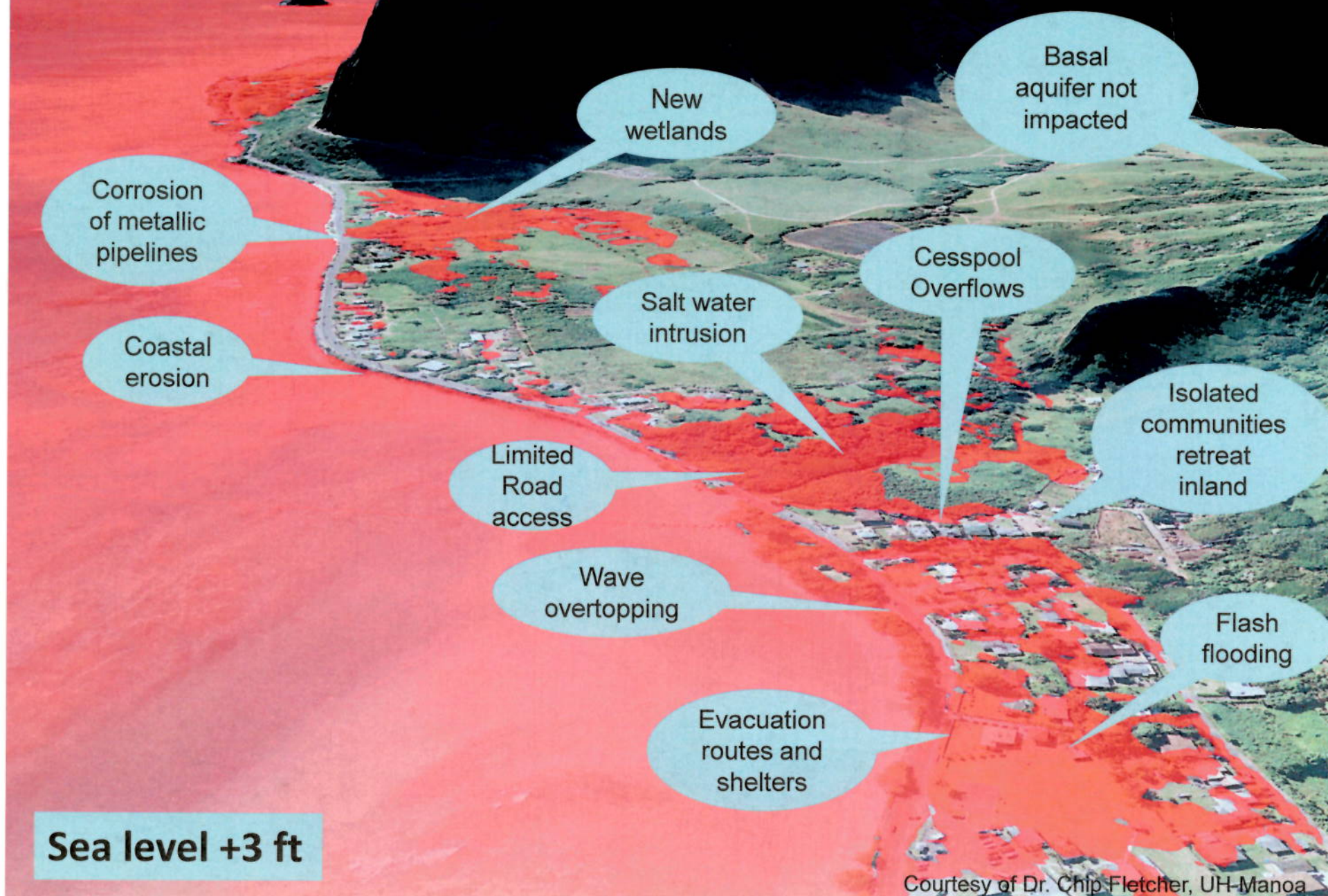
Groundwater levels rise simultaneous with sea level
No significant impact on water resources in basalt aquifer



Schematic Chart Showing Oahu's Water Sources



Sea Level Rise Impacts





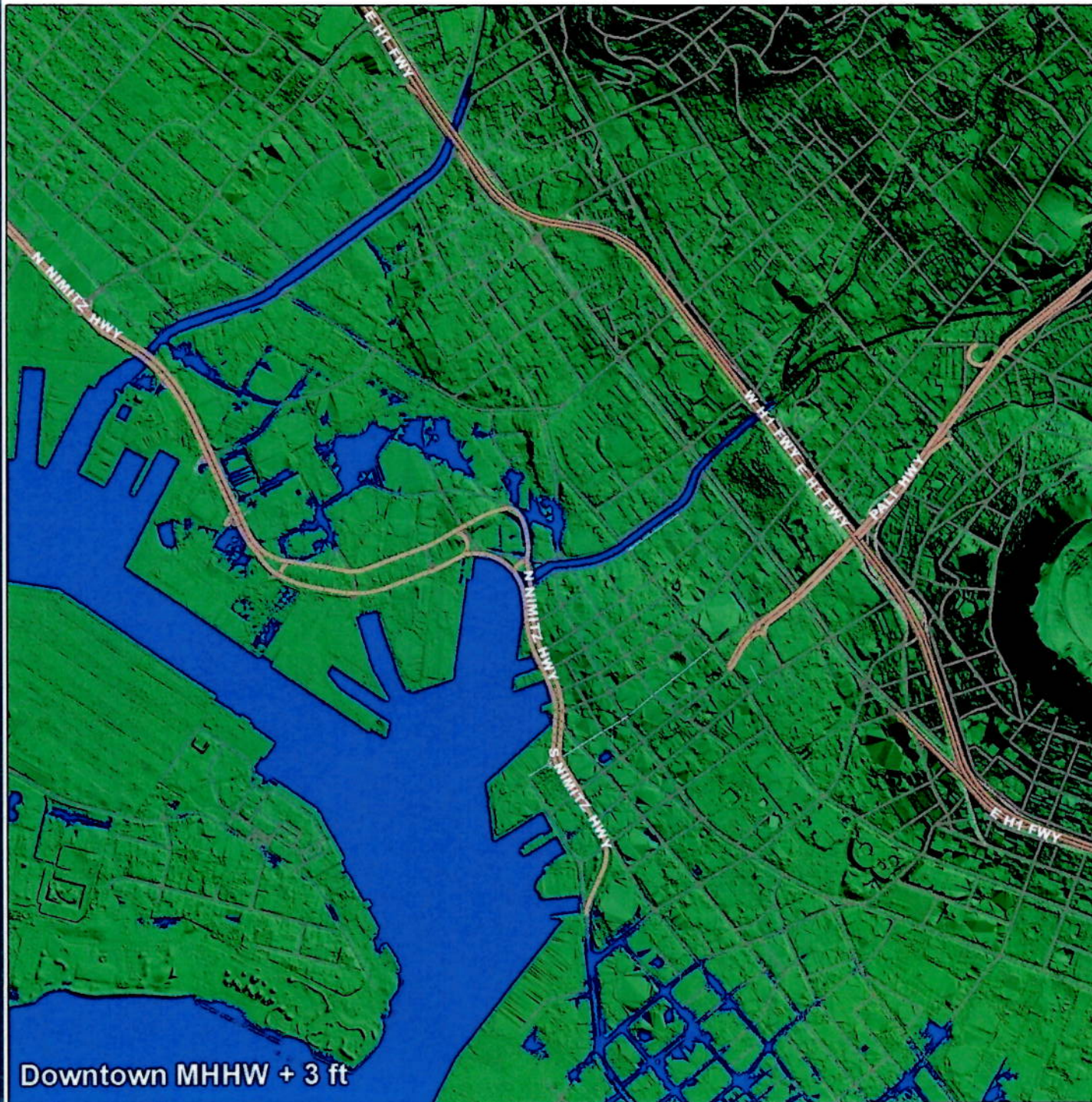
Airport Area MHHW + 3 ft

Courtesy of
Dr. Chip
Fletcher



Ala Moana MHHW + 3 ft

Courtesy of
Dr. Chip
Fletcher



Downtown MHHW + 3 ft

Courtesy of
Dr. Chip
Fletcher



Waikiki MHHW + 3 ft

Courtesy of
Dr. Chip
Fletcher



Hawaii State Planning Act Chapter 226-109, HRS, Climate Change Adaptation Priority Guidelines

- Guidelines were developed in 2012 through collaboration between county, state and federal agencies, businesses, community and Native Hawaiian organizations.
- Integrates climate change adaptation priority guidelines into the current statewide planning system.
- All county and state actions must consider the priority guidelines in its land use, budgetary, capital improvement, program decisions and County General and Development Plans
- Priority guidelines prepare the State to address the impacts of climate change, including impacts to the areas of agriculture; conservation lands; coastal and near shore marine areas; natural and cultural resources; education; energy; higher education; health; historic preservation; water resources; the built environment, such as housing, recreation, transportation;





Adapting to Sea Level Rise

- Map the problem
 - Areas troubled now, are likely to get worse
- Identify Impacts to Major Sectors
 - Conduct Vulnerability and Risk Assessments
- Educate the community on sea level rise issues
- Develop Prioritized Adaptation Strategies
 - Building codes to withstand more intense storms
 - Shoreline setbacks that account for sea level rise
 - Retreat strategies away from coastal areas
 - Defense strategies (sea walls, levees, elevation, hardening)
 - Food, flood, transportation, water, wastewater engineering
- Create adaptation plans
- Identify funding and precautionary regulatory actions

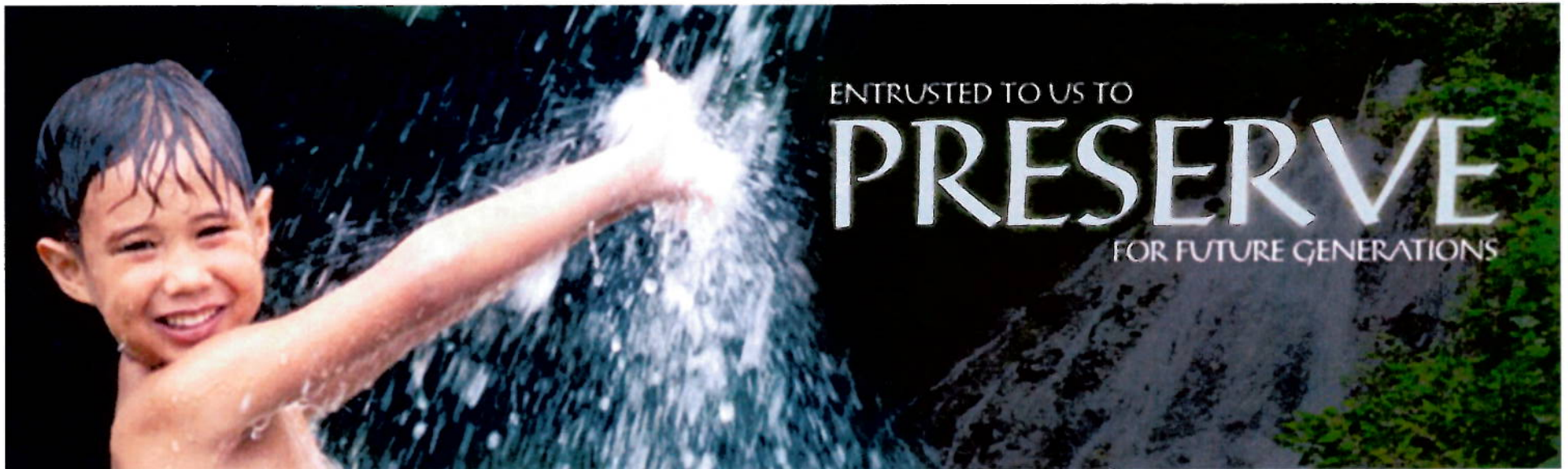


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Board of Water Supply
City and County of Honolulu



ITEM FOR INFORMATION NO. 3

"June 23, 2014

GROUNDWATER
LEVELS

Chair and Members
Board of Water Supply
City and County of Honolulu
Honolulu, Hawaii 96843

Chair and Members:

Subject: Status Update of Groundwater Levels at All Index
Stations

There is one aquifer index well within low groundwater status for the production week that ended on June 7, 2014. Kaimuki is under a caution status. The weekly production average for the period was 137.75 million gallons per day.

The Board of Water Supply rainfall index for the month of April 2014 was 100 percent of normal, with a 5-month moving average of 93 percent. The Hawaii Drought Monitor indicates no abnormally dry conditions for Oahu, as of June 10, 2014. The National Weather Service is forecasting above normal rainfall through October 2014. Index monitor wells exhibited good recovery during the winter season. Water level declines can be anticipated through the summer season.

Respectfully submitted,

/s/ ERNEST Y. W. LAU, P.E.
Manager and Chief Engineer

Attachments"

The foregoing was for information only.

DISCUSSION: There were no comments or discussion.

PUMPAGE, HEAD, AND RAINFALL REPORT

Week of 6/01/14 to 6/07/14

STATION	MGD	HEAD	STATION	MGD	HEAD	STATION	MGD	HEAD		MGD	HEAD
METRO			WINDWARD			EWA-WAIANAE (CONT)			PH (CONT)		
KULIQUOU	0.00					MAKAHA IV	0.00		PEARL CITY II	1.44	
WAILUPE	0.00		WAIMANALO II	0.34		MAKAHA V	0.00		PEARL CITY III	0.00	
WAIALAE-IKI	0.00		WAIMANALO III	0.46		MAKAHA VI	0.76		WAIU	1.04	
AINA KOA	0.29		KUOU I	0.06		MAKAHA SHAFT	0.00	13.91	NEWTOWN	2.04	
AINA KOA II	0.28		KUOU II	0.10		KAMAILE	0.74		KAONOHI I	0.74	
WAIALAE SHAFT	0.00		KUOU III	0.60		WAIANAE I	0.09		WAIMALU I	0.00	
MANOA II	0.00		LULUKU	1.04		WAIANAE II	0.12		AIEA	0.00	
PALOLO	0.97		HAIKU	0.36		WAIANAE III	0.23		AIEA GULCH 497	0.43	
KAIMUKI HIGH	3.25	22.58	IOLEKAA	0.23		MAKAKILO	0.29		AIEA GULCH 550	0.23	
KAIMUKI LOW	0.92		KAHALUU	0.49		HONOULIULI I	3.85		HALAWA 277	0.94	
WILDER	6.90		WAIHEE	0.00		HONOULIULI II	6.84		HALAWA 550	0.00	
BERETANIA HIGH	2.46	22.60	KAHANA	0.81		SUBTOTAL:	15.51		KAAHUMANU MTR (-)	0.00	
BERETANIA LOW	3.41		PUNALUU I	0.00	18.06	IMPORT FROM PH			KAAMILO FLO MTR (-)	0.00	
KALIHI HIGH	2.94	21.99	PUNALUU II	0.38		KAPOLEI LINE BSTR	12.79		KUNIA I	5.25	18.78
KALIHI LOW	2.78		PUNALUU III	1.12		HONOULIULI LB FLOW	0.00		KUNIA II	1.70	
KAPALAMA	0.83		KALUANUI	0.39		EWA BEACH FLOW	0.00		KUNIA III	1.39	
KALIHI SHAFT	8.39		MAAKUA	0.25		HONOULIULI I (-)	-3.85		HOAEAE	4.50	
MOANALUA	0.83	19.12	HAUULA	0.00		HONOULIULI II (-)	-6.84		EWA SHAFT	0.00	
SUBTOTAL:	34.26					SUBTOTAL:	2.10		WAIPAHU INTCON. (-)	0.00	
			KAHUKU	0.38					EWA-WAIANAE (-)	-2.10	
IMPORT FROM PH			OPANA	0.14		PEARL HARBOR			PH LOCAL USE:	34.37	
HALAWA SHAFT	6.53	16.60	WAIALEE I	0.50		WAIHAWA	1.78		TOTAL SUBURBAN:	62.19	
KAAMILO	0.00		WAIALEE II	0.52		WAIHAWA II	1.76				
KALAUAO	9.77	16.97	SUNSET BEACH	0.00		MILILANI I	2.10		KALAUAO SPRINGS	1.50	
PUNANANI	12.31		SUBTOTAL:	8.17		MILILANI II	0.00		BARBERS POINT (NP)	3.58	
KAONOHI II	0.00					MILILANI III	0.72		GLOVER TUNNEL (NP)	0.50	
WAIMALU II	0.00	15.02	WIND. EXPORT	0.14		MILILANI IV	2.11				
KAAHUMANU	0.96					WAIPIO HTS.	0.36		HEAD CONDITION		
HECO WAIU	2.69		HALEIWA-WAIALUA			WAIPIO HTS. I	0.09		CAUTION	ALERT	CRITICAL
MANANA	0.48		HALEIWA	0.00		WAIPIO HTS. II	0.25		Kaimuki		
KAAHUMANU FLOW MT	0.00		WAIALUA	2.19		WAIPIO HTS. III	0.93				
KAAMILO FLOW MTR	0.00		SUBTOTAL:	2.19		WAIPAHU	2.72	18.40			
TOTAL IMP/EXP WAI. INT:	0.00					WAIPAHU II	0.07				
IMPORT FRM WIND:	0.14		EWA-WAIANAE			WAIPAHU III	1.33				
SUBTOTAL:	32.87		MAKAHA I	0.92		WAIPAHU IV	2.05				
			MAKAHA II	0.50		PEARL CITY SHAFT	0.00	14.72			
TOTAL METRO:	67.13		MAKAHA III	1.18		PEARL CITY I	0.52				

CWRM PERMITTED USE FOR BWS POTABLE SOURCES						PUMPAGE	2014	2013	GRAVITY	2014	2013
WATER DISTRICTS	A	B	C	D	E	SUBURB.	62.19	61.24	SUBURB.	8.01	6.46
	PERMITTED USE		DIFF. B-A	YEAR/ DATE	DIFF. D-A	METRO	67.13	69.69	METRO	0.42	0.39
		2014				TOTAL:	129.32	130.93	TOTAL:	8.43	6.85
HONOLULU	45.27	34.68	-10.59						Manoa	0.17	
WINDWARD	25.21	13.08	-12.13			NUUANU #5			Palolo	0.25	
NORTH SHORE	4.08	3.73	-0.35			(rainfall)	1.65"	1.98"	Waim. I&II	0.25	
WAIHAWA	4.27	3.54	-0.73						Waim. III&IV	0.19	
WAIANAE	4.34	4.91	0.57						Waihee incl.	1.03	
EWA-KUNIA	15.88	10.98	-4.90						Waihee tun.	2.56	
PEARL HARBOR	92.66	65.66	-27.00						Luluku	0.03	
TOTAL:	191.71	136.58	-55.13						Haiku	0.07	
									Kahaluu	2.34	
									Waia. C&C	1.40	
									Waia plant.	0.16	

DROUGHT STATUS REPORT
DRAFT IN MGD

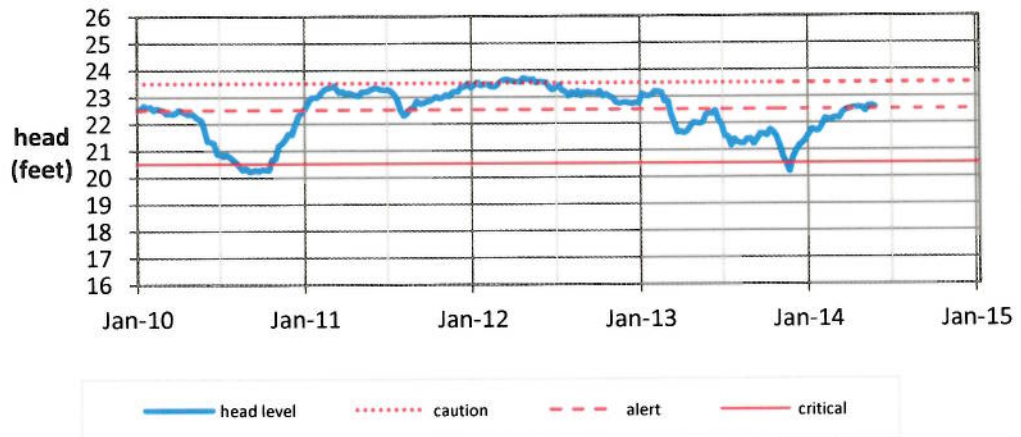
WATER USE DISTRICT	AUTHORIZED USE	2013	5/18-5/24 2014	2013	5/25-5/31 2014	2013	6/01-6/07 2014		
HONOLULU	45.27	35.70	34.50	35.36	32.27	36.34	34.82		
WINDWARD	25.21	12.33	12.75	12.92	12.78	13.65	12.94		
NORTH SHORE	4.08	4.00	3.79	4.02	3.45	3.94	3.73		
WAHIAWA	4.27	2.88	3.58	2.68	3.56	2.83	3.54		
EWA-WAIAANAE	20.22	22.24	19.38	23.07	18.41	19.78	19.16		
PEARL HARBOR	92.66	54.89	63.32	54.39	61.27	61.24	63.56		
TOTAL	191.71	132.05	137.33	132.45	131.73	137.78	137.75		

Accounts for in-district pumpage and transfers

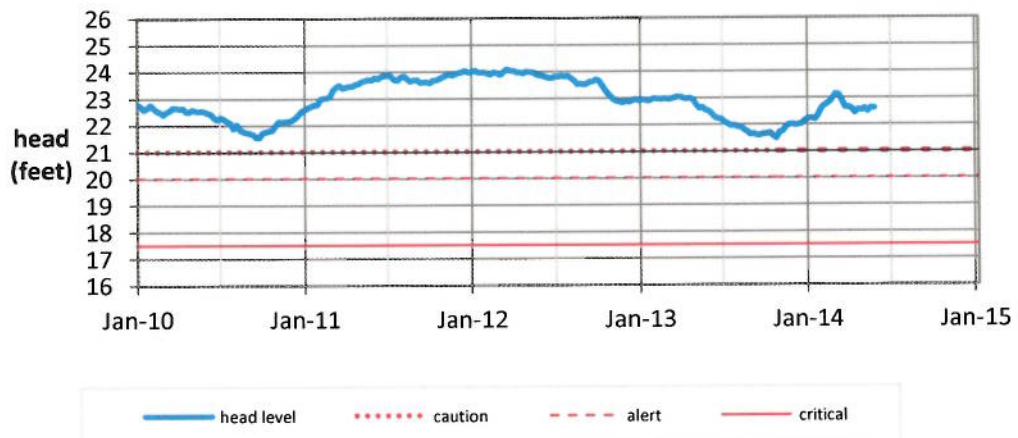
HEAD IN FEET

		2013	5/18-5/24 2014	2013	5/25-5/31 2014	2013	6/01-6/07 2014		
HONOLULU									
KAIMUKI		22.01	22.62	22.30	22.64	22.36	22.58		
BERETANIA		22.64	22.48	22.53	22.61	22.50	22.60		
KALIHI		22.14	22.00	22.10	21.94	22.09	21.99		
MOANALUA		18.97	19.00	18.97	19.08	18.97	19.12		
PEARL HARBOR									
HALAWA		16.51	16.54	16.54	16.57	16.53	16.60		
KALAUAO		17.01	17.02	17.03	16.93	16.96	16.97		
PEARL CITY		14.79	14.65	14.84	14.69	14.73	14.72		
WAIPAHI		18.37	18.31	18.35	18.38	18.33	18.40		
KUNIA		18.73	18.70	18.64	18.78	18.62	18.78		
EWA-WAIAANAE									
MAKAHA		9.59	13.60	9.14	13.74	9.17	13.91		
WINDWARD									
PUNALUU		16.02	17.89	15.86	17.97	16.09	18.06		
KALUANUI		15.87	17.82	15.87	18.13	15.97	18.31		
NORTH SHORE									
WAIALUA		11.14	10.99	11.15	11.03	11.17	11.04		

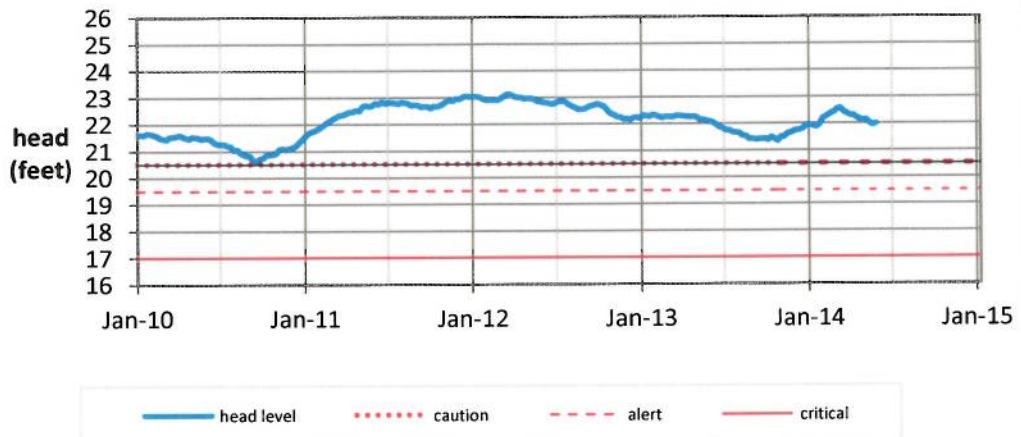
Kaimuki



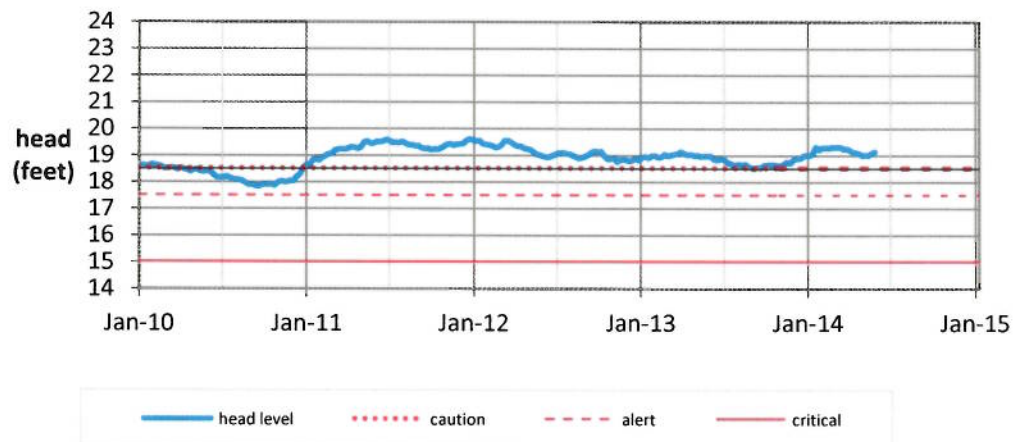
Beretania



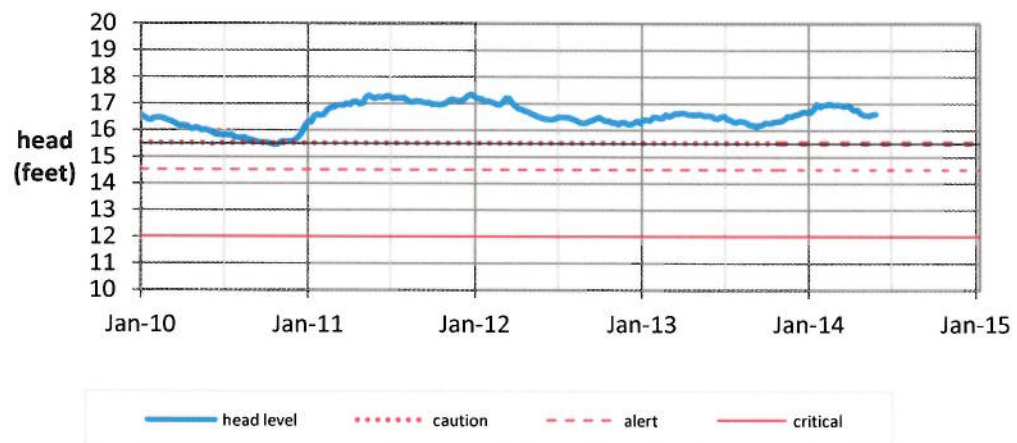
Kalihi



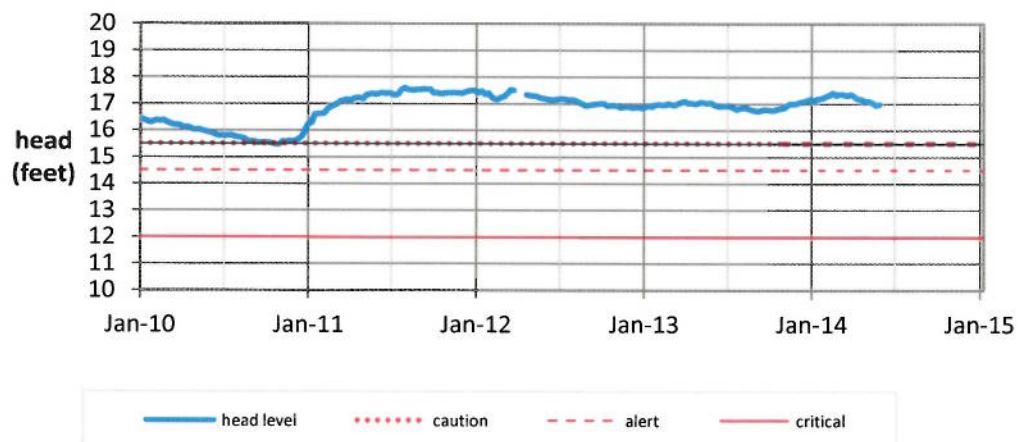
Moanalua



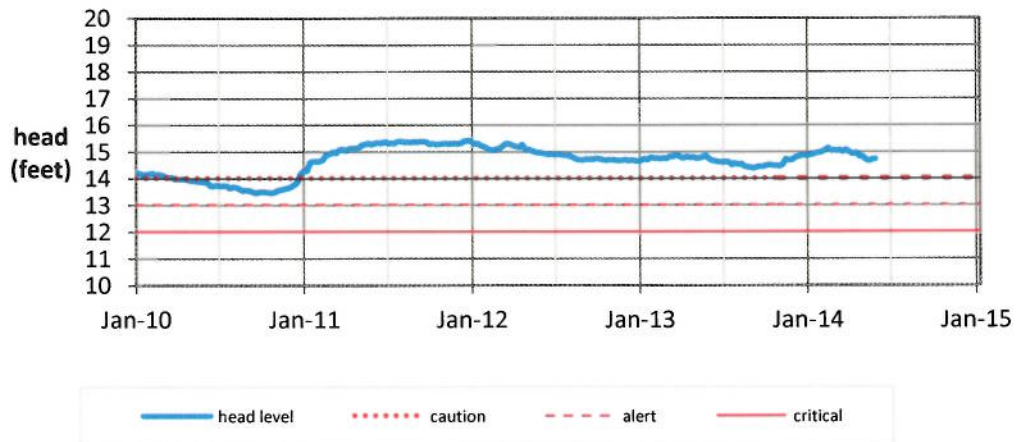
Halawa



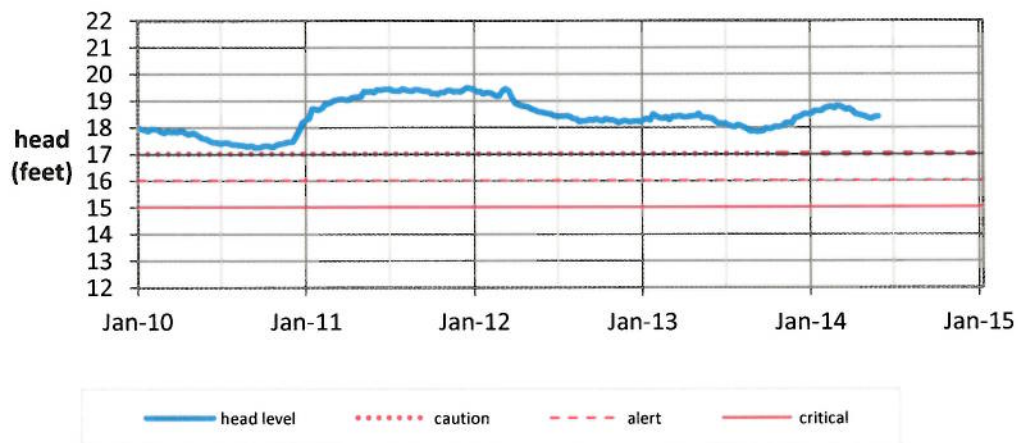
Kalauao



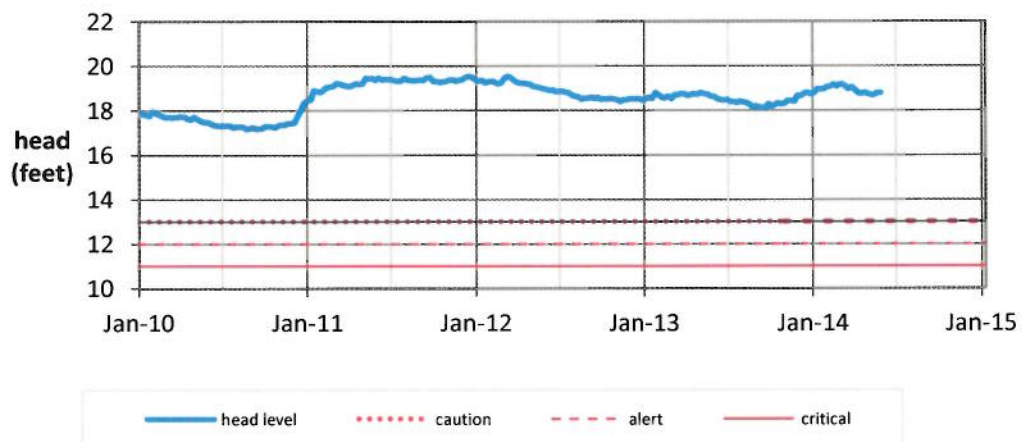
Pearl City



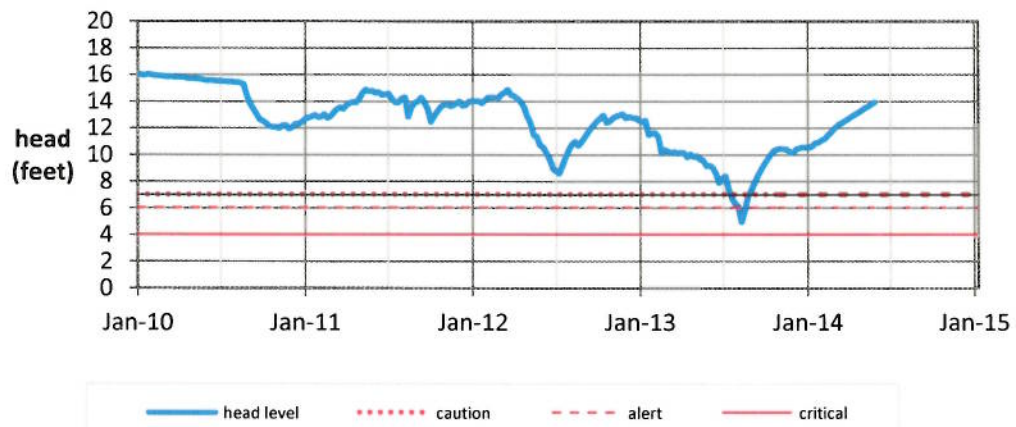
Waipahu



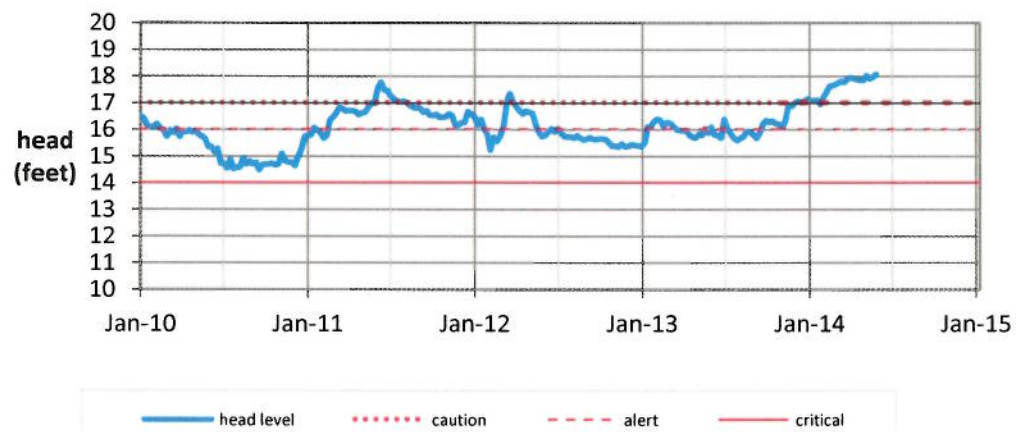
Hoeaee-Kunia



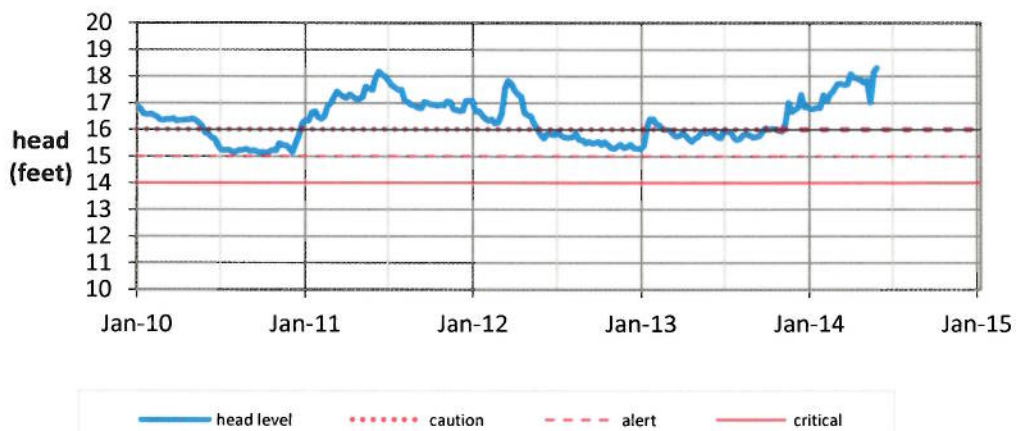
Makaha



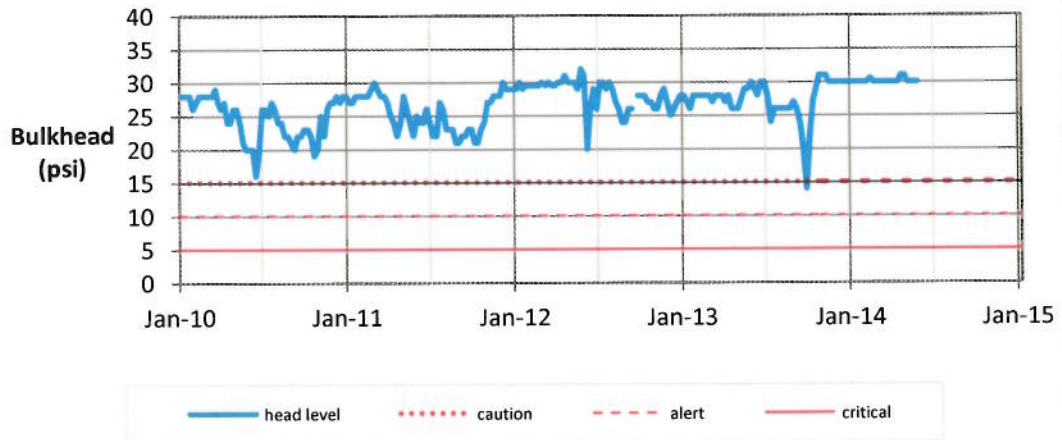
Punaluu



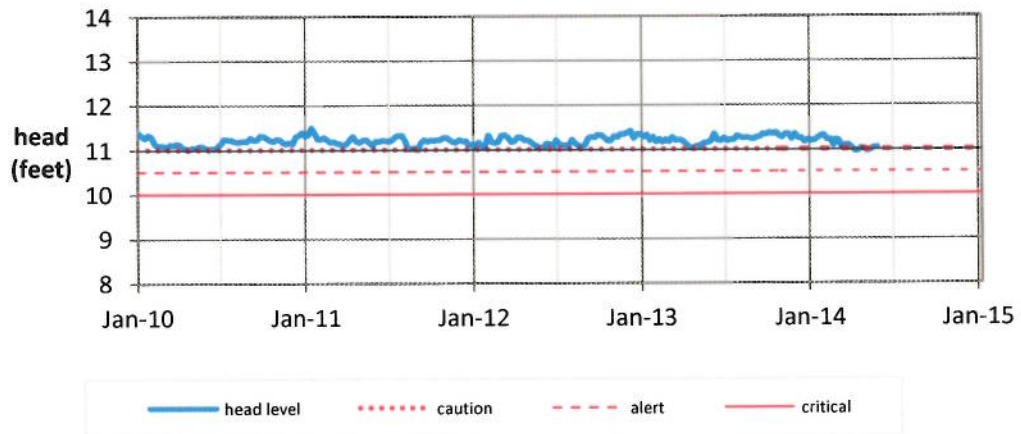
Kaluanui

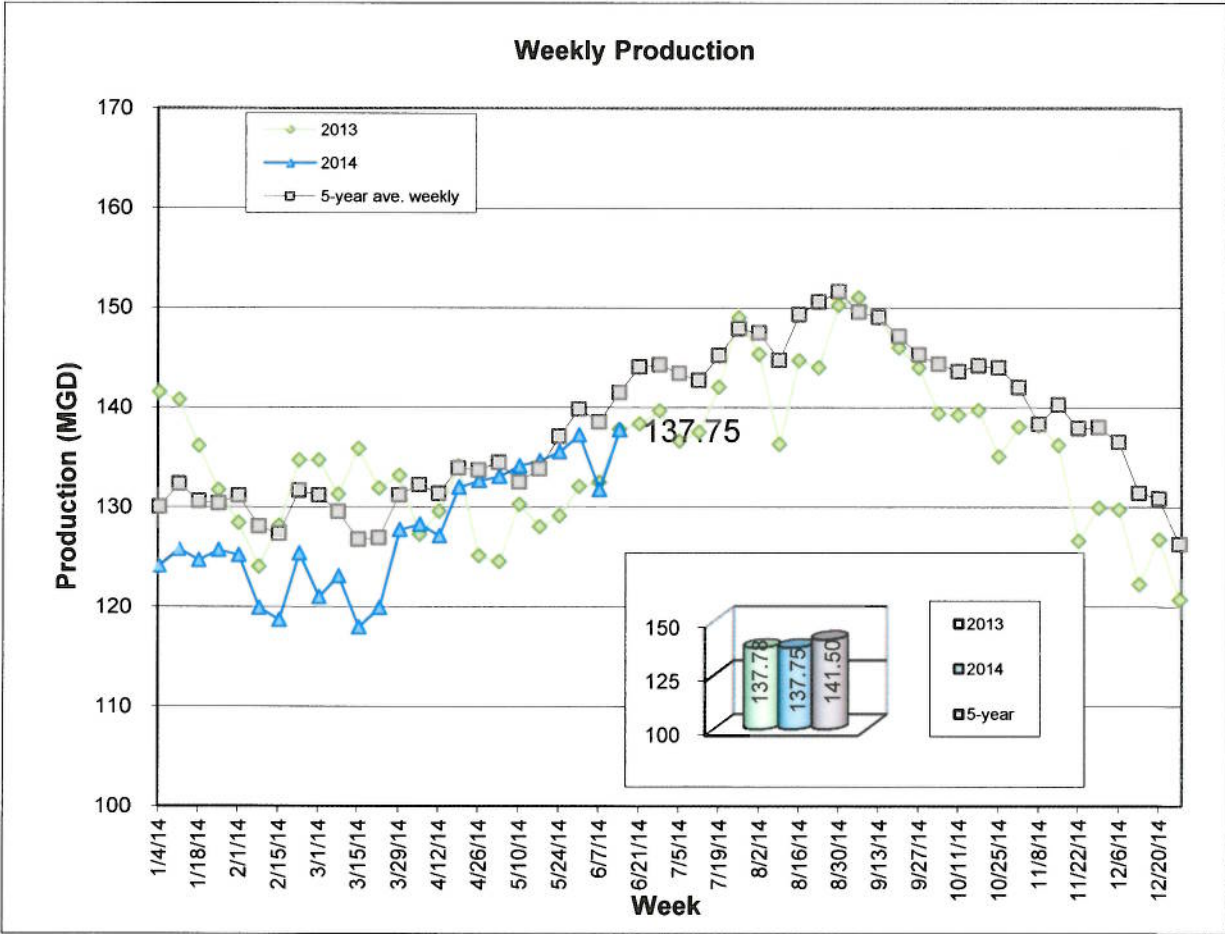
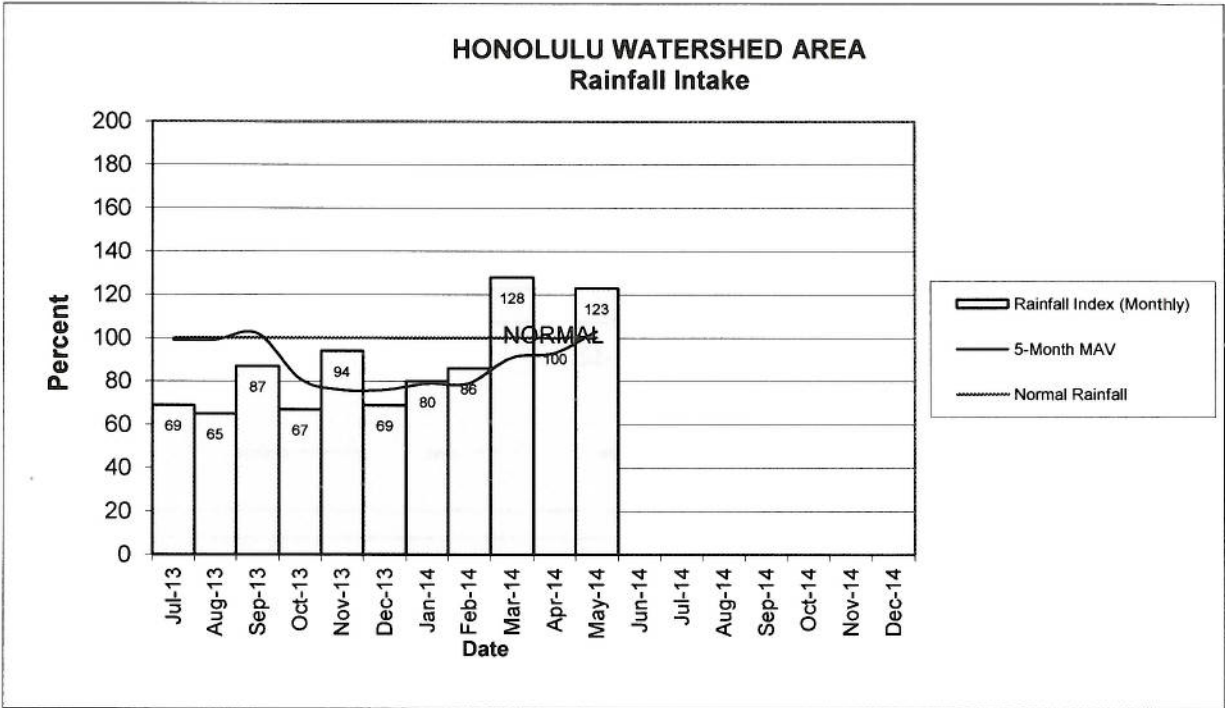


Waihee Tunnel



Waialua





ITEM FOR INFORMATION NO. 4

"June 23, 2014

WATER SYSTEM
REVENUE BONDS Chair and Members
Board of Water Supply
City and County of Honolulu
Honolulu, Hawaii 96843

Chair and Members:

Subject: Water System Revenue Bonds – Compliance with Rate
Covenant

In accordance with Article VIII, Section 8.02, Rates and Charges, of the Water System Revenue Bonds, Resolution No. 717, 2001, we have completed a review of the financial condition of the Board of Water Supply for the purpose of estimating whether the Net Revenues for the current fiscal year and the next succeeding fiscal year will be sufficient to comply with the rate covenant in Section 8.02.

Our review included an examination of the financial and accounting records, which we considered necessary to express an opinion on the adequacy of the department's rates and other charges such that Net Revenues shall not be less than the Net Revenue Requirement in each fiscal year.

In our opinion, Net Revenues for fiscal years 2014 and 2015 will not be less than the Net Revenue Requirement for such fiscal years.

The attached schedules present the actual and estimated revenues and expenditures in compliance with the above rate covenant.

Respectfully submitted,

/s/ ERNEST Y. W. LAU, P.E.
Manager and Chief Engineer

Attachments"

The foregoing was for information only.

DISCUSSION: There were no comments or discussion.

**Board of Water Supply
City and County of Honolulu
SUPPLEMENTAL SCHEDULE OF NET REVENUE REQUIREMENT
As of June 30, 2014 (Projected)**

	Actual July 1, 2013- April 30, 2014	Projected May 1, 2014 - June 30, 2014	Total
REVENUES:			
Water sales	\$ 159,807,385	\$ 28,800,614	188,607,999
Interest	1,737,409	295,778	2,033,186
Other	3,272,135	617,414	3,889,549
Total revenues	<u>164,816,928</u>	<u>29,713,806</u>	<u>194,530,734</u>
DEDUCTIONS:			
Operating expenses	131,493,520	32,080,509	163,574,029
Less depreciation expense	<u>(35,100,280)</u>	<u>(7,020,056)</u>	<u>(42,120,336)</u>
Total deductions	<u>96,393,240</u>	<u>25,060,453</u>	<u>121,453,693</u>
Net revenues	<u>\$ 68,423,688</u>	<u>\$ 4,653,353</u>	<u>73,077,041</u>
NET REVENUE REQUIREMENT:			
Greater of:			
1) Aggregate debt service			20,515,000
Required deposits - subordinate obligation fund			2,176,000
			<u>22,691,000</u>
2) Aggregate debt service			20,515,000
			1.20
			<u>24,618,000</u>
Net revenue requirement			<u>24,618,000</u>
Target Net Requirement of 1.6			32,824,000
Current ratio			3.56

Note: Subject to change after year end adjustments

BOARD OF WATER SUPPLY

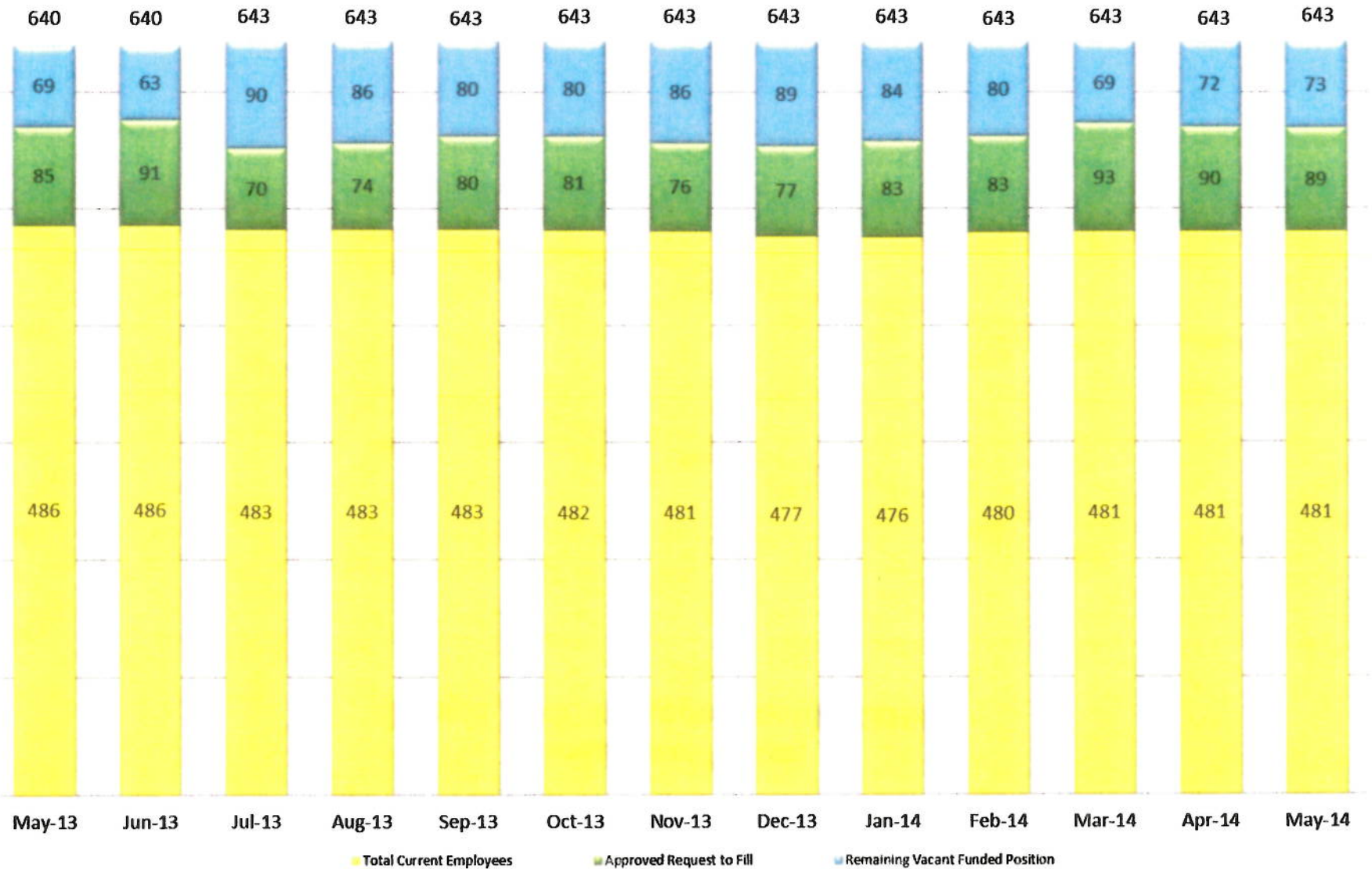
CALCULATIONS OF NET REVENUES AND NET REVENUE REQUIREMENT
FISCAL YEAR ENDING JUNE 30, 2015

		PROJECTED FY 2015
REVENUES		
Water sales	\$	211,635,097
Other charges & services		3,798,467
Interest revenue		<u>2,200,000</u>
Total revenues	\$	<u>217,633,564</u>
DEDUCTIONS		
Operating expenses	\$	<u>156,080,480</u>
Net revenues	\$	<u>61,553,084</u>
NET REVENUE REQUIREMENT		
Greater of:		
1) Aggregate debt service for FY 14	\$	20,529,000
Est. payments – SRF loans		<u>3,462,000</u>
	\$	<u>23,991,000</u>
2) Aggregate debt service for FY 14	\$	20,529,000
		<u>x 1.20</u>
	\$	24,634,800
	\$	<u>24,634,800</u>
Target Net Requirement of 1.6	\$	<u>32,846,400</u>
Current Ratio		<u>3.00</u>

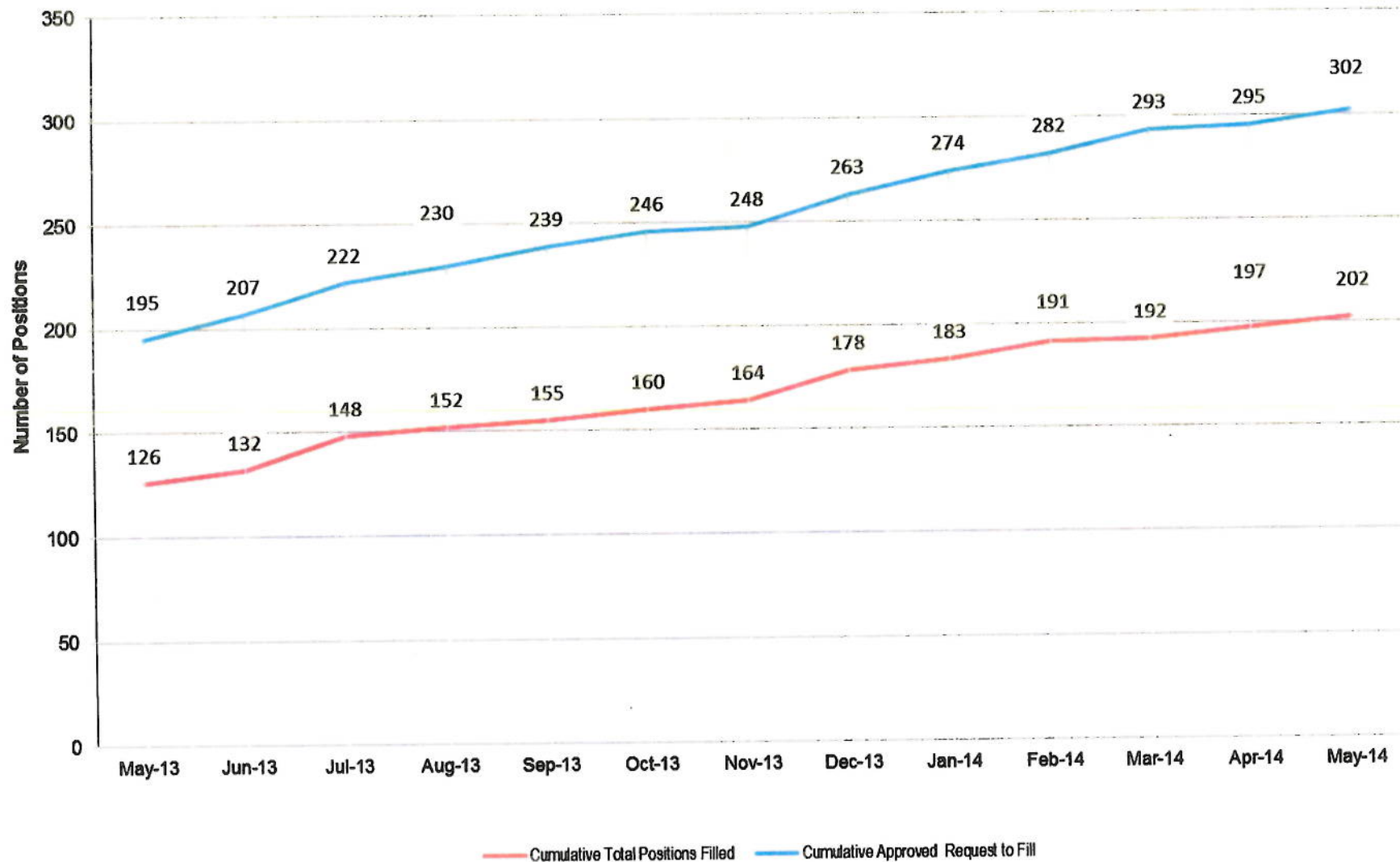
ITEM FOR INFORMATION NO. 5

Actions: 3 New Hires, 2 Promotions, 0 Transfers, 3 Separations, 7 New Approvals to Fill,
3 Cancelled Form A's

**Positions Filled
May 1, 2013 through May 31, 2014**



Cumulative Totals May 1, 2013 through May 31, 2014

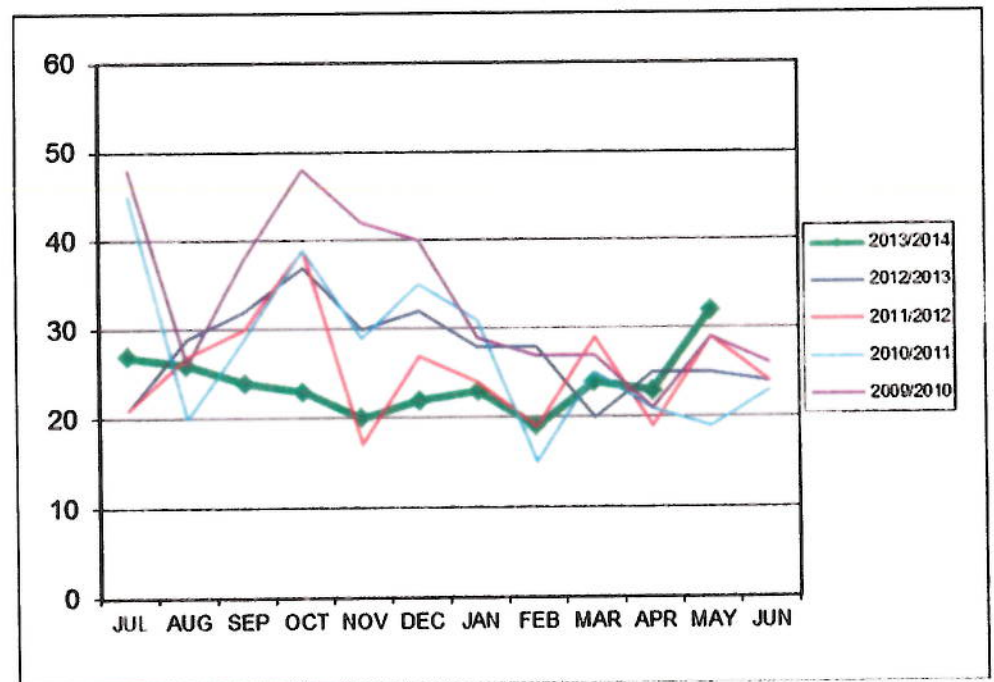


DISCUSSION: There were no comments or discussion.

WATER MAIN REPAIR REPORT for May 2014

	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	Total
2013/2014	27	26	24	23	20	22	23	19	24	23	32		263
2012/2013	21	29	32	37	30	32	28	28	20	25	25	24	331
2011/2012	21	27	30	39	17	27	24	19	29	19	29	24	305
2010/2011	45	20	29	39	29	35	31	15	25	21	19	23	331
2009/2010	48	26	38	48	42	40	29	27	27	21	29	26	401

Date	Address	Size	Cause
5/1	892 Hahaione St.	12" C.I.	Unknown
5/2	921 Hahaione St.	12" C.I.	Corrosion
5/3	433 Ala Moana Blvd.	12" C.I.	Corrosion
5/3	3641 Diamond Head Rd.	12" C.I.	Unknown
5/3	94-910 Moloalo St.	12" C.I.	Corrosion
5/3	1070 Keolu Dr.	12" C.I.	Corrosion
5/3	Kalaniana'ole Hwy. & Poalima St.	6" C.I.	Unknown
5/5	99-657 Aliipoe Dr.	8" C.I.	Unknown
5/6	3638 Salt Lake Blvd.	6" C.I.	Corrosion
5/6	47-886 Kamehameha Hwy.	6" D.I.	Clamp
5/6	604 Iana St.	8" A.C.	Unknown
5/6	750 Mokulua Dr.	8" P.V.C.	Unknown
5/7	45-945 Waialele Rd.	12" C.I.	Pressure
5/7	3031 Puhala Rs.	6" C.I.	Corrosion
5/7	2112 Citron St.	8" C.I.	Corrosion
5/12	2184 N. King St.	6" C.I.	Corrosion
5/13	124 Boyd Ln.	4" C.I.	Corrosion
5/14	41-1640 Kalaniana'ole Hwy.	4" C.I.	Corrosion
5/15	2261 N. School St.	16" C.I.	Corrosion



5/15	1712 Kealia Dr.	6" C.I.	Corrosion
5/16	40 Ekolu Pl.	4" C.I.	Corrosion
5/18	99-528 Paihi St. 1860 Ala Moana Blvd.	8" C.I.	Corrosion
5/19	84-292 Holt St. 1860 Ala Moana Blvd.	6" C.I.	Corrosion
5/20	99-105 Mikalemi St.	8" P.V.C.	Unknown
5/20	85-123 Kaulawaha Rd.	6" C.I.	Unknown
5/22	Dillingham Blvd & Puuhale Rd.	8" C.I.	Corrosion
5/24	2646 Kiliha St.	4" Galv.	Unknown
5/24	1315 River St.	8" C.I.	Corrosion
5/27	Vineyard Blvd. & Liliha St.	6" C.I.	Unknown
5/29	Vineyard Blvd. & Liliha St.	12" C.I.	Corrosion
5/30	Vineyard Blvd. & Liliha St.	8" C.I.	Unknown

**Bold * - Pro-active Leak
Repair**

56.0 miles of pipelines were surveyed by the Leak Detection Team
in the month of May

DISCUSSION:

Field Operations Program Administrator Daryl Hiromoto informed the Board that they tried to see if there was any kind of correlation between the increase in breaks and the way they are operating the systems. He stated that nothing significant was discovered, but they will continue to maximize system efficiencies in order to minimize the amount of breaks.

Mr. Miyashiro inquired about breaks occurring at the same address one day apart. Mr. Hiromoto explained that they attribute this to disturbance to the system. The process of shutting down the system involves decreasing and increasing water pressure, which often times causes disturbance to the system, leading to subsequent breaks.

Ms. Cypher commented that it seems as though by the end of this fiscal year, there will be less than 300 main breaks. Mr. Hiromoto agreed and added that even at 300 breaks, it would still be way lower than the national average. Ms. Cypher commended the Department for doing a good job.

MOTION TO
ADJOURN

There being no further business Chair Miyashiro at 2:52 PM called for a motion to adjourn the Open Session. Theresa McMurdo so moved; seconded by Mahealani Cypher and unanimously carried.

Respectfully submitted,


LISA K. KIM

APPROVED:


DUANE R. MIYASHIRO
Chair of the Board

JUL 28 2014
Date

THE MINUTES OF THE REGULAR SESSION BOARD MEETING ON JUNE 23, 2014 WERE APPROVED AT THE JULY 28, 2014 BOARD MEETING			
	AYE	NO	COMMENT
DUANE R. MIYASHIRO	X		
ADAM C. WONG	X		
MAHEALANI CYPHER	X		
THERESIA C. MCMURDO			ABSENT
DAVID C. HULIHEE	X		
ROSS S. SASAMURA	X		
FORD N. FUCHIGAMI	X		