

IOC TIDES TRAINING COURSE

17 – 21 NOVEMBER 2025

BRIDGETOWN, BARBADOS



National
Oceanography
Centre



TIDE GAUGE NETWORKS

NATIONAL OCEANOGRAPHY CENTRE

INSTITUTO DE LA MARINA

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NOC TIDE GAUGE NETWORKS

- NOC operates tide gauges in:
 - United Kingdom
 - South Atlantic Islands
 - UK Environment Agency Tide Gauge Network
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- 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.



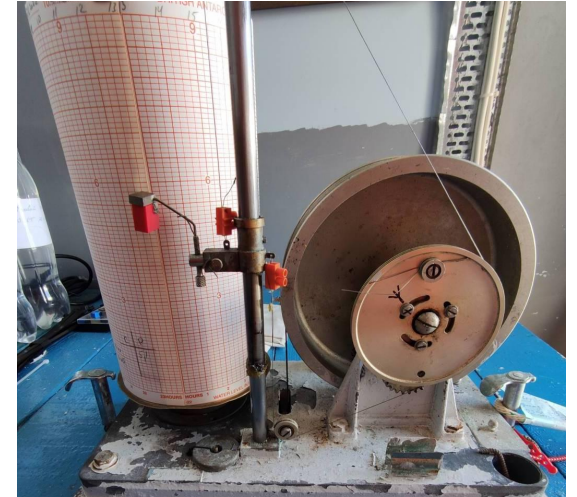
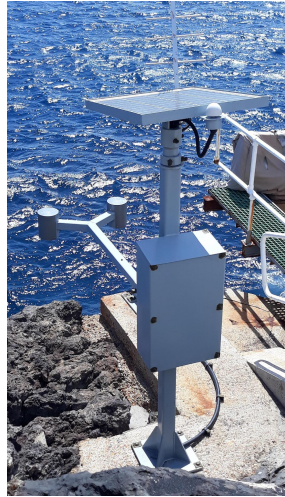
SOUTH ATLANTIC TIDE GAUGE NETWORK

- NOC operates tide gauges in the South Atlantic at:
- Ascension
- St Helena – Rupert's Bay
- Tristan da Cunha – 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



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