Ripcur: Smartphone App for Rip Current Reporting

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NOAA Library Brown Bag Seminar,
Silver Spring, MD – July 26, 2012

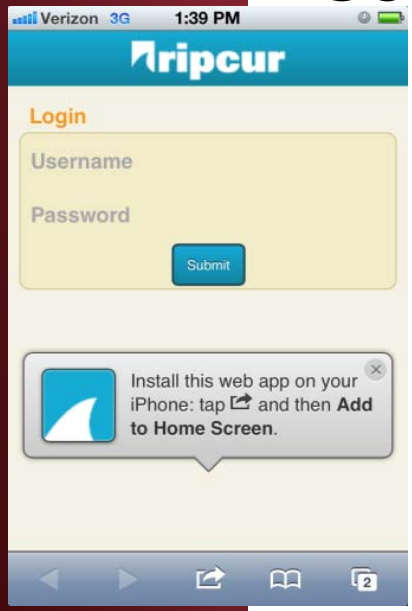
Team Members

- Chris Seeley, Dani Maginnis, Ralph Mattiaccio, Will Abeel, Ken Bodzak
- Mark Hamilton, Erin Hopson
- NWS – Walt Drag
- Prof. David Klappholz

What is RipCur?

- A multiplatform, mobile optimized web-based tool for reporting, serving, and storing information about rip currents.

Go to https://www.stevens.edu/ripcurrent



Why RipCur?

- Communication
  - July 5th, 2003 – 100's rescues
  - June 20th, 2 deaths NWS level – moderate (?)
- Notify NWS, USCG, OEM
- No rescue, no rip

But how does it do it?

- Location is based on smartphone's GPS
- Lifeguard enters basic info
- On the back end:
  - Buoys & tide gauges are queried for additional info
  - Reports are generated
  - Observations are served in real time to all participating guards and researchers

User Types

- Research Administrator
- Researcher
- Lifeguard Administrator
- Lifeguard

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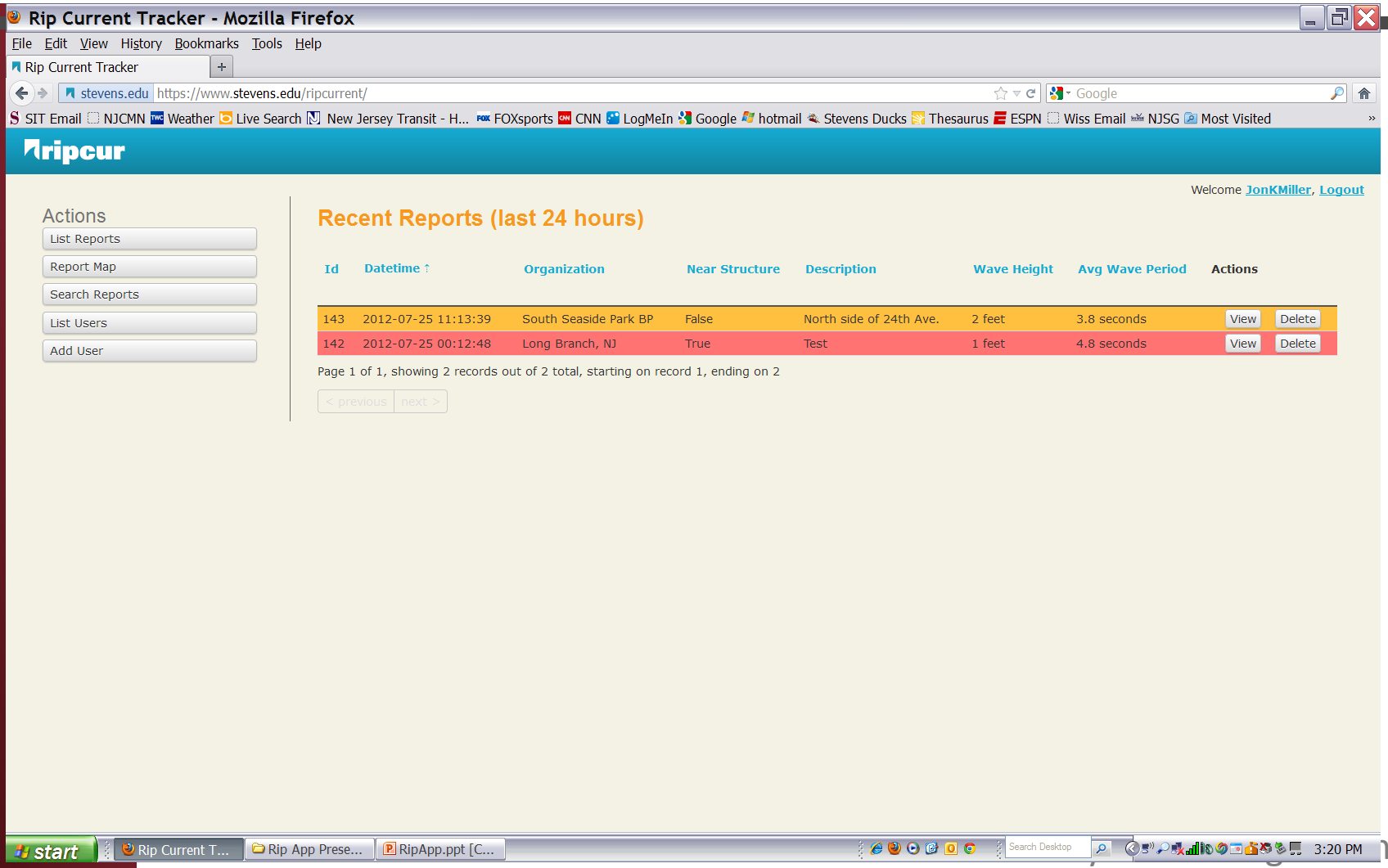

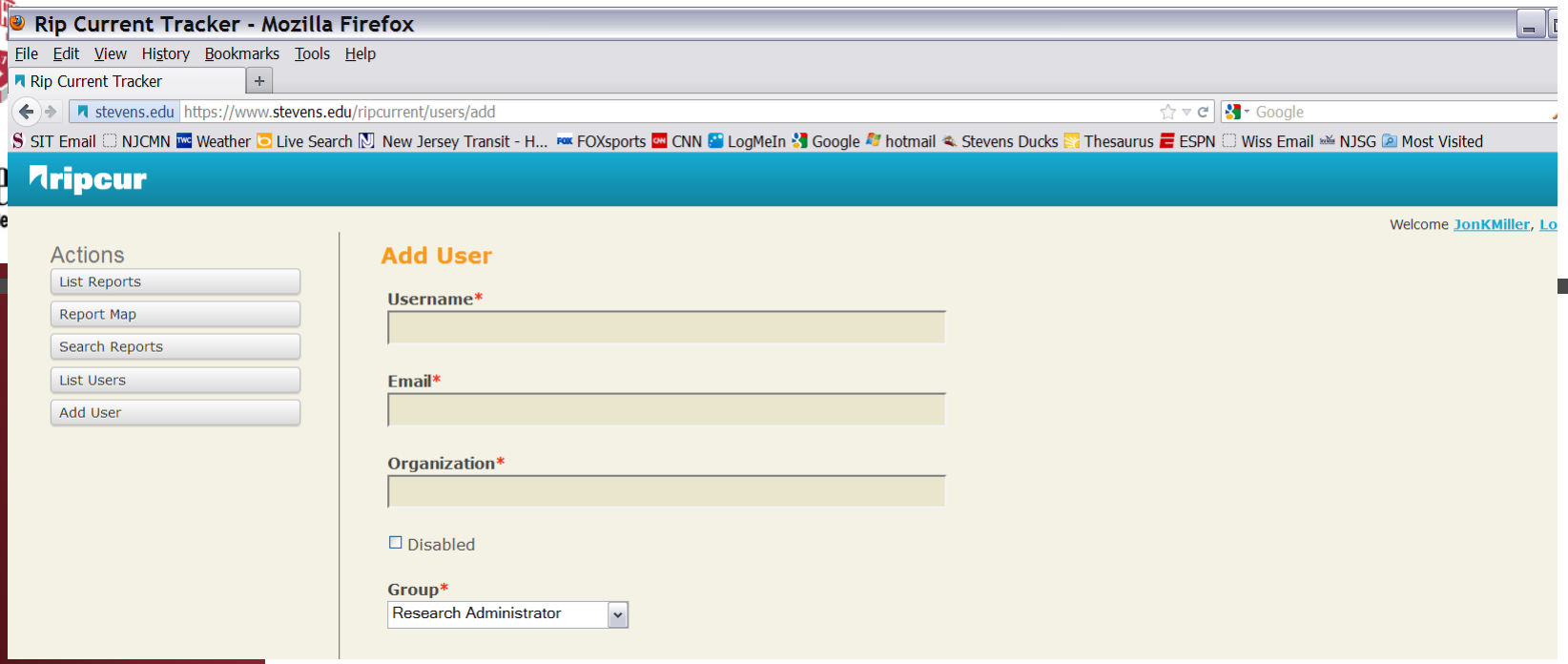
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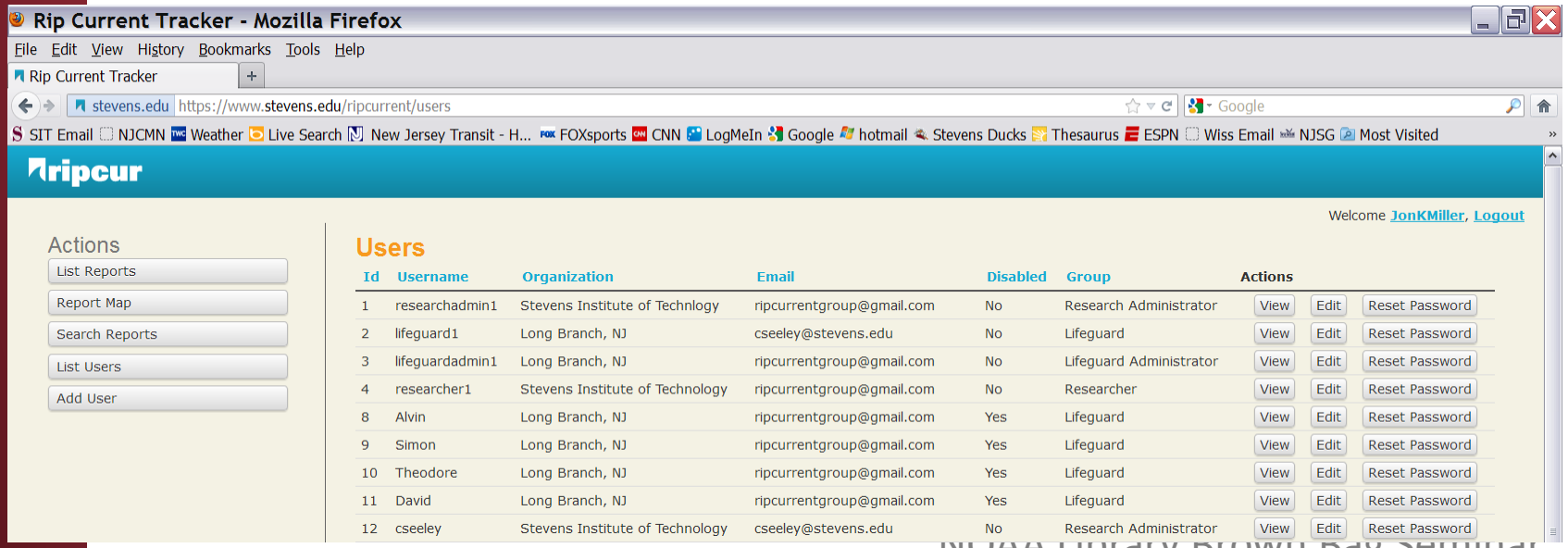
Research Administrator


Rip Current Tracker - Mozilla Firefox
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Rip Current Tracker
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9 Simon Long Branch, NJ ripcurrentgroup@gmail.com Yes Lifeguard View Edit Reset Password
10 Theodore Long Branch, NJ ripcurrentgroup@gmail.com Yes Lifeguard View Edit Reset Password
11 David Long Branch, NJ ripcurrentgroup@gmail.com Yes Lifeguard View Edit Reset Password
12 cseeley Stevens Institute of Technology cseeley@stevens.edu No Research Administrator View Edit Reset Password

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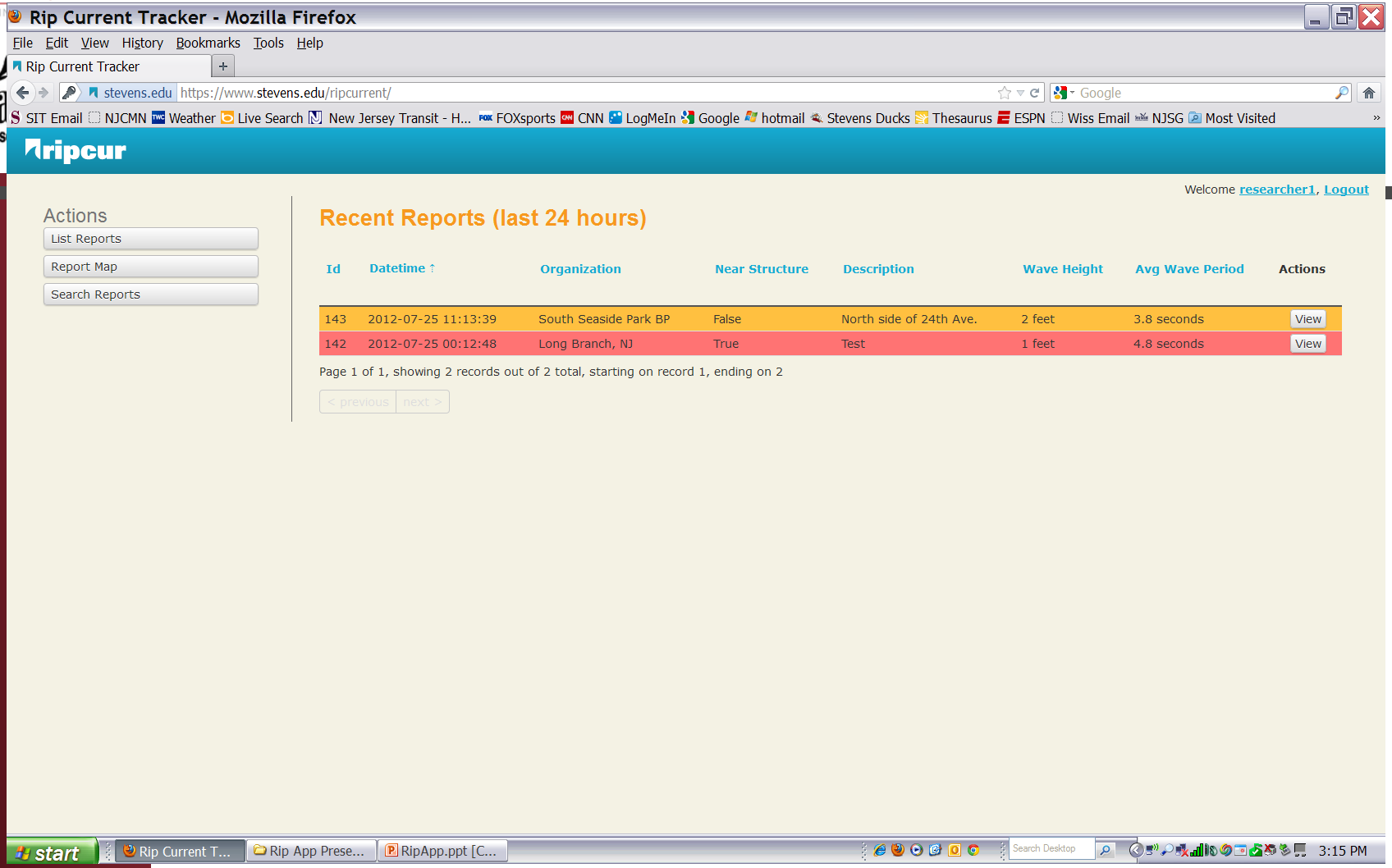

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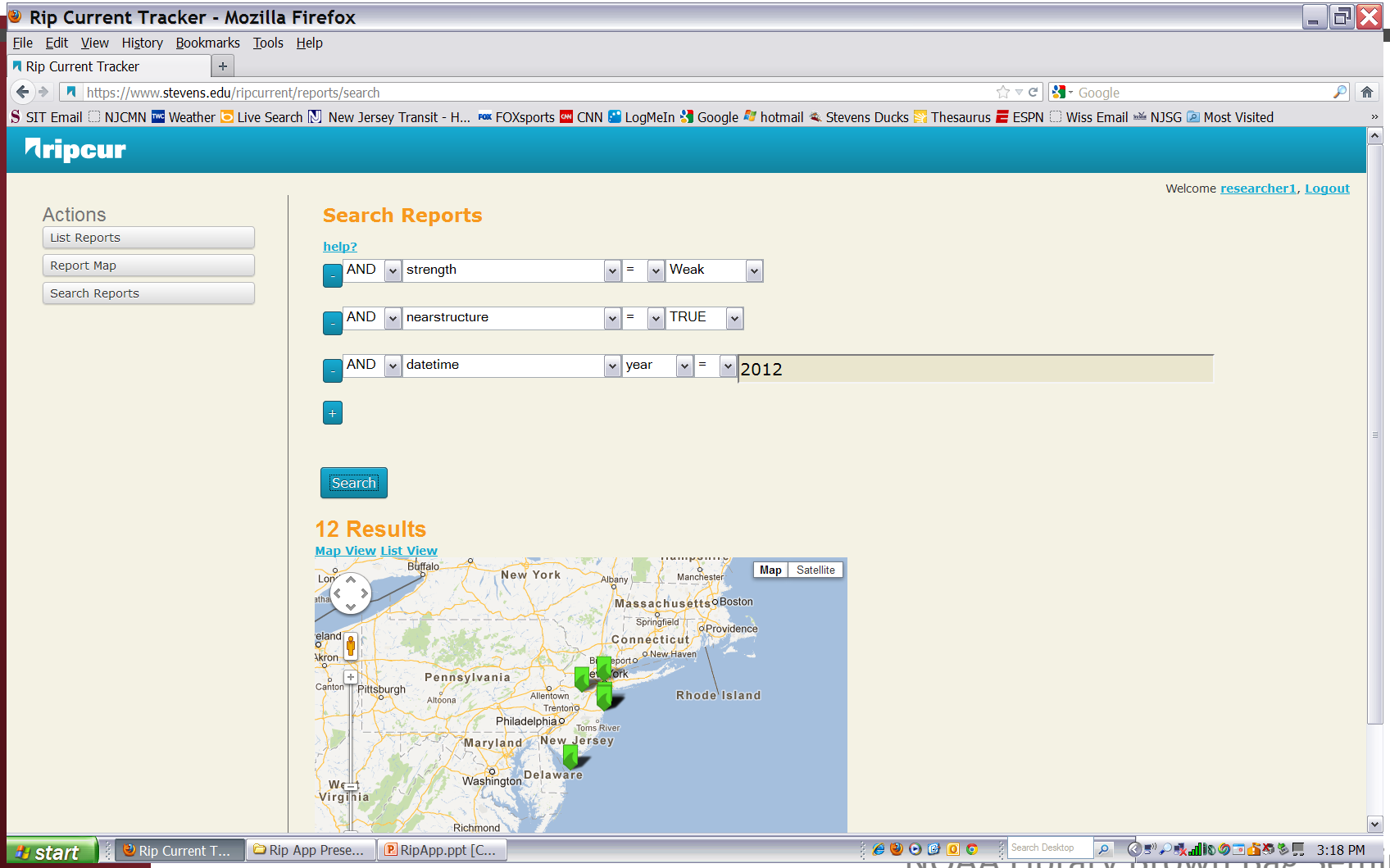

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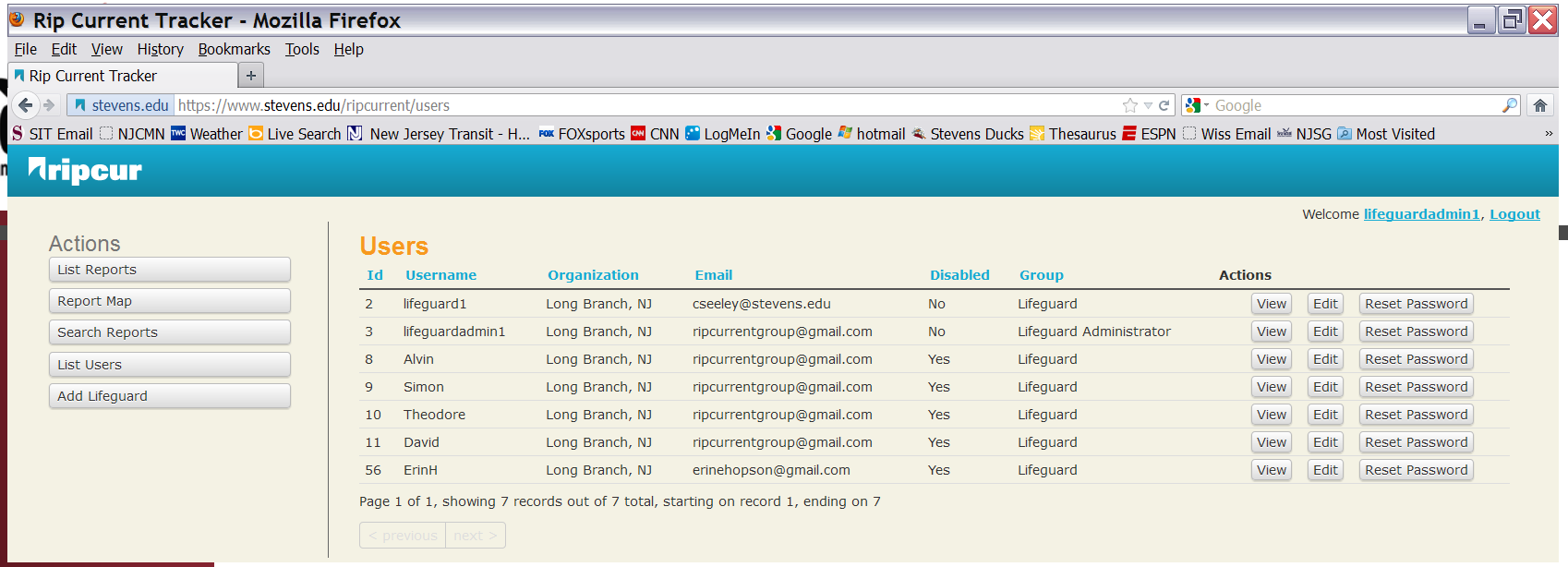

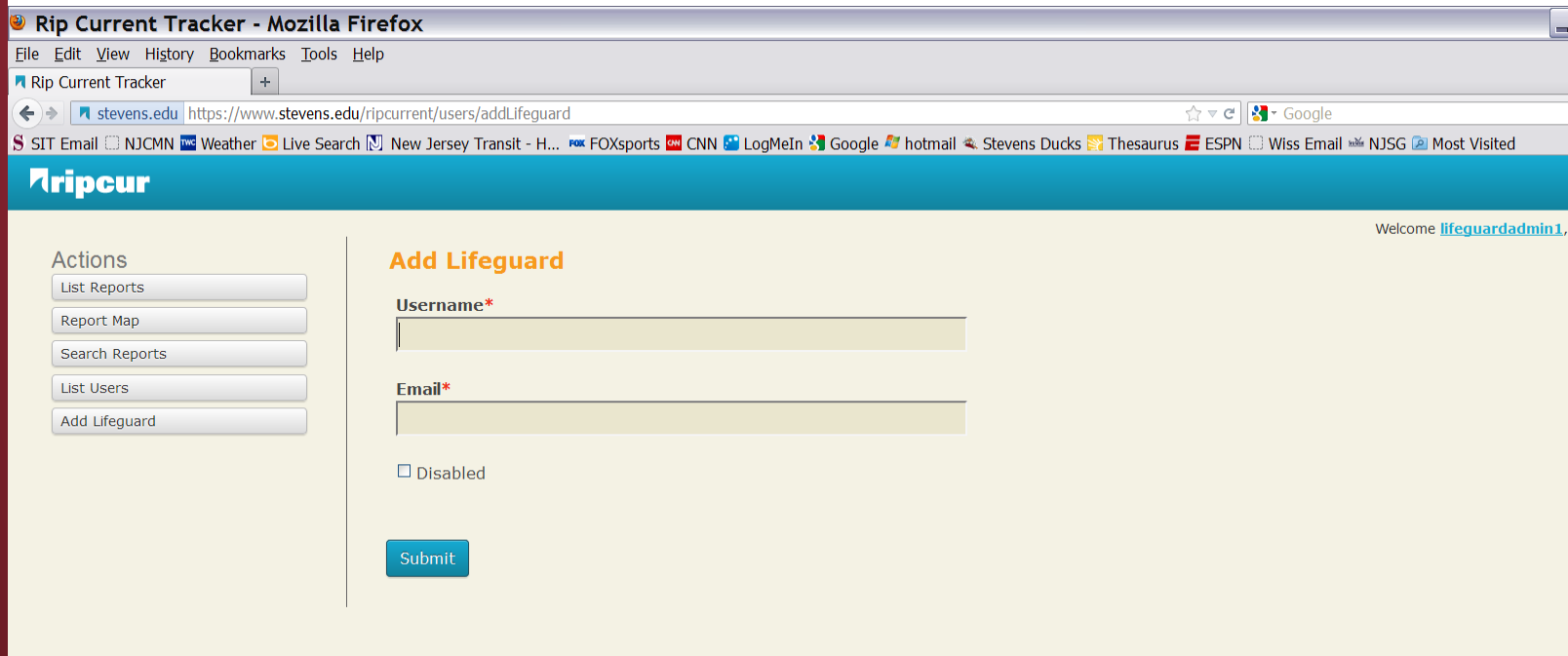

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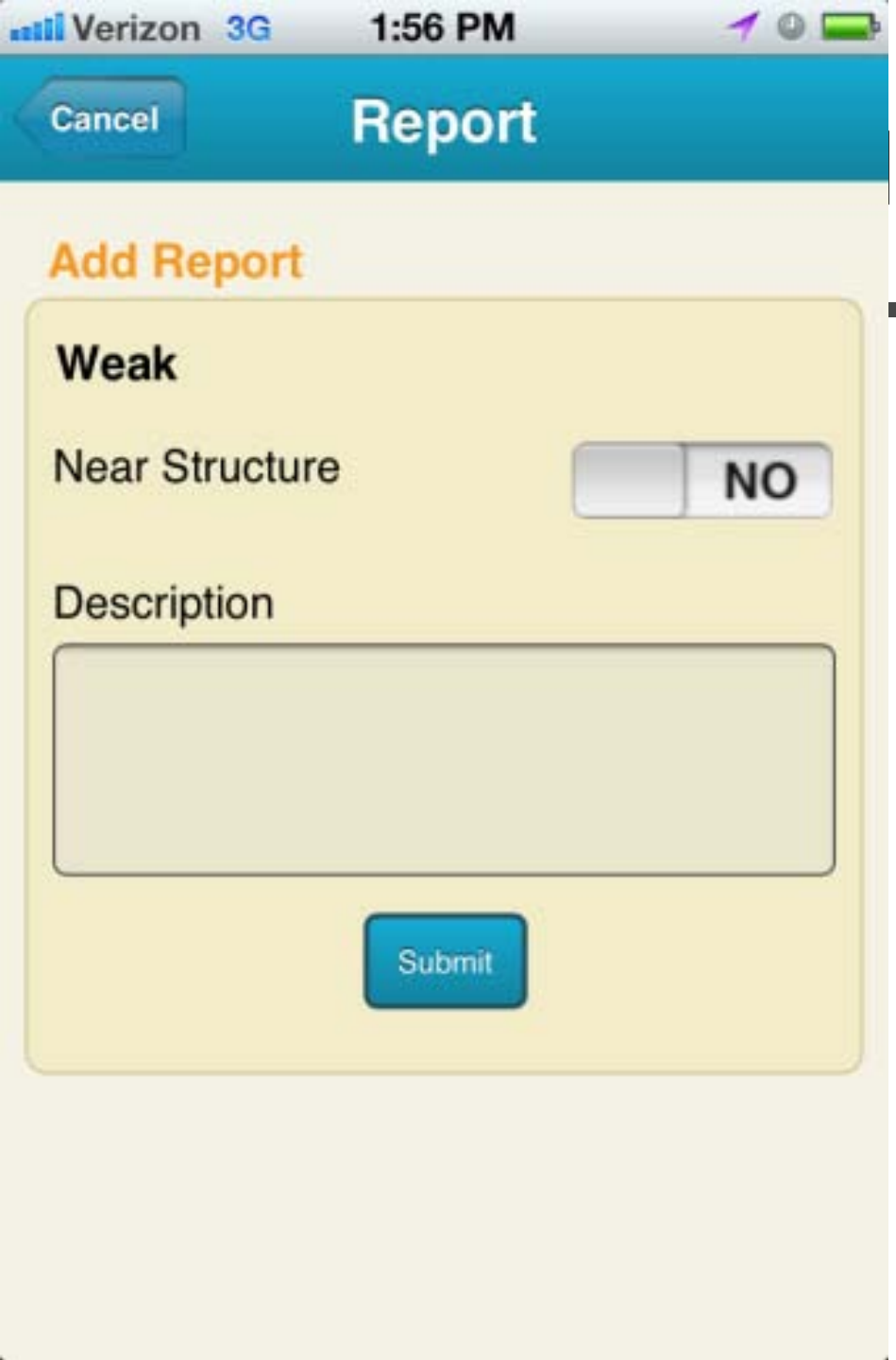
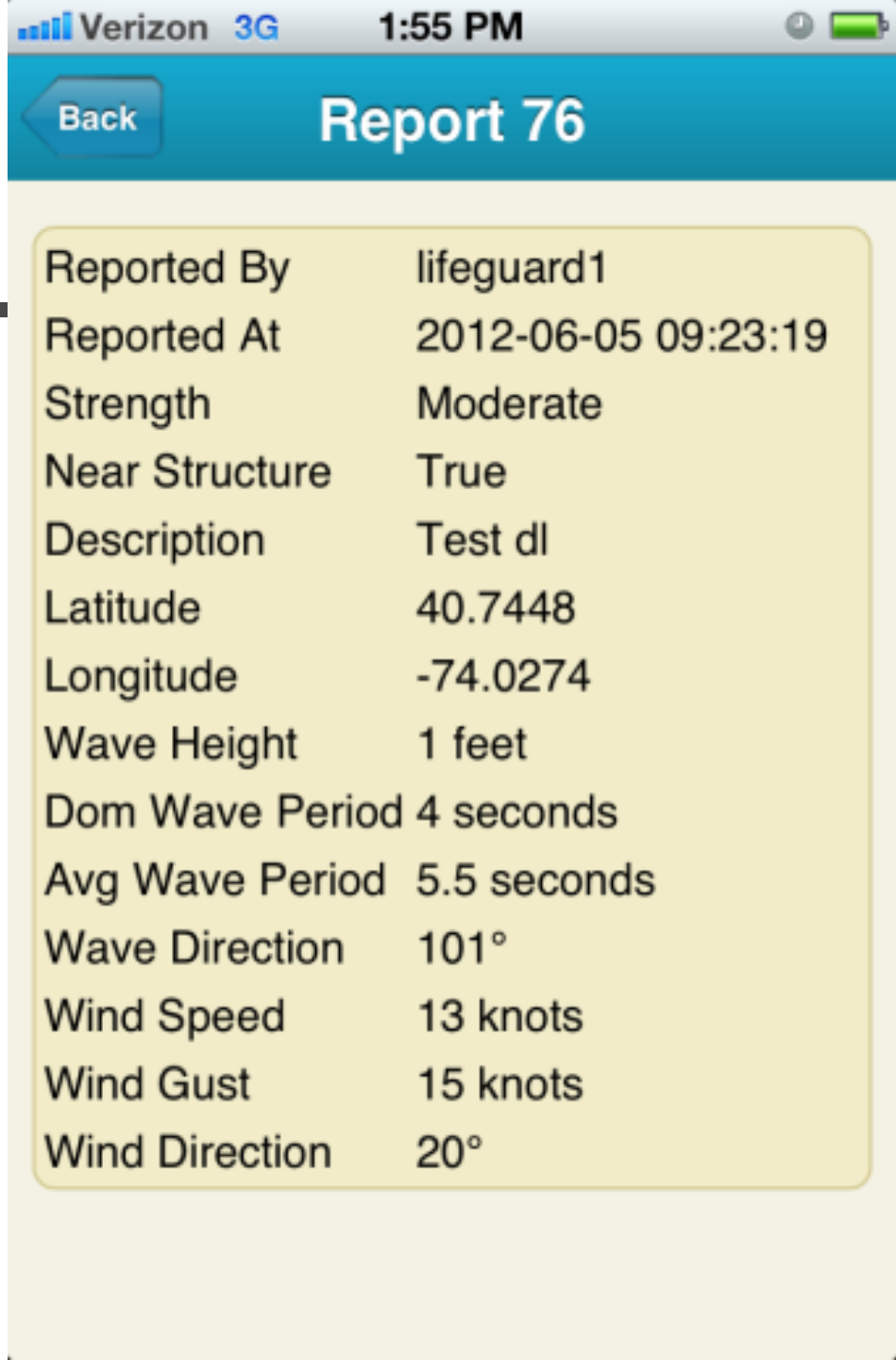
Link1
Link 2


Verizon 3G
1:56 PM
Cancel
Report
Add Report
Weak
Near Structure
NO
Description
Submit


Verizon 3G
1:55 PM
Back
Report 76
Reported By lifeguard1
Reported At 2012-06-05 09:23:19
Strength Moderate
Near Structure True
Description Test dl
Latitude 40.7448
Longitude -74.0274
Wave Height 1 feet
Dom Wave Period 4 seconds
Avg Wave Period 5.5 seconds
Wave Direction 101°
Wind Speed 13 knots
Wind Gust 15 knots
Wind Direction 20°

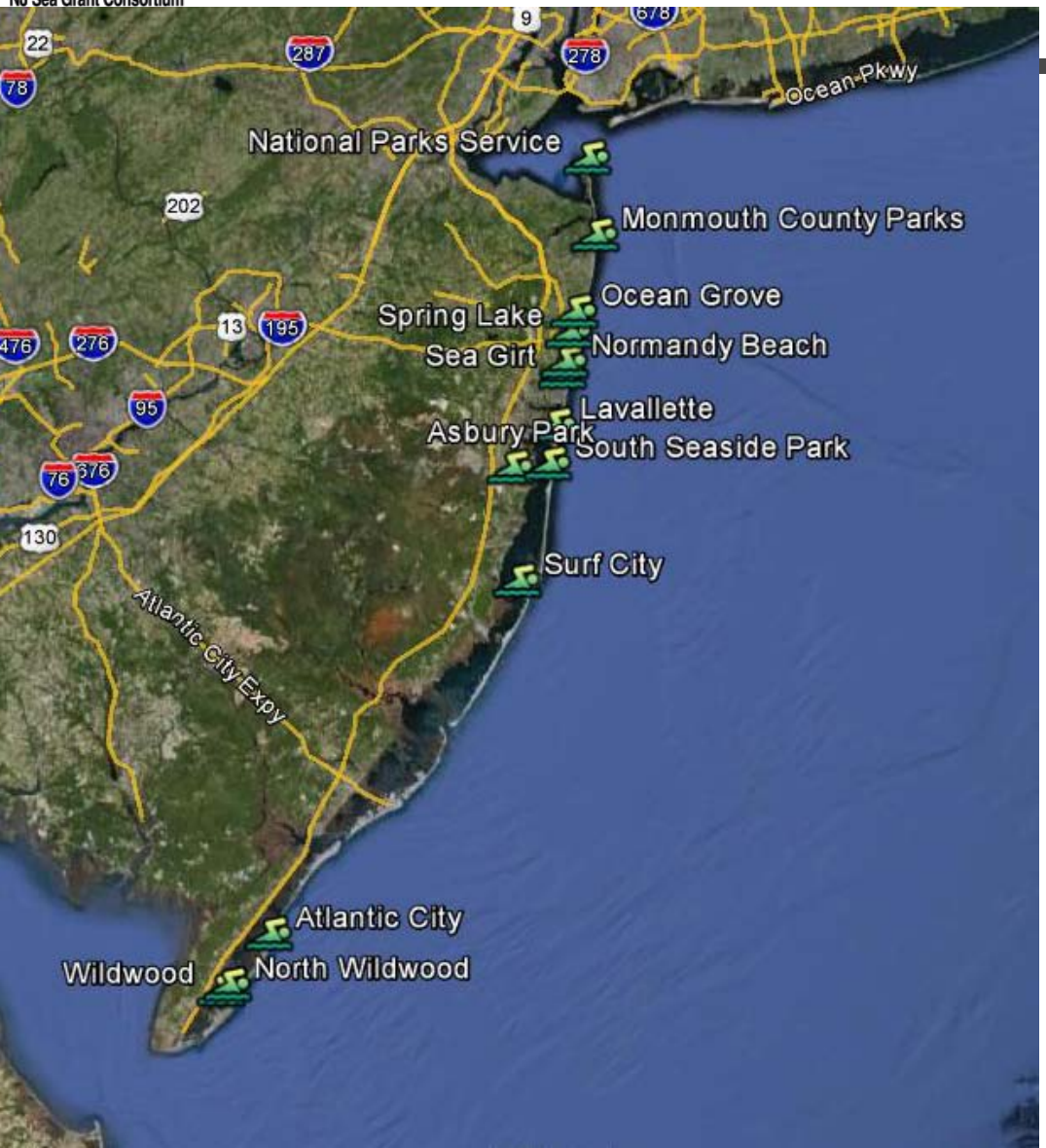
49 Results

Map View List View

Outreach efforts

- Current
  - Email
  - Media
  - Users Manual
  - Personal Visits
- Potential
  - You Tube ??
  - USLA ??

Users in NJ



Our Goals:

- Year 1
  - 3 NJ communities
- Year 2
  - 10 NJ communities
  - 2 Out of State
- Year 3:
  - 20 NJ Communities
  - 10 Out of State

Current Research Users

- National Weather Service – Mt Holly
- Monmouth County Health
- US Coast Guard – Sector DE Bay
- Stevens

Potential Research Users

- National Weather Service
- US Coast Guard
- Police/OEMs
- United States Lifesaving Association (USLA)
- Academic Institutions

Future Work

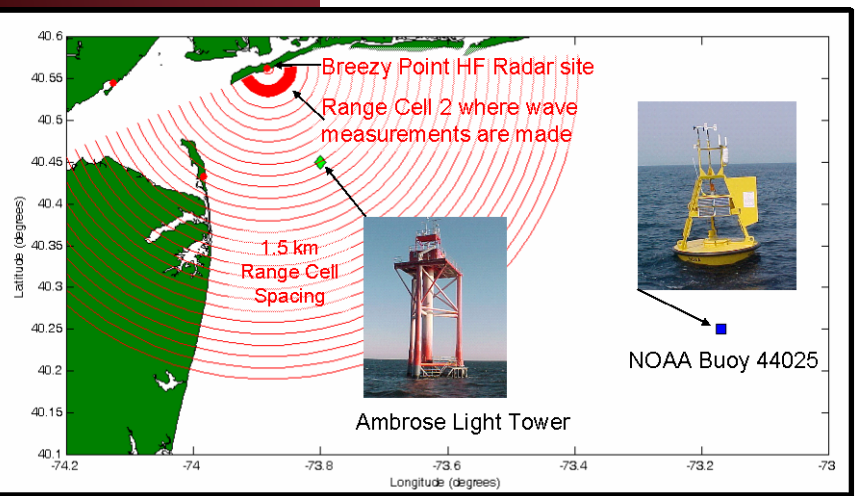
- Better training
- Incentivize reporting (Verizon?)
- Stakeholder driven improvements:
  - Search tool
  - GPS corrections
  - Add desktop input
  - Turn off a rip, or modify intensity
  - Input historical data

Future Work

- Bulk reporting to the public
  - 3 zones
  - above average…that's it
  - # rips?

Other NJSG Rip Projects

- Press conferences/Media releases
- Signage & brochures
- Rip jeopardy
- Research
- Girl Scouts



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Rip App Quick Response Tags

- All of the Monmouth Beaches
- 11/15 Of the Ocean County Beaches
- All of the Atlantic County Beaches
- 4/9 Of Cape May County Beaches
  are done or are in process as of 6/29

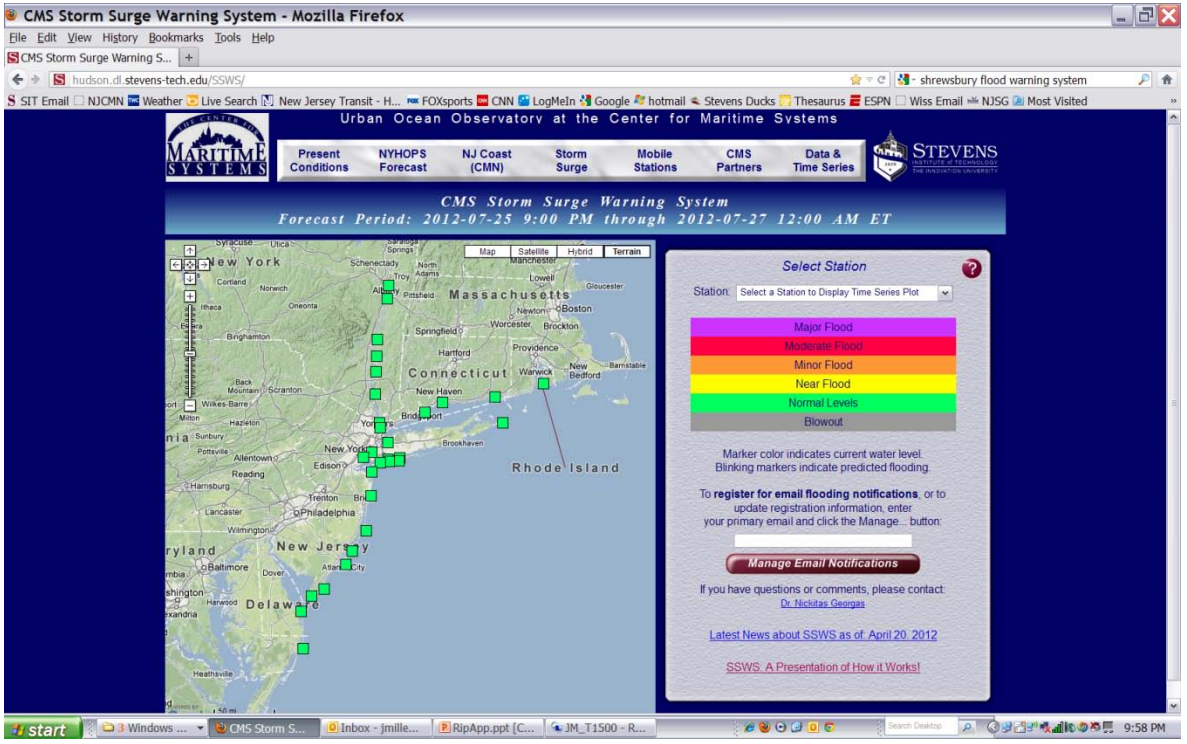
What is a Rip Current

[Link 1]
[Link 2]

minar,
2012

Other Stevens Hazards Products

- SSWS
- Shrewsbury Flood Warning System
- NYHOPS



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Questions?

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