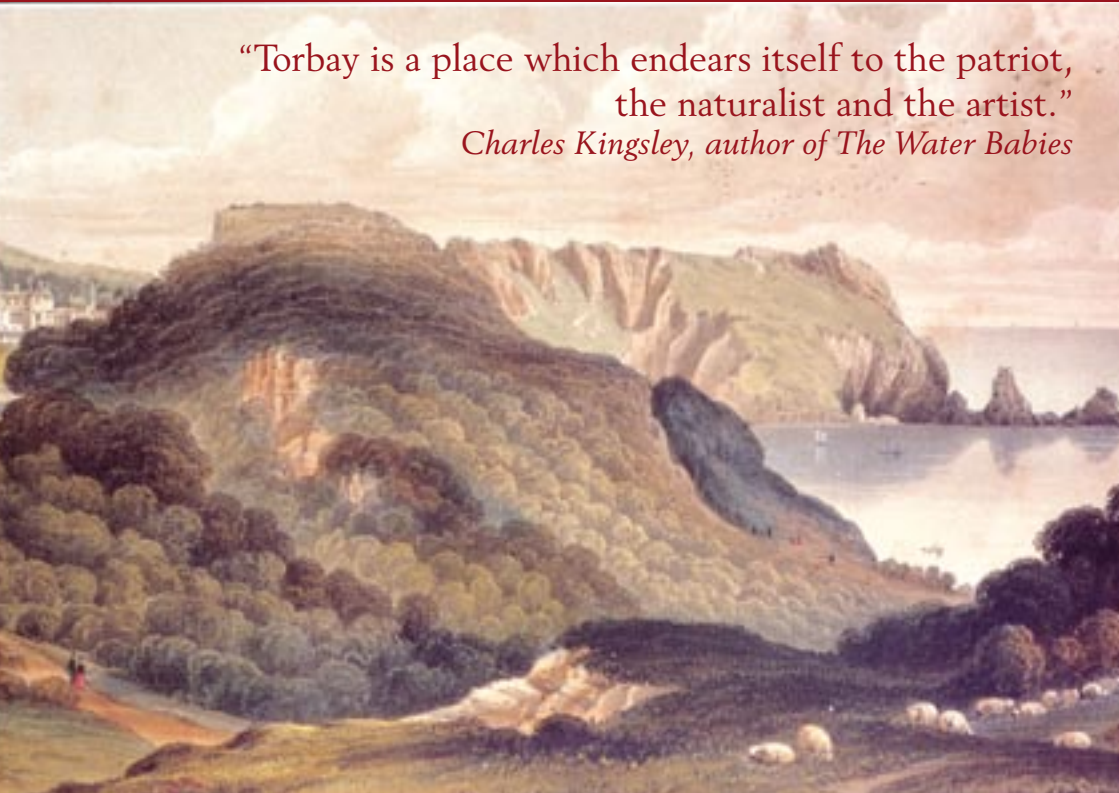


THE ENGLISH RIVIERA GLOBAL GEOPARK

“Torbay is a place which endears itself to the patriot,
the naturalist and the artist.”
Charles Kingsley, author of The Water Babies



English Riviera



GLOBAL GEOPARK



GLOBAL
GEOPARKS
NETWORK



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St Mary's Bay, photo courtesy of English Riviera Tourism Company

THE ENGLISH RIVIERA GLOBAL GEOPARK

What is a Geopark?

A Geopark is an area of outstanding geological, ecological and cultural interest. To qualify for European Geopark status, it must comprise geological sites of international significance in terms of their scientific quality, rarity, beauty or educational value. In September 2007 The English Riviera became the 32nd member of the European Geoparks Network (itself a part of the Global Network of National Geoparks). The English Riviera Geopark is the only urban Geopark, with a population of 134,000 in an area of 62km² and 42km² of sea.

The English Riviera has a rich and well-exposed geological heritage, from Devonian reefs to Pleistocene bone-caves.

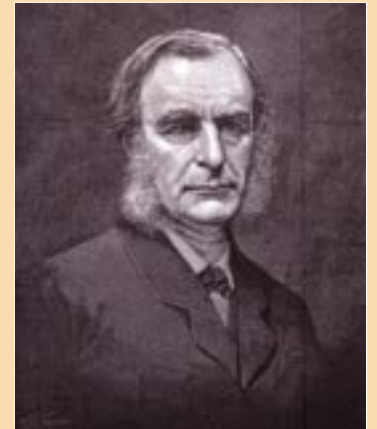
This geology has strong links to the history of science and culture, not least as Torbay includes sites crucial to the initial characterisation of the Devonian Period. The area includes one of the highest concentrations of protected geological sites in the UK with 11 nationally protected sites and 15 regionally important sites.

Did you know?

The geological timeframe universally accepted as the Devonian Period was so named after Victorian members of the Palaeontographical Society found fauna in a range of sites across Devon, including Lummaton Quarry in Torquay.

Did you know?

In 1854, one of the Victorian era's natural history luminaries, author Charles Kingsley, marveled at more than one aspect of natural history in Torquay. He explored the marine life along the coastline, resulting in the publication of his research, *Wonders of the Shore* and, residing near Torre Abbey (the resort's oldest building) developed an idea for his classic historical novel *Westward Ho!* In a letter to a friend, Kingsley acknowledged the source of his inspiration: 'Torbay is a place which endears itself to the patriot, the naturalist and the artist. We cannot gaze on its blue ring of water and the great limestone bluffs which bound it to the north and south, without a glow passing through our hearts as we remember the terrible and glorious pageant ... when the Spanish Armada ventured slowly past Berry Head with Elizabeth's gallant pack of Devon captains ... following fast in its wake ...'



Charles Kingsley

The Geopark today

Situated within the rolling hills of South Devon, the English Riviera's geology has created a beautiful coastline which fundamentally links the rich diversity of landscape with wildlife, people and culture. Upon Torbay's award of Geopark status, the area's importance to the natural sciences was acknowledged by Iain Stewart (Patron of the English

Did you know?

Honoured for his geological work and cavern exploration in Torbay, William Pengelly (1812-94), was showing a party of people his amazing natural history discoveries at Kents Cavern when a lady enquired: 'Do you really think, Mr Pengelly, that this is more than 4,000 years old?'

'Yes, madam, I think you may add another nought to that number and still another; in fact you can make it as noughty as you like' was the humorous reply.



William Pengelly

Riviera Global Geopark, Professor of Geoscience Communication at Plymouth University, presenter of BBC TV's How Earth Made Us and Earth: The Power of the planet):

"At first glance, the crowded shores of the English Riviera would seem an unlikely scene to create a Geopark. But amid the scattered urban mosaic of Brixham, Paignton and Torquay - tucked away in the valleys, on hilltops, along blood-red bluffs or steel-grey sea stacks - is some of the best geology in southern Britain. But there is more to this Geopark than simply a fascinating window into our planet's distant heritage. The resonance of these truly ancient roots endure in the modern make-up of this intricate coast - its architecture and buildings, its culture and artistic roots, its creation of sense of region and place. Simply, the Geopark is where people, rocks and landscapes meet."

'Gateway' sites

'Gateway' sites are those with a very visible Geopark focus and where identification and guides are available for visitors.

Berry Head National Nature Reserve

Nature meets geology with spectacular results in a location of diverse flora and fauna, dramatic Napoleonic war fortifications and unrivalled views across Torbay.

The Seashore Centre

On the shores at Goodrington is a community resource equipped with seawater tanks displaying marine wildlife, interactive displays and a video microscope where you can explore our tropical seas of the past.

Kents Cavern



Kents Cavern

The Ice Age home of Britain's earliest humans is a spectacular cave system which is now a protected national monument, international show cave and the only underground gateway to the Geopark.

Key sites 'Key' sites are those that are closely connected to the Geopark.

Torre Abbey

Our most important and ancient monument, now fully restored, presents centuries of architectural and cultural history.

You can now also explore the most ancient parts of the building where some amazing finds have been unearthed.

Torre Abbey



Torquay Museum

Ranked among the finest in the South West, Torquay Museum covers a wealth of local natural and cultural history, presented in engaging and interactive displays all the family can enjoy.

Geopark Cruises

Greenway Ferries enable you to view the English Riviera's stunning geology from the sea whilst providing full and interesting commentaries that make for a great introduction to the impressive natural beauty of the area.

Occombe Farm

Connecting food, farming and the landscape, Occombe is a working organic farm that welcomes visitors to its nature trails, education centre, farm shop and café.

Cockington Court and Country Park

Set in 450 acres of beautiful parkland, Cockington brings local traditions and creativity together with its thriving craft centre, organic garden, stables and play area.

Cockington Court



Oddicombe and Petitor

The European and Global Geopark Network

Founded in 2000 the European Geoparks Network (EGN) was initiated by just four areas: Reserve Geologique de Haute Provence (France), the Petrified Forest of Lesvos (Greece), Vulkaneifel (Germany) and Maestrazgo Cultural Park (Spain). By 2004 the success of the EGN was recognised and this led to the global development of the network. As of October 2010 the Global Geopark Network comprises a total of 77 members across 25 countries. Today, working together as a global partnership with common goals to enhance public awareness, understanding and appreciate of

the natural world and the culture of the area whilst promoting sustainable forms of economic development, the network includes some of the most stunning places of natural beauty in the world, in countries as diverse as Australia, Brazil, China, Iran and Malaysia.



The English Riviera's Geological Timeline

400 million years ago

During the geological timeframe universally accepted as the Devonian Period, the English Riviera was located south of the equator. Warm seas during the Devonian era produced marine creatures and corals that accumulated layer upon layer to form outstanding examples of limestone found along the coast at Berry Head, Hope's Nose and Walls Hill.

300 million years ago

These limestone deposits were pushed northwards, being folded and broken under pressure as a giant mountain chain developed. This event caused Babbacombe Cliffs to turn 'upside down', so that the dark slates at the bottom of the cliffs are actually younger than the pale limestones of Babbacombe Downs at the top.

280 million years ago

Torbay only shifted north of the equator during the Permian Period. The area was then in the middle of an arid desert that produced the area's characteristic red sandstone cliffs, prominent today at Saltern Cove and Goodrington.

1.8 million years ago

The dinosaurs came and went and sea levels dropped during the Quarternary Period, when the English Riviera was close to its present position. Freshwater streams carved out a network of cave systems in the limestone at Brixham Cavern and Kent's Cavern. These later became home to our earliest ancestors.

The 32 Geosites

Babbacombe Cliffs
Barcombe Mews Quarry, Shorton
Barton Quarry
Berry Head to Sharkham point
Black Head and Anstey's Cove
Breakwater Quarry, Brixham
Brokenbury Quarry, Churston
Ferrers
Brixham Cavern
Chapel Hill, Torre
Churston Cove / Churston Point
Crystal Cove
Daddyhole
Dyers Quarry
Goodrington Quarry and Road
Cutting
Hollicombe Head to Corbyns Head
Hopes Nose: Marine Devonian
Hopes Nose: Mineralogy of SW
England
Hopes Nose and Thatcher Rock:
Quaternary of SW England
Hopes Nose South
Kents Cavern
Long Quarry
Lummaton Quarry
Meadfoot Sea Rd
New Cut
Oddicombe
Petitor, Maidencombe
Quarry Woods Quarry, Cockington
Roundham Head
Saltern Cove: Marine Devonian
Saltern Cove: Permian Triassic
Sharkham Iron Mine
Shoalstone

Murder in the Geopark

Torbay's major tourist attractions - the world's most popular author Agatha Christie and The English Riviera Geopark - are inextricably linked. Torquay Museum has a permanent exhibition celebrating the life of the 'Queen of Crime' while the gardens of Torre Abbey feature a Agatha Christie Potent Plant display that offers an expert insight into the poisons used in her murder mysteries. Agatha's father Frederick Miller was a fellow of the Torquay Natural History Society (now Torquay Museum Society) that funded a fifteen year excavation of Kents Cavern completed in 1890, the year that his famous daughter was born. Now acknowledged as the prehistoric home of Britain's first humans, Kents Cavern appeared as Hemsley Cavern in the Christie thriller *The Man in the Brown Suit*. The ingenious plot of one of Agatha Christie's best known novels has recently been used to try and unravel a murder mystery over 250 million years old. During the geological era known as the Permian Period (when Torbay's characteristic red sandstone cliffs were formed), 90% of all life on Earth inexplicably became extinct. Inspired by the works of 'The Duchess of Death', American paleobiologist Douglas Erwin, the world's leading expert on the global catastrophe, has developed theories in books described as 'whodunits for the ages'. They are written from the perspective of a detective piecing together clues to determine the many possible causes of death that include: asteroid impact, huge volcanic eruptions or the oceans losing their oxygen content. Unfolding as a sort of geological mystery story, Erwin describes a final possibility as the Murder on the Orient Express scenario which, like fictional detective Hercule Poirot of the novel, proposes that the crime was committed by all the suspects!

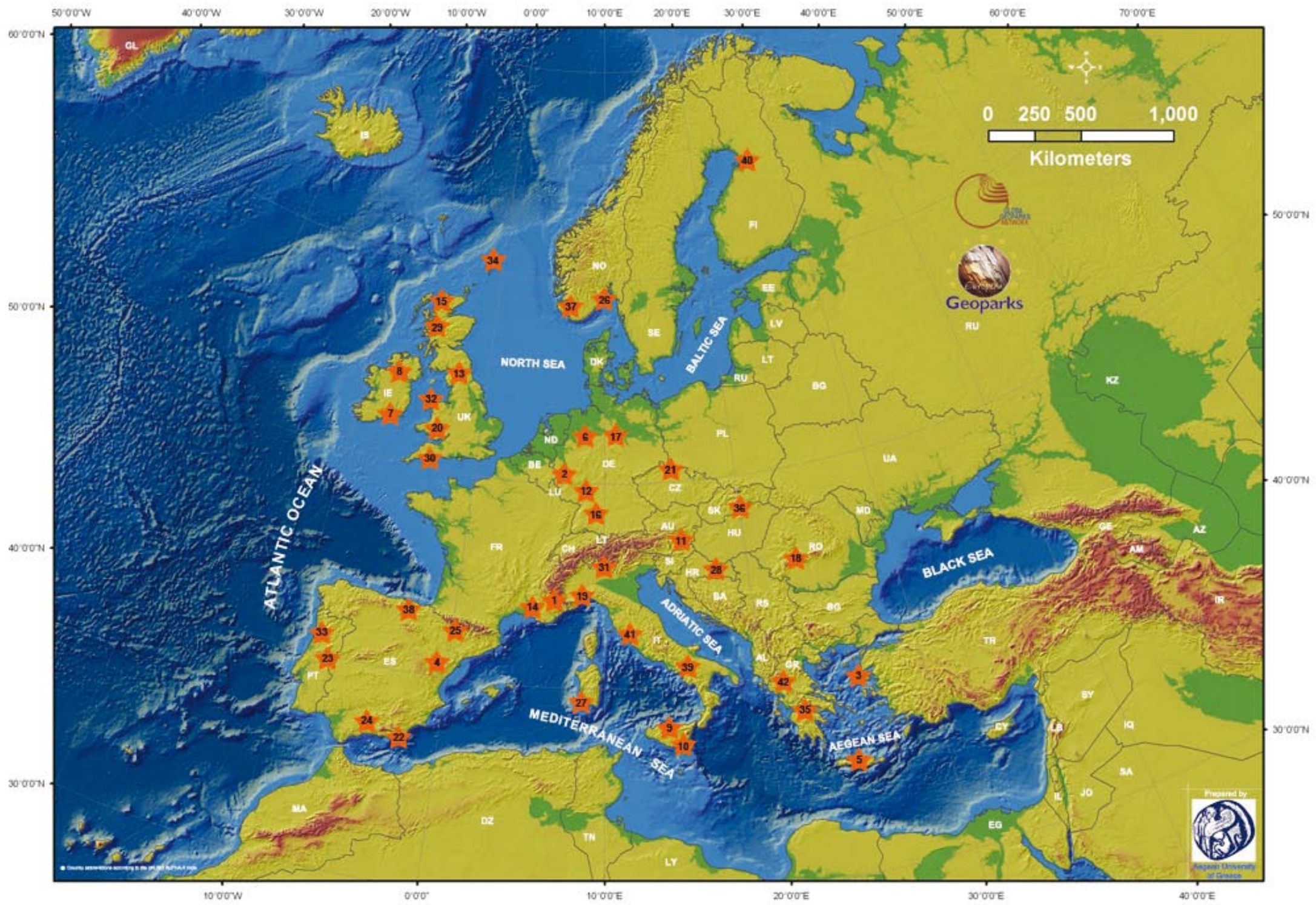


*Agatha
Christie's
'Poirot'*

EUROPEAN GEOPARKS NETWORK

MEMBER LIST - October 2010

1. Réserve Géologique de Haute Provence – FRANCE
2. Vulkaneifel European Geopark – GERMANY
3. Petrified Forest of Lesvos – GREECE
4. Maestrazgo Cultural Park – Aragon, SPAIN
5. Psiloritis Nature Park – GREECE
6. Terra.Vita Nature Park – GERMANY
7. Copper Coast Geopark– IRELAND
8. Marble Arch Caves European Geopark – NORTHERN IRELAND, UK
9. Madonie Geopark – ITALY
10. Rocca di Cerere – ITALY
11. Nature Park Steirische Eisenwurzen – AUSTRIA
12. Nature Park Bergstrasse Odenwald – GERMANY
13. North Pennines AONB – ENGLAND, UK
14. Park Naturel Régional du Luberon – FRANCE
15. North West Highlands – SCOTLAND, UK
16. Geopark Swabian Albs – GERMANY
17. Geopark Harz Braunschweiger Land Ostfalen Geopark – GERMANY
18. Hateg Country Dinosaurs Geopark – ROMANIA
19. Beigua Geopark – ITALY
20. Fforest Fawr Geopark – WALES, UK
21. Bohemian Paradise Geopark – CZECH REPUBLIC
22. Cabo de Gata – Nijar Nature Park – Andalucia, SPAIN
23. Naturtejo Geopark – PORTUGAL
24. Sierras Subbéticas Nature Park – Andalucia, SPAIN
25. Sobrarbe Geopark – Aragon, SPAIN
26. Gea Norvegica – NORWAY
27. Geological, Mining Park of Sardinia – ITALY
28. Papuk Geopark – CROATIA
29. Lochaber Geopark – SCOTLAND, UK
30. English Riviera Geopark – ENGLAND, UK
31. Adamello – Brenta Nature Park – ITALY
32. Geo Mon – WALES, UK
33. Arouca Geopark – PORTUGAL
34. Shetlands – SCOTLAND, UK
35. Chelmos Vouraikos – GREECE
36. Novohrad - Nograd Geopark – HUNGARY and SLOVAKIA
37. Magma Geopark – NORWAY
38. Basque Coast Geopark, Pais Vasco – SPAIN
39. Parco Nazionale del Cilento e Vallo di Diano, Campania – ITALY
40. Rokua Geopark – FINLAND
41. Tuscan Mining Park, Toscana – ITALY
42. Vikos – Aaos Geopark – GREECE



© Geoparks network according to the UNESCO definition



Further information The English Riviera Global Geopark website contains links to the 'gateway' sites, key sites and details and map references for the 32 GeoSites, covering the story of three geological periods, plus a range of history and heritage topics and news of forthcoming events. www.englishrivierageopark.org.uk
To discover more about Geoparks visit www.globalgeopark.org or www.europeangeoparks.org

Torbay Coast & Countryside Trust manage 1750 acres of country parks, nature reserves, woodland, farmland and coastline in Torbay, including four geopark gateway sites at Berry Head National Nature Reserve, Kent's Cavern and the Seashore Centre, Goodrington. www.countryside-trust.org.uk

The Seashore Centre, TQ4 6LS

Contact: 01803 528841

Berry Head National Nature Reserve,

TQ5 9AP Contact: 01803 882619

www.berryhead.org.uk

Cockington Court, TQ2 6XA

Contact: 01803 607230

Ocombe Farm, TQ3 1RN

Contact: 01803 520022

www.occombe.org.uk

Kents Cavern, TQ1 2JF

Contact: 01803 215136

www.kents-cavern.co.uk

Torre Abbey, TQ2 5JE

Contact 01803 293593

www.torre-abbey.org.uk

Torquay Museum, TQ1 1HG

Contact: 01803 293975

www.torquaymuseum.org

Geopark Cruises

with Greenway Ferries, TQ1 2BG

Contact: 0845 4890418

www.greenwayferry.co.uk

Brixham Heritage Museum, TQ5 8LZ

Contact: 01803 856267

www.brixhamheritage.org.uk

Further reference material available at Torquay Local Studies Library:

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Check out the library web pages at www.torbay.gov.uk/libraries
or go straight to the library catalogue at:
<https://libraries.torbay.gov.uk/>

Text written and compiled by Mike Holgate

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