

Sensor Placement Team Updates

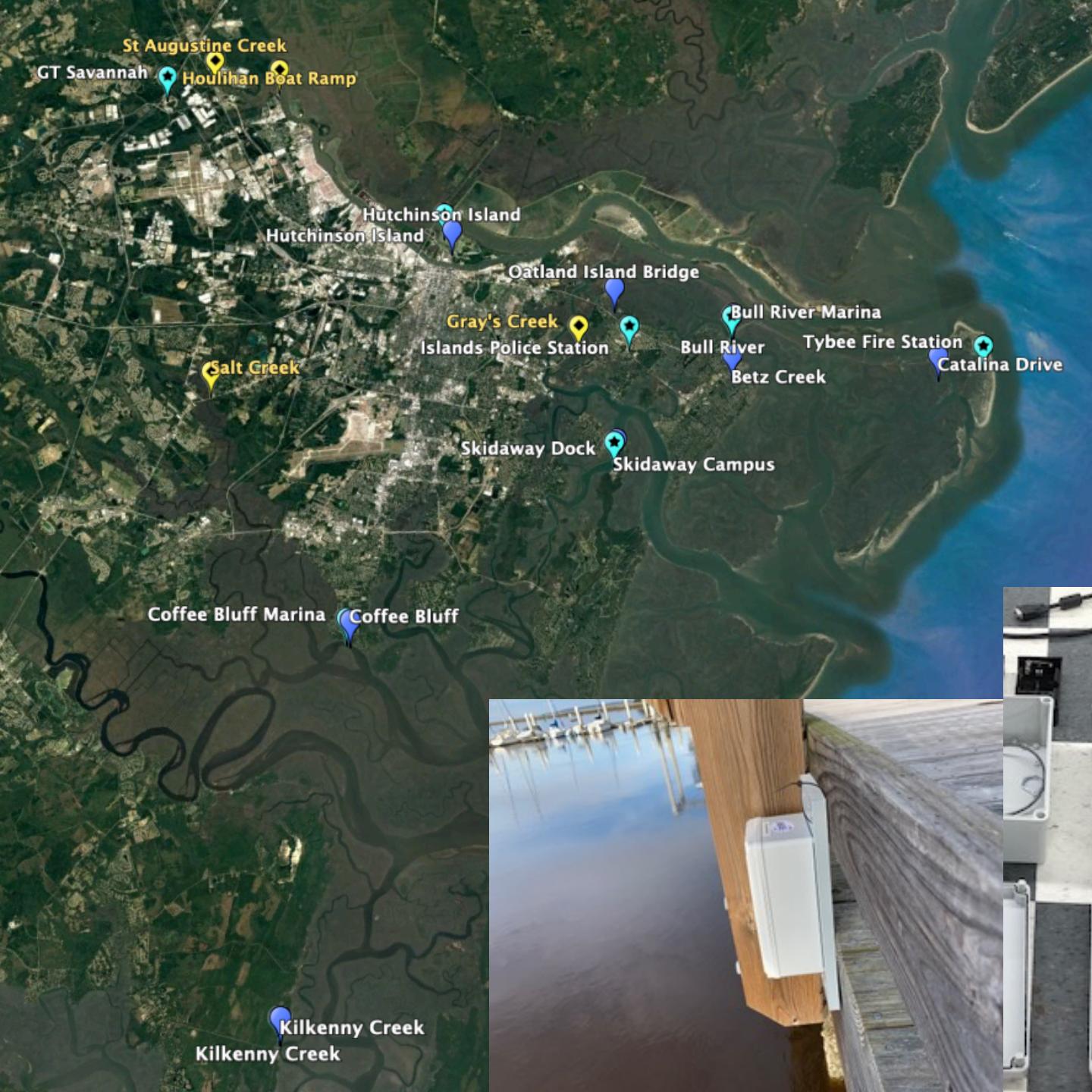


GEORGIA SMART
COMMUNITIES CHALLENGE



SAVANNAH
savannahga.gov





8+4 sensors
8 gateways
30 sensors in production

Still target:
100 sensors
by August



GDOT Approval!!!



GDOT Approval!!!

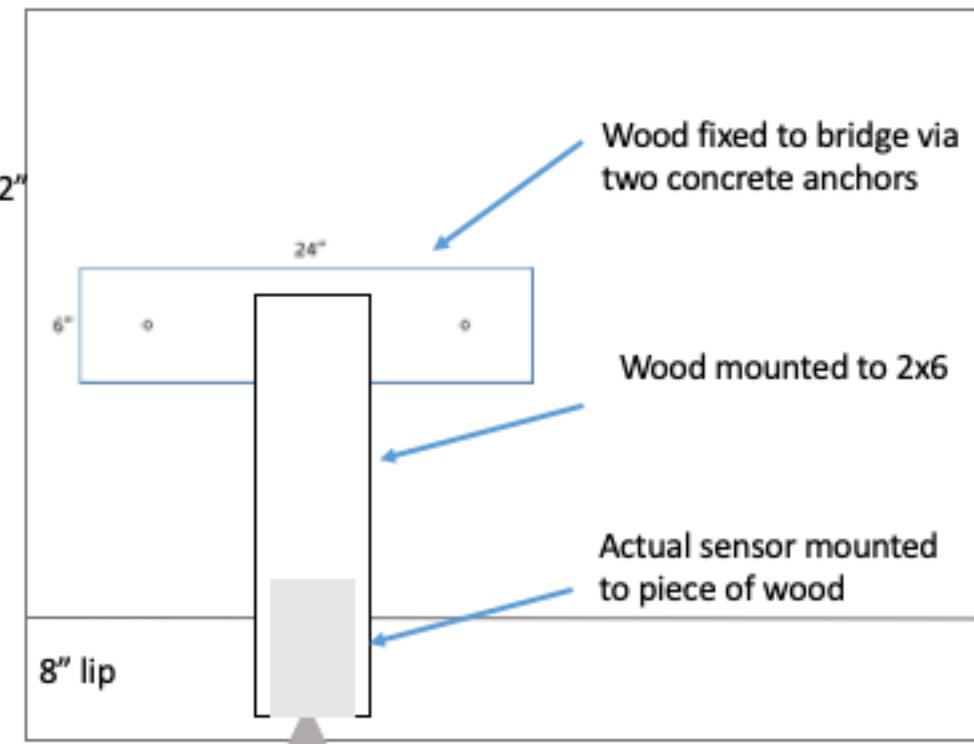


Pressure Treated Board Mounted to Bridge

Mounting methodology:

- Holes will be drilled approximately 18" above the lip
- Drill two holes in the bridge wall $\frac{3}{8}$ " diameter, 2" deep.
- Mount 2"x6"x24" pressure treated lumber to the bridge.
- Screw holes will be 16" apart, 4" from each end of the board.
- 5/16"x3" concrete anchors used to mount board to bridge wall
- All sensor equipment will be mounted to the board
- First hole will be approximately 77'4" measured from west to east on north side of bridge
- Second hole will be approximately 76' measured from west to east on north side of bridge

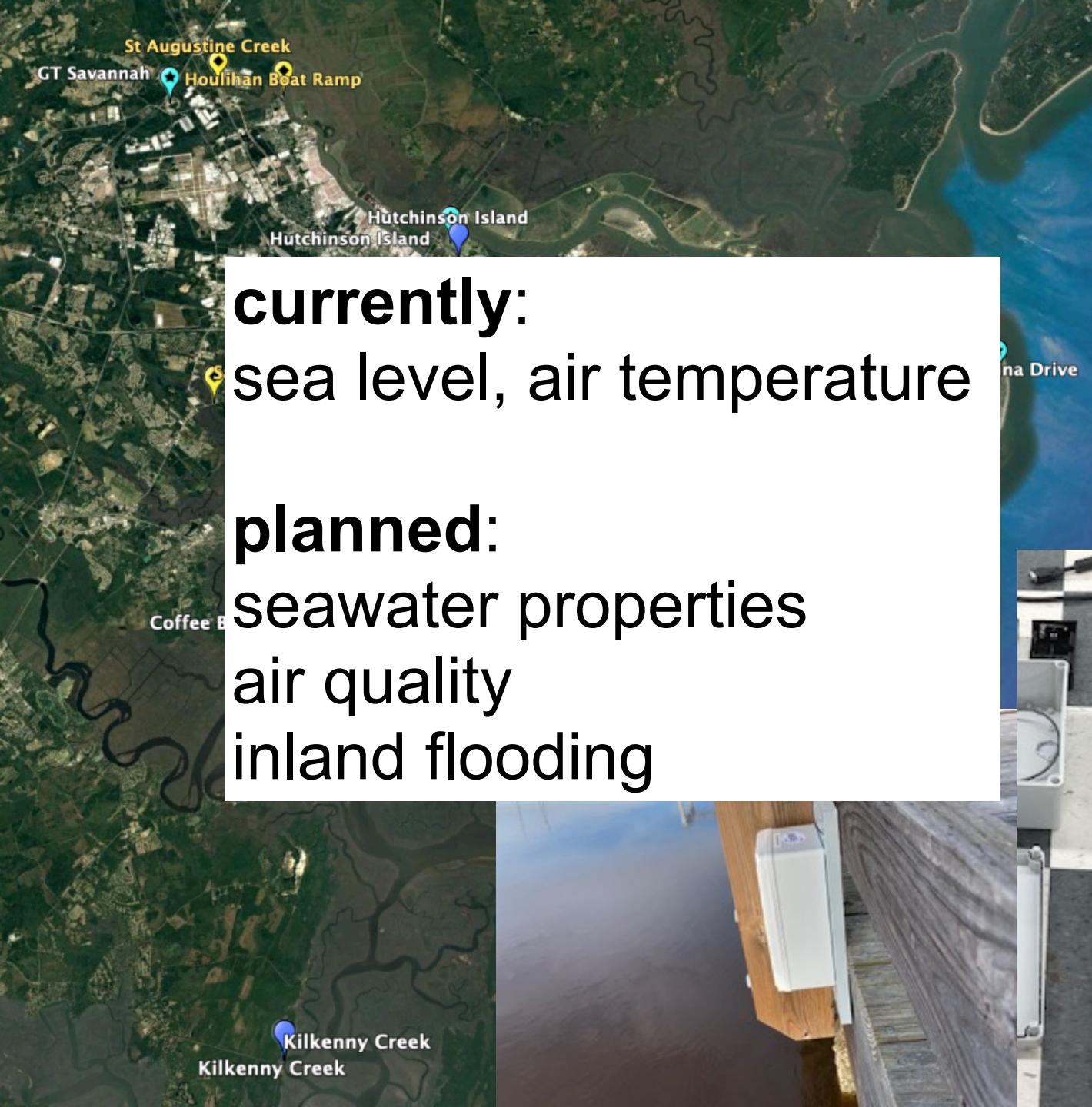
GDOT Approval!!!



Production model of
sensor



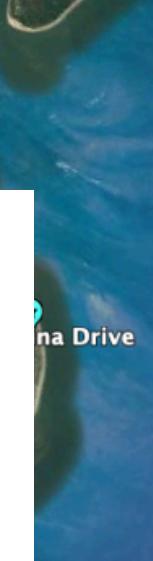
Sensor currently
deployed on
Hutchinson Island



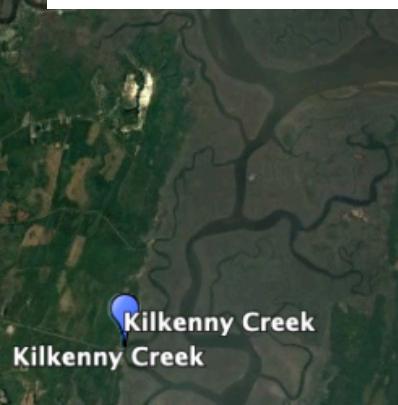
8 sensors
8 gateways

currently:
sea level, air temperature

planned:
seawater properties
air quality
inland flooding



goal: 100
sensors by
August

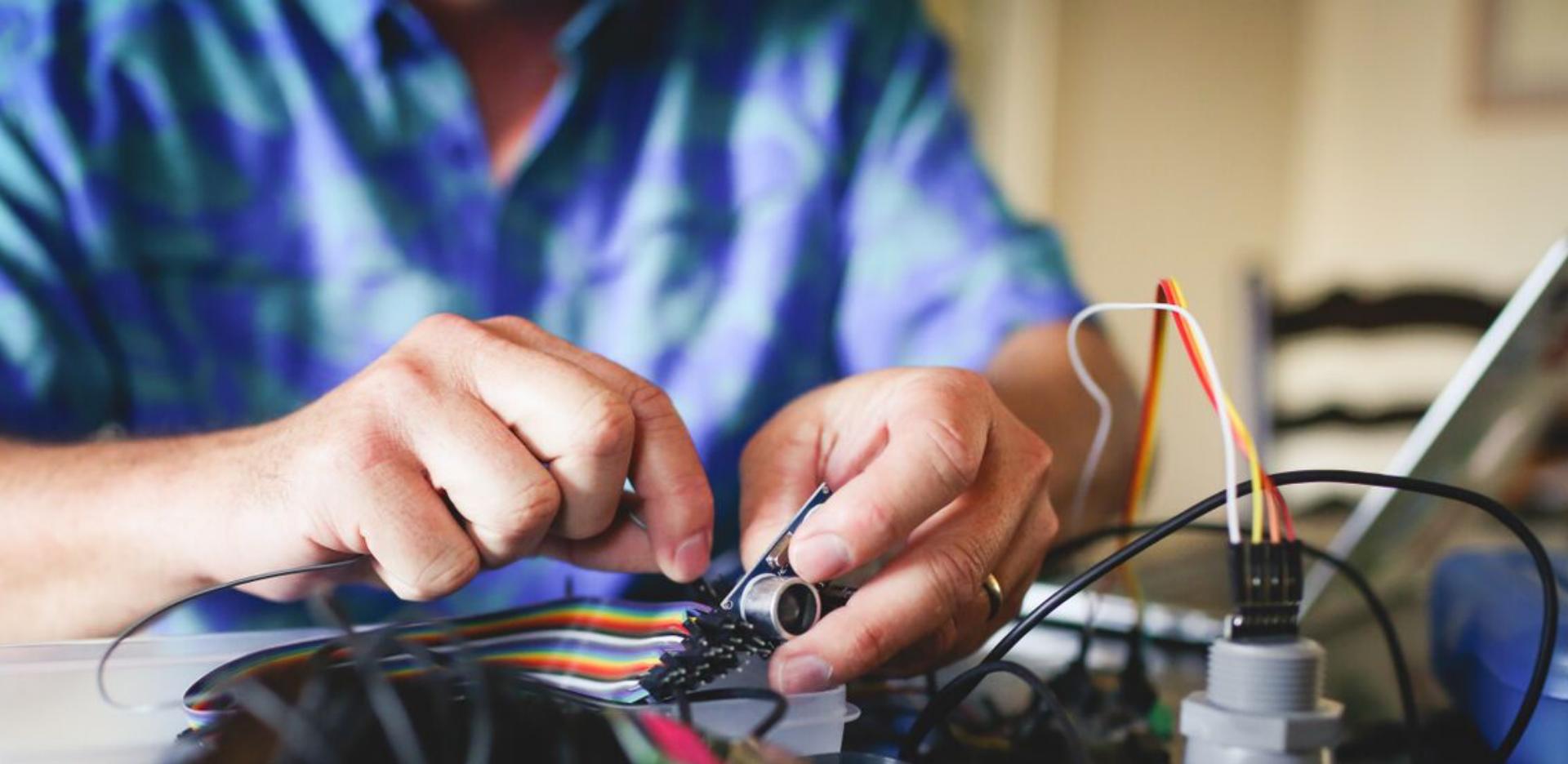




gateway device:

- roughly \$1,500
- 1 to 4 mile range
- can serve hundreds of sensors
- needs internet, power

goal:
provide backbone for
diverse IoT applications



benefits of GT-designed sensor:

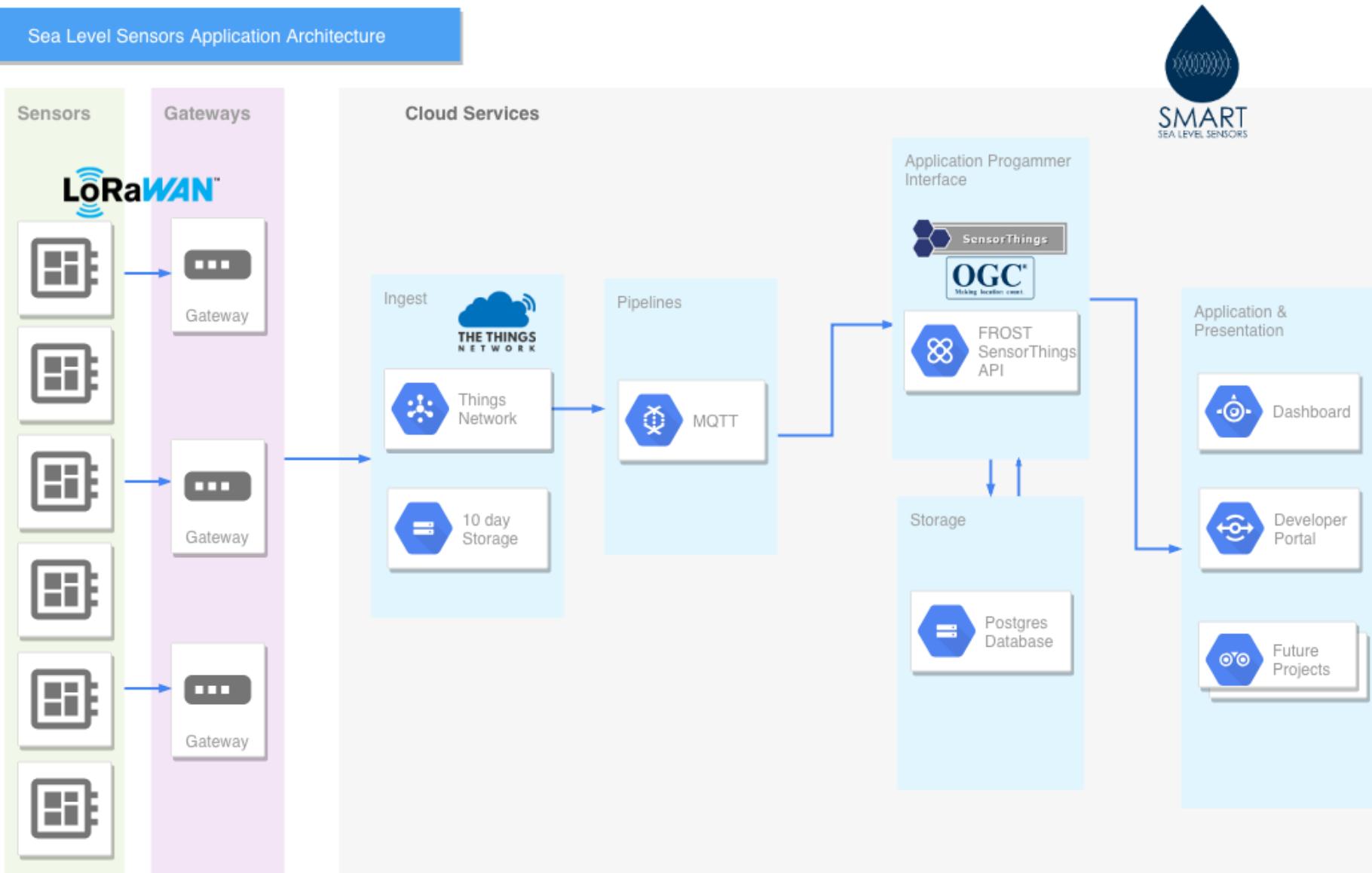
- high precision (1mm)
- long battery life (3-5yrs)
- inexpensive (\$300)

Sensor Assembly

Jenkins High School – 20 sensors to be assembled and tested
in February/March



API Development



API Development



Smart Sea Level Sensors API

An API for sea level sensors in Chatham County, GA

GET STARTED

Open access

Our network of sensors collect data on water level, air pressure, and air temperature, which is made available through the Smart Sea Level Sensors API.

Open standards

The Smart Sea Level Sensors API adheres to the OGC SensorThings API open standard, which provides a documented and expressive API to access sensor data.

API Development

Getting started

Getting started

Concepts

API reference

EDIT

Getting started

The Smart Sea Level Sensors API provides an easy way to retrieve measurements and metadata from sea level sensors deployed in Chatham County, GA. The API is built according to the OGC SensorThings API standard, which makes use of REST semantics and JSON encoding.

Quickstart

GET all sensors

```
$ curl 'https://api.sealevelsensors.org/v1.0/Things'
```

Example response

```
{
  "value": [
    {
      "name": "esp32-rfm95-scott-1",
      "description": "Skidaway Dock environmental sensors",
      "properties": {
        "sslsId": "esp32-rfm95-scott-1",
        "elevationNAVD88": "3.103"
      },
      "Datastreams@iot.navigationLink": "https://api.sealevelsensors.org/v1.0/Things(1)",
      "MultiDatastreams@iot.navigationLink": "https://api.sealevelsensors.org/v1.0/Things(1)/MultiDatastreams@iot.navigationLink",
      "Locations@iot.navigationLink": "https://api.sealevelsensors.org/v1.0/Things(1)/Locations@iot.navigationLink",
      "HistoricalLocations@iot.navigationLink": "https://api.sealevelsensors.org/v1.0/Things(1)/HistoricalLocations@iot.navigationLink",
      "@iot.id": 1,
      "@iot.selfLink": "https://api.sealevelsensors.org/v1.0/Things(1)"
    }
  ]
}
```

Dashboard Demonstration

BERA Dashboard

Map Settings

Search Go

Sensor Stations

Skidaway Dock environmental sensors	1 Stream
Hutchinson Island environmental sensors	1 Stream
Kilkenny Creek environmental sensors	3 Streams
Bull River Marina environmental sensors	3 Streams
Coffee Bluff Marina environmental sensors	3 Streams

The map displays the Savannah River and its tributaries, including the Skidaway River, Talmadge Creek, Bull River, and Kilkenny Creek. It shows the locations of various sensor stations, such as Skidaway Dock, Hutchinson Island, Kilkenny Creek, Bull River Marina, and Coffee Bluff Marina. The map also includes major roads like US 17, GA 25, GA 26, GA 21, and GA 204, along with state and local highways. The river network is shown in blue, with arrows indicating the direction of water flow. The map is overlaid with a grid, likely representing a digital elevation model or a specific monitoring grid.

Dashboard Demonstration

Coffee Bluff Marina environmental sensors

ID
7

Location Description
Coffee Bluff Marina

Properties

```
{  
  "sslsId": "gt-envsense-001",  
  "elevationNAVD88": "2.4",  
  "notes": "Installed on wooden dock of city park adjacent to the marina"  
}
```

[API Link](#)



Leaflet | © OpenStreetMap contributors

Time Range

Sun Jan 20 2019 20:40:59 GMT-0500 to Sun Jan 27 2019 20:40:59 GMT-0500

Datastream of vertical distance measurements from the sensor to the surface of the water

[API Link](#)

1519 Observations



[Details](#)

[Download CSV](#)

Stat	Value
Last	2.237 m
Min	1.276 m
Max	4.473 m
Average	2.7695 m