Study A-level Mathematics & Further Mathematics for

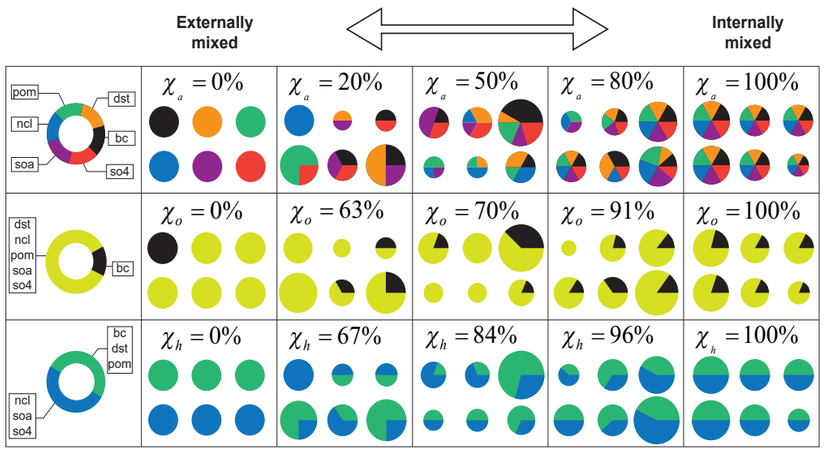
Our Environment Our Future

Green Career
Wave producer

Fluid Dynamics: Ocean Modelling
Ted Johnson
Professor of Mathematics, UCL
Application of modern theories of nonlinear dispersive waves, integral equations, boundary layers and highly accurate spectral integrations to the propagation and scattering of finite-amplitude waves and eddies in the oceans and atmosphere.

$$\frac{\partial}{\partial t}u + u\frac{\partial}{\partial x}u + v\frac{\partial}{\partial t}u + H\frac{\partial}{\partial \rho}u - fv = -\frac{\partial}{\partial x}M + X$$

Green Career
Natural sciences managers

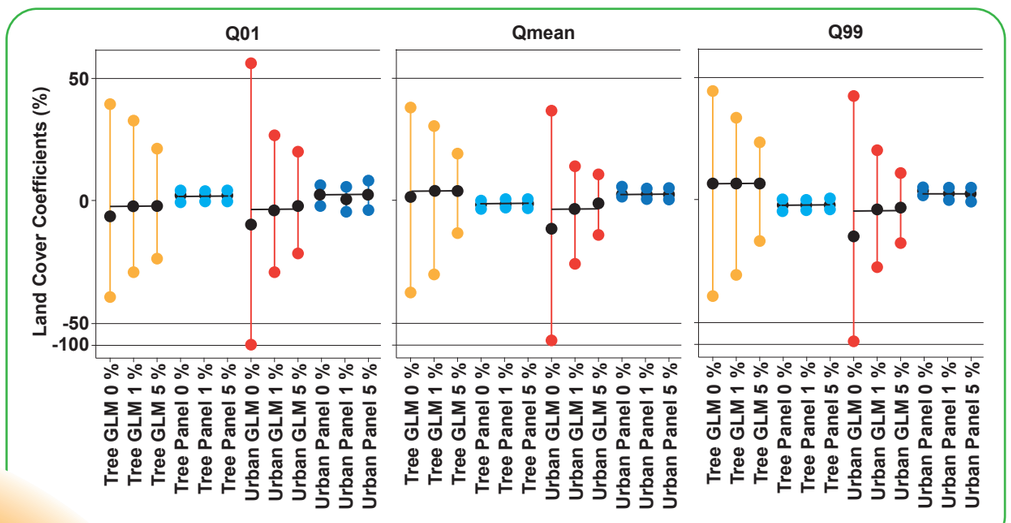


The concept of aerosol mixing state indices χa, χO, and χh for a population consisting of six chemical species, where the bulk mass fractions of species are the same for all six species.

Green Careers
Graduates from Stem (science, technology, engineering and mathematics) subjects will be key in helping the UK achieve net-zero carbon emissions

Green Career
Data Science – Environmental Analyst

Green Career
Environmental scientists and specialists



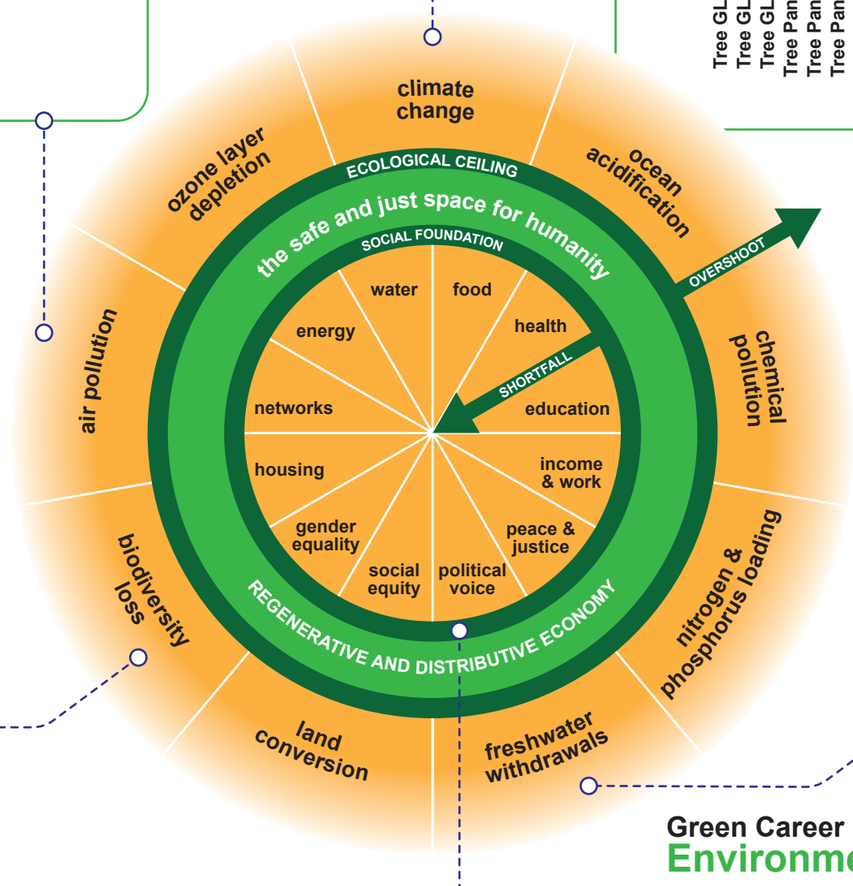
Sensitivity analysis and comparison of the land cover variables in the general linear (GLM) and panel models. Coloured bars represent the middle 90% of the distribution of GLM coefficients, and the 90% confidence intervals of the panel models. The medians of each group are represented by a black horizontal line. The y-axis is presented on a pseudo-log scale which maps numbers to a signed logarithmic scale with a smooth transition to linear scale around 0.

Green Career
Civil engineers

Green Career
Sustainability consultant

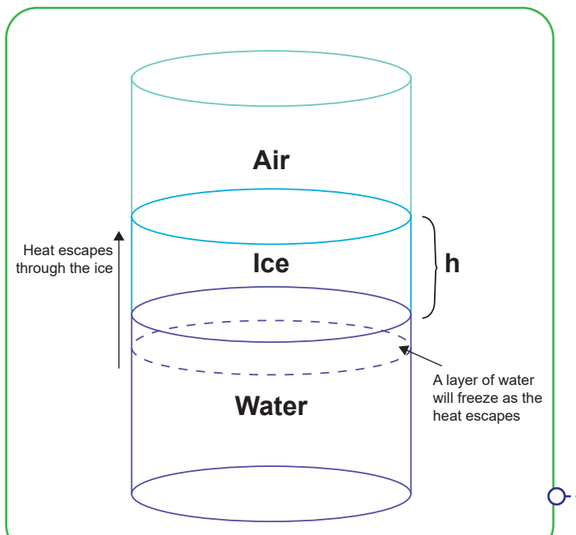
Data Analysis: Earth System Modelling
Zhonghua Zheng
Assistant Professor in Data Science & Environmental Analytics, Department of Earth and Environmental Sciences, The University of Manchester. My work focuses on computer simulation, modeling, and spatiotemporal analysis of (1) urban climate and environment, (2) air quality and aerosol properties, and (3) complex agriculture-environment nexus system.

$$H_\gamma = \sum_{a=1}^{A} -p^a \ln p^a$$



Green Career
Biochemists and biophysicists

Green Career
Green home construction worker



Green Career
Green designer or creative

Statistical Modelling: Hydro-Climate
Dr Louise Slater
Associate Professor in Physical Geography, Oxford
Leads the Hydro-Climate Extremes research group, which develops computational approaches to detect, attribute, and predict how changes in climate and land cover may affect water-related extremes and society. They publish in the fields of hydrology, geomorphology, and climate.

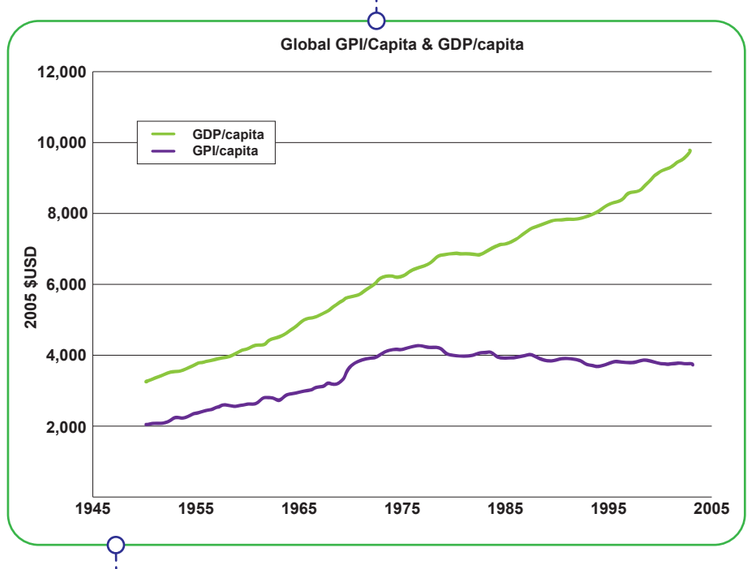
$$Y_{i,t} \sim \ln(\mu_{i,t}, \sigma_i^2)\mu^{i,t} = \alpha^i + \beta_1^i urban_{i,t} + \beta_2^i tree_{i,t} + \varepsilon_{i,t}$$

Green Career
Environmental science and protection technicians

Fourier's Law: The Melting Arctic
Peter Wadhams
Professor of Ocean Physics and Head of the Polar Ocean Physics Group based in the Department for Applied Mathematics and Theoretical Physics at the University of Cambridge.

$$h(t) = \sqrt{h_o^{\,2} + \frac{2k(T_w - T_a)t}{LD}}$$

Green Career
Conservation scientists



Green Career
Environmental Economist

Green Career
Environmental engineers

89% of female and 80% of male student graduates want to work for an organisation with a strong environmental policy

Green Career
Soil and plan scientists

Green Career
Urban farmer

Career Areas
Renewable Energy Generation and Efficiency, Energy Trading and Storage, Environmental Protection and Agriculture, Green Construction and Manufacturing, Transportation, Recycling and Waste Reduction, Governmental and Regulatory Administration, Research, Design and Consulting Services.

Statistical Modelling: Sustainable Economics
Juliet Schor
Sociology Professor, Boston College
Research focuses on work, consumption, and climate change including consumer society and consumer culture, working hours and lifestyles, environmental degradation, the emergence of a sustainable consumption and production sector, including political consumption and the new sharing economy, and alternative, sustainable economies and societies.

$$E(t) \le H_{NI}(t) \Leftrightarrow S(t) \le 0$$

There is more to Mathematics than you think.... visit furthermaths.wales to find out more.
Level 2 Additional Maths can be studied during key stage four.
In key stage five A Level Mathematics is the most popular[1] A-level and A Level Further Mathematics is the perfect accompaniment.

The Further Mathematics Support Programme Wales (FMSPW) is here to support students, teachers and departments across Wales in enriching and developing their Mathematical domain across all key stages.

Enrichment + Professional Learning + Tuition + Resources + Research

youtube.com/c/RhGMBCFMSPW fmspwales@swansea.ac.uk @RhGMBC_FMSPW

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Rhaglen Gymorth Mathemateg Bellach Cymru
Further Mathematics Support Programme Wales
FMSPW

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Ariennir gan Lywodraeth Cymru
Funded by Welsh Government

furthermaths.wales

[1] https://www.wjec.co.uk/media/invh1fni/gce-a-level-provisional-results-june-2022.pdf