

# IOC TIDES TRAINING COURSE

17 – 21 NOVEMBER 2025

BRIDGETOWN, BARBADOS



# TIDE GAUGE NETWORKS

NATIONAL OCEANOGRAPHY CENTRE

INSTITUTO DE LA MARINA

GEOFF HARGREAVES (NOC) AND SYLVIA COSTA GONZÁLES (IHM)



# NOC TIDE GAUGE NETWORKS

- NOC operates tide gauges in:
  - United Kingdom
  - South Atlantic Islands
  - UK Environment Agency Tide Gauge Network
- NOC also designed, installed and supports other tide gauges in:
  - Caribbean – St Lucia, Dominica, Belize
  - ODIN-AFRICA – Karachi, Pemba, etc



# UK TIDE GAUGE NETWORK

- Current sites:
- Newlyn
- Sheerness
- Birkenhead
- Future sites:
- Lerwick
- Stornoway
- Aberdeen
- North Shields



# NEWLYN

- Newlyn tidal observatory
- Location where UK Mean Sea Level was established.
- Tide gauge uses dual radars; one guided wave radar and one pulse radar with horn antenna.
- Original float tide gauge with chart recorder is still operational.
- Established GNSS on the lighthouse.



# SHEERNESS

- Dual pulse radar with horn antennas.
- Radars point at open water.
- GNSS located nearby at the tide gauge building.



# ALFRED DOCK, BIRKENHEAD

- Dual pulse radars co-located with a GNSS.
- Powered by solar and wind.
- Secondary low-cost GNSS system.



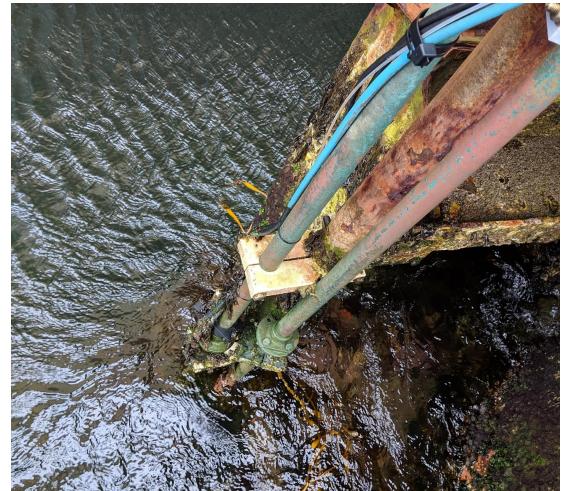
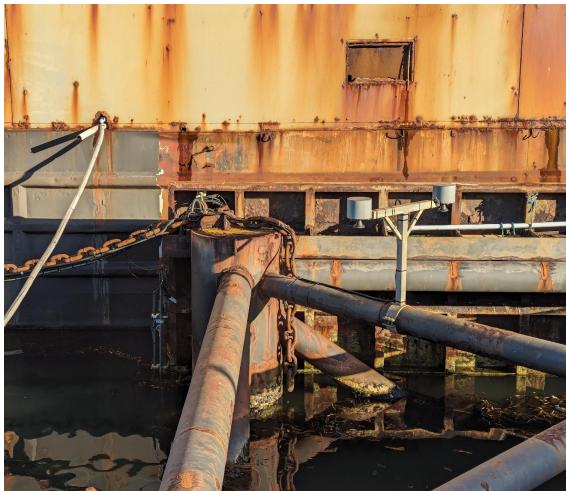
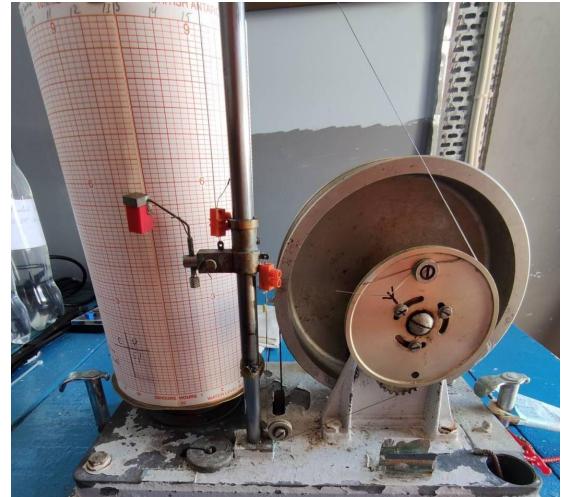
# SOUTH ATLANTIC TIDE GAUGE NETWORK

- NOC operates tide gauges in the South Atlantic at:
- Ascension
- St Helena – Rupert's Bay
- Tristan da Cuhna – Edinburgh of the Seven Seas
- Falkland Islands - Stanley
- South Georgia – King Edward point
- Argentine Islands – Vernadsky Research Base
- Adelaide Island – Rothera Research Base
- Also, there is a tide gauge at Gibraltar.



# SOUTH ATLANTIC TIDE GAUGES

- Photographs showing tide gauge installations across the South Atlantic islands.
- Dual sensor installations
- Sites vary from warm tropical locations to the cold polar regions.
- Technologies used are float gauges, pressure sensors and radar sensors.
- Each location has unique challenges.



# CARRIBBEAN TIDE GAUGES

- NOC have installed tide gauges in the Caribbean at:
  - Belize
  - St Lucia
  - Dominica
- We continue to support these tide gauges and other gauges elsewhere.



# IHM TIDE GAUGE NETWORK



# THANK YOU



National  
Oceanography  
Centre