



CHERISH

Newid Hinsawdd a Threftadaeth yr Afoddir
Climate Change and Coastal Heritage
Athrú Aeráide agus Oidhreacht Chultúrtha



Direct Delivery by Beneficiaries

Overall operation value:

€5,183,913

Total ERDF grant:

€4,144,836

Royal Commission on the Ancient and Historical Monuments of Wales,
Geological Survey, Ireland,
The Discovery Programme, Ireland,
DGES Aberystwyth University

“Understanding climate, risk and the remote heritage of the Irish Sea Zone”

EXECUTIVE SUMMARY

Aligned with Priority Axis 2:

Adaptation of the Irish Sea and Coastal Communities to Climate Change

Specific Objective 2:

To increase capacity and knowledge of climate change adaptation for the Irish Sea and coastal communities



Comisiwn Brenhinol Henebion Cymru
Royal Commission on the Ancient and Historical Monuments of Wales

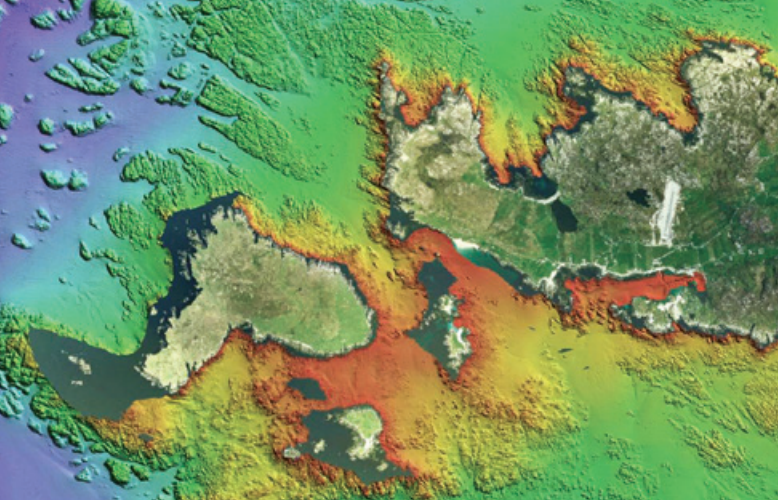


Geological Survey
Suirbhéireacht Gheolaíochta
Ireland | Éireann



The Discovery Programme
Centre for Archaeology and Innovation Ireland



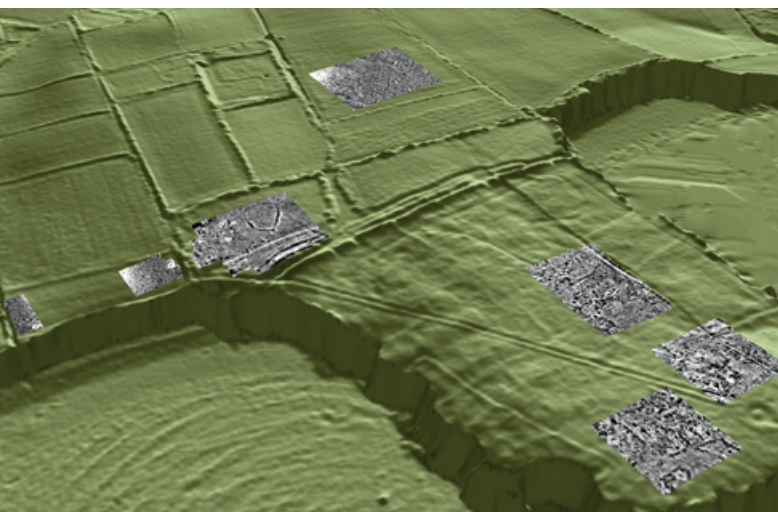


CHERISH: Climate Change and Coastal Heritage

CHERISH will increase cross-border knowledge and understanding of the impacts (past, present and near-future) of climate change, storminess and extreme weather events on the cultural heritage of reefs, islands and headlands of the Irish Sea. The operation will target data and management knowledge gaps, employing innovative techniques to discover, assess, map and monitor heritage assets on land and beneath the sea. CHERISH will raise awareness about the impacts of climate change on heritage, train the citizen scientist and widely disseminate the results. It will develop best practice and guidance, making recommendations for future adaptation.



The reefs, islands and headlands of the Irish Sea have a rich cultural heritage. These are iconic locations in the coastal and maritime culture of both nations, and home to a number of designated heritage assets. Yet they remain largely unexplored, inadequately mapped and their environmental context poorly understood. These remote, exposed environments are at constant risk through exposure to extreme weather and storms, which are predicted to increase in intensity and frequency due to climate change. CHERISH will map past environments and will model predicted changes over the next 100 years to form the basis for management recommendations for future climate change adaptation. Selected heritage assets expected to be impacted by climate change in the next 100 years – on land and under the sea – will be surveyed, sampled and dated within the study areas.



CHERISH will implement a cross-disciplinary, cross-border Survey Team linking land and sea that brings together partners who are leading specialists in a variety of fields – climate change, hydrography, geology, archaeology, built and maritime heritage, remote sensing, environmental science, storminess and scientific dating.

CHERISH Delivery 2.5



The CHERISH Legacy: Adaptation Tools for the Future

Informing Government Strategies

- CHERISH will contribute directly to Government Strategies on Climate Change, including the overarching objectives and priorities of the Welsh Historic Environment Climate Change Sectoral Adaptation Plan (SAP), Ireland's EPA Research Strategy 2014-2020 Climate - Water - Sustainability, and the recommendations of the 2009 Heritage Council and Fáilte Ireland report on Climate Change, Heritage and Tourism.

Informing Decision Making

- Open access data generated by CHERISH will enable improved decision-making regarding the historic environment and climate change adaptation at all levels, from local communities through to Government.
- Open access data will inform Strategic Assessments of Coastal Flooding and Erosion Extents in Ireland, and Integrated Coastal Zone Assessments and Shoreline Management Plans in Wales.

Future Change and Adaptation

- CHERISH will provide new data to address threats and opportunities presented by The Climate Change Risk Assessment (CCRA) for Wales (2017).
- It is anticipated that palaeoenvironmental and historical data produced by CHERISH will contribute to development of the next CCRA (2022).
- Synthesis of historical and palaeoenvironmental storminess records across the region will identify variability in storm frequency and intensity and their impacts over millennia, providing valuable data for projections of future change.

Baseline Data and Guidance for Future Monitoring

- CHERISH will provide the first 3D baseline fixed survey points and data for selected heritage assets specifically aimed at future monitoring of climate change in the Irish Sea zone.
- CHERISH will develop joint methodology, best practice and practical guidance for evaluating the risk, sensitivity and adaptive capacity of the coastal and marine historic environment.

Informing Better Management

- Following the principles of Natural Resource Management we will ensure CHERISH works in an integrated way with landowners, statutory bodies and other Ireland-Wales operations involved in the management of, and strategies for, the Irish Sea zone.
- CHERISH will provide management data and plans for study areas, highlighting sites at risk from future loss.

Building Knowledge and Capacity

- CHERISH will provide mechanisms (guidance, workshops and seminars, etc.) and platforms (shared web portal, open access data, Historic Environment Records and a sustainable archive to European standards) to disseminate existing and new research.
- Initiatives to train citizen scientists through CHERISH will leave a legacy of increased awareness and transferable skills among coastal communities.
- The CHERISH methodology could usefully be widened to other islands, reefs and remote coastal landscapes of the Atlantic area where climate change threatens cultural heritage and future landscape management.

A Stimulus for Jobs and Growth

CHERISH will provide new coastal heritage information and innovative products that will be a stimulus for encouraging tourism and growth in the blue economy, as well as raising knowledge, skills and awareness. This links closely with the overall strategic ambitions of the Irish Action Plan for Jobs. Likewise, for Wales, the operation will contribute to other investment programmes, backbone and core activities as highlighted in the Economic Prioritisation Framework, for example the theme of ‘tourism, recreation and leisure’. There will be a positive impact on the well-being of those who live in, work in and visit the Programme area. There is a clear association between heritage and the historic environment and several factors of well-being including quality of life, environmental life, personal development, and sense of place and ownership of local heritage. (CHERISH Strategic Fit 1.1)

Working in Partnership for Stronger Outcomes

CHERISH is a cross-border action between leading specialists, providing a cross-sectoral partnership of statutory bodies, HEI and Research Institutes. The CHERISH Advisory Committee will provide expert guidance and oversight. We will work with our 18 agreed stakeholders in both nations, including The National Trust and The Heritage Council, local authorities, universities and charitable trusts, to build on their own Climate Change policies and strategies through the new opportunities offered by CHERISH.

CHERISH will deliver the following outputs against Main Priority Axis 2 Output Indicators (SO2)*

Number of research institutions participating in cross-border, transnational or inter-regional research operations
(Target Value 10):

**> CHERISH will provide:
2 (20%)**

New awareness raising initiatives targeting coastal communities
(Target Value 60):

**> CHERISH will provide:
9 (15%)**

Organisations cooperating in enhancing the marine and coastal environment
(Target Value 24):

**> CHERISH will provide:
4 (16.6%)**

*subject to confirmation of Result Indicator units and targets by WEFO RME Team



6 CHERISH Actions

All beneficiaries will collaborate to deliver a range of activities within the following six actions:

Action 1: Mobilisation and Planning

To ensure a smooth running operation and the capacity to deliver the objective.

Action 2: Desk Based Intervention

To collate current knowledge, develop monitoring systems and enhance historic environment datasets.

Action 3: Field Intervention

To gather new knowledge and undertake monitoring.

Action 4: Citizen Science and Dissemination

To engage and train coastal communities, share knowledge and raise awareness.

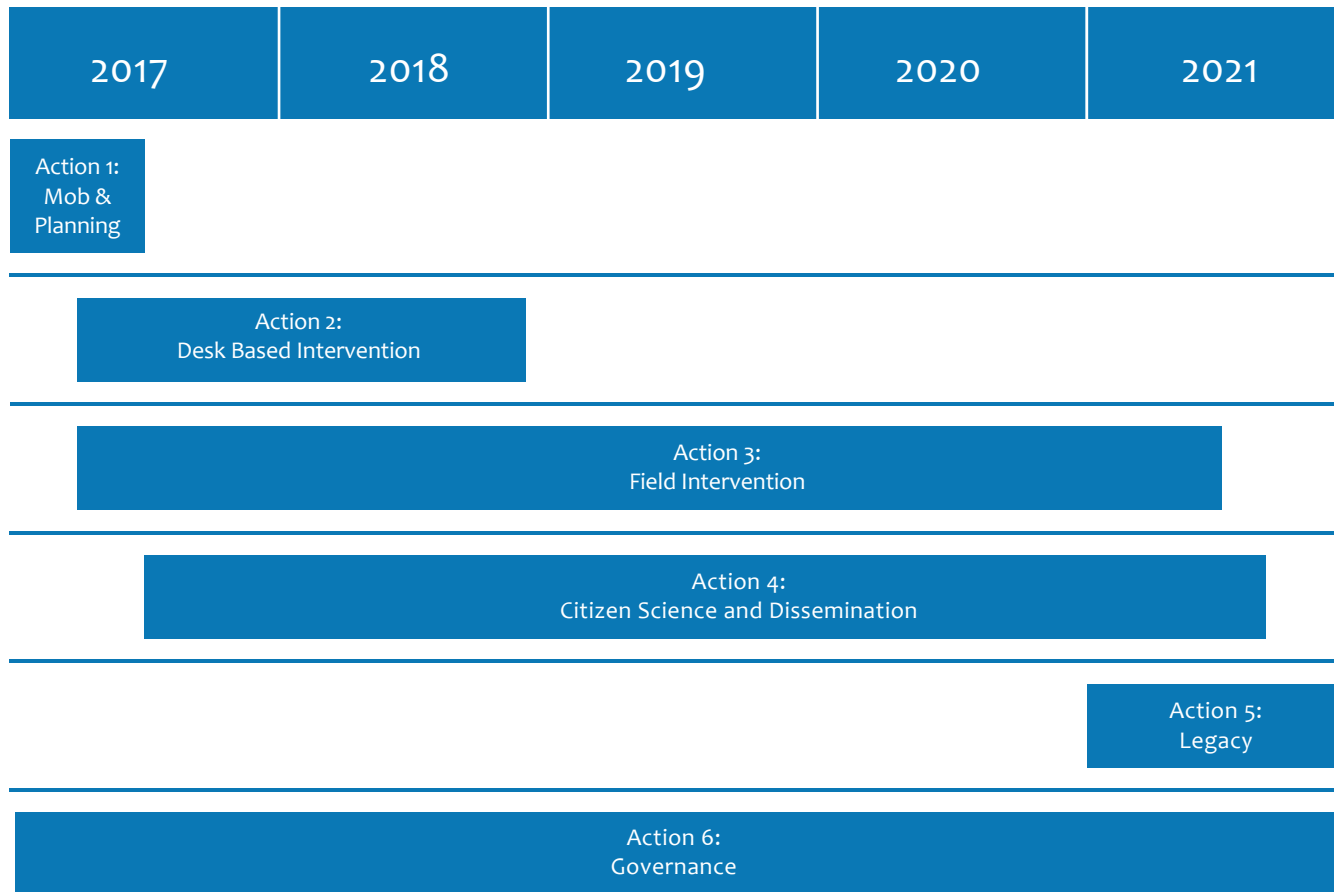
Action 5: Legacy

The creation of a sustainable resource, free data, management plans and best practice guidance.

Action 6: Governance

To engage with experts and managers from the field who will help to guide the operation and ensure delivery of the Objective.

6 CHERISH Actions: Timetable for Delivery



CHERISH Operation: Key Barriers and Risks

The Operation is informed by a full Risk Register combining Operational, Financial and Partner-specific risks, for which mitigation strategies are provided. Examples of key high-level barriers and risks include: potential withdrawal of a key partner (OP1), the continuing impact of EU Transition on the funding for CHERISH (OP5), future budget cuts among partner organisations could impact on match-funding levels (OP3), the potential for specialist staff leaving their posts early (OP7 (AB1, RC2, DP5 & GI3)) or potential issues around access to remote or rural CHERISH study sites (OP9).



This is an unparalleled opportunity for both nations to gather shared data and new cultural heritage information across the Programme area.

CHERISH Strategic Fit 1.1



9 Joint-nation CHERISH Initiatives (CI) will be delivered against the investment, fulfilling:

Specific Objective: SO2 To increase capacity and knowledge of climate change adaptation for the Irish Sea and coastal communities.

Outputs: 9 new awareness raising initiatives targeting coastal communities.

CI-1 CHERISH survey teams developing joint best-practice guidance
Integrated joint-nation teams deployed to survey and record heritage sites threatened by climate change in targeted coastal communities, using the latest innovative technologies and remote sensing techniques.

CI-2 CHERISH permanent network of 'local change' fixed survey markers and indicator wrecks
A key legacy of the operation, CHERISH will provide the first 3D baseline fixed survey points and data for selected heritage assets specifically aimed at future monitoring of climate change.

CI-3 CHERISH reefs, islands and headlands enhanced historic environment data inventory
An enhanced and updated national historic environment dataset, helping to inform priority lists for statutory designation.

CI-4 CHERISH reefs, islands and headlands enhanced palaeoenvironmental data Inventory
Multi-proxy palaeoenvironmental data within a robust chronological framework, developed from selected locations to reconstruct past environments and inform future adaptation strategies.

CI-5 CHERISH 3D reefs, islands and headlands: Seamless onshore/offshore 3D models
A number of innovative digital 'real maps' derived from LiDAR and photogrammetry, will provide 3D data geomatic data for planning and management.

CI-6 Training the citizen scientist
Engaging workshops, seminars and outreach events to raise awareness and train the citizen scientist in survey and recording, heritage at risk, climate change and storminess impacts.

CI-7 CHERISH climate change community excavations on heritage assets at risk
Community excavations will be run during CHERISH to train citizen scientists in local communities to record heritage sites at risk.

CI-8 CHERISH open access shared web portal
A key tool of CHERISH for information delivery and awareness-raising and an important legacy of the operation for future adaptation strategies.

CI-9 CHERISH landowner management plans for adaptation planning
Detailed management plans and GIS datasets for reefs, islands and headlands under study showing cultural heritage assets and climate change threats.



8 Ultimate Changes will be delivered by CHERISH (CHERISH Delivery 2.1a):

- 1 A stimulus for encouraging local tourism and growth in the blue economy.
- 2 Improved evidence base for statutory protection, decision-making and adaptation strategies.
- 3 Increased knowledge and awareness of heritage assets on the previously understudied and remote reefs, islands and headlands across the Irish sea.
- 4 New, detailed, multi-proxy palaeoenvironmental records from selected locations following an initial survey of existing data and assessment of potential sites.
- 5 Provision of open-access, accurate and high resolution baseline geomatic data.
- 6 New joint-nation best practice guidance.
- 7 Innovative data capture, modelling and visualisation products.
- 8 Identification of 'at risk' cultural heritage sites.

Operation Strategy: Management and Delivery of CHERISH

Governance

CHERISH Advisory Committee

- Statutory agencies and governmental policy.
- Climate change, coastal, maritime and island expertise.
- Academic peer review.

Direct Delivery by Beneficiaries

| Royal Commission Wales (LEAD) | Geological Survey, Ireland | Discovery Programme Ireland | DGES Aberystwyth University |
|---|---|--|--|
| <ul style="list-style-type: none"> • Lead administration • Archaeological investigation & intervention • Aerial reconnaissance • LiDAR • Baseline surveys • Community engagement & innovation • Data enhancement & archiving | <ul style="list-style-type: none"> • Marine bathymetry • 3D seabed mapping • Data collection & analysis • Visualisation of big data • Data capture • Research & Development | <ul style="list-style-type: none"> • Archaeological investigation & innovation • Baseline surveys • Drone/UAV data capture • Geophysical survey • Photogrammetry • Application of remote sensing and geospatial technology to heritage | <ul style="list-style-type: none"> • Palaeoenvironmental & climate change expertise • Historical climate research • Advanced instrumentation for palaeoenvironmental data collection • Analysis & dating |

CHERISH Survey Team
 Integrated joint-nation collaborative approach to archaeological, marine and palaeoenvironmental investigation and survey, field intervention, training, dissemination and citizen science.

Staffing
 The operation will create 7 FTE posts: Project and Finance Manager and a Coastal Archaeological Investigator (RCAHMW), a Geologist and a Senior Marine Geophysicist (GSI), a Lead Project Archaeologist and a Project Archaeologist (DP) and a Post-Doctoral Research Assistant (AU). These posts will be supplemented through the in-kind contribution of existing specialist staff at each of the partner organisations, as detailed in the CHERISH Budget.

Stakeholders & Private Sector

| Stakeholder Engagement | Private Sector Procurement |
|---|---|
| <ul style="list-style-type: none"> • Curatorial and regulatory oversight • Landowner liaison • Training and collaboration • Knowledge sharing • Outreach events • Citizen science | <ul style="list-style-type: none"> • Aircraft and boat hire • Safety training and remote access • LiDAR acquisition • Radiocarbon dating • Indicator wreck condition monitoring • Printing/manufacture • Film making/publicity |

Delivery

CHERISH Delivery Plan Model: Six Actions: 2017-2021

9 CHERISH Initiatives / 8 Ultimate Changes

Output Indicators and Targets For Priority: Axis 2, Specific Objective 2



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CHERISH Project



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The Discovery
Programme
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