

**GA INDEPENDENT SCHOOLS WORKING GROUP**  
**CONFERENCE 27th JUNE 2000**

**WORKSHOP: USING THE BNSC CD-ROM**  
***“WINDOW ON THE UK 2000”***

OUTLINE OF WORKSHOP

**1. Introductions -**

ALISON CALDWELL and PAUL MASON

**2. What is the CD-ROM - aims behind it**

**3. Structure of the CD - finding your way around**

**4. Practical suggestions: teaching case studies**

**BEN NEVIS** – CE, KS 3 OR 4 – map skills and glaciation

**RIVER BASINS** - KS 4 OR A Level

**ROCKS & LANDFORMS** – CE, KS 3 OR 4 or A Level

**SETTLEMENT GEOGRAPHY**

**5. Questions** general or technical questions

**website: <http://www.bnsc.org>**

then choose from - General BNSC

Window on the World

Window on the UK 2000

**website: <http://www.bnsc.org/wouk.htm>**

### **3. Structure Of The Cd**

## **Finding Your Way Around**

**Many different ways of moving around CD-ROM**

**Search** by postcode, keyword  
(remember to press return)

- Click over maps UK or 1:50 000 list**
  
- Index**
  
- Return to the home page**

## 4. Practical Suggestions

### How to use the “Window on the UK”

#### o images for projects/ field work

(input to GIS package- LANDSAT x 200 LANDSAT images of UK match OS 1:50 000 are georeferenced)

#### o case studies (especially for physical geography)

#### o skills work (IT, Maps, Images)

IT: web simulation, search tool, copy and paste, link to www, extract images as tifs - image processing, GIS

Maps: Ordnance Survey maps of Ben Nevis, 3-D drapes

#### Image Types:

- |   |                                   |
|---|-----------------------------------|
| <input type="checkbox"/> Aerial Photographs | <input type="checkbox"/> Maps     |
| <input type="checkbox"/> CASI               | <input type="checkbox"/> Russian  |
| <input type="checkbox"/> Classified Images  | <input type="checkbox"/> SAR      |
| <input type="checkbox"/> IKONOS             | <input type="checkbox"/> SPOT PAN |
| <input type="checkbox"/> IRS                | <input type="checkbox"/> SPOT XS  |
| <input type="checkbox"/> Landsat TM         | <input type="checkbox"/> Thermal  |
| <input type="checkbox"/> Landsat ETM        | <input type="checkbox"/> Weather  |

LIDAR Others

## Teaching Case Studies Using WOUK 2000

### 1. BEN NEVIS – Map Skills and Glaciation

No.	Image Type	Showing	Postcode Districts	Data Type
1.	Colour / Medium Detail	Ben Nevis, Fort William, Glen Coe & Blackwater Reservoir	PA, PH	<a href="#">Landsat TM</a>
2.	Colour / Medium Detail	Ben Nevis, Fort William	PH30, PH31, PH33, PH34, PA40	<a href="#">SPOT XS</a>
3.	Colour / High Detail	Ben Nevis	PH33	<a href="#">Aerial Photograph Map</a>
4.	Colour / High Detail	Ben Nevis & Fort William	PA38, PA39, PA40, PH33, PH34	
5.	Colour / High Detail	Ben Nevis & Fort William	PH30, PH31, PH33, PH34, PA40	Map
6.	Colour / High Detail	Ben Nevis & Fort William	PH33	Map draped over a <a href="#">DTM</a>
7.	Colour / High Detail	Ben Nevis & Fort William	PH33	Map draped over a <a href="#">DTM</a>
8.	Colour / High Detail	Ben Nevis & Fort William	PH33	Map draped over a <a href="#">DTM</a>
9.	Colour / High Detail	Ben Nevis & Fort William	PH33	Map draped over a <a href="#">DTM</a>
10.	Colour / High Detail	Ben Nevis & Fort William	PH33	Map draped over a <a href="#">DTM</a>

## **MAP SKILLS AND GLACIATION – BEN NEVIS**

### **DIFFERENT WAYS OF VIEWING GLACIAL FEATURES**

OS 1:50 000 MAP (SHEET 41)

DRAPES OF 3-D VIEWS

LANDSAT SATELLITE IMAGE (TRUE COLOUR)

AERIAL PHOTOGRAPH

### **Practical Activities:**

- Identify glacial features by drawing around them and labelling – print out hard copies or open in MS Paint or similar
- Discuss formation of Glacial features – 3-D drapes help to work out past pattern of ice flow
- Discuss relationship of human features to the physical landscape – “normal” map and 3-D drapes
- Discuss Differences Between A Map And An Image
  - No scale
  - No printed information - names
  - Different colours
  - Land uses / land cover
  - The system “decides” what to include not the map-maker
- Discuss Contour Patterns using the “normal” map view and the 3-D drapes

## 2. RIVER BASINS

### Tees Drainage Basin, Northern England (SHEET 91-92)

#### Practical Activities:

- Identify drainage basins, watersheds, drainage patterns.
- Water storage – Cow Green reservoir. Compare image with a map of rainfall distribution- supplies and demand issues

The Pennine Mountains that form the 'backbone' of England dominate this scene rising to around 600 metres. To the east of the Pennines the cultivated lowlands, with many settlements, form a sharp contrast to the rugged, sparsely populated uplands in the west. In the far west of the image part of the Vale of Eden can be seen; this separates the Pennines from the mountains of the Lake District that lie further west. The river Eden flows across New Red Sandstone rocks. To the north east of the Vale of Eden is the western edge of the Alston Block. This limestone block forms a steep scarp along its western edge, the line of the scarp following the same line as the Pennine Fault.

Several large drainage basins can be seen within the Pennines on this scene. In the centre is the basin of the Tees and its tributaries. The Tees rises to the north of Cow Green reservoir (the large body of water on the west side of the image). Just downstream (to the south east) of the reservoir the river Tees winds around some steep crags. These mark the position of an outcrop of the Whin Sill, an intrusive igneous rock layer composed of dolerite. Just downstream from here the river crosses the dolerite sill and a waterfall has developed known as High Force. From here the river Tees flows towards the south east, to Barnard Castle, then turns eastwards flowing past Darlington.

The two other drainage basins are the Wear basin in the north and the Swale basin in the south. Between Teesdale and Swaledale a clear east-west routeway crossing the Pennines can be seen. This is the Stainmore Gap. It is followed by the A66(T) road which is on the same line as an old Roman road.

### **3. ROCKS AND LANDFORMS**

#### **NW Scotland –**

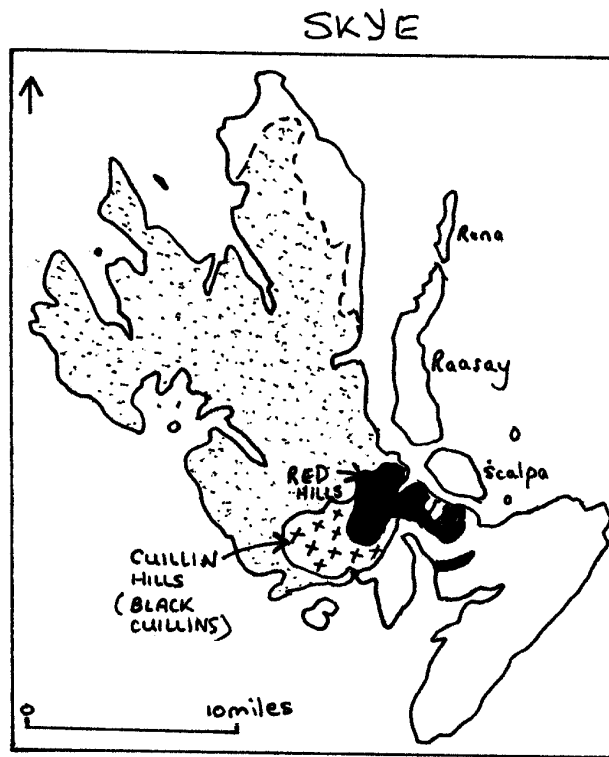
**Skye** (Sheets 23,32),

**Arran** (Sheet 49),


#### **Practical Activities:**

#### **Compare simple geology maps with the images -**


- Discuss the links between:
  - Rock type and relief,
  - Rock type/structure and shape of the coast.
  
- Identify glacial features




### IGNEOUS ROCKS

 basalt

 granite

 gabbro

 other rocks

# Geology and relief: Skye NW Scotland

Skye is one of the largest of the Inner Hebridean Islands, located off the north west coast of Scotland. The highly irregular shape of the island is due to the geological structure and the erosive action of running water, ice and the sea over many millions of years. Many of the indents in the coast can be traced to the position of major fault lines that have been exploited by erosion. Much of Northern Skye is composed of basalt. Vast sheets of molten lava were poured out to create a lava plateau, which has been eroded to form a stepped landscape. Dyke swarms cross these basalts; the linear igneous intrusions that came after the basalt was extruded. The dyke swarms trend north west to south east across Skye. Apart from the igneous activity that shaped the creation of the area environmental changes in the more recent past have significantly influenced the landscape. During the Pleistocene the area was covered with ice during several glacial periods. The coastline too shows the effect of changes in sea level linked to the cycles of glaciation. Around the coast raised beaches can often be seen, for example, at Rubha Hunish, the very northernmost tip of Skye.

In the south west of Skye, the Cuillin Mountains stand out. Here steep ridges rising to over 3000 metres form the Black Cuillins and these curve around the lower land where Loch Coruisk can be seen. This is a double rock basin excavated by ice, now filled by the sea. The Black Cuillins form the highest relief on Skye with jagged ridges and deep, steep sided valleys. The Black Cuillins are composed of gabbro, an intrusive igneous rock. The jagged skyline of the Black Cuillins is due in part to the presence of dykes that cut across the gabbro. The dykes are less resistant than the gabbro to weathering and erosion and dips in the skyline mark where the dykes occur. Just to the east of the Black Cuillins another mountainous area of slightly lower relief and more rounded outlines can be seen. These are the Red Hills or Red Cuillins and these are composed of granophyre and granite, which is slightly less resistant to erosion compared to the gabbro. To the west of the Black Cuillins a much lower area of basalt forms undulating terrain between the mountains and the sea.

# Geology and relief: Arran NW Scotland

In North Arran a large granite intrusion is exposed, overlying rocks having been removed by erosion. The high jagged summits contrast with the scenery to the south, where less resistant rocks, including igneous and metamorphic, form the lower mountains of south Arran. Large areas of coniferous woodland occur in the south.

The highest point in the granite is Goat Fell (874 m), composed of coarse-grained granite. The centre of the intrusion, to the west of Goat Fell forms smoother hills of finer-grained granite. It is thought that the outer rock was formed by an earlier intrusion, and the centre was formed by a later intrusion which cooled more rapidly giving finer crystals.

The mountains on Arran have been shaped by glaciation and this is clearly seen in the landscape. For example the glacial trough of Glen Iorsa runs north to south in the centre of the northern uplands, curving towards the west coast at the southern end of the valley.

## **4. SETTLEMENT GEOGRAPHY**

# **RUSSIAN IMAGE OF OXFORD**

### **Practical Activities:**

- Finding the centre of the town – the oldest part
- Compare street patterns of inner and outer city areas
- Identify large-scale urban features – Cowley works
- Impact of river on urban growth
- Transport routes: railway, road patterns, ring road

### **Notes on image:**

**This satellite image has been generated by merging a 2m resolution Russian greyscale satellite image, recorded at an altitude of 220km, with a lower resolution colour satellite image.**

**This August 1995 image of Oxford and the surrounding area is centred on the River Cherwell. To the west is the city centre, the Cathedral, Botanical Gardens and most of the colleges. Further west, all running north to south, lies Oxford canal, the railway, the River Thames, and on the western edge of the image, is the A34 which runs through Bagley Wood, near Kennington in the south.**

**To the east of the River Cherwell are the main residential districts of Marston, Headington, Cowley, Littlemore and Blackbird Leys. The A40 runs around the NE separating the city from the fields and woodland surrounding the villages of Beckley and Elfield. Alongside the A4142, to the SE, the distinctive industrial buildings and the rows of cars produced at the Cowley Motor Works can be seen. The shadows of some pylons and electricity transmission cables can also just be distinguished. Central to the residential districts is the golf course, with the City Hospital just to the north.**

# **YOUTH FORUM OPPORTUNITY FOR SCHOOLS IN UK EARTH OBSERVATION**

**LUCERNE, SWITZERLAND  
2-5 NOVEMBER 2000**

*“Space Technology’s Contribution To Transportation”*

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