



LANDSCAPE OF BATH

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Bath is an internationally recognised city with iconic architectural landmarks and a rich history, which have contributed to the city achieving UNESCO World Heritage status. However, Bath's natural landscape is equally as rich and beautiful, a city of golden stone nestled in a lush green valley, with the River Avon dissecting through the centre. It lies to the south of the Cotswold Hills, a designated Area of Outstanding Natural Beauty. One of Bath's many appeals is its closeness to the natural landscape and the ability to find a perfect panoramic view over the city from one of its many hilltops, such as Alexandra Park or Little Solsbury Hill. By exploring the geology of this small valley, it is possible to understand why Bath is surrounded by such steep hills, giving rise to spectacular views.

The physical landscape of Bath can be attributed to the unique geology present. Investigations into the geology in this area have shown that there are many different rock types present.

Greater Oolite Limestone is present near the peaks in many of the hills surrounding Bath. This type of limestone is characteristic to the region and would originally have formed as a gradual layering of muds, small living organisms and sandy grains under the sea in a marine environment. These layers would have built up over time and gradually become compressed to form this limestone, making Greater Oolite Limestone a sedimentary rock type. Limestone is a "hard" rock type, making it less susceptible to erosion and weathering than other rock types and therefore, it is often found at the peaks of hills.


Beneath the Greater Oolite Limestone are layers of Upper Fullers Earth and Fullers Earth Rock. These rocks are mudstones which are also formed in a sedimentary fashion, during the Jurassic period. They are a "softer" rock type, making them more susceptible to processes of erosion and weathering than the limestone layer above. This rock type is also unique to the Bath area.





View from Little Solsbury Hill over Bath.





The next layer below Fuller's Earth is known as Inferior Oolite, which has a similar structure and characteristics to Greater Oolite as it has undergone a similar formation process; this therefore makes it a "hard" rock type. This is then underlain by "softer" rock types of sand and clays which are more prone to weathering and erosion, such as Lower Lias Clay.

Over time, geological processes have formed a layered landscape in this area as these rocks have formed on top of each other. Interestingly in this case, the layers alternate in physical characteristics between harder, more structured oolitic limestone and softer muds, sands and clays. These alternating layers are thought to be the reason for creating such a small steep-sided valley in Bath, as they create a greater likelihood of geological hazards such as landslips and slides. Over long spans of geological time, these slips and slides will have led to significant amounts of material eroding from the hillsides, consequently forming gradually steepening slopes. Furthermore, material that had slipped downslope as a result of these slides has then been eroded and carried away by the River Avon and its tributaries (which now flow through the valleys created by this process). Eventually, this process has created a valley encompassed by steep hills.

ABOUT THE AUTHOR

Rebecca is a Geography graduate who has lived in Bath for over 15 years. She has a keen interest in understanding our complex relationship with the natural environment.

Information sourced from:

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www.bathscape.co.uk/wp-content/uploads/2019/09/Bathscape-Landscape-Character-Assessment.pdf

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Wikipedia on Fuller's Earth:

https://en.wikipedia.org/wiki/Fuller%27s_earth

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<https://dorsetbuildingstone.weebly.com/inferior-oolite1.html>

British Geological Survey on Inferior Oolite:

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Wikipedia website on Bath's landscape:

https://en.wikipedia.org/wiki/Bath,_Somerset#Geography_and_environment

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www.lonelyplanet.com/articles/bath-from-above-an-elevated-guide-to-britain-e2-80-99s-most-beautiful-city

