

‘Aimalama - Documenting Change
Data Gathered From 2015 Hawai‘i Conservation Conference
Aug. 3 -6 , 2015

Weather

Temperature	Rain	Wind	Storms	General
High temperature start earlier in the summer all over Hawai‘i	Wetter summer, drier winter in 2015	Amount of tradewind days have decreased , the winds that do come from trades are light	A lot of storms, weather changes throughout the day	Longer days
Temperature has been hotter this year & not as much rain as com armed to normal rainfall		Trade winds laps for longer periods (30+ years ago maybe 5 days per year uncomfortable at night w/o fans) now 30+ days	2014-2015 more storms	weather patterns are 2 months later than usual
This 2015 July temperatures record high			Storm season now (Aug?) for at least the past two years	Significant weather changes and hot summers
Days and nits feel hotter for a longer period of time than it did 5,10, 20 years ago			More storms & hurricanes, longer hurricane season	
Temperatures are getting warmer			More tropical storms earlier in the year	

Hawai‘i	Kaua‘i	Maui	O‘ahu	Outside Hawai‘i
Warmer winds in Hilo	Kalaheo Kaua‘i rainfall monthly	In kipahulu Maui there's a drought & has had less rain in the last 2 winters	Absence of trade winds in July & August, stillness - Kaneohe	San Diego California extremes in weather patterns, drought, random rain, downpours for a few days
Waiakea Uka more hot & drier in the summer, less rainfall, less river flow		Kula Maui, increased amount of rainfall upcountry	Oahu hotter summers, hottest summer by far 2015	
Keaau mauka puna, late afternoons are mistiest time of day		Kula Maui, lots of rain West Maui has gotten more green n the past 3 years yet the drier parts like Kihei on the south side of Maui have seem to become drier	On Oahu warm winters with intermittent cold weather storms	
		Lahaina, last two years reached record temperatures in the summer		

Plants

Food Plants	Forest	Practitioner Plants	Invasives	Limu
Ulu coming into season about a month to month and a half earlier	Native trees in bloom and seed	summer equals seed aalii	Lobelias starting to bloom late July early August	Fresh water limu collects at end of the month more than at mid months
Late spring through summer equals abundance avocado, mango, etc.	Shift in canopy of large trees			
Mangoes & lychee fruiting earlier and for longer,				

Hawai'i	Kaua'i	Maui	O'ahu	Outside Hawai'i
At Keaau Mauka puna ohia forest becoming defoliated (die back)	1st albezia has established itself below pohaku o kane (Haena)	Kula Maui, jacaranda blooming earlier	Oahu lychee has started fruiting earlier & issue real weeks different from when the hilo lychee fruit	Live on ex tic fruit farm (San Diego) fruits on property bloom in earlier spring & very many bloomed a second time in beginning of summer
In manoa, weakening of lauhala from tree over the past 3+ years in Hilo & Puna		Lauhala on Maui being attacked by a new scale & is not good & spreading	Some plants flower/fruit three to four times a year (mock orange in palolo)	
Hilo, ROD (rapid ohia death) as big significance		When the mango tree flowers in Lahaina Maui. The wind gets strong	Leahi didn't get very green at all this past winter 2014-2015 (Oahu & Waialae Iki)	
Forest & Kona side different, tropical fruits begin to bare (avocados, mangos everything)			Ohi'a ai stopped fruiting this year - Kalihi Oahu	
Pohoiki, puna, hurricane damage coastal albezia,			Waianae, more maile plants and less awikiwiki on Kamaileunu (ridge) over the lasat 10 years	
			Koa haole growth from neighbors yard - Alewa heights Oahu	
			Oahu, kookoolau flowering now, see the haha flowering/fruiting recently June -Aug	
			Fruiting of mangoes came early this year & are very abundant on Oahu	

Animals

Ocean	Insects	Birds	Invasives	Large Animals
When aholehole spawn they come up into shallower reefs & dance about and in and out of the nooks, sometimes they spawn (Wahine)!at times when the Kane aholehole are not producing sperm so eggs in females don't necessarily mean perhaps fertilization	Haven't seen as many bees/pollinators in my yard	2013-2014 no birds would chirp at night, 2015 birds would chirp all night even at 2am this change should be a result of some sort of environmental change (Seattle)	little fire ants spreading	Pigs move range farther at night when the moon is full - Kahana Maui, pigs complete circle home range in 1 lunar cycle
Less color in reef ecosystems in Hawaii, more brown	In Jan thru March 2014 due to cold weather there were no insects seen but in the same time period in 2015 spiders, flies & other insects began showing up earlier than normal due to climate change (Seattle)	Kolea pattern is not as regular, they leave later, come back late	Myna birds that feed in my yard had 2 babies 2 years ago, no babies this year, didn't even make nest	
plenty Pua (i'a) hanging around	More bugs in higher elevations	First time the gross cattle egrets are living up mauka		
Kind & quantity of size of fish being caught (and can Mahele in the community)		Recognized when the elepaio started having keiki June/julyish		
Crust coral (leptastera purpunea) broods larvae all year round but has a peak release in September/October				
Usually flat surf starts in June but this year it did isn't go flat (malice) until early August, this has slowed our limu die off & has affected our reef creatures				
Pigs move range farther at night when the moon is full - Kahana Maui, pigs complete circle home range in 1 lunar cycle				
When it begins to get cold season , the whales are on their way				
Some coral bleaching on Hilo side				

Animals Cont'd

Hawai'i	Kaua'i	Maui	O'ahu	Outside Hawai'i
Kona- seeing more owls	The abundance of moi in Haena has declined in the last 3 years	Kula Maui, nene nesting later, keiki as late as May	Waimanalo Oahu, there's an increase in honu population and a decrease in lobster population	The geese and songbirds move from north to south earlier each year - Missouri
Oopu, opai, hapawai population increase at Honokea loko w/in 2 years after restoration efforts	Kolea birds coming & going- Kalaheo Kaua'i	Ope'ape'a active in coastal areas seeing flying over water - Kiapahulu, Maui	Limu at papa KahāoHina dies off every June & grows back every November - from Pupukea Oahu	Armadillos now found in Missouri
When Halalu Sardines oama come into hilo bay when ahi and ono start birthing thing usual in April & may		Less opihi from over harvest, some areas none - Kipahulu, Maui	more baby cats coming at night (Kalihi)	In Jan thru March 2014 due to cold weather there were no insects seen but in the same time period in 2015 spiders, flies & other insects began showing up earlier than normal due to climate change (Seattle)
the summit of Mauna Ka halawai about 20+ pinao flying around everybody		More opae in upper streams/ponds - Kiaphulu, Maui		2013-2014 no birds would chirp at night, 2015 birds would chirp all night even at 2am this change should be a result of some sort of environmental change (Seattle)
		Iiwi, apapane active in spring time - more road kills Kula Maui		
		At loko ea i'a fry closer inland than we saw 3 years ago		
		Wider and bigger range of invasive ungulates (Maui)		

Water

Ocean	Fresh			
2014-2015, hot ocean temperatures				
Tidal changes are more drastic				

Hawai'i	Kaua'i	Maui	O'ahu	Outside Hawai'i
increase in water temp on Kona side	Kailua beach - sand returning to boat end of Kailua beach this year, maybe due to increased Sand shifting coming and going - Haena Kaua'i		Mokuleia oahu - light submarine ground water discharge in shoreline sand during summer months	
In Honolii - shoreline changes thru out the year, affects in how waves break, sandy versus rocky			Diminished smaller beach in waimanalo often disappearing up to the sea wall where the road is Sand has disappeared in huge quantities in Kailua beaches	
			Mali Oahu - keawaula in July big wave action, take the sand back to the ocean	

Celestial Bodies

Sun	Moon			
	Past three days the moon has been brighter than usually & beautiful			
	Cant sleep on a mahealani moon			

Hawai'i	Kaua'i	Maui	O'ahu	Outside Hawai'i
			Waialae Iki I know when the sun moves up & down the waianae coast as it sets throughout the year	
			I te wa tauwela I hoea Mai ai ka wela I te motopuni o Oahu hiki Ke pa I ta ra	

