A close-up photograph of water being poured from a glass pitcher into a glass. The water is captured mid-pour, creating a dynamic splash and ripples within the glass. The background is a solid, deep blue color.

# The US Virgin Islands Drought Research Project (DRiP) and its Impact Territory-wide

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# Drought

## ➤ Impact

- Agriculture
- Dry cisterns
- Groundwater
- Emotional
- Financial



“  
We're losing animals. The department right now is orchestrating a drought mitigation plan.

— Agriculture Commissioner nominee Positive Nelson

## Drought takes heavy toll on St. Croix farmers

By BRIAN O'CONNOR  
Daily News Staff

The territory's lack of rain is killing livestock and may soon represent an emergency, farmers and government officials said Tuesday.

According to National Weather Service rainfall data, St. Thomas has received 1.83 inches less rainfall than normal so far in 2019. The situation is worse on St. Croix, where rainfall totals are 6.08 inches below normal.

Farmers desperate to keep livestock from starving have taken to importing hay and alfalfa from Puerto Rico, which is struggling with its own dry spell, squeezing a backup plan for St. Croix farmers, Agriculture Commissioner nominee Positive Nelson said.

“We're losing animals,” he said. “The department right now is orchestrating a drought mitigation plan.”

The situation is bad enough officials are considering declaring a state of emergency, Nelson said.

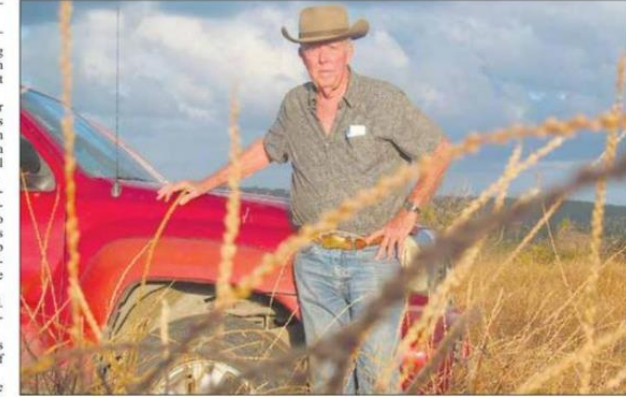
The lack of rain is particularly acute for livestock farmers. Less rain means brown grass and thus no food for pasture animals, like cows, Nelson said.

Dry weather is also hitting local produce farmers, Nelson said.

“The ponds are drying up,” he said. “It just goes on and on.”

Agriculture typically subsidizes the importation of feed stock during dry weather, but long-duration droughts can strain the department's resources, Nelson said.

“It's an expensive venture,” he said. Farmers desperate to prevent los-



Established farmers such as Hans Lawaetz of St. Croix's Annaly Farms are grappling with a prolonged drought that has parched farmland territorywide — and is now so acute that officials are considering declaring a state of emergency.

ing animals to starvation have taken to local abattoirs to recoup their investment, Nelson said.

“We do have some complications in being able to debone the older animals to ground beef,” he said.

Officials are arranging to have some animals shipped to Puerto Rico for processing, Nelson said.

The drought and its consequences have some farmers looking for the exit.

“Right now some, many are older farmers, are contemplating throwing in the towel at this point, especially when you're talking about competing with major markets,” he said.

Agriculture officials are looking

into re-establishing reserve growing fields on St. Croix that can be used to supplement private feed stock in the event of adverse weather, reviving a practice that has lapsed in recent years, Nelson said.

That's a good idea, said Hans Lawaetz, owner of Annaly Farms. Dry weather is compounded by

periodic outages at the territory's two abattoirs most recently early this year, Lawaetz said. Without the slaughterhouses, farmers lack the ability to cull their herds, Lawaetz said.

No cull means more cows, Lawaetz said. More cows mean more mouths to feed, further straining resources, Lawaetz said.

Annaly is paying steep prices to feed its cows.

Farmers on the mainland typically pay \$3 to \$5 per bale of feed hay, Lawaetz said.

“Here, we're having to pay over \$20 a bale,” he said.

Annaly is also sometimes asked to help the government pay for farm products or machinery on a reimbursement basis, Lawaetz said.

Issues with agriculture management in the territory predate Nelson or Carlos Robles, the prior Agriculture commissioner, Lawaetz said.

Nelson “inherited a disaster,” Lawaetz said. “A lot of the farmland has been suffering for years.”

Fire Service Director nominee Darryl George Sr. the number of brush fires has been manageable despite the dry weather.

One area the dry spell won't impact is the Carnival fireworks display, George said. The display is scheduled for 8 p.m. Sunday, according to Carnival officials.

“The fire marshal has given me the green light,” he said. “We will have something in place.”

The Weather Service forecast calls for a 50% chance of scattered showers lasting through the weekend.



## Community drought reporting 2019 to present



Calendar Year

1939.

Calendar Year

1917.

Historical Data from  
the USVI  
Harbormaster's Book  
documenting weather  
in St Thomas on loan  
from Frenchtown  
Historical Museum

1939	AVE MEAN	HIGHEST	LOWEST	AVE MEAN	AVE MEAN
JAN	30.05	30.16	30.01	80.50	74.00
FEB	30.14	30.22	29.97	79.00	76.20
MAR	30.04	30.18	29.96	79.55	73.90
APR	30.11	30.11	29.91	79.00	75.20
MAY	30.03	30.09	29.92	83.00	75.30
JUNE	30.07	30.12	29.97	85.00	76.30
JULY	30.02	30.12	29.97	85.00	76.30
AUG	30.04	30.12	29.97	85.00	76.30
SEPT	29.96	30.03	29.89	86.20	81.60
OCT	30.01	30.17	29.84	85.65	78.20
NOV	30.01	30.17	29.84	85.65	78.20
DEC	30.01	30.17	29.84	85.65	78.20
	30.01	30.17	29.84	82.61	77.28

AVE TEMP.	HIGHEST TEMP	LOWEST TEMP.	TOT RAIN	Highest Barom.	Lowest Barom.	Air Max Wind
77.25	84°	71°	1.95			
77.80	82°	68°	2.06			
76.25	82°	62°				
76.70	84°	71°				
76.25	86°	72°				
77.43	88°	72°				
82.67	89°	72°	0.025	30.09	29.92	86°8
82.92	90°	72°	0.000	30.08	29.94	87°5
83.90	90°	72°	967	30.03	29.83	88°0
83.19	90°	72°	958	30.02	29.89	87°2
80.40	87°	79°	942	30.00	29.81	86°1
78.50	87°	79°	967	30.06	29.91	85°5
80.75	90°	79°	977	30.05	29.05	86°5

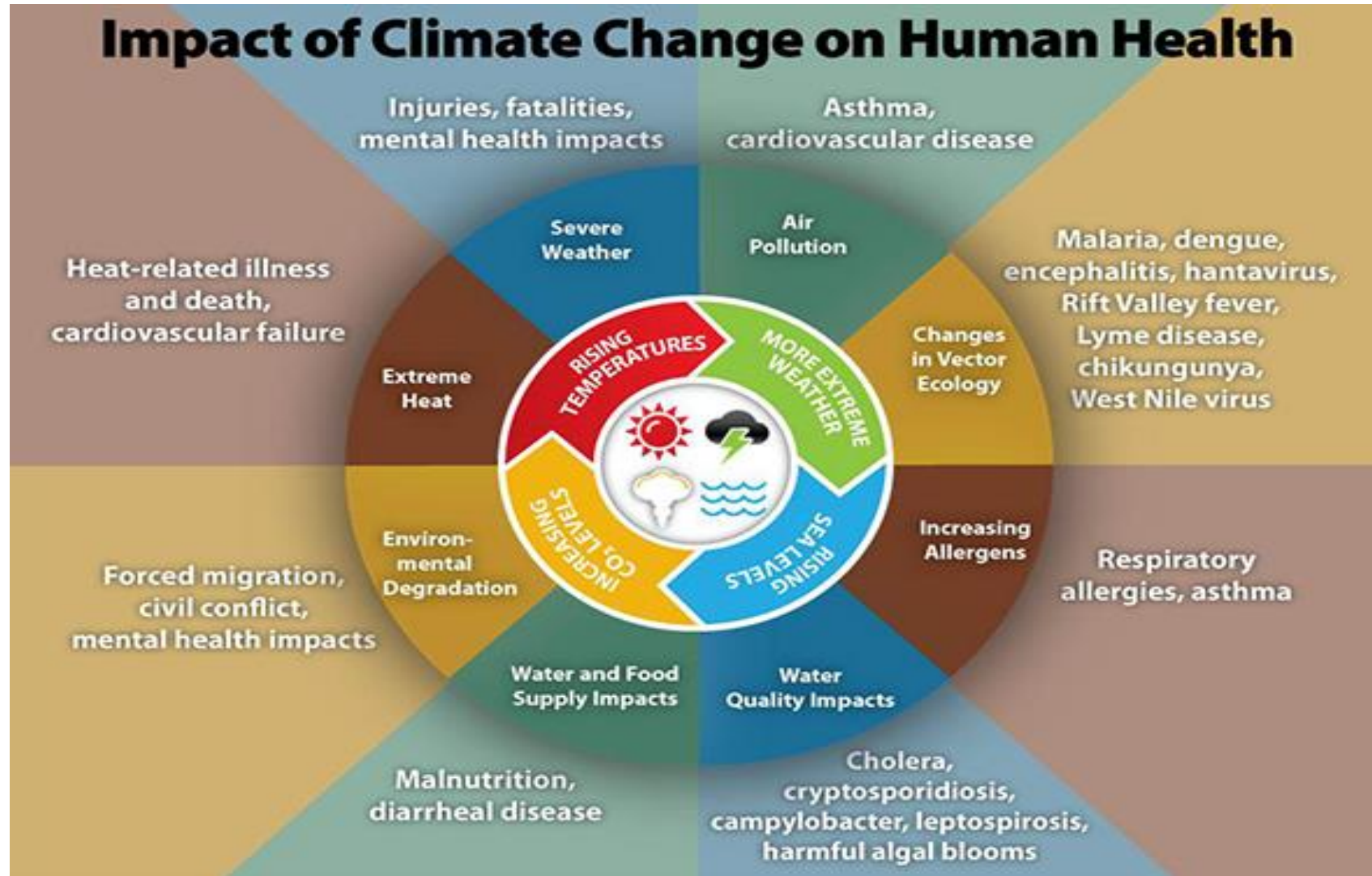
Air Max Temp.	Highest Temp	Lowest Temp	TOT RAIN
81°5	89°	73°	
82°4	90°	74°	
82°7	91°	72°	
82°0	90°	72°	
80°6	91°	72°	
78°0	89°	69°	
81°2	90°	72°	

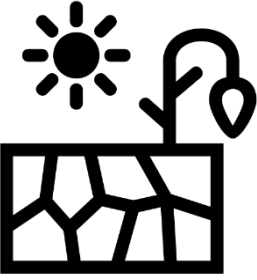
Air Humidity for 12 months  
May 1st at 6:15 pm. Severe car  
June 12<sup>th</sup> at 12:10 am. Severe car  
Oct 10<sup>th</sup> Wind N.E. Bar started falling  
round to N.W., N., & S.W. bar down to 29.8

Sea 75.23. No  
squall shock.  
squall 12  
Oct 11 Wind N. Bar continued  
force 26 pm S.E.



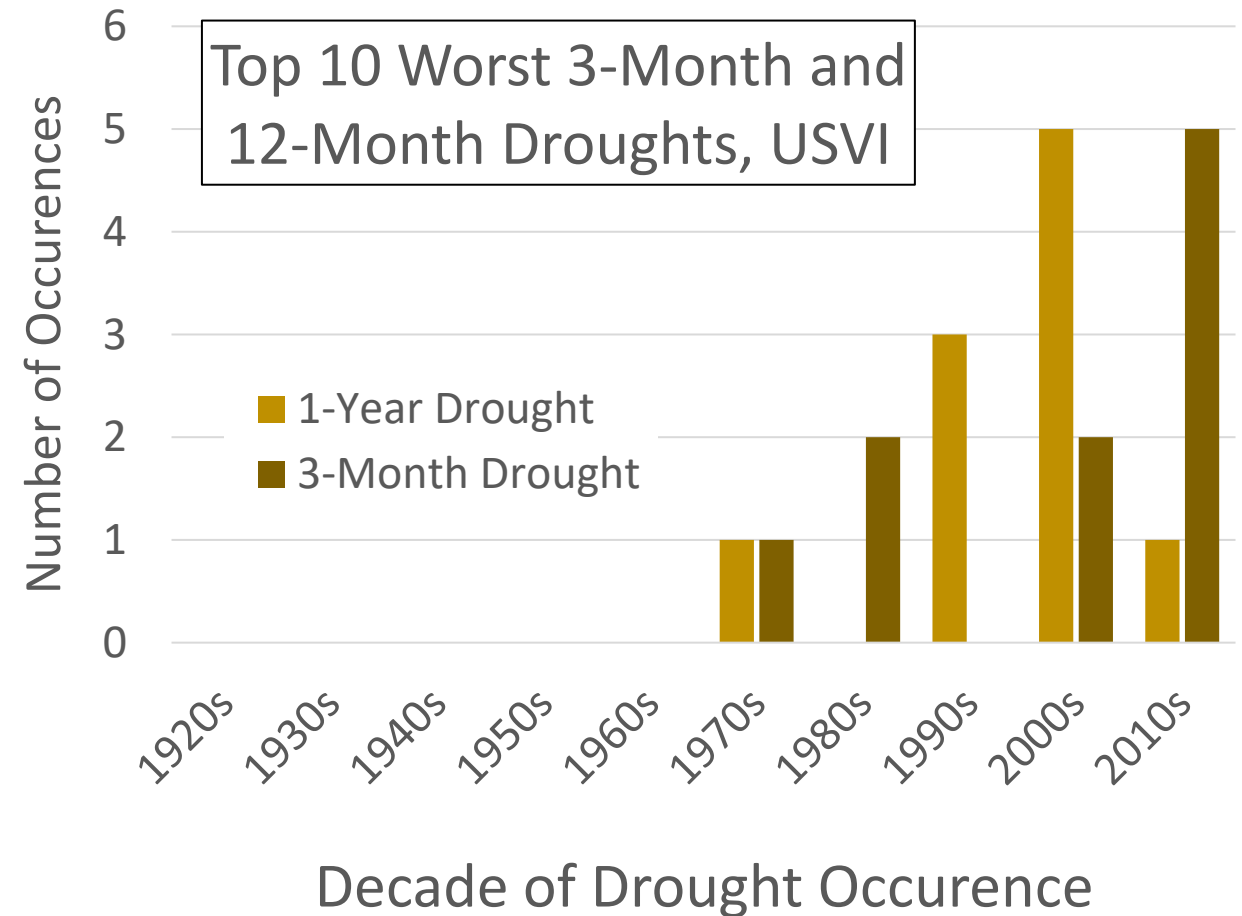
# Health Impacts of Climate Change





## Most Severe Droughts in USVI History

Seasonal, 3-Month Drought	Long-Term, 12-Month Drought
1 Jun - Aug 2007	Jun 1993 - May 1994
2 Jan - Mar 2019	Jan 1991 - Dec 1991
3 Feb - Apr 2005	May 1994 - Apr 1995
4 Oct - Dec 2017	Jul 2007 - Jun 2008
5 Nov 2010 - Jan 2011	Oct 2008 - Sep 2009
6 Jan - Mar 1983	Jun 1976 - May 1977
7 Mar - May 2015	Dec 2001 - Nov 2002
8 Jul - Sep 2015	Oct 2006 - Sep 2007
9 Mar - May 1973	Nov 2014 - Oct 2015
10 Nov 1985 - Jan 1986	Jul 2000 - Jun 2001



Everyone in the USVI can increase their understanding of water quality and the importance of safe drinking water.

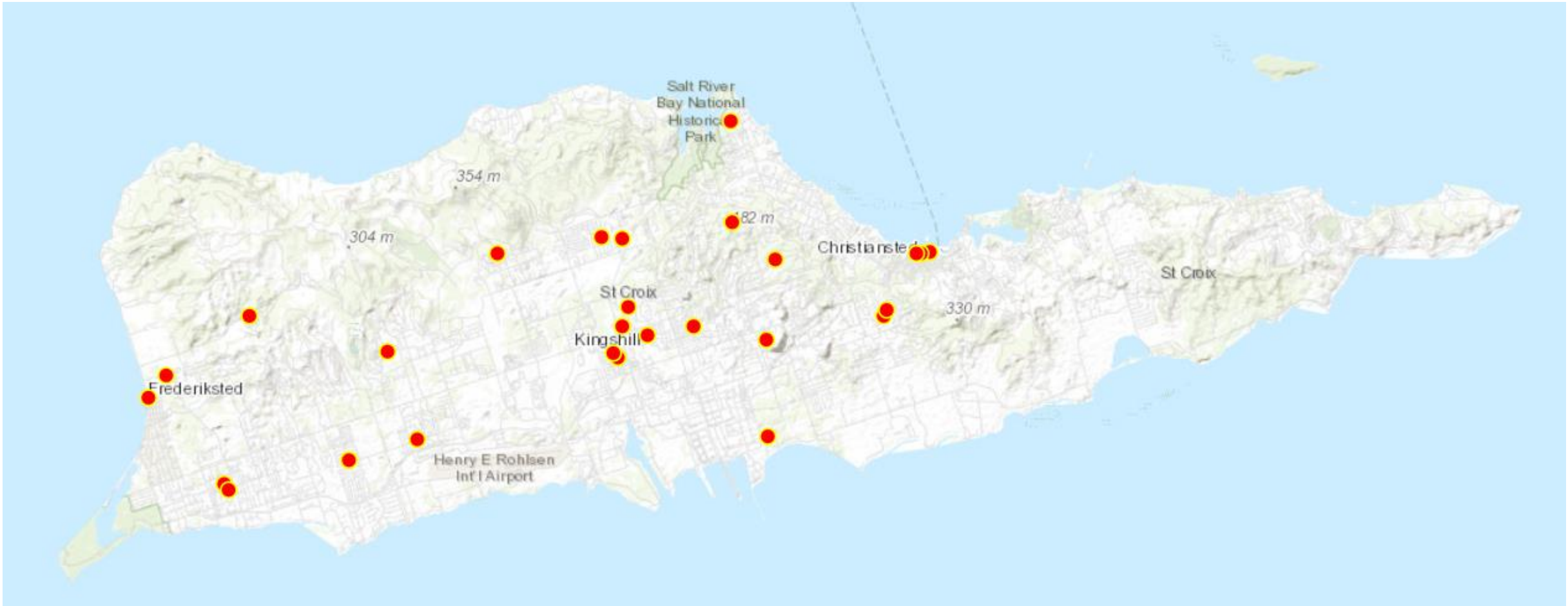


Clean water also means good health!

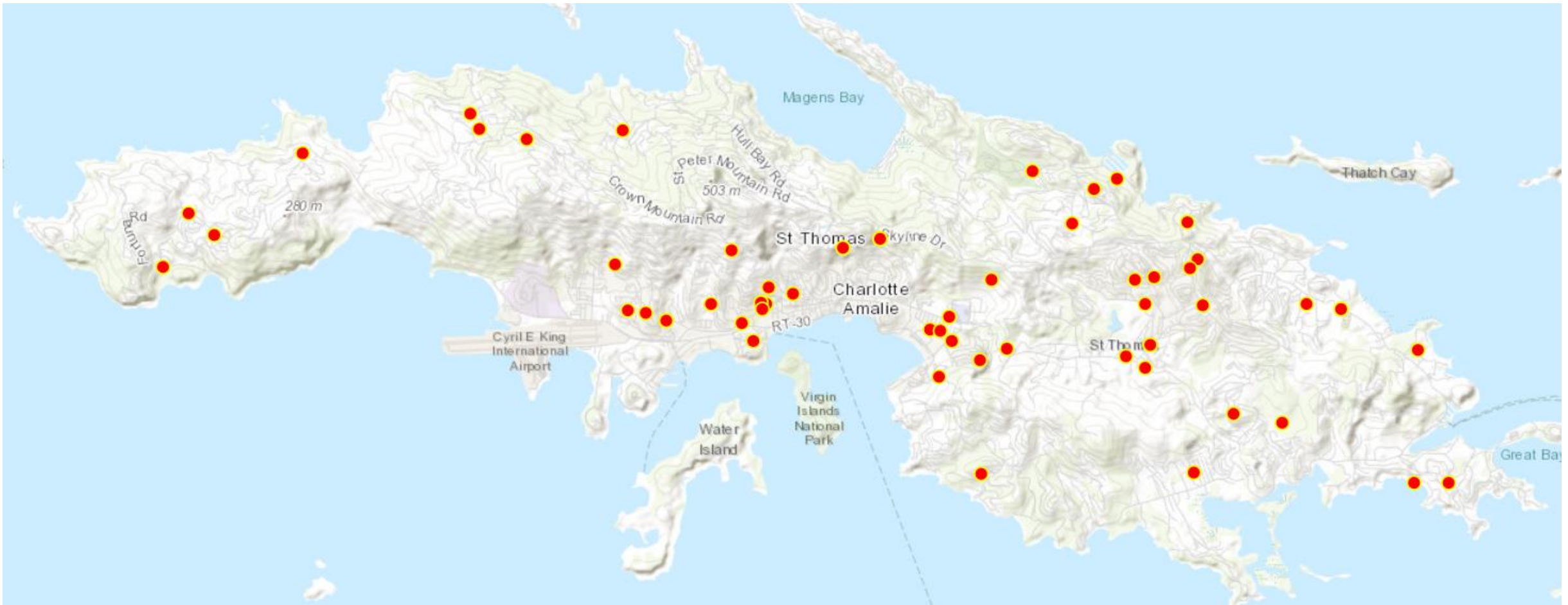








# St Croix Water Quality Sampling Locations 2018



St Thomas WQ sampling  
locations 2018

- CDC working with UVI to do water testing in the USVI as a micro study post storms in 2017 which coordinated by UVI and College Math Science. This micro study was conducted in 2018; later that year the CDC conducted a 400 home study across the USVI





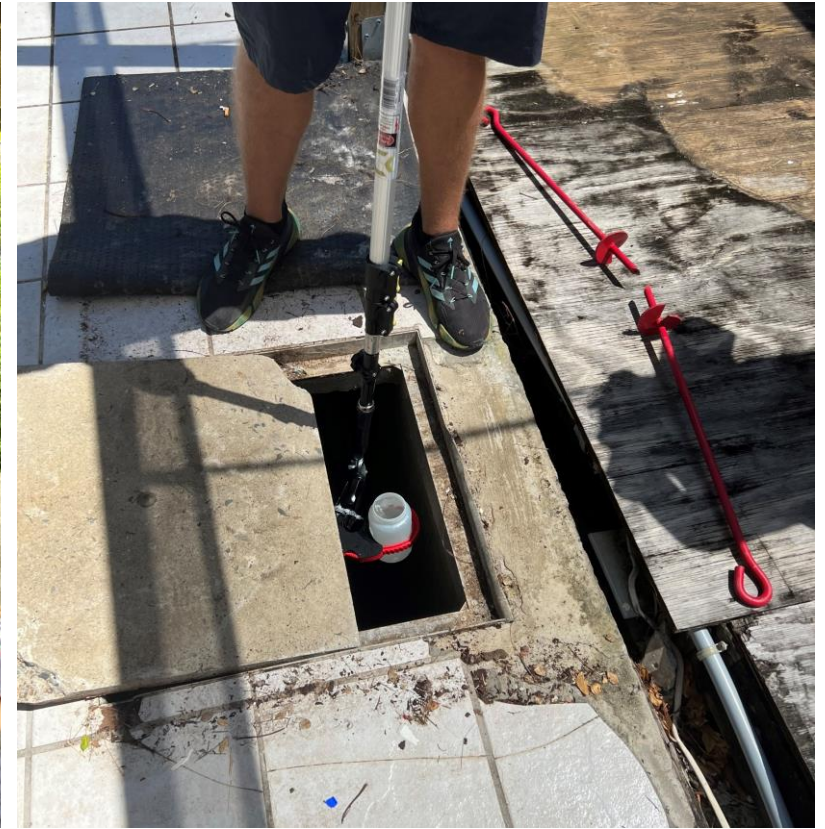
**April 7, 2022**

## **Drought Status Update for Puerto Rico and the U.S. Virgin Islands**

**Beneficial rains were observed across the local  
islands during the month of February. As a result,  
drought improvements were observed across  
portions of the local islands.**

- Car Barge
- CBCC WW Pollution Mapping Study
- Feature 1
- Feature 2
- Feature 3





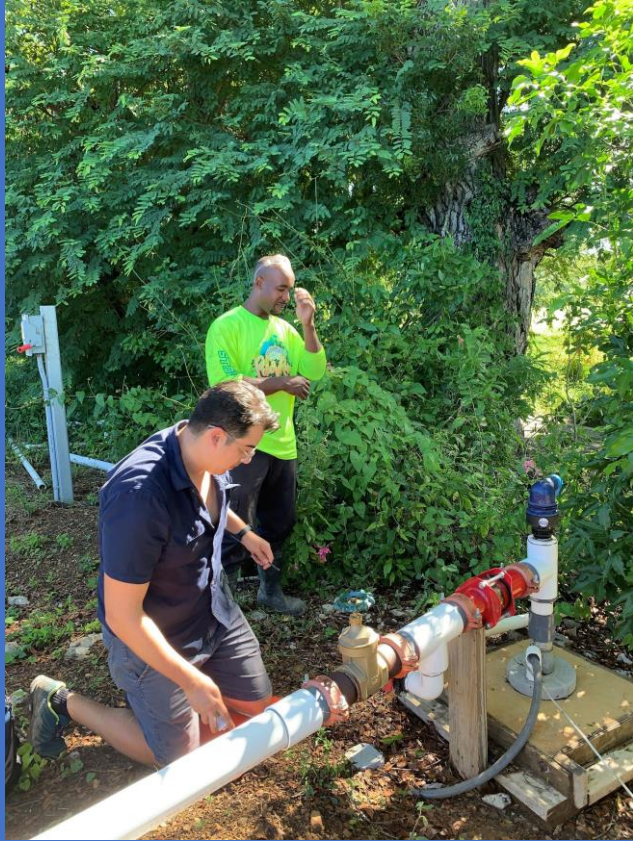
EPA Water Quality study across the USVI helps us to get baseline data of cisterns in the territory

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# Key Take Away's

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- Volunteers drive research
- Volunteers increase data collection
- Climate effects impact health and food security
- Existing and new threat of climate change means new health impacts will arise.
- To combat it we are planting more fruit trees, testing water and working on methods to conserve it while training the next generation of STEM professionals.
- We are also working to create a robust environmental monitoring program that provides the public and others who research the topic air, water and soil in the USVI with tools, data and collaborations that benefit the territory and those beyond.

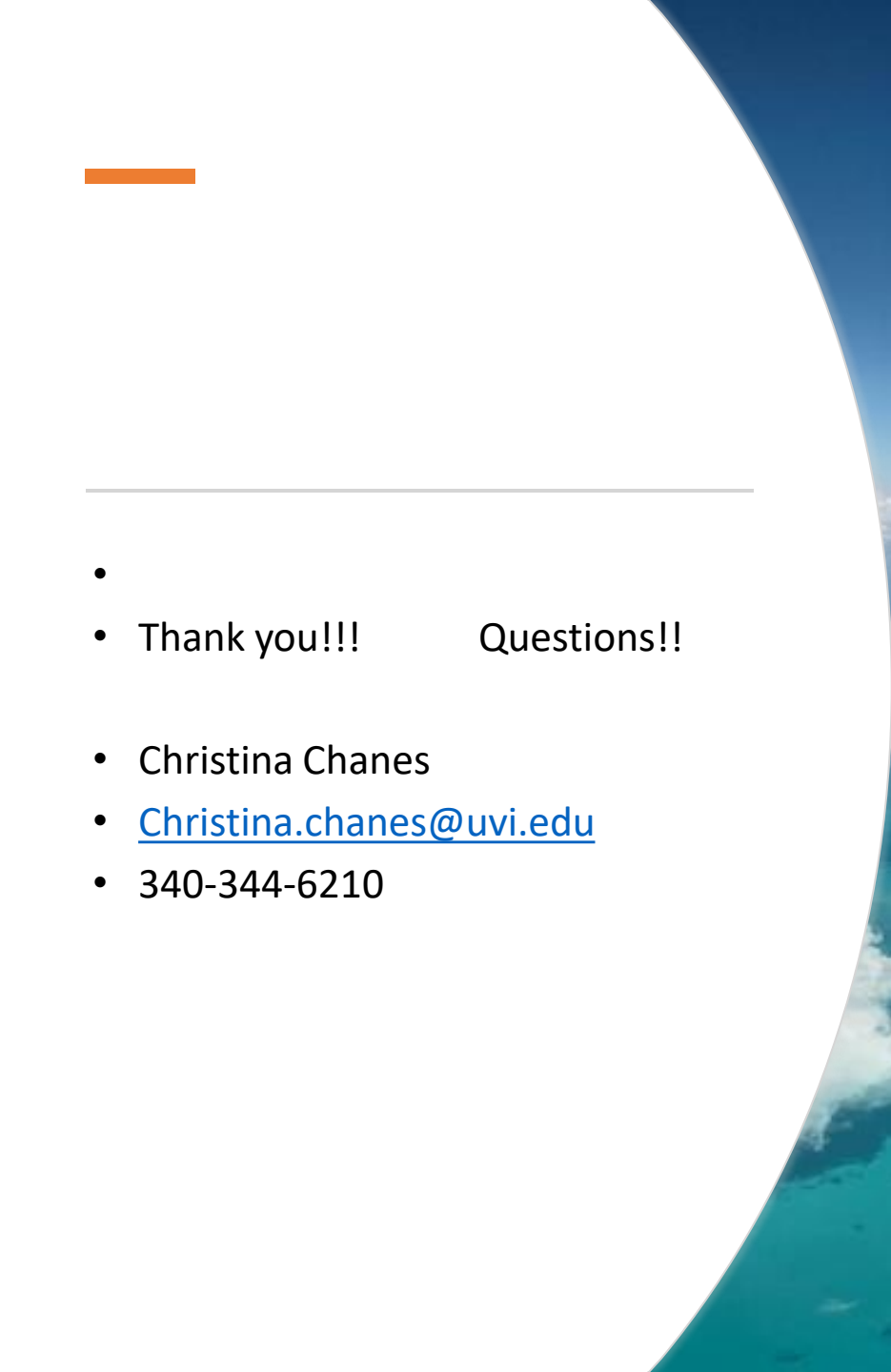



United States Department of Agriculture  
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**Any opinions, findings, conclusions, or recommendations expressed in this webinar or publication are those of the author(s) and do not necessarily reflect the view of the U.S. Department of Agriculture.**

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- - Thank you!!!      Questions!!
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