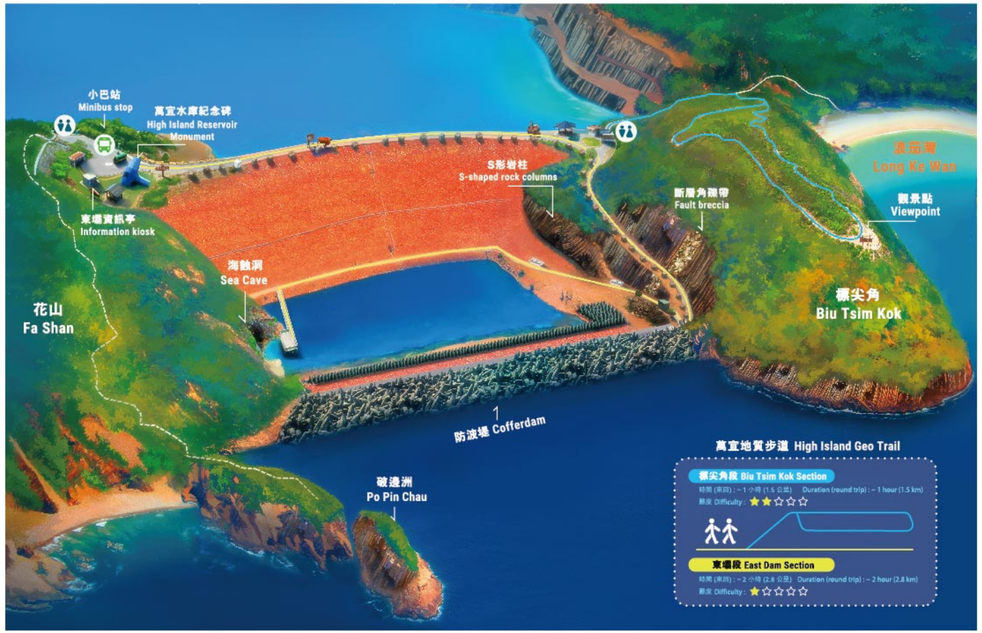
萬宜地質步道

High Island Geo Trail



香港聯合國教科文組織世界地質公園
Hong Kong UNESCO Global Geopark

R2G 地質導賞團
Geopark Tour

萬宜地質步道

High Island Geo Trail

萬宜地質步道沿途設有解說牌，介紹地質特色。遊客可以從東壩紀念碑出發，沿步道欣賞六角形岩柱、斷層、彎曲的岩柱、侵入岩牆等大自然奇觀，並於木橋步道上近距離觀賞海蝕洞。

The High Island Geo Trail is a walk with interpretation panels along the way. Visitors can walk from the East Dam monument and enjoy the marvelous landforms along the trail, such as hexagonal rock columns, faults, distorted rock columns and an intrusive dyke. From the wooden boardwalk at the end of the trail they can get a good view of the sea cave.

S形六角形岩柱和侵入岩牆
S-shaped Hexagonal Rock Columns and Intrusive Dyke

約在 1 億 4000 多萬年前，岩柱仍處於半塑性狀態，因受到地震和區域性下沈影響而扭曲成 S 形。岩柱彎曲的地方就是最脆弱的部分，在地質作用下，岩柱沿此裂開，地下的岩漿沿裂縫入侵，冷卻後形成深灰色的侵入岩牆。岩牆要比周圍的岩柱年輕約 4000 萬歲。

About 140 million years ago, when the columns were still in a semi-plastic state, they were distorted into an S-shape under the influence of earthquakes and regional subsidence. The distorted area of the rock columns is the most vulnerable. During geological processes, magma intruded along the weak line of the columns and cooled to form an intrusive dyke, which is about 40 million years younger than the surrounding rocks.

S形六角形岩柱和侵入岩牆
S-shaped hexagonal rock columns and intrusive dyke

侵入岩牆
Intrusive dyke

大地上的裂縫
Fissures in the Earth's Crust

地殼輕輕錯動一下，就可能引起地面強烈的大面積破壞現象。萬宜水庫東壩的斷層就是大自然的傑作。由於受到兩旁岩層劇烈摩擦，斷層上的岩石被壓碎成碎塊，形成約 2 米闊的斷層角礫帶，從崖壁上一直延伸至馬路下方。

A gentle dislocation of the Earth's crust can result in vast areas of massive destruction on the ground surface. The fault in the East Dam is one of Nature's masterpieces. Under the great impact of friction against the rock on both sides, the rocks within the fault were crushed into fragments to form a 2 m wide fault breccias belt, which extends from the cliff to the road below.

斷層角礫帶上的碎礫
Rock fragments on the fault breccia belt

典型的斷層角礫帶
A typical fault breccia belt

萬宜地質步道
High Island Geo Trail

糧船灣地質簡介
Geological Overview of the High Island

世界各地的岩柱大多由含硅質較低的深灰色玄武岩構成，惟香港的岩柱是富含硅質的淺色流紋質火山岩，柱狀節理主要呈五邊或六邊形。根據估計，火山岩柱的面積逾100平方公里（含海域），露出地面的高度達100米，總厚度超過400米，平均直徑1.2米。火山岩柱擁有凝灰岩和熔岩的特徵，關於它們的成因，地質學者持有不同的看法和解釋。

Rock columns elsewhere are usually made of dark grey basalt with low silica content. By contrast, the rock columns in Hong Kong are light-coloured, silica-rich, rhyolitic volcanic rock. The columnar joints are mainly pentagonal or hexagonal. It is estimated that the columns cover an area of over 100 km² (including submerged areas), with an exposed height up to 100 m, a total thickness of 400m and an average diameter of 1.2 m. The rock columns have features of both tuff and lava, but there is still no consensus among geologists on the material that formed them.

香港地質景點的保育，全賴我們攜手推動！

The conservation of the geosites in Hong Kong is in our hands!

地質年代：
早白堊紀
（約 1 億 4000 萬年前）

面積：
13.43 平方公里

岩石種類：
- 流紋質火山岩

特色：
- 萬宜水庫
- 六角形柱狀節理
- 斷層
- 彎曲的岩柱
- 侵入岩牆
- 海蝕地貌

Geological Age:
Early Cretaceous Period
(About 140 million years ago)

Area:
13.43 km²

Rock Types:
- Rhyolitic volcanic rock

Features:
- High Island Reservoir
- Hexagonal columnar joints
- Faults
- Distorted rock columns
- Intrusive dyke
- Erosional landscapes

如何前往
How to get there

西貢市中心 Sai Kung Town → 94號巴士 Bus No.94 或 OR 7號或9號小巴 Minibus No.7 or 9 → 北潭涌 Pak Tam Chung

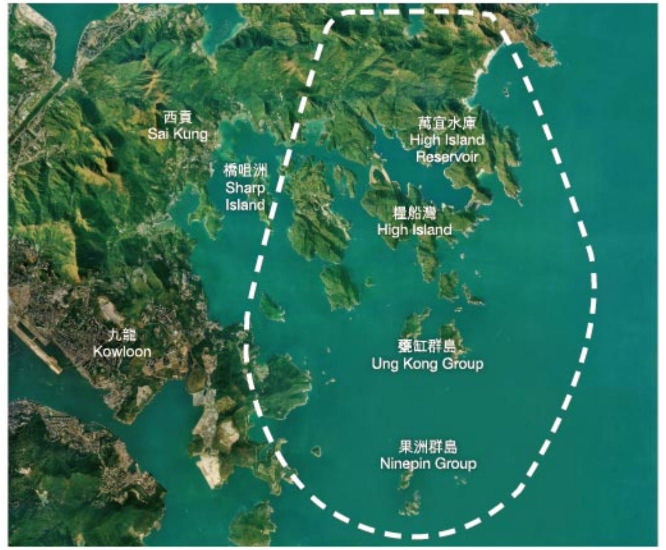
北潭涌 Pak Tam Chung → 計程車 / #9A小巴 Taxi / #Minibus No.9A ~25 分鐘 mins 或 OR 步行 On foot ~2.5 小時 Hours → 萬宜水庫東壩 High Island Reservoir East Dam

西貢市中心 Sai Kung Town → *火山探知館東壩半日遊 *Volcano Discovery Centre East Dam Half-Day Tour ~40 分鐘 mins → 萬宜水庫東壩 High Island Reservoir East Dam

#逢星期六、日及公眾假期 Every Saturday, Sunday and public holiday
(資料以營辦商公布為準 Subject to the latest information published by the operator)
https://www.saikungplb.com/

*火山探知館東壩半日遊 Volcano Discovery Centre East Dam Half-Day Tour
https://www.volcanodiscoverycentre.hk

西貢火山岩園區地質歷史



古破火山口的推斷位置
Inferred location of the ancient caldera

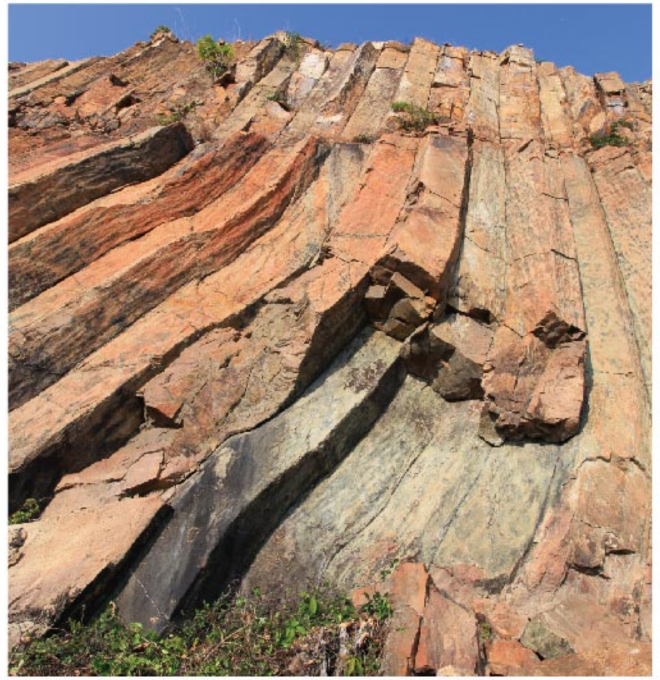
地質學家認為，西貢火山岩園區是約1億4 000萬年前（早白堊紀）該地區（即今日中國東部一帶）火山活動痕跡的典型例子。西貢曾經發生極度劇烈的火山活動，在現時香港東南面形成一個直徑超過20公里的大型火山。

連串的猛烈火山爆發噴出大量火山灰和熔岩。後來，騰空的火山崩塌及下陷，形成破火山口。大量火山灰及富含硅質的熔岩在凹坑內緩慢冷卻及收縮，因而形成壯觀的六角形火山岩柱。岩柱的分布在西貢東郊野公園、滘西洲、吊鐘洲、甕缸群島及果洲群島等逾100平方公里範圍。

Geological History of the Sai Kung Volcanic Rock Region

Geologists think that the Sai Kung Volcanic Rock Region is a typical example of traces of volcanic activities about 140million years ago (Early Cretaceous) in the area that is now eastern China. The area once went through a period of extremely intense volcanic activity, which resulted in the formation of a large volcano of over 20 km in diameter in what is now the south-eastern part of Hong Kong.

A huge amount of volcanic ash and lava spewed forth during a series of violent volcanic eruptions. Over time, the hollowedout volcano collapsed and subsided, forming a caldera. The large amount of volcanic ash and silica-rich lava inside the depression slowly cooled and contracted, forming the spectacular hexagonal volcanic rock columns which are now exposed in Sai Kung East Country Park, Kau Sai Chau, Jin Island, the Ung Kong Group and the Ninepin Group, an area of over 100 km².



發育良好的六角形柱狀節理
Well developed hexagonal columnar joints

狀如管風琴的破邊洲
A Giant Pipe Organ - Po Pin Chau

破邊洲海蝕柱
Po Pin Chau Sea Stack

從東壩遠望海邊，花山被海浪切割成兩個部分，破邊洲就是被分割出來的一座小島，展現了一種典型的海蝕地貌 ── 海蝕柱。破邊洲原本是花山的一部分，因長期受到海浪衝擊，最後與花山分離。其沿岸的石柱以近乎垂直的角度竪立海中，形狀就好像巨大的管風琴一樣。

Looking toward the sea from East Dam, Fa Shan is cut into two parts; the one being separated is Po Pin Chau, which is a type of the sea abrasion landscapes - sea stack. Po Pin Chau was once part of Fa Shan, but years of wave impact and erosion separated it. The rock stacks on the shore of Po Pin Chau tower almost vertically over the sea. The rock face looks just like a giant pipe organ.

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