

CarlCOOS Development Plan and Current Status of Observing System Assets

CaRA Stakeholders Council Meeting

Dec 9 2008

San Juan, Puerto Rico

Coastal Weather Observing



Luis D. Aponte, Ph.D., P.E.
laponte@uprm.edu
Assistant Professor – Structures Group
Dept. of Civil Engineering and Surveying
University of Puerto Rico at Mayagüez

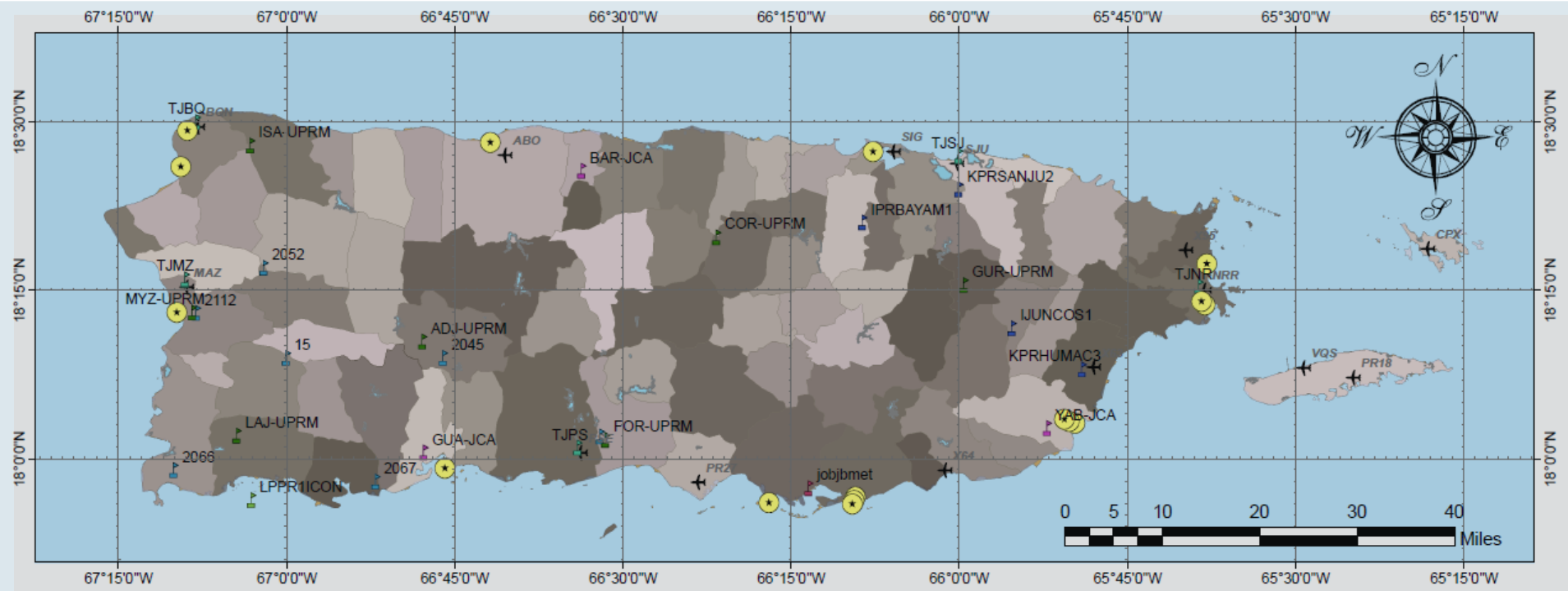
Jay Titlow
jtitlow@weatherflow.com
Senior Meteorologist
WeatherFLOW Inc.

Steve Woll
swoll@weatherflow.com
Dir. of Business Dev.
WeatherFLOW Inc.

CarlCOOS Coastal Weather Observing

- Inventory of current Weather Observation Stations done for Puerto Rico and Caribbean
- Initiative to involve local authorities and agencies collaborations had included communication with:
 - Puerto Rico Electric Power Authority
 - United States Coast Guard
 - Puerto Rico Port Authority
 - Private Individuals
- Site selection and permit application underway

Current Weather Observations



Real time weather stations in PR

Weather Station Inventory

OWNER

-  ICON Weather
-  JCA
-  NOAA NWS
-  National Estuarine Reserve
-  UPRM
-  USDA/ NRCS W
-  WUNDERGROUND
-  Perspective PR Sites

CarlCOOS Weather Stations

- Collaborative development, deployment and operation UPRM - WeatherFLOW

Variables:

- Wind (Speed & Dir)
- Temperature
- Barometric Pressure
- Rain
- Relative Humidity

Capabilities:

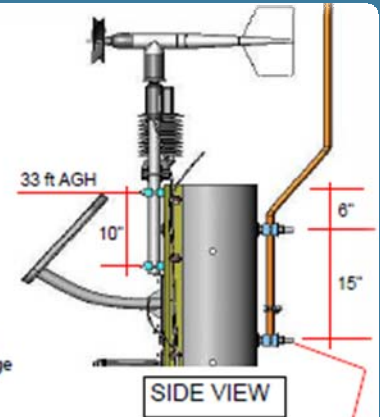
- Real time data
- Self-powered
- Hurricane hardened

WEATHERFLOW EQUIPMENT MOUNTING DETAILS: ATTACHMENT TO TEN METER CONCRETE POLE

PICTORAL ISOMETRIC VIEW

Each component of the Weatherflow metering equipment (solar panel, anemometer and battery box) is attached to the aluminum channel with four 3/8" stainless steel bolts. Solar panel assembly and mount fabricated by Sol, Inc., of Palm City, FL.

Temperature & humidity gage



Offset lightning rod attached to the top two 5/8" through-bolts with compression blocks, using the extended threads. Rod grounded to copper wire internal to the pole.

Channel bracket fastened to pole with three 5/8" through-bolts (Type 304 stainless). CTC bolt spacing from top of pole is 6", 21" & 41"

SPIRAL ENGINEERING SERVICES, INC.
Florida CA #7132 Ph. 407/898-6222
3900 Mockingbird Lane, Orlando, FL 32803

Certified:

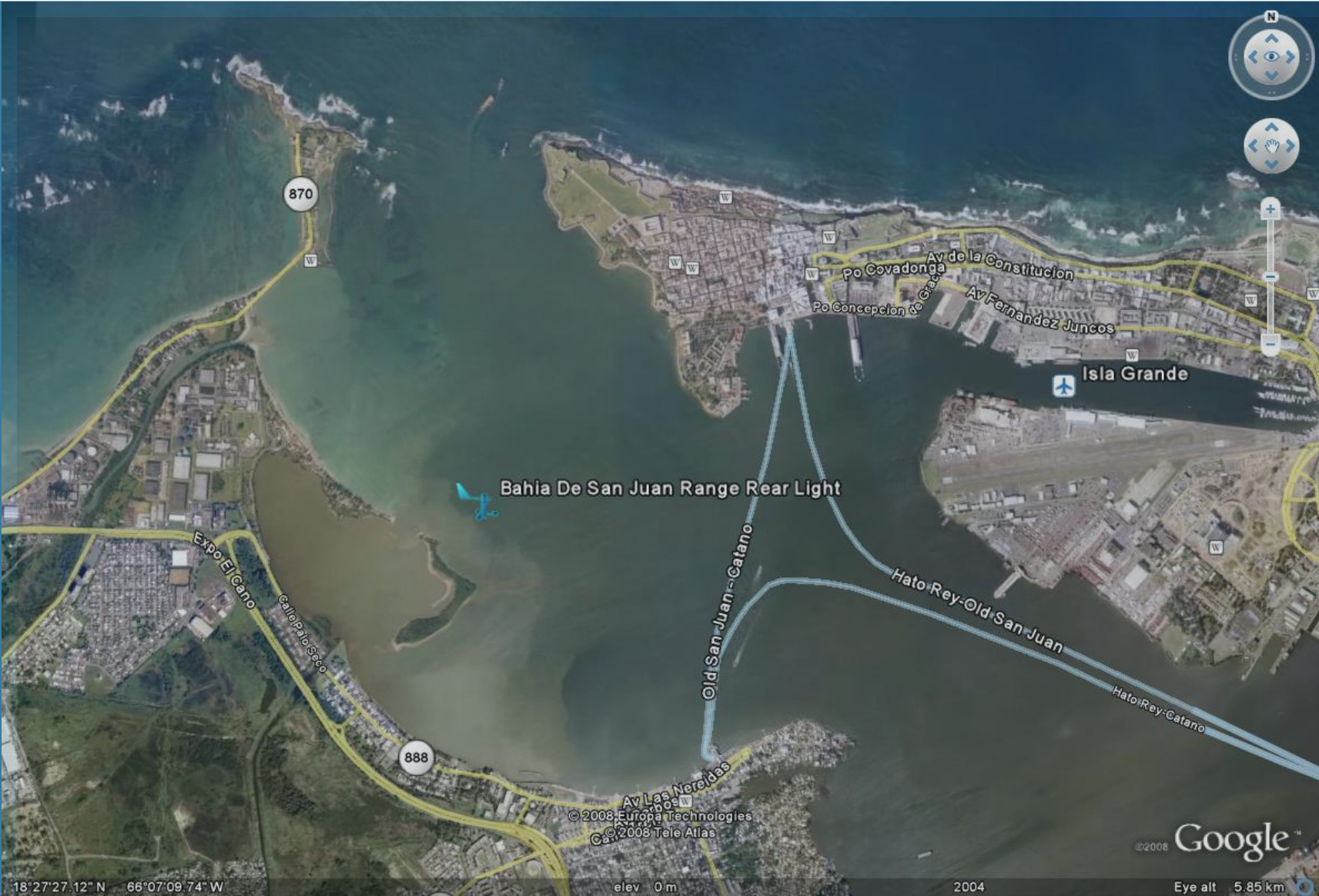
CarlCOOS Perspective Observation Sites

- Currently considered sites consist of:
 - USCG on navigational aids structures
 - Installed on PREPA sites
 - Installed on PR Port Authorities sites
 - Installed on Private owner sites

Google Earth site Assessment

- Sites selection criteria:
 1. Close to coastline
 2. Away from sites obstructions and potential debris (i.e., trees, building, etc.)
 3. Consider current nearby weather stations

USCG – San Juan, PR (On structure)



PREPA – Arecibo, PR (On concrete pole)

