

Geography

Derwentwater Independent Hostel is located in the Borrowdale Valley, 3 miles south of Keswick, in the heart of the Lake District National Park. Barrow Beck, which flows through our grounds, is part of the River Derwent drainage basin. The scope for Geography residentials at Derwentwater Independent Hostel is vast: the topics and resources listed here are certainly not exhaustive! Please ask us if you would like a customised information sheet, tailored to specific exam boards and topic/s.

Fieldwork techniques and other geographical skills

- DIH is perfectly situated for measuring river channel and flow, with local streams of different sizes, and good access to the River Derwent. There are excellent viewpoints for observing valley characteristics and making sketch maps.
- The bottom of our grounds is a safe location for conducting traffic surveys. This is very close to the survey location used by the National Park Authority.
- The small town of Keswick (population of approximately 5000) is only 5km/3 miles away. It is an ideal size for population, settlement, and economic fieldwork.
- Map and compass work can easily be incorporated into your activities, with numerous landscape features in Borrowdale to aid navigation practice. Derwent Water is an excellent orienting feature, lying almost exactly north-south.
- We have numerous different books and maps of the local area, encouraging students to extract information from different sources.
- The Lake District National Park Authority provides comprehensive data for the Lake District National Park, including population, housing, land use, employment, traffic, National Park finance, tourism, climate, geology, and transport data.
- An interesting insight into the role of Geographical Information Systems in the Lake District can be found here:
<http://www.nationalparks.gov.uk/aboutus/jobs/workingforus/gis-officer>
- The numerous fells and triangulation points in the area provide a good environment for trying out surveying techniques.
- We do not yet have any fieldwork equipment. Please let us know if there are items which would be particularly useful for us to provide.

Glacial systems

- DIH is located in a previously glaciated U-shaped valley. There have been several periods of glaciation in Borrowdale within the last 2 million years. Within walking distance of the hostel you can see a hanging valley, arêtes, pyramidal peaks, cirques, roche moutonnées, drumlins, moraines, ribbon lakes, and ice stagnation topography.
- Good footpaths allow you to walk along the Watendlath Beck, following its course through the hanging valley of Watendlath (it hangs over the Borrowdale Valley), down the Lodore Falls, and into Derwent Water.
- There are remnants of terminal moraines (three ridges marking three stages of glacial retreat) at the southern end of Borrowdale.
- There are numerous examples of drumlins in Keswick and Borrowdale.
- There are kames and eskers (ice stagnation topography) between DIH and Keswick.

River systems

- The River Derwent flows through the Borrowdale Valley. It is an ideal river for studying from source to mouth. Barrow Beck, part of the River Derwent drainage basin, flows through the hostel grounds.
- *River Derwent: from Sea to Source* by H. C. Ivison (2013) is a recently published and accessible book, looking at the physical and human aspects of the Derwent's course.
- The River Derwent is approximately 34 miles long and it flows over several different types of rock: Borrowdale Volcanic Rocks – Skiddaw Group (mainly slates) – Carboniferous age rocks (coal mining area).
- The word Derwent comes from the Celtic, meaning 'abundance of oaks', providing evidence that it used to flow through extensive deciduous woodland. Much of the woodland was removed as settlements grew up. The river was very useful for drinking water, fertile alluvial silts, and fish. The Derwent salmon were renowned in the 18th and 19th century, and were transported as a luxury good to London. Factories and mills, such as Seaton Mill, used water power in the 19th century.
- The River Derwent is no longer used for drinking water, but Ectona Fibres, Pentagon Chemicals, and the Iggesund Paper and Board Mill together draw 25-30 mega-litres from the river each day.
- The River Derwent is a good corridor for wildlife.
- River basin management is very important in Cumbria, both for water extraction and for flood prevention. The Lake District supplies about 30% of the piped water in the NWW Region. There are two large reservoirs: Haweswater and Thirlmere (Thirlmere is a 5 mile drive from the hostel). Some water is also extracted from Ullswater and Windermere.
- The River Derwent and River Greta flow through Keswick and are ideal for river management case studies. Slightly further away, the River Cocker is a very interesting river management case study.

Coastal systems

- Our nearest coastline is the west coast of Cumbria (1/2 - 1 hour drive away). We have lots of information about the St Bees and Whitehaven coast – this area is popular with Geography departments.
- The estuary at Ravenglass is very interesting but it is a longer drive from the hostel.
- The Solway coast is an emerging coastline, with a clearly identifiable raised beach north of Maryport. Students can learn about the difference between isostatic and eustatic change.
- There is interesting geological variety along the coast, with Permian sandstones at St Bees, coal measures outcropping near Workington, glacial deposits outcropping at Swarthy Hill, and soft peat and the remains of a submerged forest between Allonby and Mawbray.
- Contrasts in longshore drift can be studied along the coast: north of St Bees Head sediment travels north east into the Solway, while south of St Bees Head the sediment moves south.
- The National Trust manages part of the coastline, from Whitehaven to St Bees. Their website, [Colourful Coast](#), is a useful source of information and ideas.

Biogeography (ecosystems)

- Many Geography groups study the ecology of the fell sides, measuring a range of variables at different altitudes and aspects (often on the sides of the Glenderaterra Valley. Students can compare montane, heathland, riverine, forest, and bog ecosystems.
- Whinlatter Forest Park and Low Bridge End Farm (both a 7 mile drive from the hostel) offer excellent learning opportunities for biogeography.
- After the glaciers retreated 12 0000 – 10 000 years ago, arctic-alpine flora took advantage of the tundra conditions. Dwarf willow, Juniper, Dwarf birch, Roseroot, Mountain sorrel, and Purple saxifrage were some of the successful species. Gradual warming caused a shift towards heath species, followed by broad leaved forest. The arctic-alpine flora were forced upwards for space and a cooler climate.
- The eastern coves of the Helvellyn Range are the best places to find alpine flora.
- The limits to growth in certain parts of the Lake District are poor soil conditions, a cool climate, sheep grazing, rock falls, and storms. During the period of Foot and Mouth disease the pressure from sheep grazing was dramatically reduced – this allowed many plant species to grow.

Natural hazards

- Flooding (2009 floods in particular), rock falls, high winds (including a small tornado in 2012 in Borrowdale) and avalanches (small-scale) can be studied in Borrowdale.
- Cliff falls and landslides (St Bees cliffs) can be studied on the coast between Workington and St Bees.
- A very useful resource is the Cumbria Floods November 2009 Impact Assessment, carried out by the Cumbria Observatory: <http://www.cumbriaobservatory.org.uk/elibrary/Content/Internet/536/671/4674/4026717419.pdf>.

Geomorphology

- 500 million years of geological history can be studied in Borrowdale.
- Plentiful examples of weathering and erosion, and their management.
- Lots of resources for studying past and present uses of rock, from the working slate mine at Honister to the old slate quarries, lead, and graphite mines of Borrowdale.
- Several RIGS sites to study.
- We have numerous local geology books and geological excursion guides. For more detailed information see the Geology information sheet.

Weather and climate

- Cumbria and Borrowdale in particular, are very interesting places to study weather and climate. Resources and relevant local topics include Keswick School weather stations, differences along the Borrowdale Valley, long term climate change, orographic rainfall, and micro-climates.
- The farmers at Low Bridge End Farm have in-depth knowledge of extreme weather and can lead free education sessions on this topic.
- Flooding case studies (Cockermouth 2009 for instance).
- The Beacon visitor centre in Whitehaven has an interactive Meteorological Office weather gallery.
- A very useful resource is the Cumbria Floods November 2009 Impact Assessment, carried out by the Cumbria Observatory: <http://www.cumbriaobservatory.org.uk/elibrary/Content/Internet/536/671/4674/4026717419.pdf>. It starts with a very clear and concise explanation of the causes of the heavy rainfall, with an excellent diagram of the sequence of conditions which led to the severe flooding.
- The Met Office News Blog is very interesting: <https://metofficenews.wordpress.com/tag/wind/>. Search for Cumbria for relevant articles.

Economy

- Borrowdale and Keswick have an interesting economic history, with examples of primary, secondary and tertiary industries, from hill sheep farming to tourism.
- In the Lake District National Park the majority of the population are employed in Services, Retailing, and Distribution and Catering. It is interesting to compare employment sectors inside and outside the National Park boundary, and see how far people travel for work.
- Tours can be arranged at the Honister Slate Mine, the Pencil Museum, local National Trust-owned farms, and Jennings Brewery, while the history and development of the Cumbrian energy industry are interesting topics for study.
- Formerly a thriving industrial area, Borrowdale is an excellent place to study economic change, with a particular focus on mining, quarrying, and pencil manufacture. The closest working mine to the hostel is Honister Slate Mine, a 6 mile drive away. The pencil factory has moved from Keswick to the outskirts of Workington, but there is an excellent Pencil Museum in Keswick.
- Forestry is also part of the Lake District economy. Fast maturing conifers are planted for timber production. We often have foresters staying at the hostel: they come from as far afield as Wales, Scotland, and Finland, and they work on projects at Thirlmere and Whinlatter.
- The Lake District National Park Authority provides useful resources (including a Facts and Figures booklet) for studying the economy of the Lake District National Park. The Cumbria Intelligence Observatory provides interesting economic data and analysis for the county of Cumbria.
- The landscape and infrastructure of the Lake District contain evidence of former mining, quarrying, and smelting activities. In 1991 there were 10 active slate quarries in the Lake District National Park.
- At the peak of the Bobbin industry there were 127 Bobbin mills in Cumbria, all with their own coppiced woodlands. The last Bobbin mill to close was Stott Park, in 1971. Stott Park is now managed by English Heritage for educational purposes.
- Sellafield, on the west coast of Cumbria, incorporates the sites of the old Windscale and Calder Hall nuclear reactors, and two nuclear fuel re-processing plants. The nuclear reactors are now being decommissioned and dismantled.
- The Master Plan for West Cumbria is entitled *Britain's Energy Coast*. You can read the executive summary of the plan here:
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/66717/3956211546.pdf

Population

- In 2011 the population of Cumbria was 499, 000. Cumbria is one of the least ethnically diverse counties in England, with 95.1% of the population categorised as White British. Christianity is the most-followed religion. The population of Cumbria in 2011 was the highest it has ever been.
- You can study population at different scales, comparing Borrowdale, Keswick, the Lake District National Park, and Cumbria to national population trends and statistics.

Settlements

- Carlisle is the only city in Cumbria. Borrowdale is one of the many rural areas in Cumbria. You can study the influence of the National Park Authority on settlements, comparing settlements inside and outside the National Park. The factors influencing settlement location and growth (natural features, roads, train lines etc) are very interesting to study: the highly varied topography of Cumbria has a significant influence on settlements and transport. Second-home ownership is an interesting topic of discussion in Cumbria.
- Thirlmere and Haweswater are Manchester Corporation Reservoirs. Thirlmere became a reservoir in 1879, with a 96 mile aquaduct supplying 50 million gallons of water a day to Manchester.
- In 1919 Haweswater reservoir was created by flooding the village of Mardale. Some of the village was exposed during the drought of 1995.

Travel, leisure and tourism

- DIH is located in the Lake District National Park, with intimate involvement in leisure and tourism, from the issues discussed by local business and tourism associations to the provision of leisure and tourism services.
- Borrowdale is a good place to study the developments in adventure tourism and leisure, but there are also plentiful resources for studying the origins of tourism, with electronic transcriptions of eighteenth century tour guides.

Sustainable development and environmental management

- Local topics and resources include management of disused and working mines (such as the disused Force Crag Mine), the National Park Authority, campaign groups and their opinions (such as Friends of the Lake District), the National Trust, Natural England, energy options, the issue of nuclear waste in Cumbria, Fair Trade towns (such as Keswick), and transport services.
- Low Bridge End Farm, a 7 mile drive from the hostel, is a good example of a Higher Level Stewardship Farm.
- DIH is in the heart of an area which faces many **development issues**, such as: the nuclear waste proposal for Ennerdale, the Honister Zip Wire Application, the development of wind farms, watercraft restrictions on the lakes, flood defences in Keswick and Cockermouth, forest and river management in Ennerdale, the provision of services and housing for local

people, the provision of services for tourists, and the policies relating to farming practices.

- DIH has a small-scale hydro-electric scheme, with a Pelton Wheel turbine in the grounds. The scheme uses water from Barrow Beck to power the turbine and provide a small amount of electricity for the hostel. Please ask in advance if you would like a guided tour of the hydro scheme.

Some useful resources

- Peter Wilson, *Lake District: Mountain Landforms* (2010), Scotforth, Lancaster. Peter Wilson is a regular guest at Derwentwater Youth Hostel, and he is a distinguished geologist and geographer. His book is available to buy at Derwentwater Youth Hostel.
- Keswick Tourism Association: www.keswick.org. Information about the local area in Moot Hall, the Tourist Information Centre in the centre of Keswick.
- Barrow House Gazeteer (historical information about the house and grounds)
- Keswick Mountain Rescue: <http://www.keswickmrt.org.uk/>
- Whinlatter Forest: <http://www.forestry.gov.uk/whinlatterforestpark>
- National Trust: Borrowdale Office on the Borrowdale Road, Visitor Centre opposite the Keswick Launch jetties on the southern edge of Keswick
- Lake District National Park Authority: <http://www.lakedistrict.gov.uk/>
- Honister Slate Mine: <http://www.honister.com/>
- The Borrowdale Story: <http://www.theborrowdalestory.co.uk/>
- Keswick Pencil Museum: <http://www.pencilmuseum.co.uk/>
- Jennings Brewery: <http://www.jenningsbrewery.co.uk/tours/>
- Cumbria Economic Statistics May 2012:
<http://www.cumbriaobservatory.org.uk/elibrary/Content/Internet/536/675/4356/41054133929.pdf>
- Weather stations and webcams: <http://www.keswickweather.co.uk/>
- Ravenglass Estuary:
<http://www.mycoastline.org/documents/smp2/11d3PS.pdf>
- St Bees:
<http://www.naturalengland.org.uk/ourwork/conservation/designations/heritagecoasts/stbeeshead.aspx>
- Farming: www.cumbriahillfarming.org.uk
- Environment Agency data about the River Derwent: <http://www.environment-agency.gov.uk/homeandleisure/floods/riverlevels/120710.aspx?stationId=5178>
- River Derwent: <http://www.westcumbriariverstrust.org/our-area/river-derwent/> (not to be confused with other river called Derwent – use Cumbria in search terms)
- H. C. Ivison, *River Derwent: From Sea to Source* (2013), Amberley Publishing.
- Keswick Library has many local studies and reference books. The Cumbria Archive Centres are located in Barrow, Kendal, Carlisle, and Whitehaven.
- Solway Coast Discovery Centre:
<http://www.solwaycoastaonb.org.uk/discovery.php>