

Geographical careers in rivers landscapes

This resource introduces students to geographical careers linked to river landscapes. It specifically focuses on the role of professional geographer Frankie, a Graduate Environmental Consultant at Atkins Réalis. The resource introduces students to nature-based solutions to manage flooding on Wimbledon & Putney Common. To hear from Frankie and other geographers working in river landscapes, check out this webinar, available to watch on demand: <https://www.rgs.org/events/talks-on-demand/careers-in-river-landscapes>

Prior knowledge required for students to access this resource includes:

- ✓ Understanding of different types of river management strategies (hard and soft engineering)
- ✓ Understanding of causes of flooding (human and physical)
- ✓ Understanding of drainage basin characteristics

Curriculum Links

This resource is aimed at GCSE students. GCSE curriculum links include:

Edexcel A

Topic 1B: River landscapes and processes

1.9 Human activities can lead to changes in river landscapes which affect people and the environment

Edexcel B

Topic 4: The UK's evolving physical landscape

4.8 Some rivers are more prone to flood than others and there is a variety of river management options

AQA

Section C: Physical landscapes in the UK

3.1.3.3 River landscapes in the UK, *specifically* different management strategies can be used to protect river landscapes from the effects of flooding

OCR A

1.1 Landscapes of the UK

1.1.5 Landscapes are dynamic and differ depending on their geology, climate and human activity. Two case studies, one UK river basin and one UK coastal landscape, to cover ... management, works in combination with geomorphic processes to impact the landscape

OCR B

Topic 3: Distinctive Landscapes

3.2, b. Case study of two landscapes in the UK, one coastal landscape and one river basin, to include the study of ... human activity, including management, works in combination with geomorphic processes to impact the landscape

WJEC

Key Idea 1.3: Drainage basins of Wales and the UK

1.3.3 What are the current and future management approaches to the problem of flooding in the UK?

Activity Answers

1. Sort into hard engineering and soft engineering (nature-based) solutions to river flooding
2. Building a dam **HARD**
3. Planting trees **SOFT**
4. Floodplain zoning **SOFT**
5. Concrete embankments **HARD**
6. Dredging **HARD**
7. Flood walls **HARD**

Activity 1 – Read the meet the geographer page

1a. What does an environmental consultant do? Choose the correct description

- i. An environmental consultant collects and analyses environmental data to help clients solve environmental problems and ensure projects are sustainable and responsible
- ii. An environmental consultant helps design buildings and manages construction projects to ensure they are built quickly and at low cost
- iii. An environmental consultant sells environmentally friendly products to businesses and advises them on how they can increase their profits

1b. State one reason why Frankie choose to study geography

Frankie chose to study geography because:

- ✓ She enjoyed topics like climate change and sustainability
- ✓ She wanted to pursue a career that would have a positive impact on the world
- ✓ She has a loved of outdoors and nature

1c. What key geographical skills does Frankie use in her day-to-day job as an Environmental Consultant? Tick all that apply

- | | |
|--|---|
| ☒ Collecting and recording data in the field | ☒ Using GIS |
| ☒ Writing reports | ☐ Drawing field sketches |
| ☒ Problem solving | ☐ Writing an extended argument |
| ☒ Communicating ideas | ☐ Coding |

Activity 2

2a. Sort into advantages and disadvantages of *in-channel leaky barriers*

Require maintenance particularly in areas where there isn't any natural wood supply	They work immediately
Can collapse in very fast flowing streams	Can improve water quality
Help to reduce peak flow, reducing flood risk	Provide a habitat

2b. Suggest one way *water storage ponds* will reduce flooding

Water storage ponds can reduce flooding because they collect water during heavy rainfall. This reduces the amount of rainfall infiltrating into the ground. This means that the ground is less likely to become oversaturated.

2c. Suggest a social, economic and environmental benefit of the project

Socially, managing flooding on the Wimbledon & Putney Common will...

Ensure that it is still accessible to the public. Ensure that the Common can still be used for recreation.

Economically, managing flooding on the Wimbledon & Putney Common will...

Increase the number visitors visiting the Commons, which leads to people spending money in the local area

Environmentally, managing flooding on the Wimbledon & Putney Common will...

Protect habitats for wildlife, increasing biodiversity

Links to further careers support

- Royal Geographical Society's career pages: [Choose a career with geography - RGS](#)
- Teacher CPD: [Teacher events - RGS](#)
- I am a geographer: [I am a geographer - RGS](#)
- Statutory careers guidance for schools: [Careers guidance and access for education and training providers - GOV.UK](#)