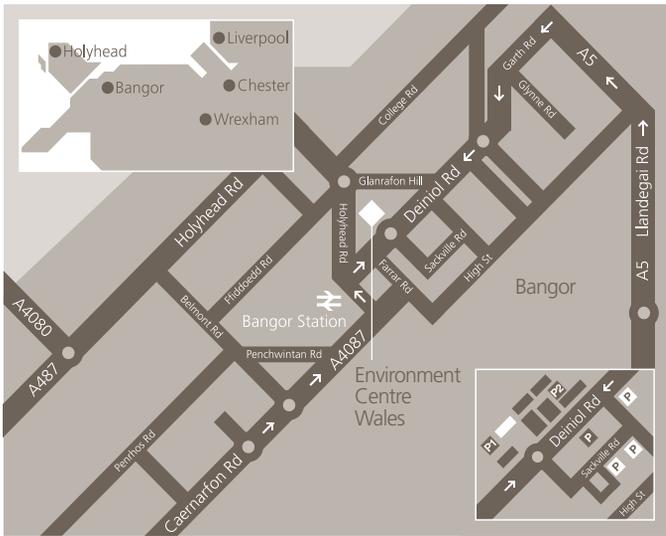


Environment
Centre
Wales

At the heart of
environmental
sciences in Wales



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 **Centre for
Ecology & Hydrology**
NATURAL ENVIRONMENT RESEARCH COUNCIL



Introduction

Environmental issues, such as climate change and air pollution, do not respect traditional academic boundaries. For example, flooding may become more frequent, partly because of climate change and partly due to changes in the way we use and manage the land. The best way to find sustainable, local solutions to these and other issues is to bring together the people doing the research and then facilitating links with policy makers. This is why the Centre for Ecology & Hydrology and Bangor University have created a new partnership called Environment Centre Wales.



The Building

Purpose built in 2007 at a cost of £5.8M, the building was designed by architects, Fairhursts Design Group, to comply with the highest environmental assessment rating from the Building Research Establishment (BRE) for its design and construction elements.

The BRE Environmental Assessment Method (BREEAM) is one of the world's leading systems for assessing the range of environmental impacts associated with buildings. From the outset, the goal was to achieve an 'Excellent' rating for its design, which uses 'A' grade materials, energy efficiency measures, natural light and renewable energy technologies.

Examples are:

- The Photovoltaic panels installed to generate electricity from sunlight.
- Ground-source heat pumps that heat the building using minimal energy.
- A rainwater recovery system is used to reduce demands on mains water supply.
- A combined heat and power plant increases the efficiency of the use of fossil fuels for heating and hot water.
- The landscaped site uses native trees, shrubs and grass mixture, to provide a positive environment for both people and local wildlife.

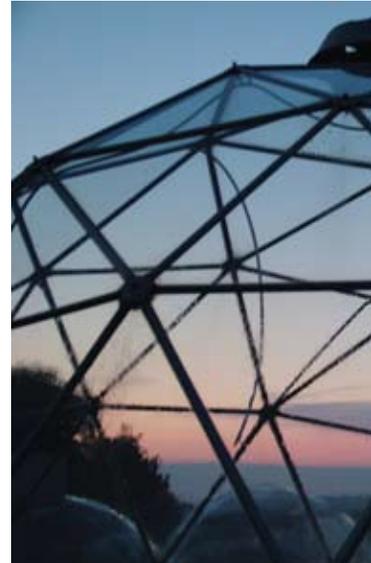
Further information on the design and management of ECW are available on our website.



The Science

Located within the University campus, the centre brings together 120 environmental scientists and students from the Centre for Ecology & Hydrology and Bangor University, whose combined scientific knowledge and experience will cut across traditional scientific boundaries. This innovative way of working helps find solutions for the environmental problems we face. Areas we will be focussing on include:

Transfers and impacts of nutrients and contaminants from the mountains to the sea: Our land, rivers and coastal areas are closely connected but have traditionally been studied and managed separately. ECW will bring together scientists who specialise in the flows of



carbon, nutrients and contaminants within and between these different ecosystems and develop modelling approaches to predict future trends with a particular focus on climate change.

Molecular Ecology and Evolution: ECW will provide a common technology platform and range of expertise on molecular technologies, such as gene sequencing, genetic fingerprinting and genomics to address questions about the impact of man-made and natural environmental change on organisms in these different environments. The fact that genetic diversity can be examined in all biota, will allow integration of research effort across traditional taxonomic boundaries.

Management of resources: Our focus will be on identifying the drivers and consequences of changes in resource management in low production but heavily exploited systems. Key developments to be evaluated include new systems of land management including agri-environment schemes, catchment sensitive farming, novel crop systems and increased tree cover and their sustainability under a changing climate and air pollution. This will involve the integration of our first two science areas with socio-economic expertise to identify impacts on human users and key resources such as soils and water.

The Hub

Wales Environment Research Hub: ECW is also home to an independent team—the Wales Environmental Research Hub. The hub brings together environmental research users and providers in Wales to ensure the best available science is used to help deliver and monitor sustainable policies in Wales. Contact information can be found at their website. www.werh.org

Meetings and Conferences

Two meeting rooms (20 and 30 person capacity which can be combined for large meetings) are available to the environmental research and user community in Wales. Contact ecw.reception@ceh.ac.uk for further information.

