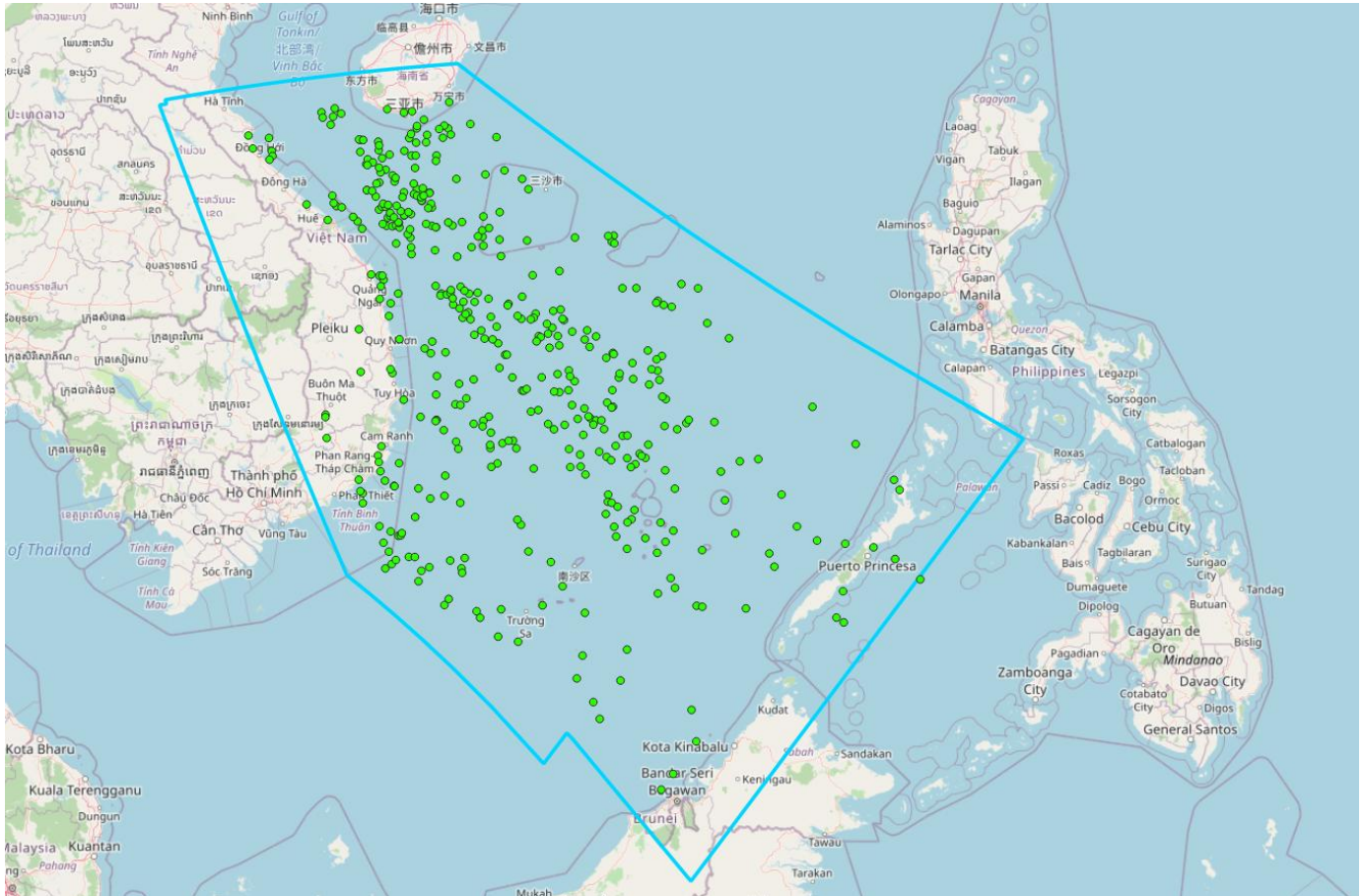# Unseenlabs

UNSEENLABS - Ma...tion - V2.2.pdf

This is the core of the UNSEENLABS Maritime Surveillance Service data and correspond to a set of detected, localized, and characterized **pulsed naval radar emitters** in two frequency bands:

- o   S band (Echo/Fox, around 3 GHz)
- o   X band (India, around 9.4 GHz)

Each detected emitter is represented by a data entry with properties describing its technical parameters:

Property Name	Description	Unit
ID	A simple identifier assigned by UNSEENLABS	-
timestamp_utc	The detection date/hour of the radar emitter	UTC date
RF_Frequency_MHz	The radio frequency of the carrier of the radar emitter	MHz
latitude_deg	Estimated latitude location of the radar emitter - WGS84 frame	degree
longitude_deg	Estimated latitude location of the radar emitter - WGS84 frame	degree
accuracy_level	Accuracy level/tag of the location of the radar emitter, giving the maximum distance between the real location of the emitters compared to the estimated location by UNSEENLABS service. HIGH = accuracy estimated better than 5 kilometers MEDIUM = accuracy estimated better than 15 kilometers LOW = accuracy estimated better than 30 kilometers UNKNOWN = unknown accuracy	-
pulses_duration_ns	Mean duration of the pulses of the radar emitter	ns
pulses_repetition_frequency_Hz	Mean pulses repetition frequency of the radar emitter	Hz

Data Schema

Data Provider: unseenlabs

Data Sensor Types Provided: rf

s3://space-eyes-raw-sensor-data/rf/unseenlabs/default/default/default/

Sensor File Schema Table

ID	File Description	S3 Prefix Path	File Name	File Type
1		s3://space-eyes-raw-sensor-data /rf/unseenlabs/default/default /default/	https://space-eyes-raw-sensor-data. s3.amazonaws.com/rf/unseenlabs /default/default/default/date%3D2021- 05-03/20210503012425_data.geojson	geojson

Transformations

- ID 1
  - Change column names
    - "RF_Frequency_MHz": "frequency",
    - "pulses_duration_ns": "pulse_duration",
    - "pulses_repetition_frequency_Hz":"pulse_repetition_frequency"
  - drop values from properties key in geojson
    - "ID", "latitude_deg", "longitude_deg"
  - format timestamp value
    - change timestamp format from %Y-%m-%dT%H:%M:%S.%fZ" to "%Y-%m-%d %H:%M:%S"
  - lowercase all string values
  - validate against RFDataValidator

Data Dictionary

- ID 1

<Link to data dictionary>