

Location & Access:

Bude (or sometimes Budehaven) is a town with a population of around 9,000 people located on the north Cornwall coast. It is found a mile and a half south west of Stratton and three miles north of Widemouth Bay, and is reached via the A3073 road from the A39 Atlantic Highway. There are numerous car parks in the town, notably at Summerleaze Beach, Crooklets Beach and at the Crescent. At the latter there is also a visitor information centre and from here it is only a short distance to the Bude Canal, which could be explored briefly before the walk begins in order to get a feel for the town.



Maer Low Cliff — photo: Paul Berry

Key Geography: Severe folding of the Bude Formation sandstone and shales in the cliffs, whaleback anticline, sandy beaches, waterfalls, Bude Canal

Description: Bude is one of Cornwall's premier seaside resorts, favoured by the Victorians at the end of the nineteenth century for sea bathing, and then boosted in popularity by the new rail links that arrived in the twentieth century.

This walk explores the stunning scenery of the Atlantic coast between Bude and Sandymouth Cove, and the extreme folding demonstrated in the cliff geology is as impressive as the famous Hartland coast in north Devon. It can be completed using two cars or by co-ordinating a visit with a low tide to walk one way along the clifftop coast path, and then return at low tide along the beach to enable a closer look at the impressive geology of the cliffs. The round trip spans some six miles over generally flat terrain, exploring the canal and beach before heading northwards along the cliff top path before returning along the beach to enjoy a classic coastline of folded sandstones and shales.

1. The walk begins at the information centre, and commences by crossing the road at the north end of the car park and walking down some steps to follow the canal towards the sea.
2. As you enter a pedestrianised area, you will pass some of the old canal wharf buildings. including warehouses, an old blacksmiths shop, and the bark house (now craft workshops catering for tourists).
3. Continue along the canal path towards the sea. The Bude Canal was constructed between 1819 and 1825 at a cost of £120,000. It ran for 35 miles from Bude to Druxton Wharf near Launceston, and was the longest tub boat canal constructed in England, using six inclined planes to haul wheeled tub boats (20 feet long and 5.5 feet wide) to its upper levels. There were only two conventional locks on the canal. It was chiefly used to transport sand to local farms where it was used to sweeten soils and help to improve drainage, but was never a great economic success. The *(continued overleaf)*

Curiosity Questions:

The coastline from Compass Cove to Furzey Cove is an SSSI. What do these initials mean? # The two halves of Bude town are divided by 'Nanny Moore's Bridge'. Who was Nanny Moore? # Can you name the famous British geographer who lived in Bude on his retirement? # The famous writer Jean Rhys (1890-1979) lived in Bude in the late 1950s and began the final version of her most successful novel here. What was it called?

Further information: # www.visitbude.info
<https://devongeography.wordpress.com/2023/09/21/walking-the-north-cornwall-coast-bude-to-sandymouth-cove/>

Reviewer: Paul Berry B Ed (hons) M Sc FRGS
Former Assistant Vice Principal and Head of Geography at South Molton Community College with 35 years of classroom experience.
Now an Iceland Field Studies Tutor with Rayburn Tours.
Blog: www.devongeography.wordpress.com Twitter: @unicorn4275

canal's active life came to an end in 1891, killed off by the arrival of the railway. Bude received its first train in 1898 and at its peak, seven trains arrived in the town each day (including five from London Waterloo). The station closed in 1966, with the nearest station now to be found at Bodmin Parkway. The Bude canal is now popularly used for leisure and recreation, including kayaking, boating, fishing, walking, and cycling.

4. If you have time, you can take a short detour to visit the excellent Castle Heritage Centre. This is reached by turning right in front of the Lock Gates Tea Room and passing the bandstand. The castle was originally built by Sir Goldsworthy Gurney in 1830 and it became his private residence. Gurney chose two acres of sand dunes for his home, so he could demonstrate that a large building could be constructed on sand if the correct foundations were laid. Gurney is one of Britain's forgotten geniuses, and his many inventions included a steam-powered carriage, a new method of lighting which became known as the 'Bude Light' (eventually used to light the Houses of Parliament), and a first-generation central heating system called the 'Gurney Stove' which served as an improvement on the existing technology of coke-filled boilers. Gurney's radiator invention rested in a trough of water and the evaporating water transferred heat. He designed his stove with twenty-four vertical cast iron fins to increase the heated surface. In 1848, Gurney set up the London Heating and Ventilation Company, and his new device was installed in numerous public buildings, including 5,000 parish churches. There are excellent interpretation boards in the heritage centre covering Gurney's life, as well as providing information on the canal, Bude's industrial past, and local wildlife.

5. Return to the canal and head towards the sea, with the river Neet to the right winding its way through a sand dune system to the beach. The canal brought a great deal of sea trade to the town, and the old tramway tracks preserved in the path once carried sand from the beach to the canal.

6. At the end of the canal are some impressive wooden lock gates - the only manually operated sea pound lock gates to be found in Britain. Use the narrow footbridge on top of the lock gates to cross the canal to the south side.

7. Walk past Munster Cottage, East Cottage, and West Cottage, and in front of Efford Cottage find the path that heads up to Compass Point Hill. This is the location of the Storm Tower, or 'Pepper Pot'.

8. As you rise to the top the hill you will reach the tower in its new location. At the time of writing, the attractive folly building was being dismantled and moved inland as its foundations were being threatened by rapid coastal erosion. This is not the first time the tower has had to be shifted away from the cliffs, as it was also relocated in the 1880s. When I last visited, it was fascinating watching the craftsmen at work, reconstructing the jigsaw of all of the numbered original stones that had been carefully dismantled from the old site and stored nearby. The work was scheduled for completion in November, 2023. The Storm Tower was originally built by Sir Thomas Acland (a very influential figure in Bude's development) in 1830 as part of a landscaping scheme. It was later used as a coastguard station, where a 'flag man' raised a red flag for ships to indicate when it was not safe to sail into the harbour. Its design was based on the 'Temple of the Winds' in Athens, and within the tower is a Meridian Line from which 12.00 by the sun could be obtained and later used to monitor tide heights and tides. It has been a Grade II listed building since 1985.

9. If you continue to the top of the hill and the cliff edge (but not too close!) you will be close to the last site of the Storm Tower, and from here you have an excellent view across Summerleaze Beach. In the foreground is the harbour breakwater, and in the distance is the Sea Pool - both locations you will soon visit for a closer look. There will probably be a number of surfers in the water, and looking further afield on a clear day, you should be able to see Lundy Island and the white dishes of the Morwenstow government listening station to the north, Tintagel and Trevoze Head to the south, and the tors of Dartmoor to the east. Bradshaw's famous travel guide of 1886 described the view from here: **"The sea view is of a striking, bold and sublime description - the rocks rising on every side to lofty broken elevations"**

10. Retrace your steps back to the canal locks, and walk down the slipway to access the south side of the breakwater. You will soon pass a delightful example of an anticline fold in the cliffline, your first *(continued overleaf)*

look at the local rocks that are named as the Bude Formation. Layers of sandstone and thinner interbeds of shale can be easily identified, originally set down as sediments in a giant 'Lake Bude' in the Carboniferous period some 300 million years ago - long before when dinosaurs existed. At this time, the UK lay much further south, nearer to the equator. Lake Bude was the last vestige of the Rheic Ocean which was gradually consumed as the giant land masses of Gondwanaland and Laurasia converged to create the Pangea mega-continent. The mountain building that took place at this collision site became known as the Variscan Orogeny, and caused the folding and uplift of the Bude strata just few million years after their deposition.

It's All Because Of The Variscan!

If you want to gain an understanding of the landscape of the north Devon and north Cornwall coastline, you need to get your head around the events of the Variscan Orogeny. This was a period of mountain-building that took place in the late Carboniferous/early Permian periods, and lasted for around 100 million years. The geological events of this time caused the folding and faulting of horizontal sediments laid down under water that created the crazy crumpling and contortions we can readily see in the cliffs in this area.

At the time of the Variscan, the Atlantic Ocean did not exist, and plate movements resulted in the northern land mass of Laurasia (containing Europe and North America) colliding with the southern continent of Gondwanaland (containing South America, Africa, Antarctica, Australia and India). This created the new super-continent of Pangea. As the two giant land masses converged, they closed the Rheic Ocean that was located between them, and buckled the sea bed up into mountain summits high above sea level. The mountains created by the events of the Variscan Orogeny have been eroded away over the years, leaving a landscape from around 145 million years ago dominated by the actions of the sea.

In the Carboniferous period, 290-350 million years ago, and before the plate collision, erosion of the mountains to the south fed vast quantities of muddy sediment via rivers draining the northern slopes and a series of deltas into a basin containing the shallow, brackish Rheic Ocean. As flow velocity of these rivers decreased, heavier grains of sand settled out (sandstones), followed by silts, and then finally muds (mudstones and shales). Some of these layers may have been deposited in just a matter of hours.

Along much of the north Cornwall and Devon coastlines these layers of sandstones, mudstones and shales can be clearly seen in the cliffline, while the top surfaces have been eroded away to create a flat inland plateau. The sandstones appear lighter in colour, while the mudstones and shales show as much darker layers, maybe 30-45 cm thick. Although originally deposited over 300 million years ago as flat, horizontal layers, these beds have been lifted and twisted into majestic folded shapes, and in places it is almost impossible to pick out a single layer and follow its path through numerous upfolds and downfolds. The rocks are generally northerly dipping, with a number of low angle faults visible. While the chaos of folding is evident in the cliffs, on the beach the sedimentary layers have been eroded by the sea to produce wave cut platforms with ridges and gullies exposed at low tide. The sandstones are more resistant to wave action, leaving them standing prouder as ridges, while the less resistant mudstones have been worn away faster to produce gullies. Numerous fault lines are also clearly visible through the rocks.

11. Make your way (carefully) over the breakwater, noting the many different rock-types used in its construction. You should be able to pick out sandstones, limestones, granite, and slates. Some of the limestone blocks contain columnar star-shaped crinoid fossils. The breakwater was built in 1819 to protect Bude's harbour and the entrance to the new canal, *(continued overleaf)*

so that the port could be developed by taking sea sand inland to be used as fertilizer. Prior to the canal's construction, Bude was merely a neighbourhood of nearby market town of Stratton. As this was the only harbour shelter along forty miles of unbroken cliffs, port trade slowly increased through the seventeenth century, and bark was exported and culm earth and lime were imported. Trade was interrupted for a number of years during the Civil War (1642-1651), when the port was held by Royalists despite the nearby ports of Bideford and Barnstaple being strongly Parliamentary. By the start of the eighteenth century, world trade had opened up and Robert Moyses was an important figure, importing chinaware and provisions from Bristol (known as 'Bristol goods'). In its mid-nineteenth century heyday, at least fifty sailing ketches (wooden-hulled sailing ships with two masts) were based here in front of shipyards, warehouses and grain mills. At the tip of the breakwater is 'Tommy's Pit', an old bathing pit built by Sir Thomas Acland and used by local men - while women bathed in their own dedicated area at Maer Lake close to Crocklets Beach. Next to the breakwater is Chapel Rock, and in the Middle Ages ships were guided to safety by a light kept burning here in a hermits cell. It is believed that the town's name of Bude Haven derived from the holy men who operated this lighthouse - 'Bede's Haven'.

12. Just to the west of the breakwater is an interesting geological feature, a 'whaleback fold'. Exposed alternate beds of sandstone and silty shale have been forced into a pericline - an anticline whose axis plunges down at each end in opposite directions. The rocks have the appearance of a whale's back or an upturned canoe. A close examination of the rock layers near the base of the fold reveals further details. In places, it is possible to see where the denser sandstone started to sink down into the shale before the rocks were fully formed.

13. Return now to cross back over the lock gates, and walk down the steps onto the golden sands of Summerleaze Beach - the central focus of the resort. Make your way across the beach to examine the rock exposure to the right of the Sea Pool known as Summerleaze Point. Here, the sandstone and darker shale beds of the Bude Formation can be easily identified, along with evidence of folding resulting from the earth movements of the Variscan Orogeny. Close examination reveals that in places it is possible to see in the sandstone the dark grey vertical mud-filled burrows made by worms burrowing into the soft sediment when it was first deposited in Lake Bude some 300 million years ago.



Summerleaze Point — photo: Paul Berry

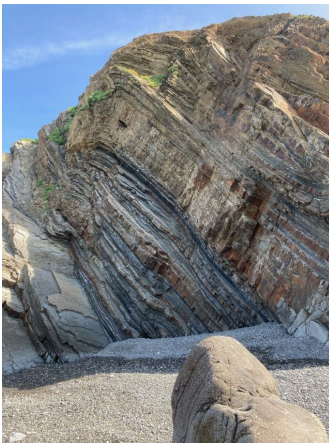
14. Walk along to the Sea Pool, created in the 1930s, and known locally as 'Saturday Pit'. Behind the swimming area (no public access) is a four-metre-wide layer of shale (the Saturday Pit shale) that dips gently to the north. It was here that a group of school children first discovered a unique goldfish-like fossil, called 'Cornuboniscus budensis' and also known as the 'Bude Fish'. This specimen is evidence of a life form from an era when Bude's climate was similar to modern day Africa, and is unknown anywhere else in the world. It can be seen in the Heritage Centre. To the south of the bathing pool is Coach Rock and a rusty metal cross placed here in 1840. This is the half-tide cross, and when the sea level reaches the arms of the cross, it indicates that the tide is either halfway in or halfway out, depending on whether you are a cider glass half-empty or half-full kind of guy.

15. Climb the steps east (to the right) of the Sea Pool to reach Summerleaze Down. The name comes from 'Summer lease', when in the past locals held the lease to graze animals here during the summer months. Here, you can join the South West Coast Path to walk along the cliff top to Sandymouth Cove. If you have timed your visit correctly to arrive there near to low tide, you can then make your trip a circular route by walking back to Bude along the shoreline. Alternatively, you could walk to Sandymouth Cove along the beach, and return on the coast path.

16. A little way inland from the path is a flagpole made from the mast of a wrecked fifty-ton ketch called 'Elizabeth'. This unfortunate vessel entered Bude harbour on February 16th, 1912, and was being warped along the harbour entrance channel in heavy seas in order to gain anchorage near the lock gates when she broke free of her warping ropes, and was carried by a strong rip current onto Coach Rocks just seaward of the Sea Pool. Next to the flagpole is a public bench called the 'Chat Bench', where people can sit and enjoy conversations with passing walkers.

(continued overleaf)

17. Continue past the cricket ground to the lifeguard lookout. From here, Crooklets Beach open out in front of you. The first surf life-saving club in the country was formed here in 1953.
18. Continue down to the head of the beach, pass the beach cafe and slipway, and then pick up the coast path again behind Rosie's Cafe. After passing through a wooden gate, a sign advertises your arrival at Maer Cliff. A path soon leads down to First Cove, but you can remain on the clifftop path to enjoy a safe, flat walk to Sandymouth Cove.
19. Maer Down (the area immediately inland from the cliffs) is an area of historic importance, littered with rounded mounds or tumuli - burial grounds from the Bronze Age dating back between three and five thousand years. On the walk to Sandymouth Cove, there are great views of the coves, beaches and wave cut platforms on the shore below. Upstanding ribs of harder to erode sandstone protrude from the beach, occasionally forming larger individual stacks. Arrow-shaped patterns can be identified in the rocks of the wave cut platforms, some pointing seaward (representing anticlines) and some pointing landwards (representing synclines). You will get chance to see these same rocks in three dimensions on your return walk along the beach.
20. The coast path passes Furzey Cove and Pearce's Cove before arriving at Northcott House. From here, it continues straight on to a National Trust car park, but you can take a branch leading to the left to Northcott Mouth Beach. Carry on past the cottages, and the remains of some old wartime 'dragon's teeth' anti-tank defences before climbing the path to Bucket Hill.
21. The path continues past Menachurch Point and Westpark Beach before reaching Sandymouth Cove. At the café and toilets, ignore the turning to the National Trust car park, and take the path to the left that leads to Sandymouth Cove Beach.
22. This is the most northerly coastal location of Lower Carboniferous rocks in Cornwall, and the rocks of the Bude Formation (sandstones and thin interbeds of shale) have been contorted and folded here into some spectacular shapes. On the National Trust web site Sandy Mouth Cove is described as: **"A popular but unspoilt beach of pebbles and sand backed by incredible twisted cliffs"**.



*Folding at Sandymouth Cove —
photo: Paul Berry*

A juicy anticline is visible on the beach, and two waterfalls tumble from the cliff top to add to the scene, battling to erode a course to the beach but prevented from doing so by the rapid erosion rate of sea. More resistant sandstone rocks nearby stand proud as individual stacks in the sea. Some of the sandstone beds in the cliffs are stained red from iron oxide present on the fracture surfaces, and the upper beds that have collapsed onto the beach do sometimes reveal plant fossils. The sea bed slopes away sharply at Sandy Mouth, and a strong surf results here. The beach is a magnet for local surfers, and during the summer months, life guards are in attendance.

23. If the tide is low enough, you can now turn southwards to return to Bude along the beach. It is easier walking on the damp sand close to the sea, but better to try to navigate around the rocks of the wave cut platform in places to get a closer view of the cliffs. At Westpark Beach (just north of Menachurch Point) is some of the wreckage of SS Belem, a Portuguese steamship carrying 2,500 tons of iron ore from Cardiff Docks that ran aground here in thick fog on November 20th/21st, 1917. Fortunately, all thirty-three crewmen aboard were saved. This is one of many hundreds of wrecks that have fallen foul of the unpredictable westerly winds and strong tidal currents that inhabit Bude Bay from Trevoise Head to Lundy Island. An old local couplet states: **'From Padstow Point to Lundy Light, Is a watery grave by day or night'**.

24. The cliffs at Menachurch Point offer up a wonderful chevron anticline exposed in the core of a box fold (an anticline with broad flat top bordered by steeply dipping limbs).

(continued overleaf)

25. At Northcott Mouth Beach, you can spot the outline of Northcott House above on the cliffs which you passed earlier in your walk. There is a great anticline to enjoy here on Maer Cliff, with a very mixed-up interior. A bed of resistant sandstone has been folded to an almost vertical position, and isolated as a giant independent slab of rock.
26. The cliffs of Smooth Rock are well-named, as the sea has created a glossy slab of massive sandstone beds here.
27. Pearce's Cove comes next, with its clear syncline and anticline in the cliff beds.
28. At Maer High Cliff, there are chaotically deformed and disrupted bands of sandstone and grey shale to be seen. Near vertical beds of sandstones stand out following erosion of the interbedded shales, and many of them show clear ripple marks that were made in soft sand on the flat floor of Lake Bude (rather than the sea).
29. Wrangle Point is the name of the headland that marks the north end of Crooklet Beach. 6,000 years ago this area was a forest of oak and hazel, with the shoreline much further out. This ancient forest once stretched up to four miles beyond the current shoreline, and remains of it can occasionally be seen when severe winter storms strip away the sand to reveal petrified tree stumps. Bones have also been discovered here, maybe from an early hunter gatherer or perhaps just an unfortunate sailor?
30. Crooklets is a popular surfing spot, and you pass beneath a lifeguard lookout post at the south end of the beach where there are more interesting examples of folded sediments to study.
31. You have now reached Middle Beach, where a syncline and an anticline can be seen in the cliffs, along with different types of faults, plus ripple marks and worm load casts in the sandstone layers. A small pebble storm beach has built up here in a recess in the cliffs.
32. You will soon return to the Sea Pool where you can get another look at the interesting rock formations in the cliffline before skirting around the edge of the sand dune system (reinstated in 1993) that backs Summerleaze Beach. A line of rock armour offers protection from the highest storm waves.
33. Reconnect now with the canal path, which will return you to the Crescent car park and visitor centre. If you wish, you could extend your walk along the canal or perhaps continue south on the coast path towards Widemouth Bay.



Pearce's Cove — photo: Paul Berry



Whaleback fold — photo: Paul Berry



Summerleaze Beach — photo: Paul Berry

Answers to Curiosity Questions:

- # The coastline from Compass Cove to Furzey Cove is an SSSI. What do these initials mean? (*Site of Special Scientific Interest*)
- # The two halves of Bude town are divided by 'Nanny Moore's Bridge'. Who was Nanny Moore? (*She was a widow who lived in cottages nearby. She worked as a 'dipper', escorting and assisting ladies who wanted to swim in the sea*)
- # Can you name the famous British geographer who lived in Bude on his retirement? (*Sir Dudley Stamp*)
- # The famous writer Jean Rhys (1890-1979) lived in Bude in the late 1950s and began the final version of her most successful novel here. What was it called? (*Wide Sargasso Sea*)

