

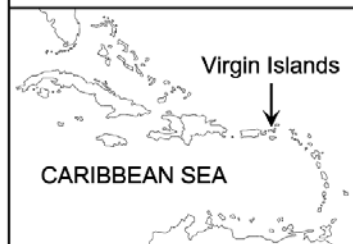
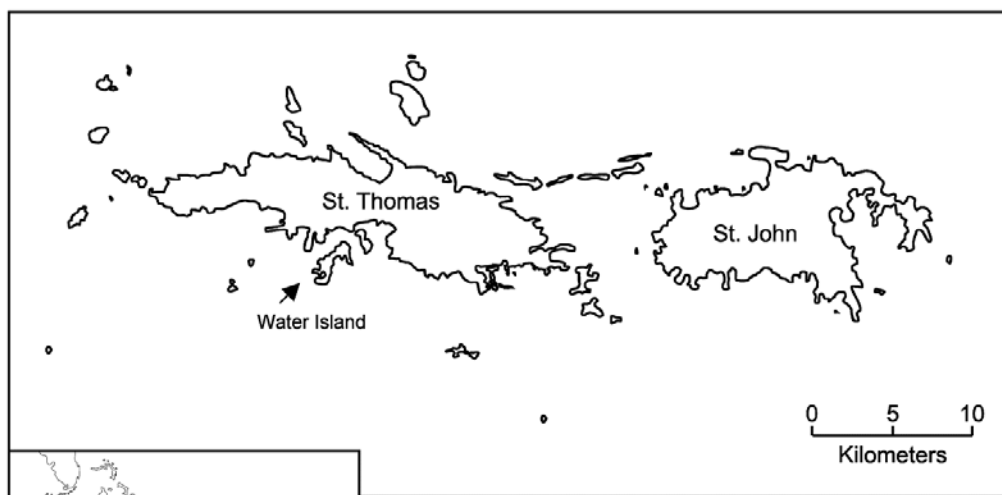


Kristin Wilson Grimes, Ph.D.
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Water Resource Sustainability
Issues on Tropical-Islands Meeting
Dec 1-3, 2015

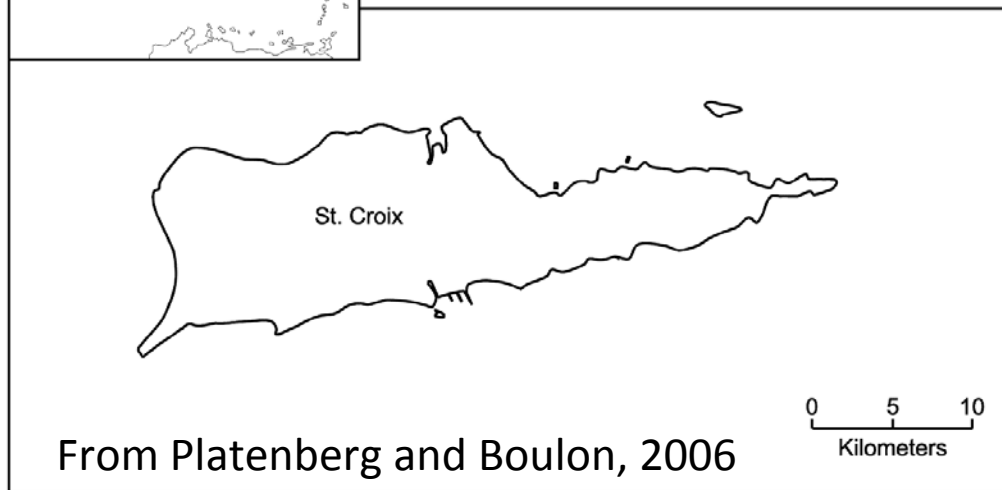
Solomon Bay, St. John, VI

Photo: V. Wright
http://farm6.static.flickr.com/5097/5464369043_354392f002.jpg

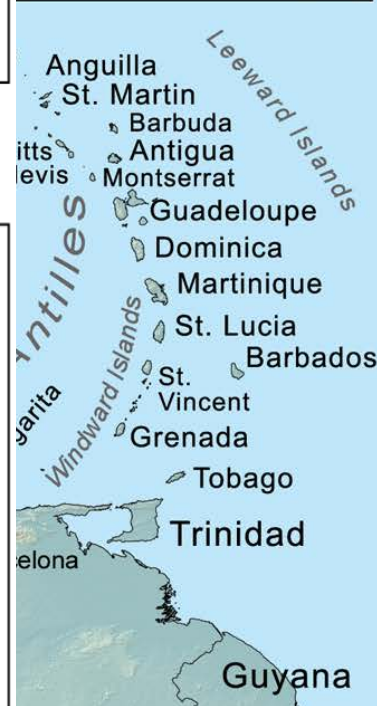
United States Virgin Islands



~137 mi²



From Platenberg and Boulon, 2006





<https://thenypost.files.wordpress.com/2014/01/virgin-islands.jpg>

Downtown Charlotte Amalie Harbor, St. Thomas

Water Conservation Mandated by Law

USVI < 40 inches of rain annually;
Cistern pour, St. Croix







<http://stthomassource.com/files/userfiles/image/Island%20Green%20Builders/thisone.jpg>



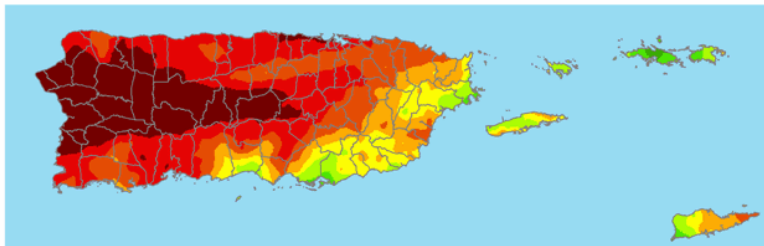
<http://stjohnsource.com/files/userfiles/image/2011%20April/Johnny%20Horn%20Trail.jpg>



48-Hour Rainfall Total

September 4-5, 2013

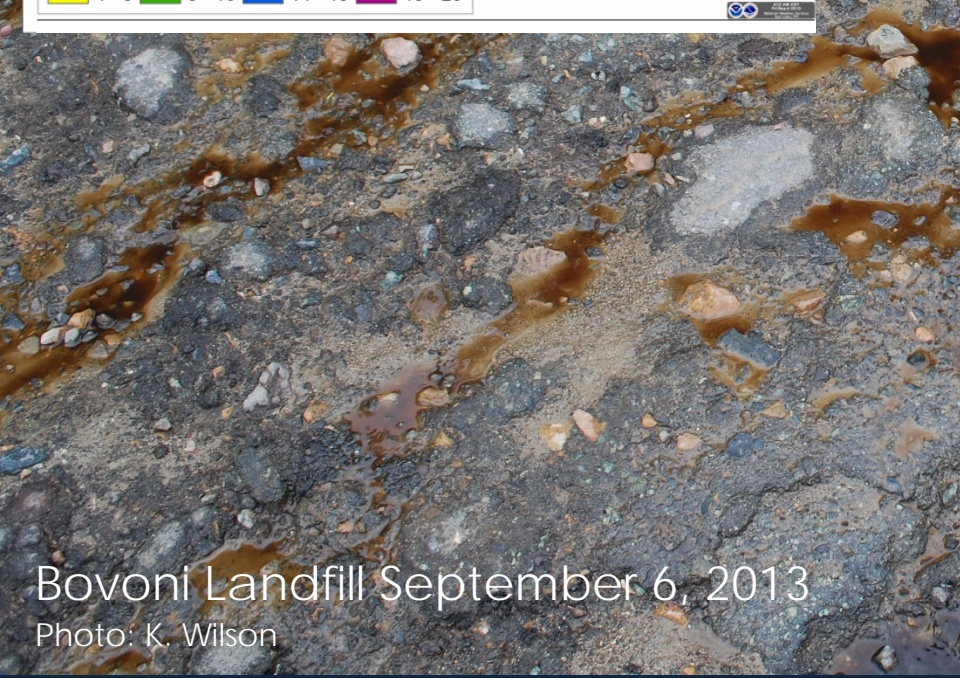
Data Source: AHPS



Total Rain (inches)

| | | | |
|-------|--------|---------|---------|
| 0 - 1 | 5 - 6 | 10 - 11 | 15 - 16 |
| 1 - 2 | 6 - 7 | 11 - 12 | 16 - 17 |
| 2 - 3 | 7 - 8 | 12 - 13 | 17 - 18 |
| 3 - 4 | 8 - 9 | 13 - 14 | 18 - 19 |
| 4 - 5 | 9 - 10 | 14 - 15 | 19 - 20 |

Tropical Storm Gabrielle



Bovoni Landfill September 6, 2013

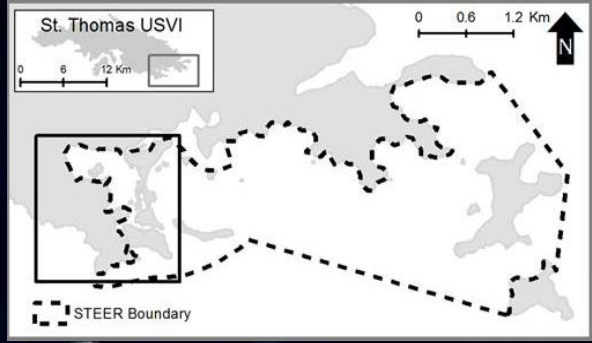
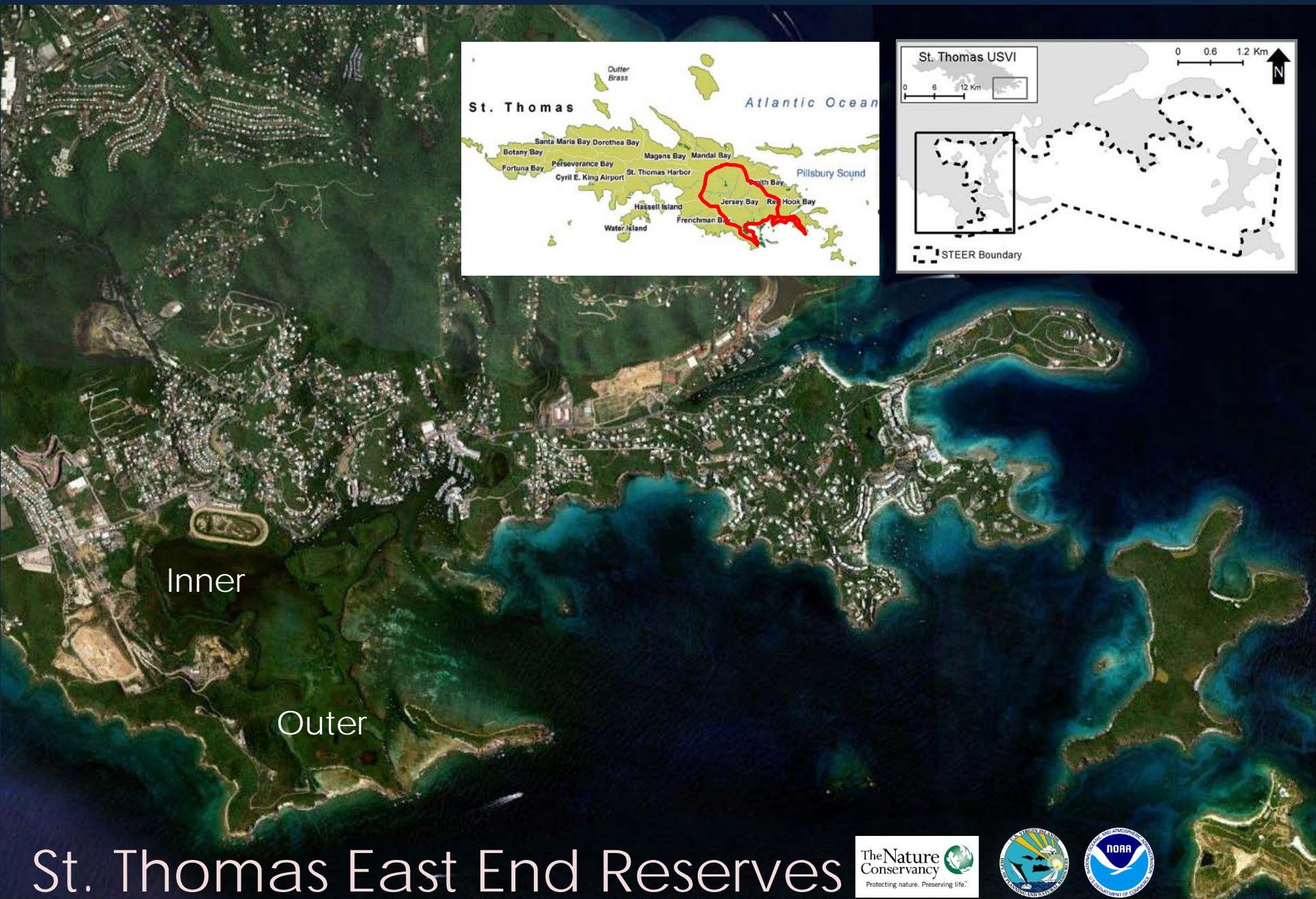
Photo: K. Wilson



WARNING

UNSAFE FOR SWIMMING

TWO BEACHES REMAIN CLOSED; DPNR WARNS OF 'ANIMAL FECES, PESTICIDES, OIL & GREASE' IN THE WATER; FAILS TO TEST ST. JOHN



Inner

Outer

St. Thomas East End Reserves





University of the Virgin Islands, Masters in
Marine & Environmental Studies Class, 2013

Virgin Islands Water Resources Research Institute

VI WRRI established in 1973



VI WRRI Mission Statement

- **Three-Fold Mission:**
 - To conduct research on water resources and related areas;
 - To assist in the training of students and water resources professionals;
 - To provide information exchange in the area of water resources, locally, regionally nationally, and internationally.
- **Advisory Board assists in developing priority areas**



UVI Masters of Marine & Environmental Studies graduate, Jess Keller '15

Current Projects

- **Engineered Pervious Layer for Rooftop Rain Harvesting and Solar/Dark Inactivation of *E. coli*** – Dr. Sangchul Hwang, UPR Mayagüez and Dr. Henry Smith, UVI, retired
- **Influences of Watershed Inputs on Water Quality and Bioluminescent Dinoflagellates in Mangrove Lagoon, St. Croix, USVI** – Dr. Bernard Castillo II, UVI , Kynoch Reale-Munroe, resident scientist, and Dr. James Pinckney, University of South Carolina
- **Water Ambassadors Program** – Christina Chanes, UVI Extension, Dr. Avram Primack, VI EPSCoR, Dr. David Morris, UVI
- **Support for this joint conference!**

Major Driver of Change: Land-Use Change

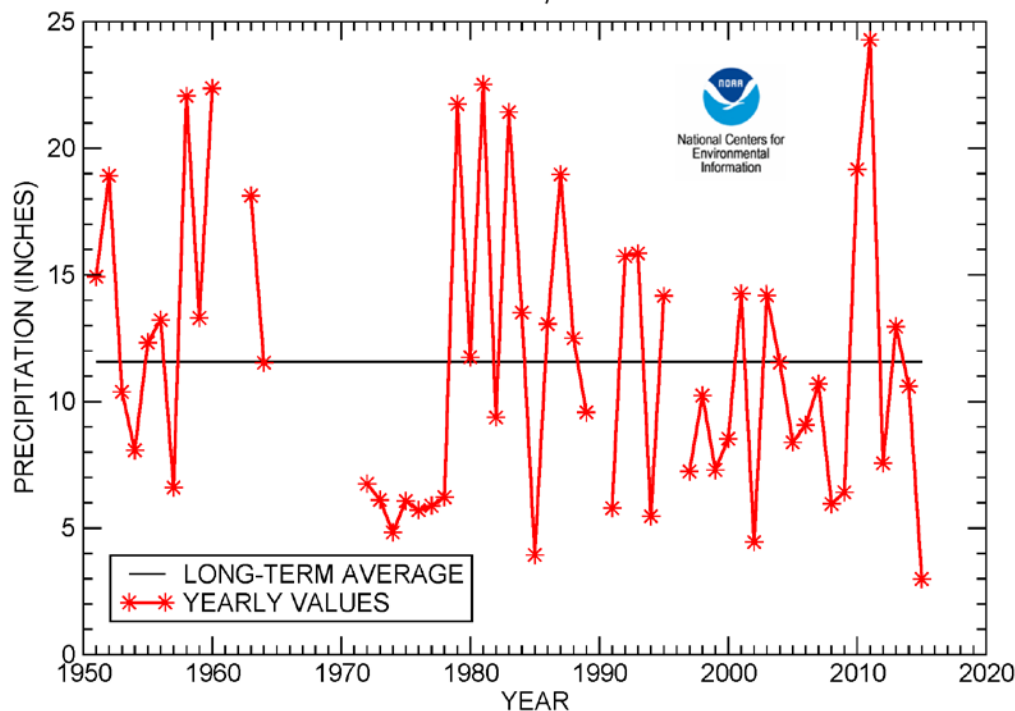


Botany Bay, St.
Thomas, looking
east

Major Driver of Change: Climate Change

Dry livestock watering pond, for goats, pond in Catherines Rest, St. Croix

ST. CROIX, VIRGIN ISLANDS PRECIPITATION
APRIL-JULY, 1951-2015



St. Croix farmers brace for losses in face of
'worst' drought in years

BY AESHA DUVAL (SPECIAL TO THE DAILY NEWS)

Published: July 24, 2015

Looking Ahead: Leveraging Opportunities

- Cross-systems comparisons and collaborations with other island WRRIs and the USGS Caribbean WSC
- Synergies with VI EPSCoR
 - Emerging Area: Watershed Dynamics
 - VI Environmental Analysis Lab
 - New Public Education and Outreach Director, Citizen Science Coordinator
 - VI STEM Institute, GK-12
- NOAA funds for watershed projects

Questions?

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340.693.1392



Maho Bay, Virgin Islands National Park, St. John