WHERE DUNNIT?

David Donnelly, LM Macdonald, J Ball, LA Dawson

The Macaulay Institute, Craigiebuckler, Aberdeen AB15 8QH • www.macaulay.ac.uk • email: d.donnelly@macaulay.ac.uk

Narrowing areas of search by overlaying multiple attribute, geo-referenced soils and land use data with additional spatial intelligence

THE AIMS

We aim to develop a Geographic Information System (GIS) user-interface to identify, or eliminate, geographical areas of forensic interest based on characteristics of soil from an unknown source

View of interface, queries and outputs
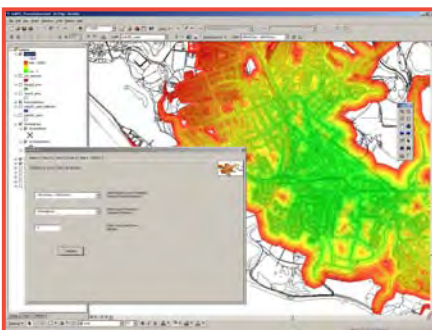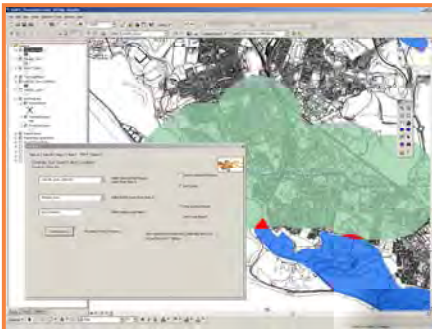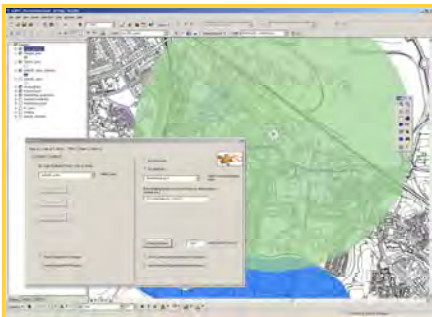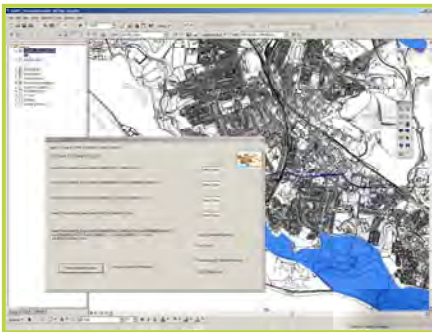
THE OUTPUTS

1. DATABASE

- Any soil or land-use database can be used
- Multiple attributes in the database can be selected (e.g. soil C, clay, Ca, Mg, Na, K, H, pH, LOI etc.)
- Sites falling within attribute boundary limits are identified

2. LOCATION INTELLIGENCE

- Scene of crime
- Suspect's area of activity
- Site of physical evidence (e.g. clothing)

3. COMBINE SOIL & LOCATION SEARCHES

- Identify links between soil characteristics and other investigative intelligence

4. DISTANCE SEARCHES

- Calculate likely location accessibility by estimated journey time
- Vary 'rate of travel' depending on mode of travel (car, bicycle, foot), terrain characteristics (slope, vegetation) and obstructions

FURTHER DEVELOPMENT

- Implement degrees of uncertainty
- Web-enable