CLIMATE CHANGE & SEA LEVEL RISE IN TIVERTON & RI

Professor Charles (Chip) E. Lawrence
Brown University Applied Mathematics:

Applications to Genomic and Climatology

Member Tiverton Harbor Commission

Member Tiverton Community Resilience Building Working Group

CLIMATE CHANGE IS ALREADY HAPPENING

Before Climate Molders expected



California & US West 2020 & 2021

2020 HORRIFIC SCENES ALREADY

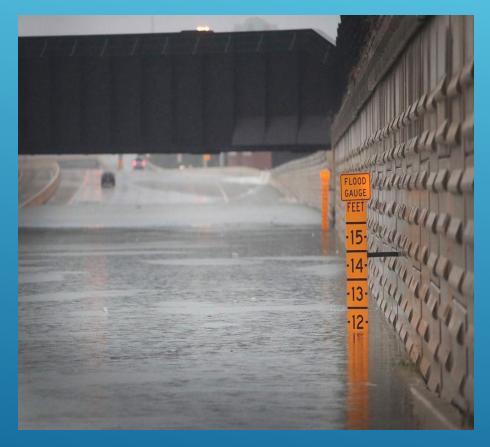


Gulf Coast, NJ, NYC 2021

Very likely will happen here if we don't act vigorously,

FLOOD GAUGES

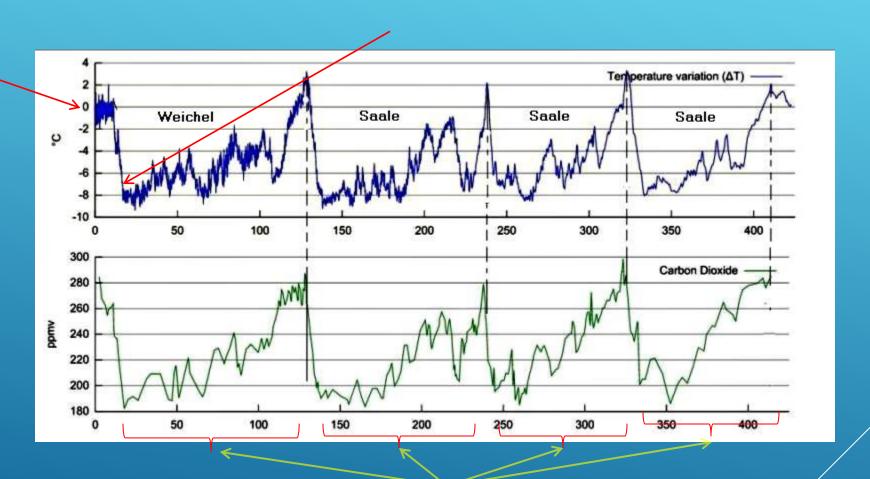
Houston





TIPPING POINTS IN EARTH CLIMATE SYSTEM





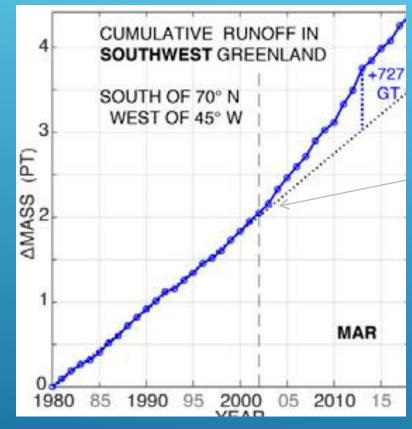
These four colder and lower CO2 intervals are during glacier growth

TEMPERATURE RISE IS ACCELERATING

Greenland mass loss

Sea level rise as a result

Global tipping point is likely in less than 20 years



Bevis et.al, Proc. Nat. Academy of Science (PNAS) Jan 22, 2019

Runoff suddenly accelerates in 2003

WHAT IS EXPECTED IN TIVERTON



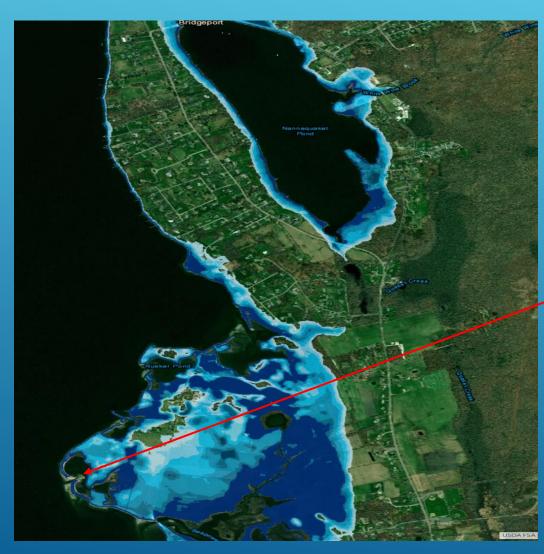
s flo

North Tiverton

Fogland and vicinity

7

SEAPOWET MARSH AREA



Seapowet Ave Bridge

In about 25 years:
3ft sea level rive
and a tropical storm

WHAT TO DO

- 1. Tell US and State Senators and Representatives to fund extensive actions to limit green house gas emissions
- 2. Heed warnings to evacuate
- 3. Support ways to add more renewal energy systems in Tiverton
- 4. Add solar panels and drive an EV
- 5. Pressure CMRC to move on wind farm approvals
- 6. Get at least as motivated on climate change as many here are about aquaculture
- 7. My reaction after participating in protest in Seapowet Cove about aquaculture was that I was arranging the deck chairs on the Titanic.

IMPROVED LIST OF FLOOD STREETS

- 1. With help from Brian Janes I have improved a list of streets that will be in accessible to emergency vehicles
 - 3 ft sea level rise and a tropical storm

STREETS INACCESSIBLE TO EMERGENCY VEHICLES FROM NORTH TO SOUTH

- 1. Tank farm as much as 11 ft.
- 2. Full length of Riverside Drive with as much as 13 ft. Main Rd from South Ave. to south end of Hillside Ave with up to 8 ft.
- 3. Main Rd. From 2071 Main Rd to Old Bulgarmarsh Rd with a much a 11 ft.
- 4. Bridgeport Rd as much as 10 ft.
- 5. Both ends Nanaquaket Rd as much as 10 ft.

STREETS INACCESSIBLE TO EMERGENCY VEHICLES FROM NORTH TO SOUTH

- 6. 200 yards south of Bulgarmarsh to Don's Marine as much as 8 ft.
- 7. Delano Island St and Lawrence Ct south of first intersection on Lawrence Ct. as much as 13 ft.
- 8. Winisimet Drive as much as 7 ft.
- 9. Seapowet Ave from Emile Rucker preserve to Little Harbor Dr. with a much as 13 ft.
- 10. All streets off Wampanoag Ln below the intersection with Gadsby are with a much as 5 Ft/

STREETS INACCESSIBLE TO EMERGENCY VEHICLES FROM NORTH TO SOUTH

- 11. Neck Rd north end of Nonquit Pond as much as 11 ft.
- 12. Cheisea Way as much as 10 ft.
- 13. Main Rd at Borden Brook with as much as 3.5 ft.
- 14. Far south end of Peaceful Way with as much as 5 ft
- 15. Pond Bridge Rd from Main Rd for ¼ of a mile as much as 13 ft.

STREETS INACCESSIBLE TO EMERGENCY VEHICLES

FROM NORTH TO SOUTH

- 16. Fogland Rd from 50 yards east of the intersection with 3 Rod Way as much as 12 ft.
- 17. Wouldn't 3 Rod Way be included here? Highland Rd. (High Hill Road?) from intersection with Fogland Rd. to 100 yards south as much as 13 ft.
- 18. All roads south of the intersection of Highland Rd (High Hill?) and Tony St. inaccessible with as much as 9 ft.
- 19. Nearly all of Sesh Dr. (surveyed rd only) with a much a 5 ft.