

# National Marine Facilities

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The National Oceanography Centre operate on behalf of Natural Environment Research Council (NERC) two global multi-disciplinary research vessels the RRS *Discovery* and the RRS *James Cook*. These ships are made available to the UK marine science community and their international collaborators.

Operating world-wide, up to ice edge, they are world-class platforms for marine science



# National Marine Facilities Sea Systems

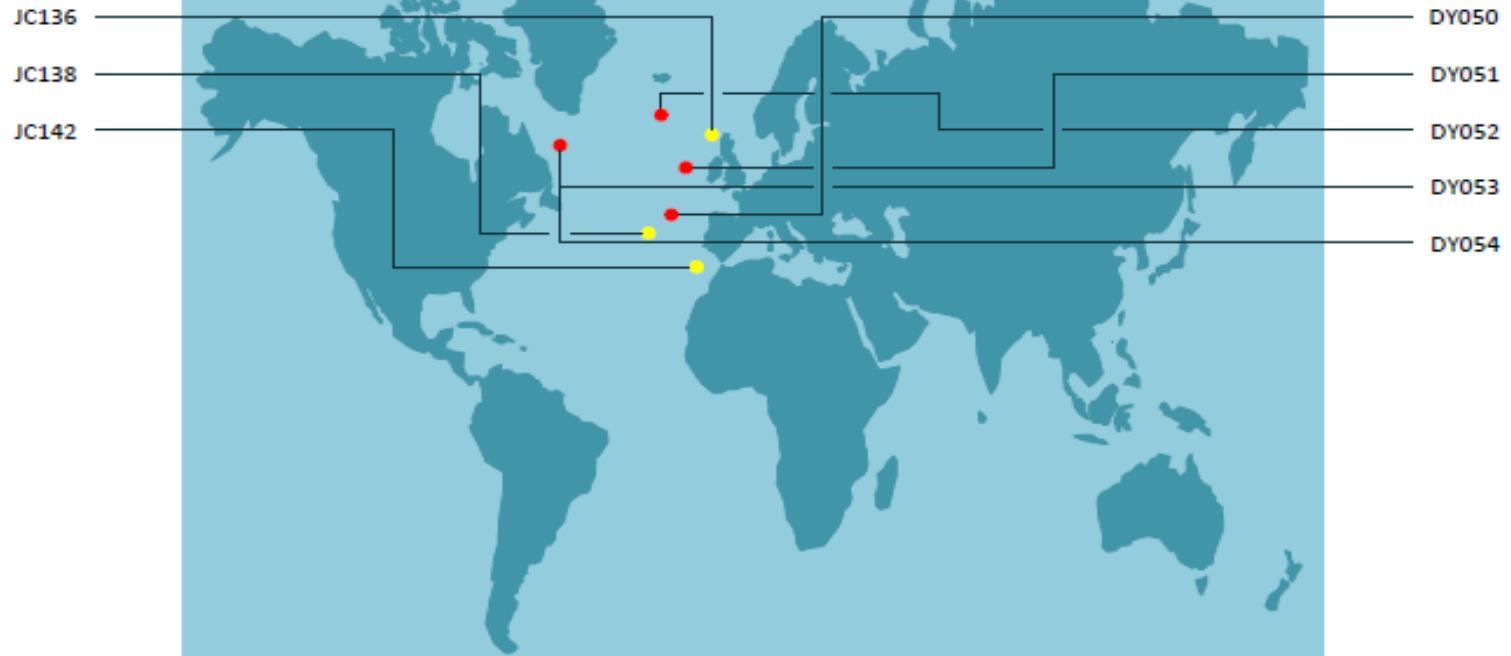
## Royal Research Ships Expeditions 2016 - 2017



RRS *James Cook*



RRS *Discovery*



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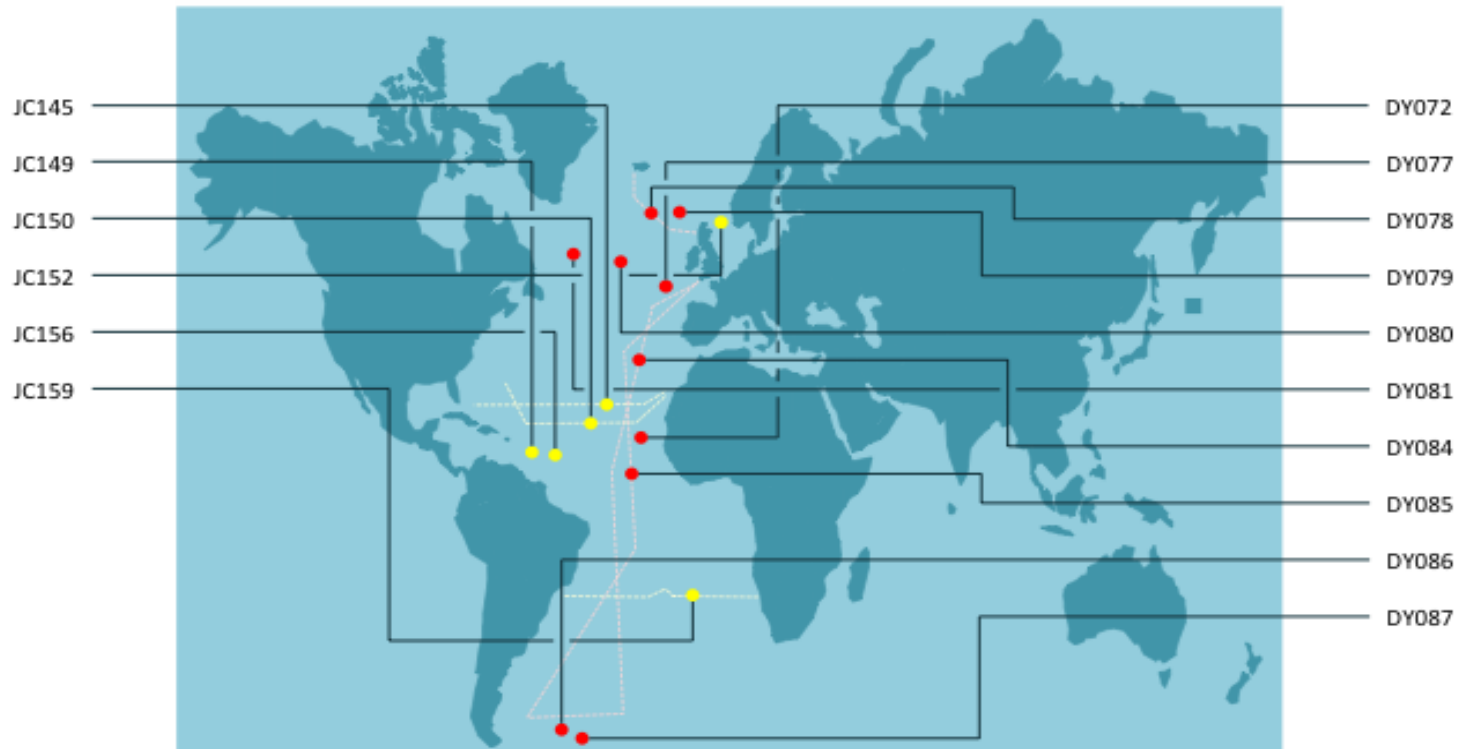
## Royal Research Ships Expeditions 2017 - 2018



RRS *James Cook*

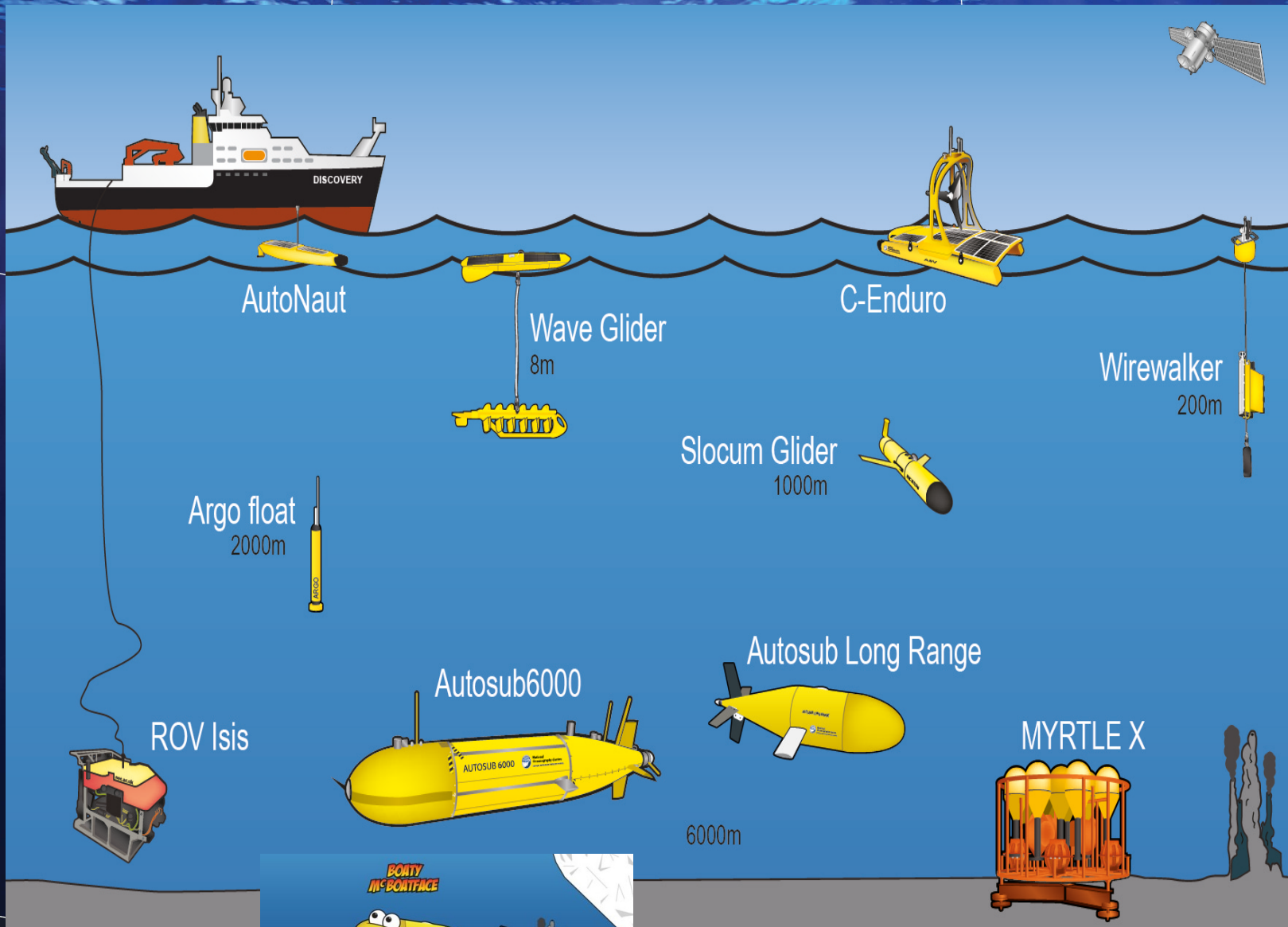


RRS *Discovery*





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## 16/17 Achievements

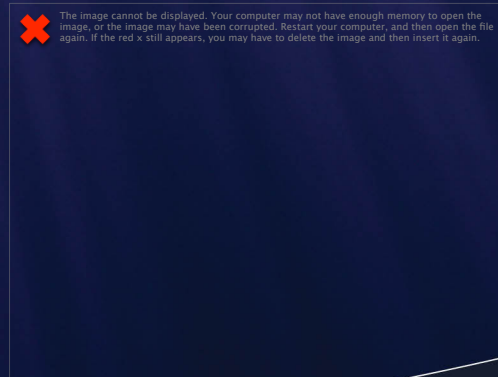


**James Cook** – ten year special docking carried out at A&P/ Falmouth. Tail shafts, rudders & props removed, machined & cleaned. On trials after un- docking, excessive noise was heard from the port prop and the ship returned to dry dock. Wartsila attended, re-dressed the prop and the ship went back in the water. Further trials showed the issue had been resolved.

‘*Open House*’ in Southampton during February 17 saw @ 950 people tour the ship (schools & Industry).

**Discovery** refit – during the ships refit the lifeboats were changed out to now enable a 54 person capacity, this gives the ship the ability to carry an extra two scientists. Accommodation work will be undertaken in 2017 refit to complete the project.

**Discovery Science Verification (SVP) period** – from October 16 to Jan 17 a period of science verification trials were carried out including seismic array, Piston Coring and ROV. The bullhorn was removed in Las Palmas shipyard and a 1 Mtr extension added. This extension enabled the ROV docking head to be installed and the ROV to be operated from the starboard side of *Discovery*. A successful set of trials was undertaken and *Discovery* commences her first ROV expedition in July 2017.





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## Discovery

October 16 saw Discovery in Liverpool, alongside the city's cruise terminal. During this four day visit the ship and NERC science were showcased to over a thousand people from local schools and industry



During SVP ROV trials in January 17, a vibration & knocking noise was identified as coming from the starboard azimuth. The ship returned to Las Palmas & investigation of the starboard azi upper gear box showed no identifiable wear. The lower gear box could only be inspected with the ship out of the water – or use the services of divers in Las Palmas. Divers constructed a 'habitat' and worked 'in situ'. This inspection also showed no identifiable wear despite some tiny metallic particles in the lower gear box lube oil sample. Wartsila, were onboard for further sea trials and no further evidence of the issue reoccurred.



DY072 – work 200 NM off of Liberia & Ivory Coast – external Maritime Security Company carried out a ship hardening audit and security exercises with the ships crew & scientists. The work area was classed by the UK Chamber of Shipping as in an 'at risk zone' and anti piracy measures were enhanced onboard.



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## Looking forward to the 17/18 program

- James Cook – 65 day upgrade to winch drive suite and trials
- Expeditions in the EEZ of Brazil – Potential issues with Visas/work permits for Brazil to be clarified.
- 46 day expedition off of South Africa, Namibia & Angola
- Possible ‘showcase event’ in Leith/Scotland
- Discovery – Expeditions PAP, Ellet Line, Falklands, Chile
- 45 day mid Atlantic AMT expedition, takes ship to the endurance limit for fuel
- Full science & crew change in the Falklands – issues probably with flights & accommodation in Port Stanley
- 5 year docking in September - Refit yard to be announced.
- Office – move to Ownership & Governance, becoming a ‘Charity Limited by guarantee with a trading arm’ – moving away from the Public sector and NERC. Still ongoing and a **very** slow process.....NERC to retain ownership of ships
- 5 year ship yard contact for refits out for tender
- Marine Operations - possible restructuring following one retirement & one resignation

