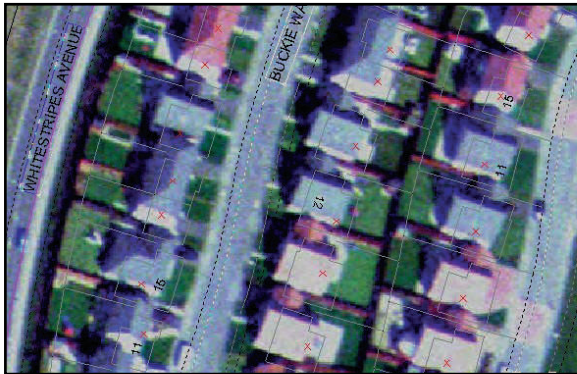


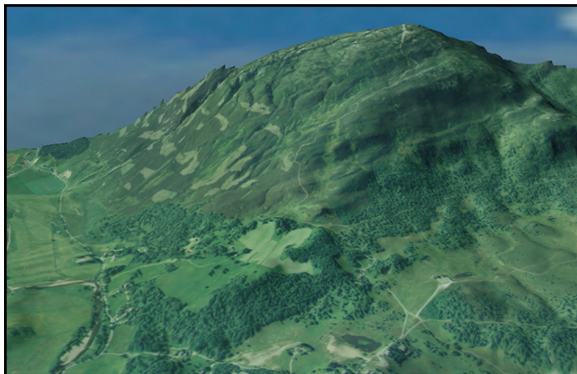
## Some Applications of Digital Aerial Photography



Map accurate image showing field boundaries.



Overlay with OS LandLine in an urban setting.



Visualisation of Morrone, s.w. of Braemar.

## Background To This Project

The Scottish Development Department's 1988 National Air Survey of Scotland enabled baseline information on land cover to be mapped in the Land Cover of Scotland (LCS) 1988 by the Macaulay Institute.

The photographs are crown copyright and are publicly available in the air photo library at the National Monument Records of Scotland (RCAHMS).

In connection with the proposed update of the LCS database a thorough review has been conducted of the use of aerial photography (AP) by organisations throughout Scotland. This review has highlighted that AP is a key resource to many organisations. These include: RSPB, ITE, RCAHMS, Scottish Office GIS Group and Agriculture Depts., Scottish Landowner's Federation, The Macaulay Institute, SNH, COSLA, SEPA, Forestry Commission, Highland Birchwoods, Ordnance Survey.

This project is about improving the management of the air photo resource and particularly taking advantage of the new digital technology to improve accessibility and usability.

The specific proposal is to produce a high resolution, map related image database for the entire area of Scotland.

## Further Information

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**New Image of Scotland** Lex Comber (The Macaulay Institute)  
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# New Image of Scotland

## SEMINAR

Wednesday 7 July, 1999

2 pm

Victoria Quay, Edinburgh



The  
Scottish  
Office

## THE PURPOSE OF THE SEMINAR WILL BE TO DEMONSTRATE:

- The value of high resolution photo maps (orthos),
- The increased emphasis on map accurate (i.e. ortho-rectified) imagery for a wide range of applications,
- How a map-quality image could be used in Scotland

The emphasis of the day will be to demonstrate the large number of applications for such a new resource. These include, for example, land use planning, transport planning and design, environmental monitoring, etc and enable features not on conventional maps to be identified in urban and rural settings.

This is an opportunity for Scotland to be one of the first countries in the world with such an integrated resource, and, coupled with our technical experience in this area, offers the chance for Scotland to be a world-leader in this area of geoinformatics.

## PROGRAMME:

- Introduction by Chairman (Peter Levein)
- The issues, the alternatives and the potential solutions (Bob Barr)
- A digital image base in practice (Alun Jones)
- The proposals for the New Image of Scotland database and the next steps (Dick Birnie / Diana Murray)
- Questions and Answers
- Summary by Chairman

## EXAMPLE

### VISUAL IMPACT OF WINDFARMS

- The UK Government has set a target of 20% of all electrical energy to be derived from renewable sources by 2025. In Scotland recent assessments have shown wind energy to offer the greatest potential for development
- Although windfarms need to be sited on exposed locations, our research has shown that the exposure of the proposed site for the windfarm does not necessarily equate with visibility
- The Macaulay Institute have developed a novel computer-based tool which places computer-designed wind turbines in the landscape with an animated feature of rotating turbine blades
- The 'zone of visual influence' of possible windfarm locations can be calculated
- This research has direct applications to windfarm planning and has been used in Scotland and Wales

## OTHER APPLICATIONS

With a rectified image base as a comprehensive and easily recognisable background map, the range of uses and applications include:

- Identify features not on conventional maps, such as trees, building types or land use.
- Reduced field survey time and costs by undertaking preliminary checks.
- Urban and rural land use planning.
- Asset / Estate management.
- Environmental monitoring.
- Conservation.
- Visual impact studies and scenario modelling.
- Transport planning and design.
- Emergency planning.
- Flood plain studies.
- Pipeline routing.
- 3D modelling by draping Aerial Photos over a Digital Terrain Model (DTM).

## FURTHER PRODUCTS:

- A New Land Cover of Scotland survey.
- A land cover change dataset.