



UK Hydrographic
Office

UK: Implementation of S-104/S-III

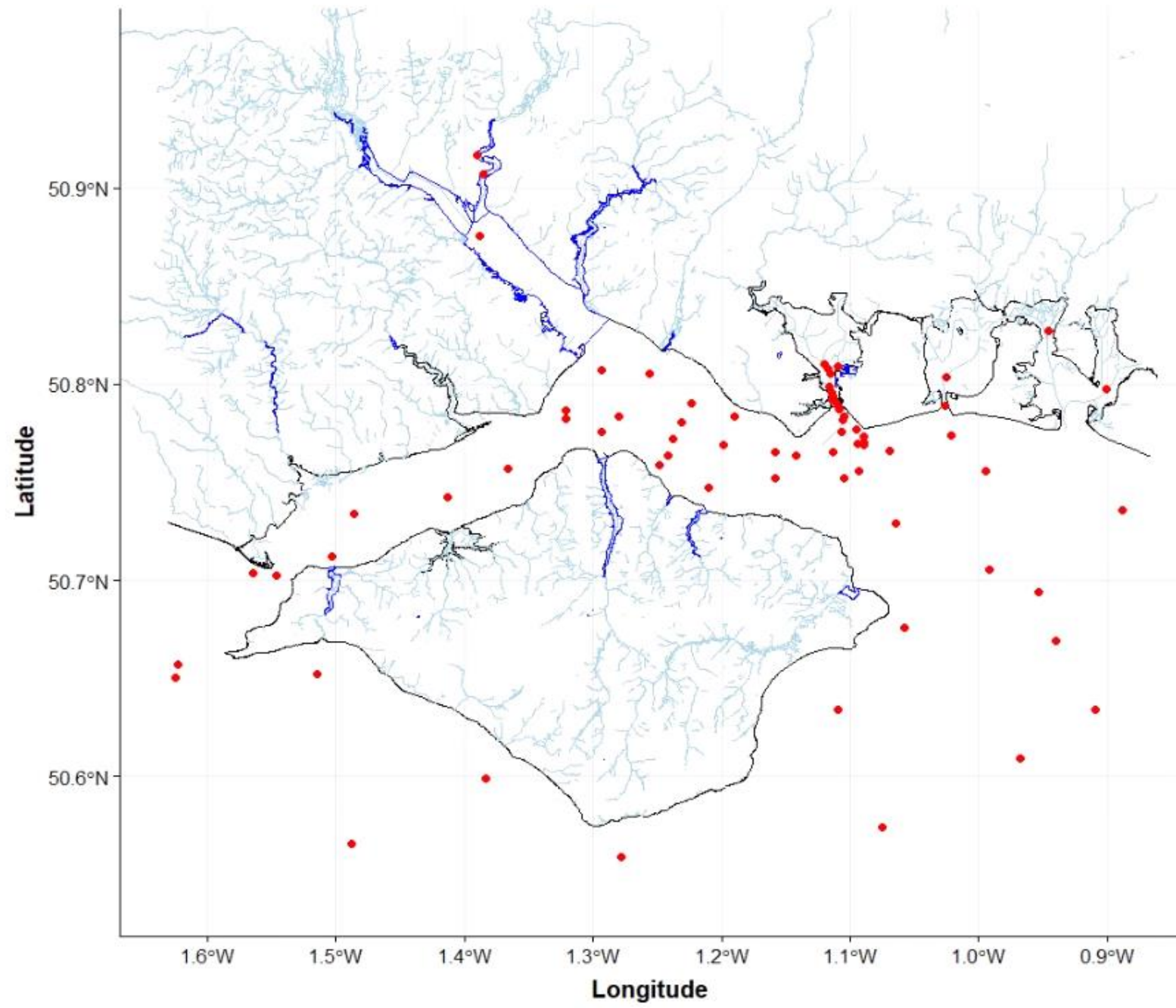
NSHC TWG27 4-5 February 2025
UKHO, Taunton

Dr Tom Cropper
UKHO

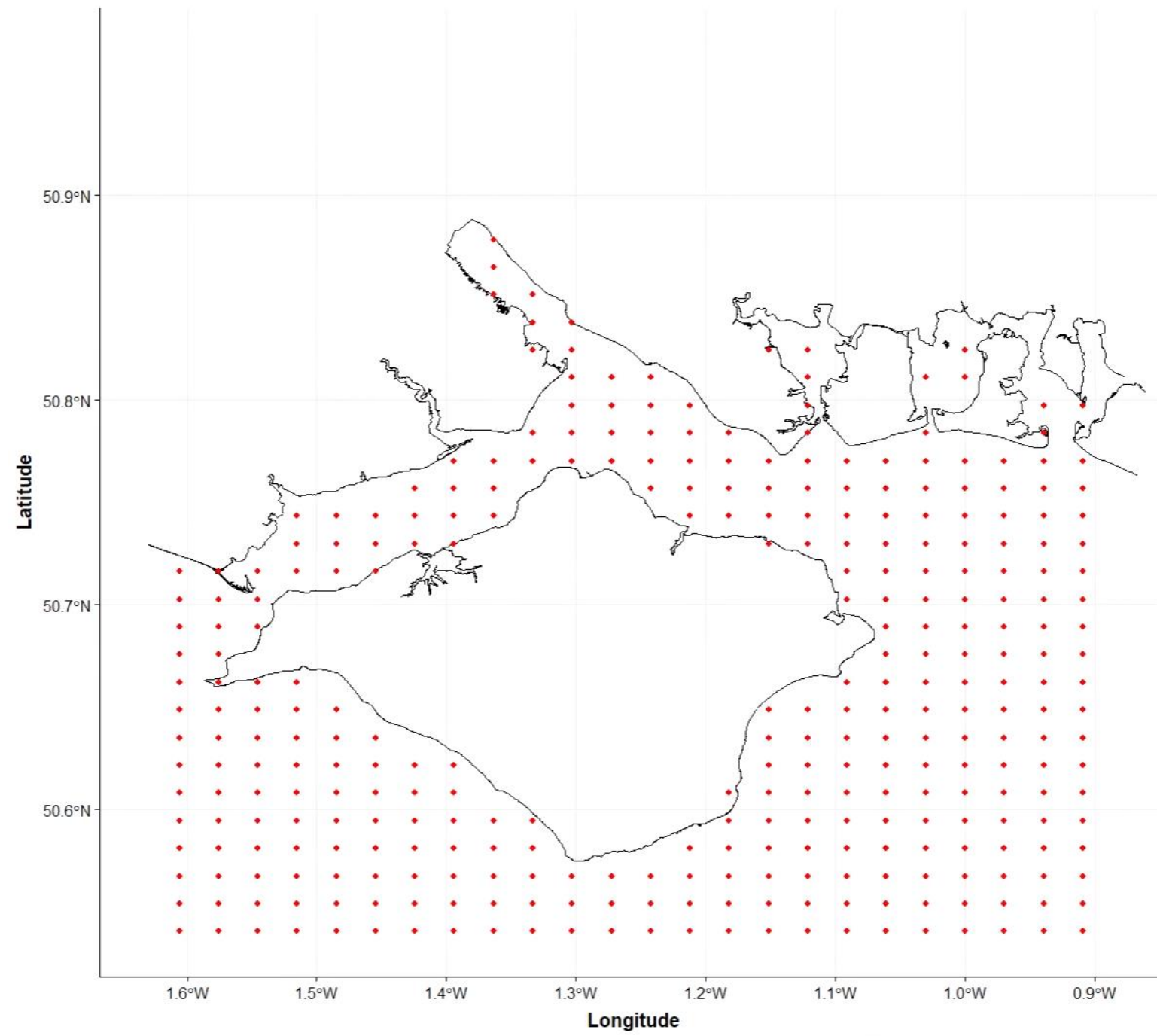
What have we done

- › Internal Pipeline from .nc to output .hdf5 + CATALOGUE.xml (python)
- › North-west shelf model (~ 1.5 km grid density)
- › Analysed outputs of three high resolution “Port”- scale models (10 – 100 m grid density)
- › Validation (S-III ADCP, S-104 Tide Gauges + TotalTide, Catalogue file)
- › UK Port Trials – Tested in SEAiq + custom charts (whilst waiting for ECDIS)
- › S-III high resolution well-received
- › S-104 not perfect

S-111 TotalTide



S-111 NWS



S-111 Port



What does it look like

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Exchange sets

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Product Type

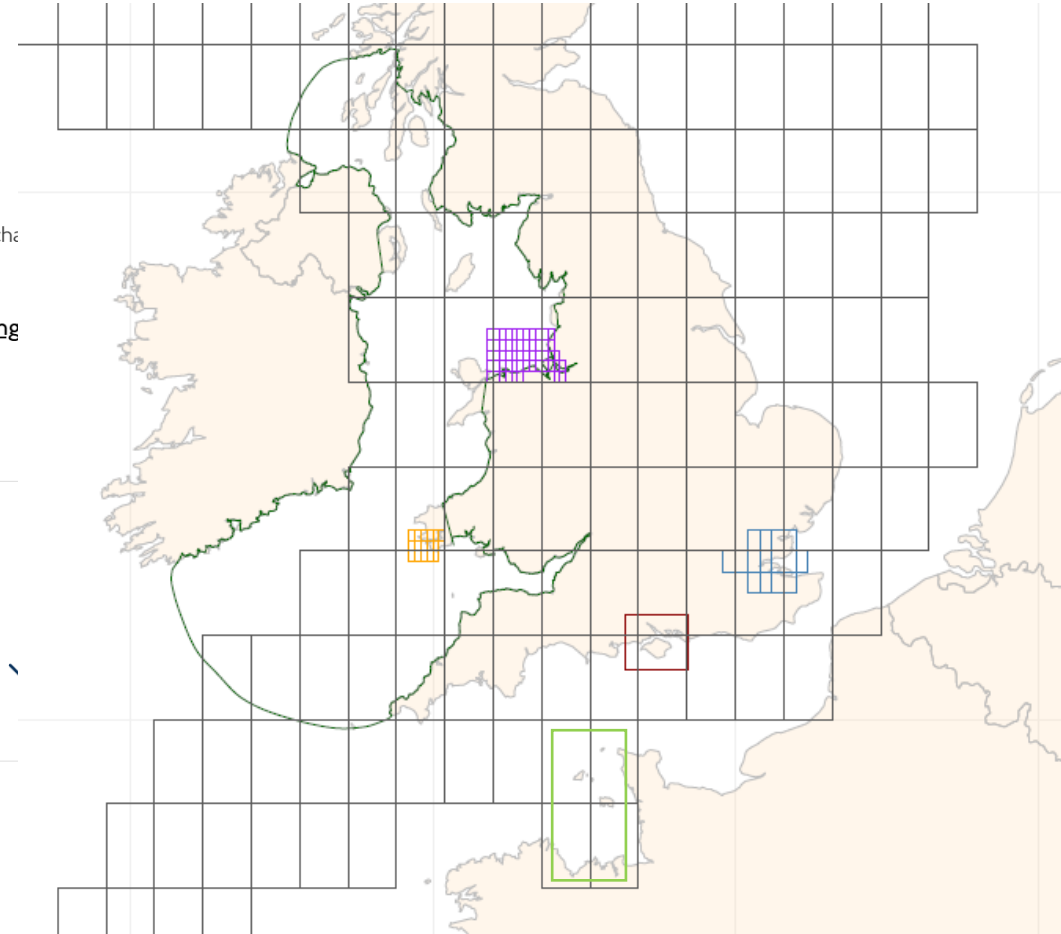
☐ Notices to Mariners

☐ S-I04

Year / Week

Content	Data Date	Product Type	Publication Date
UK Coastal	2025-02-02	S-I04	2025-02-02T00:00:00

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Open-source models - footnotes

- › Won't give "Port" scale
- › S-I04 values relative to astronomic prediction, variable quality
- › Needs ancillary files (Mean Dynamic Topography + VORF/Tide Model equivalent)
- › Needs splitting up and select areas choosing (10 – 20 mb file size limit)
- › "Free" but at model provider's cadence



Paid for high-resolution models - footnotes

- › Expensive to both setup and run
- › S-III looks great
- › (S-104) Doesn't guaranteed improve astronomic prediction
- › Calibration
- › Effort / Reward



What will we continue to do

- › Northwest shelf model – fixes and optimisation of delivery
- › Continue testing different approaches to find the balance between cost and good enough
- › V2 specifications, uncertainty
- › User testing, desk and sea trials with SHOM and UK ports
- › Recommendation: Use Meteorological Office/Research Institute if possible



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Questions

