

Developing longitudinal data sets for student use

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- **Estuaries are environmentally sensitive locations.**
- **The two bounding the Wirral peninsular provide contrasting conditions for long-term environmental monitoring.**
- **The Wirral coast of the Dee Estuary is a RAMSAR site for migrating wildfowl overlooked by Deeside Industrial Estate. The Mersey Estuary is abutted by urban development and industry on both sides**

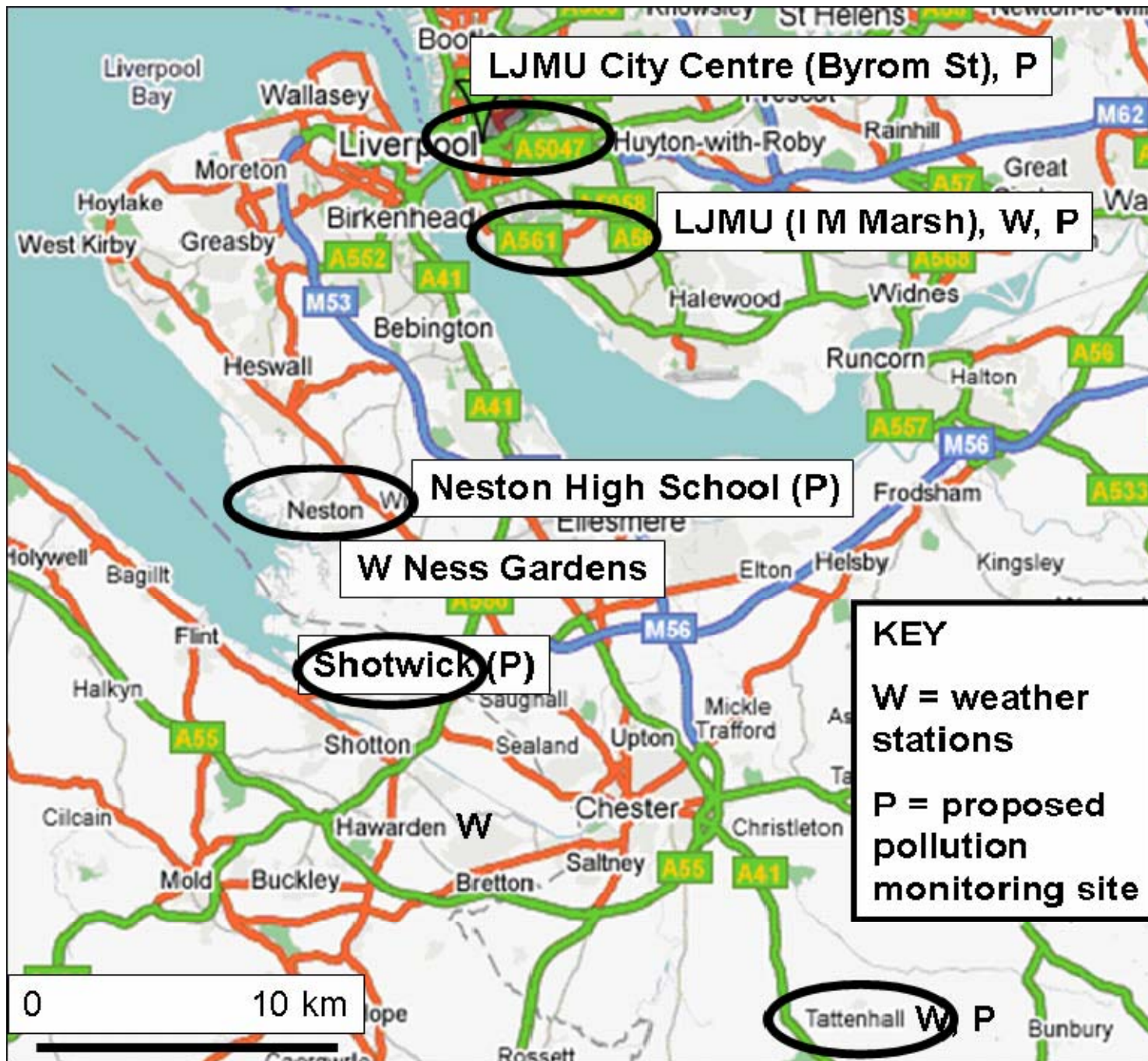


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- Estuaries are often associated with unique & unpredictable microclimates & weather patterns. These may influence environmental quality of areas in their vicinity.
- Reliable longitudinal data sets are rare & yet are of crucial importance in education, to the scientific community & for informing local government policy on environmental issues.

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- We will monitor environmental quality in the vicinity of both estuaries for a year.
- Carbon monoxide, NO₂, sound, and light pollution will be logged at fixed locations in urban and rural settings on the Wirral side of the Dee estuary and a fixed point in Liverpool on the Mersey estuary.



LJMU City Centre (Byrom St), P

LJMU (I M Marsh), W, P

Neston High School (P)

W Ness Gardens

Shotwick (P)

KEY
W = weather stations
P = proposed pollution monitoring site

0 10 km

Tattenhall W P

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- **These data will be matched with data from weather stations situated on site or within 5 miles.**
- **In this School-linked but University-based project, data with inquiry based guidance will be accessible to Environmental Science students at GCSE, A' level & University via the Participate web site for Schools**

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Project aims

- **Aims:** This project aims to:
- Monitor air pollution indicators (CO, NO₂) sound & light for one complete year from Sep-08-Aug-09
- Investigate links of air quality data with weather variables (wind speed, direction, rainfall, pressure).

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- Disseminate the data via the Participate web site.
<http://www.participateschools.co.uk/about/index.html>
- Incorporate the findings into GCSE/A-level and new Diploma curricula at Neston High School and into undergraduate level 1 modules at LJMU
- Evaluate the improved understanding and awareness of students in terms of their education for sustainable development

Disseminating longitudinal data sets for student use

How the project will be evaluated

- Data will be packaged & presented for appropriate users.
- The data are relevant to GCSE/ A'level & new Diploma curricula, specifically Environmental Science (Energy, Atmosphere and Hydrosphere *microclimates*. Pollution & Physical Resource Management; Practical component – *statistics*).

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- Also, data are relevant for undergraduates in the Faculty of Science and in the Faculty of Education Community & Leisure at Liverpool John Moores University.
- Example Programmes: Physical Geography, Environmental Science, Outdoor Education & generic statistics & experimental design modules core to all programmes in both faculties.

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- Data sets will be available with inquiry-based guidance on processing, interpretation and presentation (e.g. production of press releases or material for local newspapers/media web sites).
- A future aim would be to develop a network of Environmental Science/Geography teachers on the Wirral, with a view to incorporating them into a regional environmental monitoring programme.

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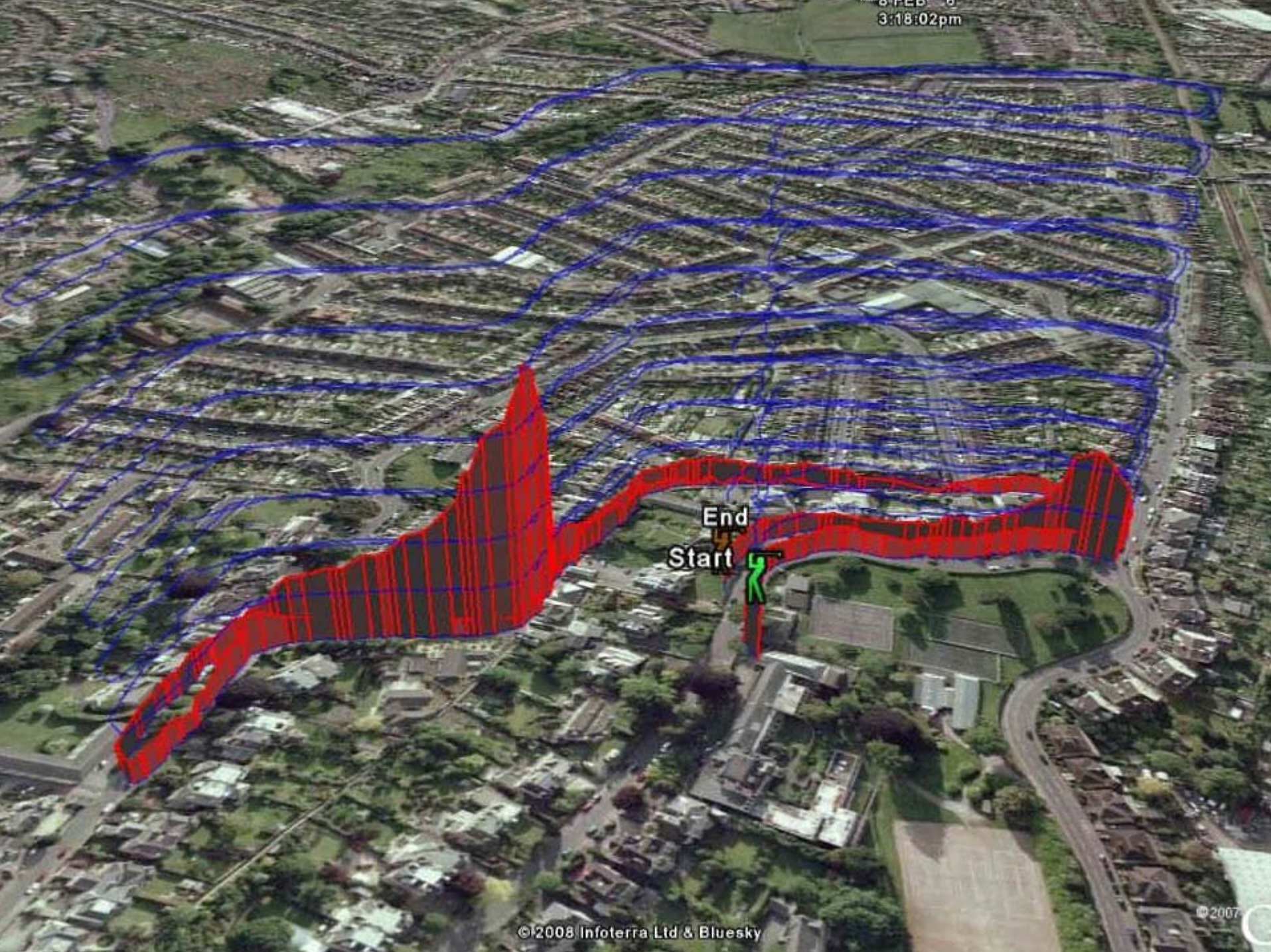
- <http://www.participateschools.co.uk/about/index.html>
- In addition, to assist Green Travel policies in place at Neston High School & John Moores University, carbon monoxide, light, sound profiles will be monitored during routine journeys to school and work throughout the year and the data displayed on graphs wrapped onto Google Earth maps.

Disseminating longitudinal data sets for student use

Dissemination strategy

- Continual dissemination of data via a JMU domain, the Participate web site (all participating Schools & Universities) & a Community web site.

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3:18:02pm

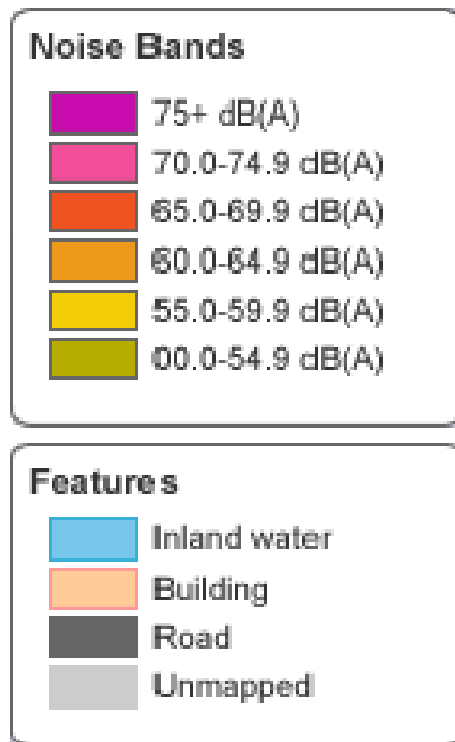


End
Start



Noise mapping

Central Liverpool





Data from Logbook ML

Recording made on 07/03/2008 at 12:09.sixth form

