

The logo for the National Oceanography Centre, featuring a square with a black border. The top half of the square is white, and the bottom half is a solid blue color. The text "National Oceanography Centre" is written in black, sans-serif font in the blue section.

National
Oceanography
Centre

The background of the slide is a photograph of ocean waves, showing white foam and blue water, with a blue gradient overlay at the top.

INTRODUCTION TO GNSS AND GNSS-IR : DATA AND APPLICATIONS

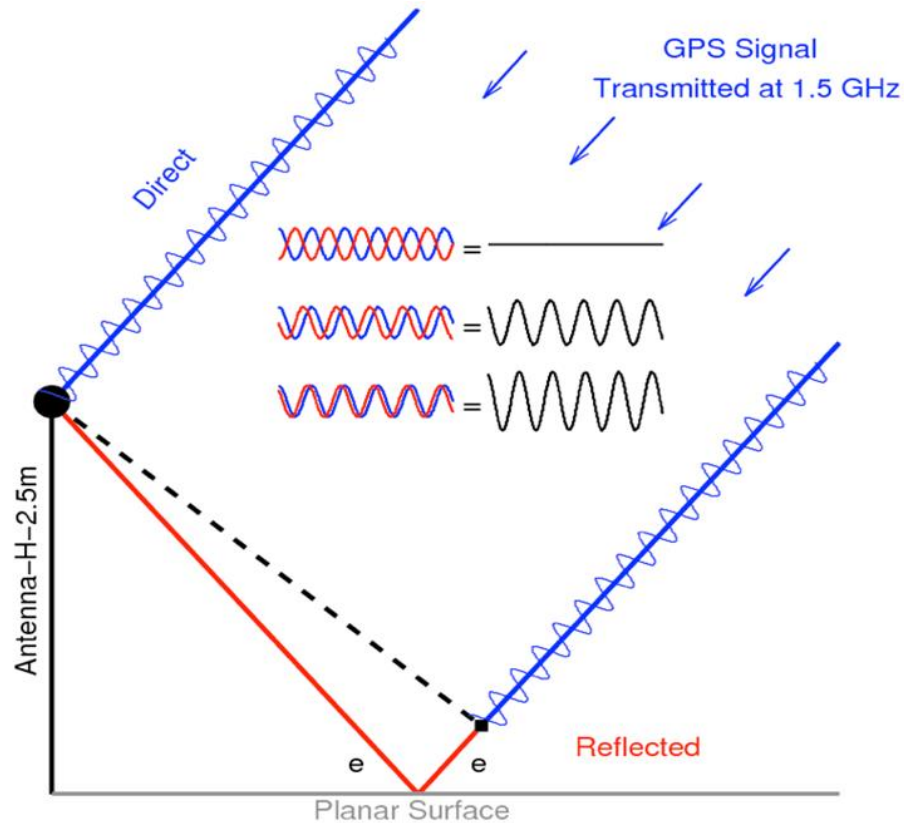


In addition to the radar gauge the port gauge also has a geodetic quality GNSS unit [Trimble Alloy] and GNSS Antenna.

The primary purpose of the GNSS system is to record the position of the system and measure the stability of the system over time

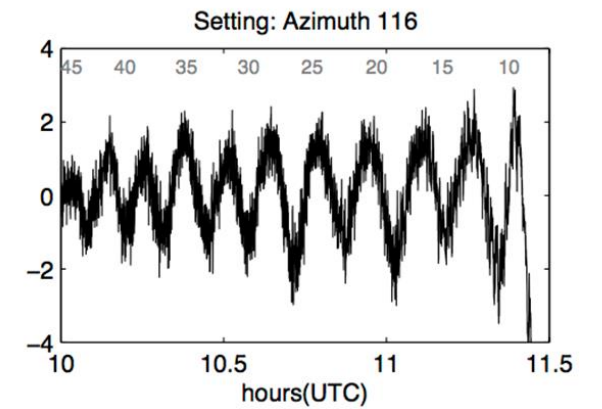
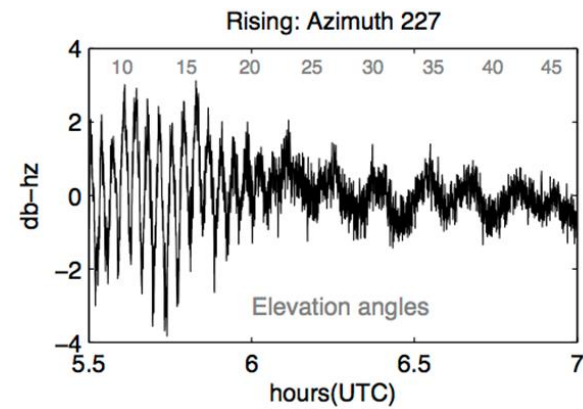
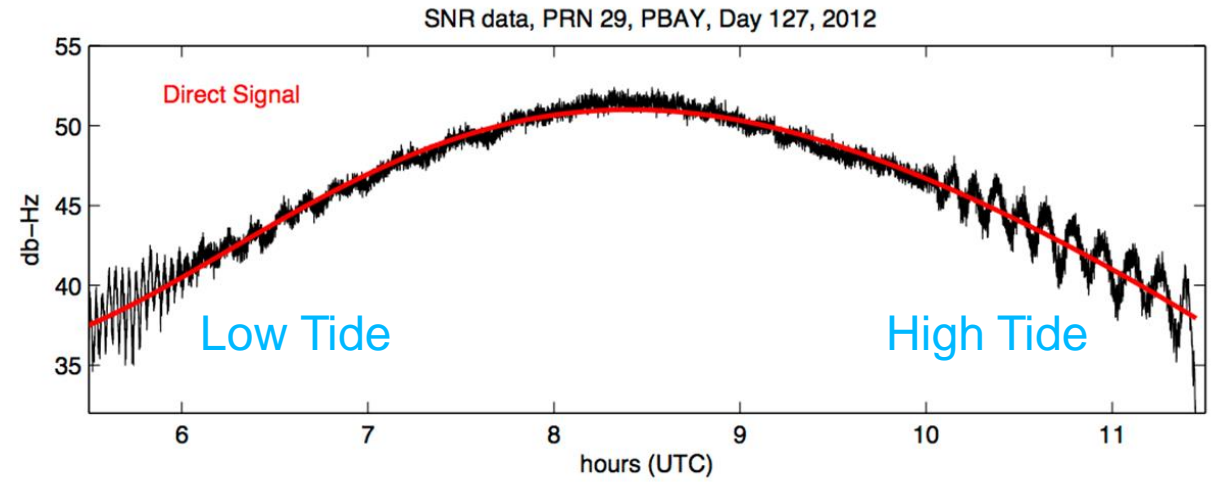
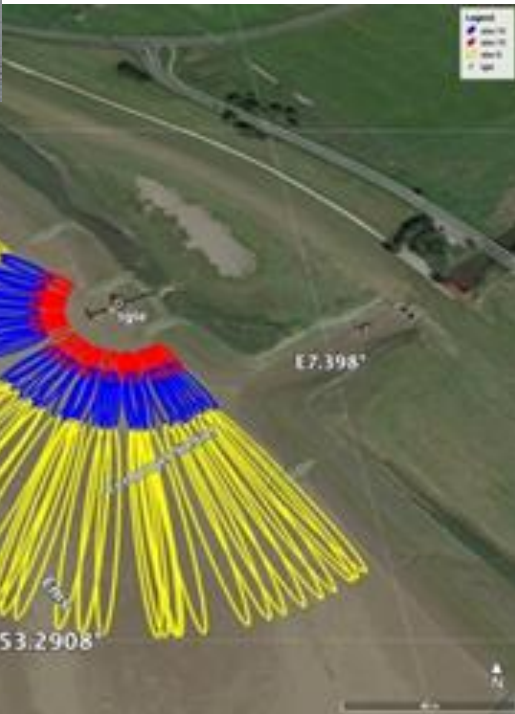
A secondary operation is as a secondary tide gauge channel using what is called GNSS-IR if it is possible in the location

GNSS-INTERFEROMETRIC REFLECTOMETRY (GNSS-IR)

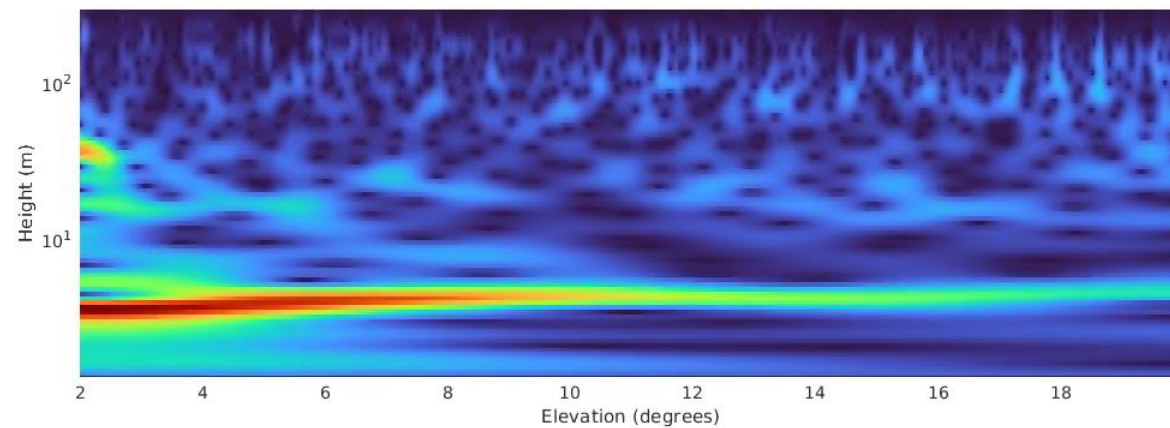
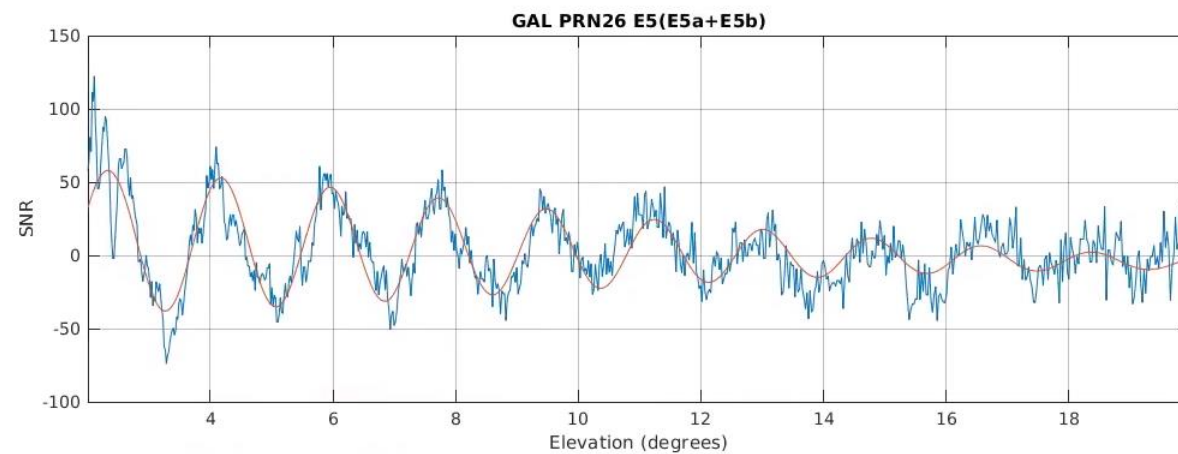
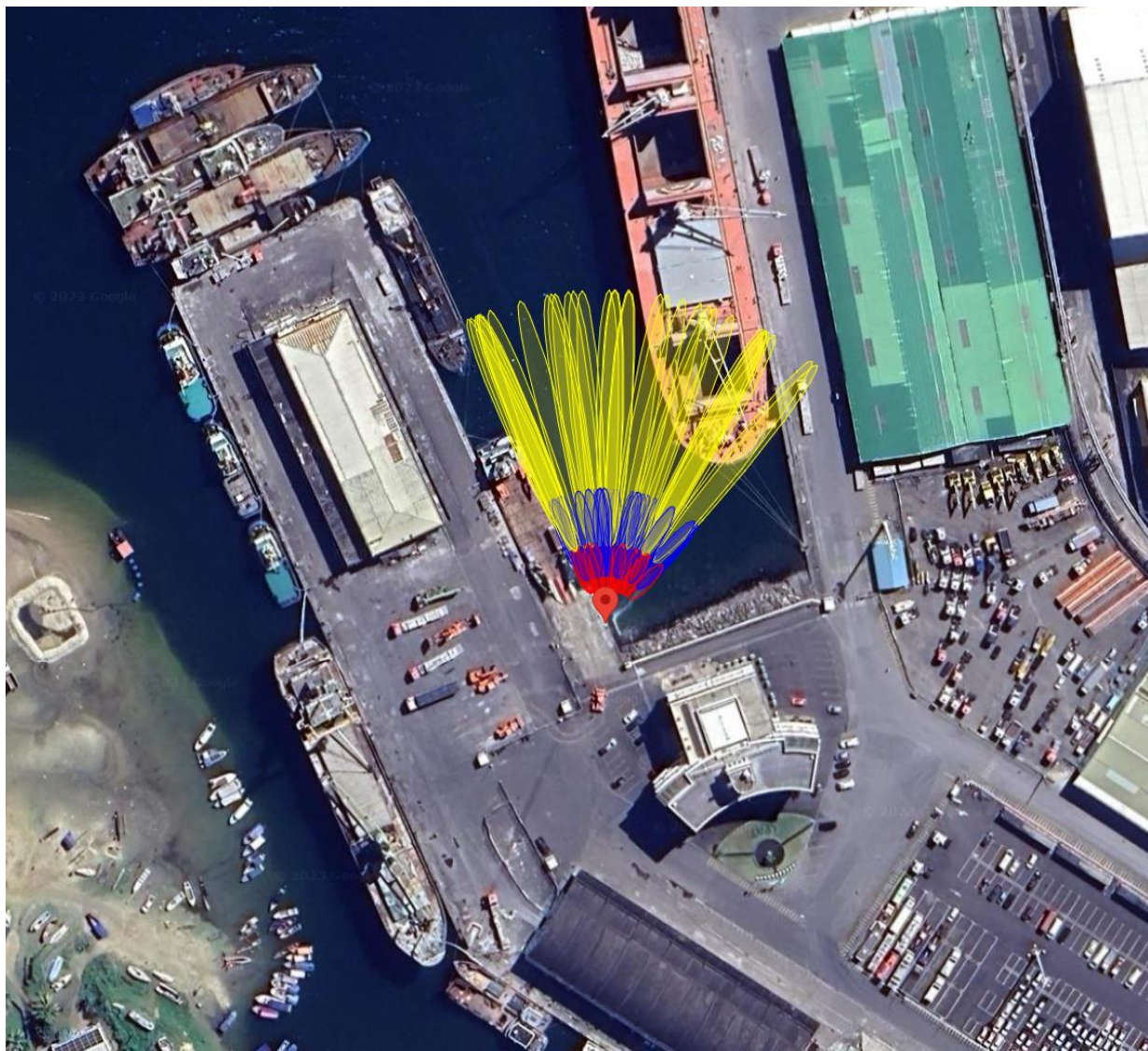


GNSS signals suffer from reflections from surfaces near to the antenna. This is called multipath and interference occurs between the direct and reflected signal. If we understand the interference effects on the signal for instance when the reflection is off a flat surface such as a body of water then we can use this to extract information about these surfaces. Therefore we can measure the height of the antenna above the water.

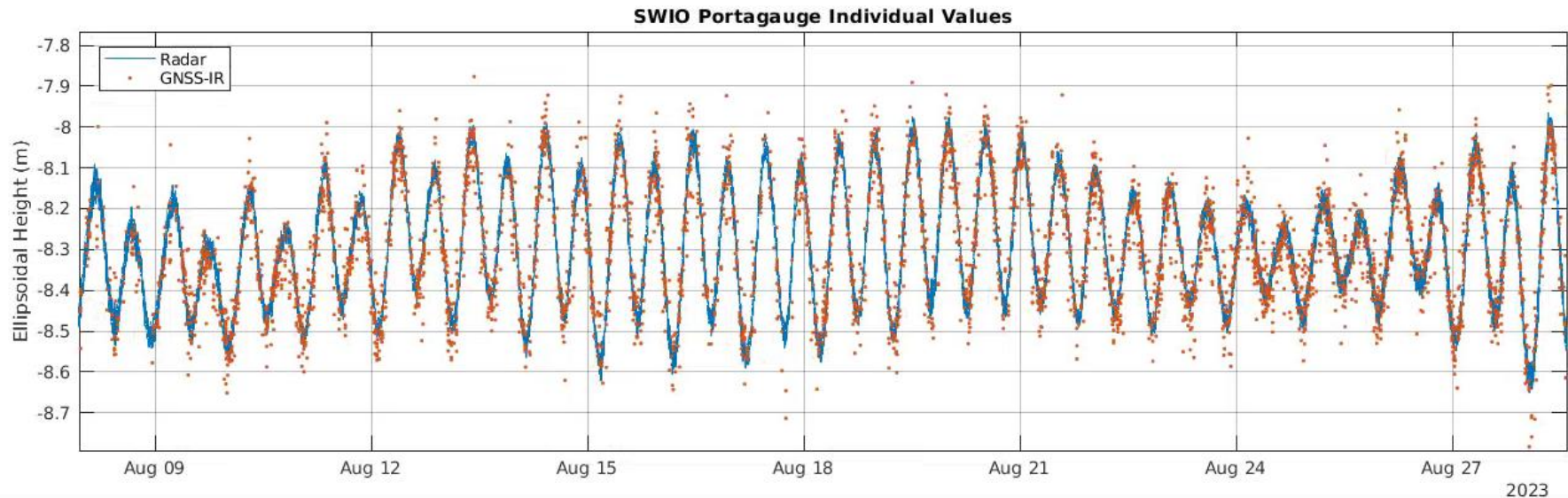
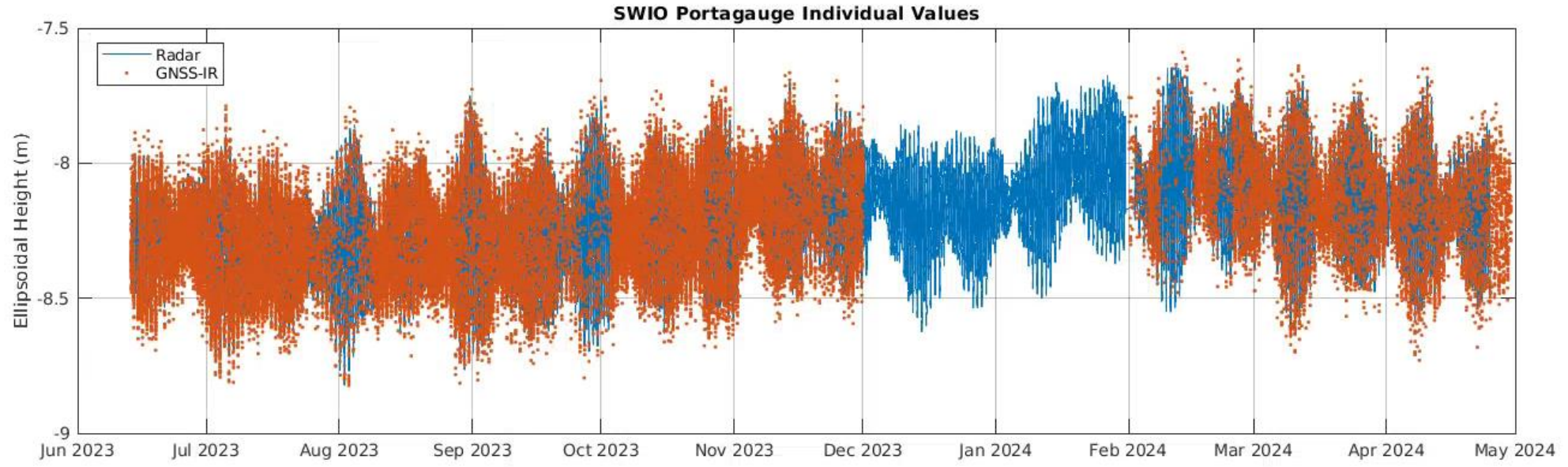
GNSS-INTERFEROMETRIC REFLECTOMETRY (GNSS-IR)



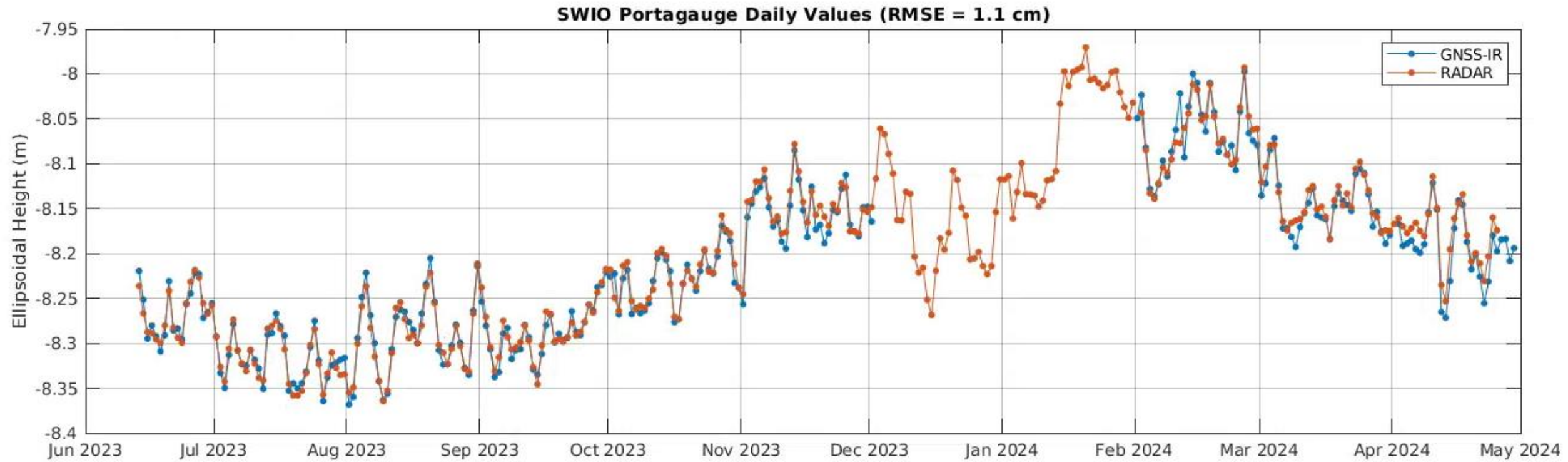
GNSS-IR from the Portagauge at Toamasina



GNSS-IR from the Portagaugue at Toamasina



GNSS-IR from the Portagaugue at Toamasina (Daily)



- Daily Values of Positions and Water Levels (GNSS-IR and RADAR) on the website
- GNSS data is currently on the NOC servers but hopefully we will be able to archive the data on the SONEL website