### **Personal Details**

Name of Organisation: UK Centre for Ecology & Hydrology

Name of Person: Prof Bridget Anne EMMETT

Nationality: British

Profession/specialisation: Soil and Ecosystem Scientist

Position in organisation: Principal Scientist

Specialisation in organisation: Ecosystem science, soil health; climate change, air pollution, land

use, national and agri-environment monitoring; natural capital.

# Qualifications / Awards / Honours.

Officer of the Order of the British Empire (OBE) for Services to Soil and Ecosystem Sciences, 2023

President, British Ecological Society, 2024 - 2026

Marsh Award for Climate Change Research, British Ecological Society, 2016

Fellow of the Learned Society of Wales, 2015

Fellow of the British Society of Soil Science, 2015

AGI Award for Geospatial Excellence (team award) 2014

Fellow of the Royal Society of Biology, 2010

Honorary Professorship, Bangor University, 2009

PhD (Soil Ecology) University of Exeter 1990.

Bachelor of Science (First Class Honours, Plant Science) University of Aberdeen 1985.

# **Career Outline**

2024 -	Principal Scientist (Band 3[S])
2023 -	NERC Innovation in Environment Monitoring Assessment Panel
2017 - 2023	UKCEH Head of Soils and Land Use (Band 3[S])
2009 - 2017	CEH Science Area Lead for Soil &
	Head of 'Emmett' Section (Band 3[S])
2008 - 2008	CEH Acting Director Biogeochemistry (Band 2 [S]) (6 months)
2004 - 2008	CEH Deputy Director of Biogeochemistry
	Head of 'Emmett' Section (Band 3[S])
2001 - 2022	Director of CEH-Bangor – change of title to Head of Site from 2004 (Band 3[S])
2001 - 2004	Leader of the CEH Pollution Programme
1998 - 2001	Principal Scientific Officer (Band 4 [S]O, Centre for Ecology and Hydrology (CEH -
	a organisation formed from 4 NERC Institutes: ITE, IFE, IH and IVEM)
1994 - 1998	Senior Scientific Officer Band 5 [S], ITE Bangor
1988 - 1994	Higher Scientific Officer Band 6 [S], Institute of Terrestrial Ecology (ITE), Bangor
Selection of Membership of committees, boards etc.	
2024 - date	EU Mission Board Member for the EU Mission: 'A Soil Deal for Europe'
2022 - date	Defra E.L.M Ecology and Ecosystems Services Expert Panel
2022 – date	British Ecological Society 'The Future of Ecological Research in the UK' Panel
2022 - date	British Ecological Society Welsh Policy Group
2022 - date	EU Soil Observatory Monitoring Working Group
2022 - date	Leibniz Centre for Agricultural Landscape Research (ZALF), Germany Scientific
	Advisory Board
2021 - date	The Royal Society's University Research Fellowship Scheme - Appointment Panel B
2021 - date	Rothamsted Research - Board of Trustee-Directors and Science Advisory Group
	Board.
2021 - date	Biological Diversity and Ecosystem Service in a Changing Climate (BECC) Scientific
	Advisory Panel. Swedish Government Strategic Research Initiative.
2019 - date	Ecological Continuity Trust Board of Trustees
2019 - date	Co-founder and Management Board of uksoils
2017 - date	CREAF (Centre for Research on Ecology and Forestry Applications) International
	Scientific Committee, Spain.
2017 - date	Sustainable Soils Alliance Scientific Advisory Board

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2013 - date UK Land Use, Land Use Change and Forestry Greenhouse Gas Inventory Steering Committee

#### **Current Research Grants and Contracts:**

- UKRI Land Use for Net Zero, People and Nature. PIs: L. Sutherland (JHI) and H Baltzer U Leicester). Lead Co-I for UKCEH and LUNZ Wales National Team. £638k to UKCEH. (Nov 23 Mar27)
- UKRI Greenhouse Gas Removal with UK agriculture via enhanced rock weathering. PI: David Beerling (Sheffield). One of several Co-Is: B.Emmett (UKCEH) (May 2021 – Oct 2025) £910k to UKCEH.
- Welsh Government funded Environment and Rural Affairs Monitoring and Evaluation Programme (ERAMMP): PI: B. Emmett (UKCEH) (Oct 2022 – Sep 2032) £15,000,000. 24 organisations as subcontractors.

### Other notable grants and contracts recently completed:

 Defra E.L.M Quality Impact Assessment of Land Management Interventions on Ecosystem Services. P.I.: B. Emmett. 8 other organisations as subcontractors. (UKCEH) (Sep 21 – Mar 23) £500k total for all partners.

## **Current Role and Research Areas**

Bridget is a Principal Scientist at UK Centre for Ecology and Hydrology recently stepping down after 22 years on the UKCEH Management Board. Most recently this was as UKCEH's Science Area Head for Soils and Land Use (SLU). This involved leadership and management of more than 120 research staff and 40 postgraduate students across three UKCEH sites – Bangor, Lancaster and Wallingford. Bridget's personal policy-orientated research is wide ranging including: the impact of land management on natural capital and ecosystem services; drivers of change in soil structure, function and soil health; impacts of air pollution and climate change; and new knowledge and modelling systems to support policy development. Her fundamental research expertise has included exploration of the nitrogen cycle, carbon cycle, vegetation composition, water quality and greenhouse gas emissions and their integration at the ecosystem level. She has published over 190 papers and has a H index of 60.

Bridget's current role is as PI/lead for projects involving a large number of partners to improve integration across different disciplines and sectors from catchment/landscape to national scale to improve the evidence base and support national policy development and outcome reporting in the areas of e.g. soil health, ecosystem services, agri-environment schemes and natural capital. Her research team is responsible for a large national-scale integrated monitoring and modelling programmes –ERAMMP (Wales <a href="https://erammp.wales/en">https://erammp.wales/en</a>) and she recently coordinated a large inter-disciplinary team of 46 experts from 11 organisations to review over 700 agri-environment actions being considered for inclusion in the England ELM schemes across 33 ecosystem services and 53 outcomes indicators (<a href="https://erammp.wales/en">Evidence Assessment | UK Centre for Ecology & Hydrology (ceh.ac.uk)</a>). Income generation for her research has come from a wide range of funders including UKRI (NERC, BBSRC, EPSRC), DEFRA, Welsh Government, Environment Agency, SEPA, and the EU.

Bridget is a member of many national and international committees and science advisory panels. These currently include membership of the EU Mission Board on 'A Soil Deal for Europe' and the UK Land Use, Land Use Change and Forestry Greenhouse Gas Inventory Steering Committee. Currently she is a Trustee and Board member of Rothamsted Research and the Ecological Continuity Trust and serves on the Scientific Advisory Boards for research organisations in Germany, Spain and Sweden. Outreach activities include a founding member and Chair of the community initiative 'uksoils' which aims to create a community hub to inspire us all to learn more about soil and help build communities to take action to improve soil health <a href="https://uksoils.org/">https://uksoils.org/</a>. A member of the award winning team who developed the online community soil digital platform - the UK Soil Observatory <a href="https://www.ukso.org/">https://www.ukso.org/</a> to improve community access to soil data and maps. Co-author and narrator of BBC Ideas/Royal Society animation film on "The wonders of Soil" <a href="https://www.bbc.co.uk/ideas/videos/why-soil-is-one-of-the-most-amazing-things-on-eart/p090cf64">https://www.bbc.co.uk/ideas/videos/why-soil-is-one-of-the-most-amazing-things-on-eart/p090cf64</a> and contributions to podcast and regular contribution to media articles and interviews regarding the importance of soil health.

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