Oceans 2025 Risk Register

Cross-programme risks - potential impact across all themes **Review date: November 2009**

			Analysis						
Category	**Summary risk**	**Consequences**	**Impact %**	**Probability**	**Risk Exposure Index Value**	**Underlying causes**	**Latest Movement**	**Responsibility**	**Control mechanisms**
1. Human resources	Loss of key staff/expertise, insufficient staff cover; failure to develop international collaborative links; difficulties in recruitment. Impact from changing financial management systems and economic climate.	Delays to programme, impact to deliverables especially during recruitment, training and orientation of new staff. Need to re-deploy existing staff. Potential failure to meet contractual obligations, e.g. threat to quality assurance of samples, skill shortages, equipment may not be properly maintained/prepared. Failure to develop international collaborative links will minimise knowledge base.	70	0.5	35	Staff may be head-hunted, natural wastage/retirees, illness, low morale. Staff may be overcommitted on projects due to inadequate planning; Impact from FAB ramp down; Impact from national economic uncertainty; Employment opportunities lack appeal - e.g low remuneration, unattractive terms and conditions. Poor communication of opportunities may be due to an ineffective recruitment policy; Ineffective horizon scanning failes to indentify international collaborative opportunities.			**Existing staff** Supportive working environment, including support from Corporate Services. Engage staff with science; mentor, ensure open communication. Monitor changing needs for skills. Avoid over-committment - review staff loading, seek extra effort, ensure cover is planned during recruitment or staff shortages (resource manager's role); where appropriate, cruise planning and preparation reduces risks. Spread skills through the staff pool, where possible. Where progress is slow, ensure dialogue with users. **Recruitment strategy -** successsion planning; prioritise work schedules, recruite, ensure training and transition of skills or retrain/redploy existing staff . Offer permanent positions; collaboration may be an option but can cause problems in delivery of key tasks. Review strategy where skills shortages exist, modify plans to support gaps. Seek immediate recruitment of post-doctoral researcher(s). **Collaboration:** Develop international
	Knowledge resides in single employee. Some centres are at a high risk for this issue.	Risk of single point failure; specialist knowledge may not be transferred or recorded.	30	0.2	6	Line manager lacks awareness of employee's experience and/or role.			Maintain/duplicate key documentation, protocols, share information. Ensure awareness of staff roles and experience.
2. Development and availability of key platforms and equipment (IT issues covered at point 7; research ships at point 3).	Equipment losses, instrument failure, failure of critical basic instruments not included in Oceans 2025 capital round; Unavailability of suitable research vessels precluding deployment of instrumentation. Loss of Autosub6000. Unavailability of large-scale facilities such as Isis ROV.	Data loss from instruments, impacting delivery of objectives. Some basic instruments are 7-8 yrs old - consequences of failure would be significant. Lack of suitable research vessel will impact deployment of equipment and completion of field work and delivery of objectives. Autosub6000 is a £1m asset, with 12 mo delay if rebuilt.	50	0.3	15	Accidental damage and/or loss. Planning oversight or unexpected changes needed to equipment. Any use of AUVs is subject to risk factor as cutting edge science. Large-scale facilities - may be maintenance/repair difficulties with UVs, may be failure to plan ship-time.			Duplicate instruments, use safe practices, prepare for loss replacement in capital plans, flexible, centrally-funded capital replacement required. Centre Directors to report to Oceans 2025 Executive Board, key issues relating to capital equipment failure and/or loss. Use best practices and RMP-AUV to quantify and minimise risk.

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3. Availability and operational status of research ships	Suitable research ships may be unavailable for cruises due to operational problems or planning issues; RRS *Discovery* particularly at risk. Alternative vessels may not be available.	Delivery of programme objectives compromised and/or not delivered.	70	0.4	28	RRS *Discovery* is nearing end of operational life so is increasingly subject to mechanical issues. There is also potential for mechnical and operational problems (including medical emergencies) for other ships, that may involve cruise cancellation/postponement or curtailment.	↓		NERC is committed to replacing RRS *Discovery* . The Ship Management Review reported to Council in February 2009. Its recommendations include the commitment to extend the life of the present Discovery until its replacement comes into service and to develop joint scheduling of the NERC fleet (to include RRS *James Clark Ross*). Barter arrangements are now a standard operational practice. Collaboration may sometimes offer alternative platforms/opportunities. New NERC/Canadian MoU may open up increased possibilities, esp. for Arctic operations. NERC has made investment in refit and ship has been running well during 2009. Contingency planning; incident response plan; business continuity plan. Maintenance/operational planning all in place.
4. Internal programme management - financial	Insufficient capital equipment funding; other financial difficulties for centres.	Non-replacement of standard equipment and long-term monitoring equipment and potential impact on staff recruitment. If individual cruise budgets are exceeded, overspend will need to be absorbed by cruises that complete under budget.	50	0.5	25	Changing programme priorities; increasing staff costs; unforseen financial pressures, for example, recession, overspend within individual cruise budgets.			Programme must be able to adapt to changing financial circumstances. Early identification of issues. Improve long term financial planning.
5. Programme governance and coordination arrangements	Cross programme control and interface management, missing opportunities and synergies across programme community.	Poor communication to centre partners, failure to share knowledge and updates; failure to deliver programme added value.	60	0.1	6	Loss of key staff.			Regular Oceans 2025 Exec Board meetings, individual contracts/agreements between Centres and NERC. Regular information updates to web site.Science coordinator role, role and interaction of Centre theme leaders, role of NMCO. Annual science meetings, pr and related opportunities to build oceans 2025 community.
6. Knowledge exchange	Insufficient buy in from stakeholders, programme outputs not utilized.	Failure to develop opportunities for KE will impact potential economic and policy spin-offs.	70	0.1	7	Insufficient attention paid to KE at all stages of scientific programme.			Role for Programme Advisory Board. KE activities at theme level. Coordinated output used to inform consultations etc.
7. Reputation	Oceans 2025 programme not well regarded either nationally/internationally.	Damage to reputation will impact future funding and reputations of individual centres.	70	0.1	7	Failure to deliver and promote high profile science			Effective communications strategy to be in place both within individual centres and within the NMCO.
8. IT Hard-ware, soft-ware resource issues, data losses	General computer and programme failures. HPC resources may be inadequate to complete model runs on time.	Delay in delivery of objectives, delay to data transfer and processing.	90	0.1	9	Software/hardware malfunction, data processing problems.			Performance of hardware/software systems to be monitored on regular basis with system checks and back-up procedures in place. Ensure good linkages with BODC.
9. Fieldwork	Disruption, conflict, cruise cancellation or re-schedule due to ship operation requirements.	Impact to continuity of programme, data deficiencies; gaps in time series. A single missed year would not be a disaster but multiple missed years would be more damaging.	50	0.3	15	Adverse weather, failure to plan work-load vs staff resources, changes to cruise schedule. Cruises aborted due to engine problems with RRS *Discovery*. The RRS *James Clark Ross* schedule has little or no contingency for weather or other delays.			Although bad weather cannot be controlled, team leaders should prepare to redploy staff to alternative work when necessary. Review staff loading if there are fieldwork conflicts.

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10a. The changing NERC environment (National Capability issues)	Mismatch between Oceans 2025 rampdown and development of new Research Programme funding opportunities. Methods of financial planning are subject to revision by NERC. Budgets may be constrained by changes in economic climate.	Need to change Oceans 2025 priorities and implementation plans in final years of programe. Requirement for marine centres and universities to review strategy for bidding for new/continuation of funding. Potential impact on availability of goods and services from suppliers and the ability to provide 'in kind' support from Centres.	70	0.9	63	Delays or other problems with FAB implementation; incomplete knowledge of future Theme Action Plans and their scheduling. Driver from Government to maximise economic return; uncertainties in current economic climate.	↑		Maintain close links with NERC Theme Leaders and engagement with TAP process. Plan for adaptations needed for change; build on existing systems where possible. Scenario and contingency planning, protecting existing investments. Ensure National Capability is well networked into international programmes.
10b. The changing NERC environment (Research Programme issues)	Mismatch between Oceans 2025 rampdown and development of new Research Programme funding opportunities. Methods of financial planning are subject to revision by NERC. Budgets may be constrained by changes in economic climate.	Need to change Oceans 2025 priorities and implementation plans in final years of programe. Requirement for marine centres and universities to review strategy for bidding for new/continuation of funding. Potential impact on availability of goods and services from suppliers and the ability to provide 'in kind' support from Centres.	70	0.7	49	Delays or other problems with FAB implementation; incomplete knowledge of future Theme Action Plans and their scheduling. Driver from Government to maximise economic return; uncertainties in current economic climate.			Advocacy with theme leaders. Joint planning coordination including through CARP process. Maintain close links with NERC Theme Leaders and engagement with TAP process. Plan for adaptations needed for change; build on existing systems where possible. Scenario and contingency planning, protecting existing investments.
11. Engagement with wider community (including SOFI related risks)	Universities and wider marine community may not be fully engaged with the Oceans 2025 programme.	Lack of knowledge exchange between researchers operating in common areas.	30	0.1	3	Lack of communication, failure to generate opportunities for knowledge exchange and collaboration.			Maximise use of Oceans 2025 web-site, newsletter and ASM forum to encourage and enhance engagement with the whole community.
12. Evolving knowledge and policy context	Major change in scientific paradigms or governmental/NERC policy	Requirement to review research objectives and redirect staff effort.	40	0.2	8	Acquisition of new knowledge, changing goverment/NERC priorities			Awareness of the changing research landscape.
13. Leverage with other programmes/ projects (including international)	Failure to establish effective national/international collaborative partnerships	Reduction to scientific effectiveness and outputs	20	0.1	2	Inertia on part of researchers and international offices to establish contacts and links. Withdrawal of NERC support to international offices.			Maintain awareness of wider national/international opportunities

Latest movement

→← no change
↑ increase
↓ decrease

Risks categories

1. Human resources
2. Development and availability of key platforms and equipment (IT issues covered at point 7).
3. Availability and operational status of research ships
4. Internal programme management - financial
5. Programme governance and coordination arrangements
6. Knowledge transfer
7. Reputation
8. Hard-ware, soft-ware resource issues, data losses
9. Fieldwork
10. The changing NERC environment (eg FAB, theme action plans, SSC)
11. Engagement with wider community (including SOFI related risks)
12. Evolving knowledge and policy context
13. Leverage with other programmes/ projects (including international)