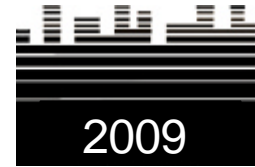


Cities Revealed Event
12 & 13 February 2009
WORKSHOP DESCRIPTIONS



Venue: Madingley Hall, Cambridge

The Cities Revealed workshop sessions provide the ideal training opportunity to gain hands on experience of a variety of geographic information and technologies. Choose two workshops per session to supplement your knowledge gained from the seminar programme.

Thursday 12th February – Session 1

Step into imagery

An Introduction to Digital Aerial Photography

Aim: To understand the creation, resolution and effective use of digital imagery

Objectives:

To understand the aerial photography collection process

To explain the production of a seamless dataset

To gain hands on experience of using data of different resolutions.

Overview:

Step into imagery is the ideal workshop for new users of Cities Revealed imagery or established users that want to revisit the effective use of imagery. The workshop explains the processes behind the development of a seamless dataset from flight planning and data capture through data processing to the production of the final product. Samples from the extensive Cities Revealed archive are used in CR Image Manager v3.0 software to explore how resolution, flying height, time of capture and terrain affect the characteristics of the resulting imagery.

Profiling Your Street

Gain insight into building classification and its practical use

Aim: A new anatomy of Britain? Exploring Building Class

Objectives:

To understand the rationale behind the age and structural divisions used in Building Class data sets

To understand how building stock of different ages looks from above

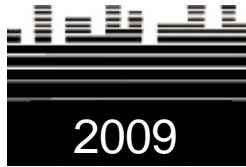
To practice classifying UK building stock by age and structural type

To understand the imagery requirements for effective classification

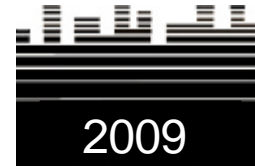
To assess error margins and how accurate classifications should be

Overview:

Domestic dwellings in towns, boroughs, and even counties can be classified by age and type. With such information instantly available in a GIS, a surprising range of information can be extracted. This workshop looks at how and why these data sets are made.



Cities Revealed Event
12 & 13 February 2009
WORKSHOP DESCRIPTIONS



Venue: Madingley Hall, Cambridge

Leading the Way with GNSS:

Discover the latest developments in GPS technology. Led by Leica

Aim: To enable the user of GPS data to exploit the benefits of new satellite constellations

Objectives:

To understand the different GPS techniques, and their available accuracies

To review the potential of networked corrections

To appreciate the status of GNSS networked corrections

Overview:

This workshop is intended for those who come into contact with using GPS for land-based applications, and for users where the errors inherent in standalone GPS limit its use. No prior knowledge of GPS is required or assumed - questioning is encouraged. The session will include both theory and practice (weather and access permitting!).

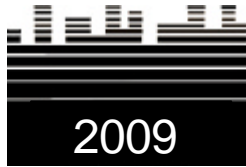
3D Data

Understand the variation in DTM and DEM sources

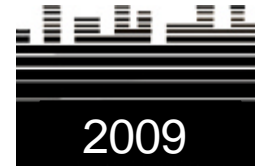
Aim: To investigate the ways Digital Terrain Models can be created from Lidar or Radar

This workshop aims to investigate the various ways Digital Terrain Models (DTM's) can be created from automatically sensed surveys based on LiDAR or Radar technology. The workshop will review the process by which the Digital Surface Model (DSM) is generated and then consider the options for automatic creation of a DTM. Looking at the ways in which manual intervention can improve the DTM will follow this.

The workshop will also compare the results and consider the impact that the different methods have in the overall accuracy of a DTM. The RMSE results and the range of values will be used to help demonstrate why any single value must be used with caution in 3D or modelling applications.



Cities Revealed Event
12 & 13 February 2009
WORKSHOP DESCRIPTIONS



Venue: Madingley Hall, Cambridge

Clear and Clean Cartography

Aim: To improve the clarity and legibility of maps

Objectives:

To demonstrate through practical exercises the benefits of clear mapping

Overview:

The application of a few simple design principles can make the world of difference to the legibility and usefulness of a map. The workshop will concentrate on aspects of typography and type placement and on particular design techniques which ensure that the map communicates its message effectively and efficiently.

British Antarctic Trip

Aim: A unique opportunity to visit the Mapping and Geographic Information Centre at the British Antarctic Survey.

Objectives:

To gain an insight into the work of the British Antarctic Survey's mapping team.

To appreciate the issues involved in creating maps of a hostile environment.

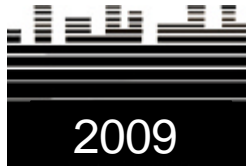
To view examples of Antarctic maps and aerial photographs not commonly seen by the public.

Overview:

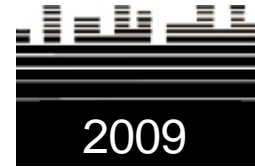
The British Antarctic Survey (BAS) is a component of the Natural Environment Research Council. It has, for almost 60 years, undertaken the majority of Britain's scientific research on and around the Antarctic continent. It now shares that continent with scientists from around thirty countries.

The Mapping and Geographic Information Centre (MAGIC) provides maps and other geographic information to workers at BAS. It acquires topographic data in Antarctica, prepares new maps, maintains databases of digital maps, supplies printed maps to BAS staff and provides expertise in geographical analysis. Scientific and logistic workers require detailed maps to analyse results and plan activities. However, Antarctica is poorly mapped because of the hostile environment and the vast areas to be covered. Aerial photographs, satellite imagery and survey information obtained in Antarctica are used to prepare maps. This tour will enable you to see how MAGIC develops new techniques to create maps from sparse information sources.

Places are limited please book early for this visit.



Cities Revealed Event
12 & 13 February 2009
WORKSHOP DESCRIPTIONS



Venue: Madingley Hall, Cambridge

Thursday 12th February – Session 2

Highlighting Heat Loss

Aim: To understand the techniques behind thermal mapping and how these can help in energy efficiency programmes.

Objectives:

To understand the science behind thermal imaging

Interpret thermal images in relation to NI 187 and HECA

To integrate thermal data with mapping and address information for pinpointing hotspots.

Overview:

Geographic information has a key role to play in reducing carbon emissions and mitigating the effects we will face from the impacts of climate change. This workshop will provide an insight into how thermal images combined with address information can help identify sources of domestic emissions so that pollution hotspots can be targeted.

MAGIC: Rapid Field Data Capture Technology

Demonstration of a new field data capture solution

Aim: To introduce a new field data capture solution.

Objectives:

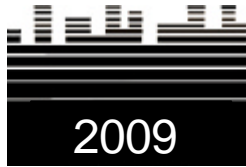
To understand issues associated with field data collection.

To gain hands on experience of a new technology.

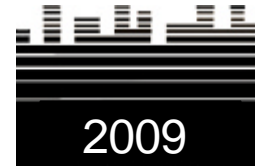
To consider the range of applications that up to date accurate fieldwork can be useful to.

Overview:

This workshop will introduce an integrated software and hardware solution that supports the rapid capture of large volumes of information while working outdoors. This will show how the information can be linked to new or existing base mapping through the innovative use of linked GPS and digital compass technology, voice recognition and touch screen. All these features will be compared to older traditional ways of field working. The differing markets and disciplines where this technology can be of use will also be discussed.



Cities Revealed Event
12 & 13 February 2009
WORKSHOP DESCRIPTIONS



Venue: Madingley Hall, Cambridge

Clear and Present Danger: UXO – is it risky business?

Aim: A clear and present danger? Getting a grip on the UXO legacy in the UK

Objectives:

To identify sources of wartime imagery

To identify Text information on attacks in the UK National archives and overseas archives

To identify Map information at National archive level.

To identify appropriate ways of creating maps from these data.

Overview:

In recent years spontaneous explosions of second world war bombs have occurred in Germany, the Netherlands, and the UK. Why has this happened? Are unexploded bombs becoming more sensitive; can we expect more such low probability/high impact events and how can this risk be quantified?

Building a 3D world

How to combine disparate data sources to create a 3D world. Led by Bentley

Aim: To show how we can take data from differing sources and combine them to produce and publish a 3D model.

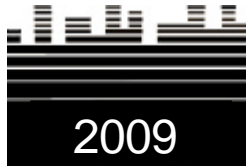
Objectives:

To consider how to integrate map data, terrain data, imaging data along with building height information, to create a cost effective model.

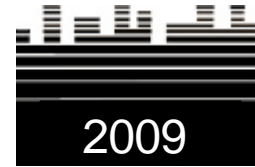
To appreciate some of the 3D publishing options that can be utilised to present the information.

Overview:

This workshop is the ideal starter for anyone thinking of creating 3D models. The workshop will look at the myriad of data options which can be used to create a 3D model such as WMS imaging data, survey data and GIS information. The workshop will then move on to show how this data can be easily published to formats such as Google Earth and 3D PDF, which can be used for such things as public consultation.



Cities Revealed Event
12 & 13 February 2009
WORKSHOP DESCRIPTIONS



Venue: Madingley Hall, Cambridge

Archaeology Trip: Cambridgeshire Historic Environment Record

Aim: An opportunity to visit the Cambridgeshire Historic Environment Record

Objectives:

To visit the Historic Environment Record

To find out first hand how archaeologists record and make accessible information about Cambridgeshire's past.

Overview

The Cambridgeshire Historic Environment Record (HER) is the definitive record of the counties archaeology, and pulls together information from a wide range of sources. The record informs the provision of archaeological advice within the planning system, as well as being an invaluable resource for local historians, academics and students. Recently published online, the HER is now accessible by more audiences than ever before.

The trip will comprise a talk by Sarah Poppy (Senior Archaeologist, Cambridgeshire County Council) on the development and use of the HER, in particular looking at how we use information from aerial photographs and historic maps to inform our understanding and management of the past. There will also be an opportunity for a closer look at some of the primary and secondary sources which are held in the HER.

Friday 13th February – Session 3

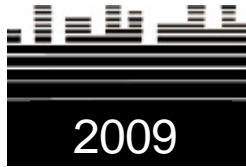
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Understand the variation in DTM and DEM sources

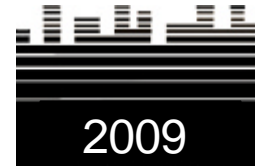
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Overview:

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INSPIRE: Next Steps in Information Interoperability

Aim: To understand how “INSPIRE interoperability” is expected to be achieved and how it might benefit UK users

Objectives:

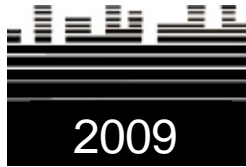
To understand what interoperability means in the context of INSPIRE and how the Implementing Rules are developed for each theme

To outline a use case in the context of the UK SDI involving publishing themes from several organisations

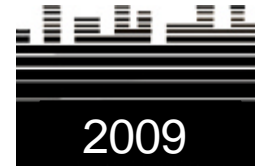
To highlight the key business benefits in using a common interoperable framework

Overview:

The lack of interoperability across organisational datasets (and sometimes internally) costs the public and private sectors millions of pounds annually. The INSPIRE Directive sets out to address this by stating “what” member states need to do to correct this. As each country has its own infrastructure it has to decide on “how” to best meet these requirements. This rests on a level of standardisation where everyone has to change something to fit the new environment. The challenge is to achieve the right balance between “over standardisation” with “too little adherence” since each extreme will require investment but risks not achieving the business benefits we all seek. This workshop will outline some of the first steps and issues that are now emerging as part of the INSPIRE legislation within a UK framework.



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12 & 13 February 2009
WORKSHOP DESCRIPTIONS



Venue: Madingley Hall, Cambridge

Leading the Way with GNSS:

Discover the latest developments in GPS technology. Led by Leica

Aim: To enable the user of GPS data to exploit the benefits of new satellite constellations

Objectives:

To understand the different GPS techniques, and their available accuracies

To review the potential of networked corrections

To appreciate the status of GNSS networked corrections

Overview:

This workshop is intended for those who come into contact with using GPS for land-based applications, and for users where the errors inherent in standalone GPS limit its use. No prior knowledge of GPS is required or assumed - questioning is encouraged. The session will include both theory and practice (weather and access permitting!).

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To gain an insight into the work of the British Antarctic Survey's mapping team.

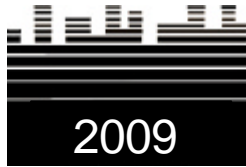
To appreciate the issues involved in creating maps of a hostile environment.

To view examples of Antarctic maps and aerial photographs not commonly seen by the public.

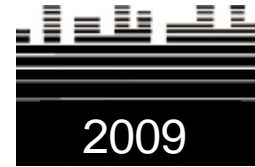
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satellite imagery and survey information obtained in Antarctica are used to prepare maps. This tour will enable you to see how MAGIC develops new techniques to create maps from sparse information sources.

Places are limited please book early for this visit.

Friday 13th February – Session 4

Profiling Your Street

Gain insight into building classification and its practical use

Aim: A new anatomy of Britain? Exploring Building Class

Objectives:

To understand the rationale behind the age and structural divisions used in Building Class data sets

To understand how building stock of different ages looks from above

To practice classifying UK building stock by age and structural type

To understand the imagery requirements for effective classification

To assess error margins and how accurate classifications should be

Overview:

Domestic dwellings in towns, boroughs, and even counties can be classified by age and type. With such information instantly available in a GIS, a surprising range of information can be extracted. This workshop looks at how and why these data sets are made.

Highlighting Heat Loss

Aim: To understand the techniques behind thermal mapping and how these can help in energy efficiency programmes.

Objectives:

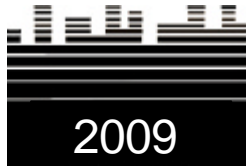
To understand the science behind thermal imaging

Interpret thermal images in relation to NI 187 and HECA

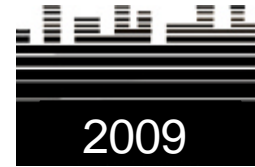
To integrate thermal data with mapping and address information for pinpointing hotspots.

Overview:

Geographic information has a key role to play in reducing carbon emissions and mitigating the effects we will face from the impacts of climate change. This workshop will provide an insight into how thermal images combined with address information can help identify sources of domestic emissions so that pollution hotspots can be targeted.



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Venue: Madingley Hall, Cambridge

Building a 3D world

How to combine disparate data sources to create a 3D world. Led by Bentley

Aim: To show how we can take data from differing sources and combine them to produce and publish a 3D model.

Objectives:

To consider how to integrate map data, terrain data, imaging data along with building height information, to create a cost effective model.

To appreciate some of the 3D publishing options that can be utilised to present the information.

Overview:

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Clear and Clean Cartography

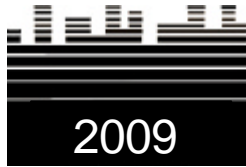
Aim: To improve the clarity and legibility of maps

Objectives:

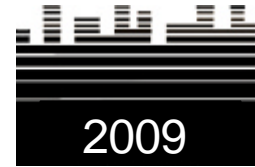
To demonstrate through practical exercises the benefits of clear mapping

Overview:

The application of a few simple design principles can make the world of difference to the legibility and usefulness of a map. The workshop will concentrate on aspects of typography and type placement and on particular design techniques which ensure that the map communicates its message effectively and efficiently.



Cities Revealed Event
12 & 13 February 2009
WORKSHOP DESCRIPTIONS



Venue: Madingley Hall, Cambridge

Scott Polar Trip

Aim A one-off chance to visit the Scott Polar Research Institute in Cambridge.

Objectives:

To visit the Scott Polar Research Institute Museum

To find out first hand how remote sensor, Gareth Rees, maps the surfaces of glaciers and the tree line in Arctic Russia and monitors tundra and taiga vegetation.

Overview

The Scott Polar Research Institute was founded in 1920, in Cambridge, as a memorial to Captain Robert Falcon Scott, RN, and his four companions, who died returning from the South Pole in 1912. Since the War it developed further to become an international centre for research and reference in a variety of fields related to polar environments, historical, scientific and social.

This excursion will be divided into two parts:

- A look around the Scott Polar Research Institute Museum which displays a unique collection of artefacts, journals, paintings, photographs, clothing equipment, maps, and other materials illustrating polar exploration and polar science. This will be accompanied by an introduction to the institute and its history
- A talk by Gareth Rees (University Senior Lecturer, Department of Geography) on mapping glaciers and the tree line in Arctic Russia and monitoring the dynamics of Arctic glaciated and vegetated terrain.

Places are limited please book early for this visit.
