

Navigation



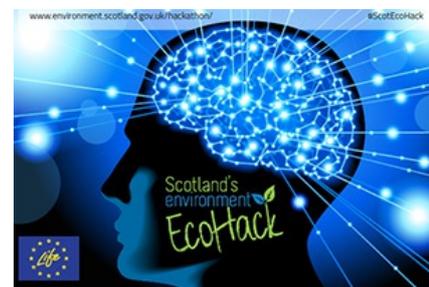
EcoHack Update



Scotland's Environment Web wants to help people discover and understand more about the environment. Environmental data is really important – to provide context to reports on the state and quality of the environment, to improve our understanding of the challenges and opportunities our environment faces, and encourage communities, school children and individuals to investigate their own local environment further, observing what is happening around them, collect their own data and take action to protect and improve their local environment.

Data can help in this journey of discovery and understanding.

Putting this thinking into practice, a hackathon event was organised over the weekend of 30th and 31st May 2015. Students from throughout Scotland were invited to Edinburgh, to come up with fresh new innovative ideas to make better use of available data, and to collect new local environmental data that can help further our understanding, and encourage people to get interested and get involved in Scotland's Environment.



The EcoHack challenge

During the weekend event we challenged teams of students and mentors to explore data and develop ideas that could make a real difference in helping people observe, monitor, educate and take action in the environment. Ideas were encouraged around exploring new data relationships to help analyse the state of our environment and the impact it has on us, develop apps that use and visualise data to help explain and view the environment, and provide new ways of collecting and viewing data.

A wide range of open source data was available to the teams - **dataset list** - and they were allowed to choose any platform and programming language and spent the weekend collaborating and being creative, innovative and inventive.

In the run up to the event, we provided links to information about a range of environmental issues that the Ecohack ideas could address:

- Air - VIDEO: **Air pollution is one of the biggest risks to human health**
- Water - VIDEO: **We still need to worry about our water**
- Soil - VIDEO: **Why are soils so important to our environment?**
- Education - VIDEO: **Young people and citizen science**
- Community Engagement - VIDEO: **Why is environmental data so important?**
- Nature - VIDEO: **Wild Scotland**
- Sustainability City Visualisation Tool - Abertay - **Sustainability City Visualisation Tool**
- Sustainability City Visualisation Tool - Abertay - VIDEOS: **Sustainability City Visualisation Tool**
- Keep Scotland Beautiful - Eco-Schools - **Ten Environment Topics**
- Climate Change - VIDEO: **What is it? The changes in climate that we are experiencing and the responses of different organisations, businesses and communities.**
- Climate Change - **How local communities are getting involved and taking action on climate change**
- Climate Change - **How weather data is analysed to investigate patterns of climate change in Scotland. The Climate Trends handbook**
- Mobile Apps - **Mobile apps are a great way to get people interested and involved in their local environment**
- Infographics - A picture says a thousand words: **Air Ecosystems Land Water**



EcoHack mentors

We couldn't have run the event without the help and support from our mentors. With a wide range of skills and experience, they were on hand to provide advice and guidance to the students throughout the development of their ideas from initial scoping and definition right through to the development and presentation of the prototypes. Some of the mentors saw some real opportunities in using some of their own data and tapping into the expertise of their mentor colleagues, and worked together to develop some of their own ideas to share with us at EcoHack.



- Dr Emily Creamer - researcher in the Schools of Geosciences at the **University of Edinburgh**
- Paul Georgie - designer and developer of geospatial technologies - **Geo Geo**

- Patrycja Graczyk – MSc Student in Carbon Management at [University of Edinburgh](#)



- Peter McKeague – Database and GIS project manager at [The Royal Commission on the Ancient and Historical Monuments of Scotland](#)(RCHAMS)
- Tim Foster – Ecology Data Manager at [SEPA](#)
- Stuart McGrath – Citizen Science and Environment Development Officer, [Education Scotland](#)



- Billy MacRae – Landscape interpretation team at [The Royal Commission on the Ancient and Historical Monuments of Scotland](#)(RCHAMS)
- John Isaacs – Lecturer in the School of Computing Science and Digital Media at [Robert Gordon University](#)
- Iain Elder – Software engineer at [Skyscanner](#)

The winning EcoHack ideas

Michael Groves ([Topolytics](#)), Rory Gianni ([Cleanweb](#)), Bruce Gittings ([University of Edinburgh](#)) and Tim Fogarty ([Major League Hacking](#)) were our judges on the Sunday and they deliberated over the presentation of ideas delivered by each team. The standard of ideas was very high and the judges found it very difficult to pick a winning team.



JOINT FIRST PRIZE

Food Miles - Peter Carragher, James Friel & Erin Nolan

A mobile app for android phones that scans the bar codes of products and calculates/displays the food miles of the item – displaying the distance travelled from place of origin to the supermarket. The app drew on large amounts of data associated with the barcode of each item to help raise awareness and increase understanding of the miles associated with the products they buy. Consumers could use the app to check and track the food miles of their weekly shopping, they could challenge groups of friends on social media to reduce food miles, and a food miles league table of retailers could be made available to try and encourage a reduction of food miles within the overall sector.



Environmental Quality Indicators for Schools - Andreea Cucu, Michelle Marufu, Ivan Paspaldzhiev & Ian Smart

This idea presented official environmental indicator data for comparison and analysis with local data collected by school children. The idea encourages schools to observe and record data about their local environment by counting and monitoring biological indicators, scoring the quality of their local environment and uploading this to a centralised data viewing web platform. Extensive research was carried out on how the idea could fit with the experiences and outcomes of the Curriculum for Excellence, and if developed further, data collection guides and learning materials for teachers and students could be developed. For the EcoHack presentation, the idea focussed initially on Air and Water quality data.



RUNNER UP PRIZE

Visualisation of the historic landscape - John Isaacs, Billy MacRae, Peter McKeague & Sean Sturley.

This idea was centred around new ways of visualising [Historic Landuse Assessment](#) data compiled by RCHAMS. Using a mobile device, users could view city or rural landscapes of interest on a map or as an Augmented Reality through the device's camera, and the app would overlay this with data and information that draws directly from the RCHAMS data to provide more information about the current and past historical features and sites of the area that is being viewed.



What did the Students and Mentors think about EcoHack?

Our students and mentors recorded some sound bites and talked enthusiastically about the hackathon weekend and all things data.....!

#ScotEcoHack

Below is a selection of some of the photos from throughout the day. Take a look at the [EcoHack Album](#) on our Facebook page for lots more.

Follow our #ScotEcoHack story on twitter in the run up to the event and over the weekend - [Storify](#)

SEPA View

SEPA have published an article about the event - read more [here](#).

Partners

We'd like to thank our partners who provided advice, support, guidance and data to help make the EcoHack event a success.

- City of Edinburgh Council
- Cleanweb UK
- Edinburgh Centre for Carbon Innovation
- Education Scotland
- Geo Geo
- The James Hutton Institute
- Major League Hacking
- Robert Gordon University
- Royal Commission on the Ancient and Historical Monuments of Scotland
- Scottish Environment Protection Agency
- Scottish Natural Heritage
- Skyscanner
- Topolytics
- University of Edinburgh



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