



# 臺灣地質公園

Briefing Taiwan's Geoparks

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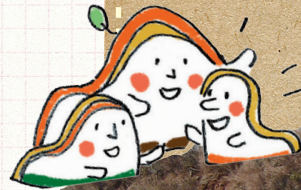
2017年9月



# 臺灣地質公園

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臺灣的地形  
很多變喔！



## 台灣地質公園網絡

台灣地質公園網絡成立於2011年，目前有9個地質公園成員。台灣地質公園網絡之目的，乃在於推動地質公園間的互相觀摩、學習與成長。

地質公園於2016年7月27日正式列入文化資產保存法，中央主管單位為林務局。台灣地質公園學會，則於2017年3月17日正式成立，在相關政府部門的支持下，主要由學界專家和社區成員組成，以推動地質公園的資源調查、認證、評估與經營管理等工作，並協助推動網絡會議。

台灣的地質公園擁有許多特殊地景、生態與文化資源等，足以做為地區永續發展的環境基礎；透過推動地質公園的核心價值：地景保育、環境教育、地景旅遊、社區參與，希望我國社會能擁有趨於永續發展目標的能量。

泥火山會不斷噴出  
泥漿喔！



澎湖的鱈魚洞  
好特別喔！



## Taiwan Geoparks Network

Taiwan Geoparks Network was initiated in 2011 by geopark communities and related scholars. The network consists of 9 geoparks for the time being. The purpose of the network is to promote the mutual learning among and capacity building of geoparks communities.

The concept of geopark was added to a long existing national law for cultural heritage, entitled Cultural Heritage Preservation Act, in July 2016. Taiwan Geoparks Association was soon established in March 2017 accordingly. The association is mainly composed of geoparks, its community members and related scholars and experts for the purpose of resource inventorying and the assessment, evaluation, and management of geoparks.

With Taiwan's geo-diversity, bio-diversity, and culture-diversity, geopark community could exercise local power to conserve and preserve the environment for a better future. Protecting the local environment through geopark's core values (i.e., landscape conservation, environmental education, geo-tourism and local involvement) will lay a better foundation for sustainable development.



臺灣目前有九座  
地質公園



野 北部海岸 THE NORTHERN COAST  
柳地質公園 YEHLIU GEOPARK



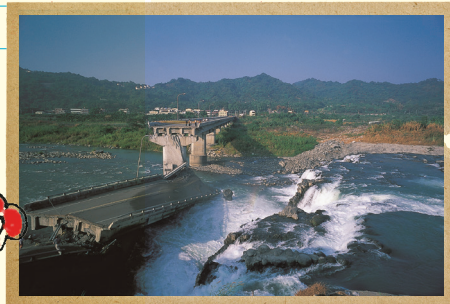
小野柳有許多  
珊瑚礁岩！

# 台灣的大地構造背景

台灣島位於歐亞大陸板塊與菲律賓海板塊的交界處，是世界上主要造山帶之一，地質相當多元複雜，易受侵蝕作用影響，造成地表沖蝕劇烈。地表侵蝕旺盛的搬運、堆積作用，造成地表景觀呈現動態的變化，這是造就台灣地質公園特殊地景的成因。

## Taiwan's Tectonic Background

The island of Taiwan is located at the junction of the Eurasia Plate and the Philippine Sea Plate. The northwest-ward movement of the Philippine Sea Plate causes a tectonic collision and subduction with the Eurasia Plate, making the area one of the important orogenic belts in the World. Due to the combination of crustal extrusions, unique bedrocks and severe weathering processes at the subtropical area, erosive landforms are commonly found throughout the island. The transportation and sedimentation of erosion processes contribute to the diversity of the landscape of Taiwan.



原來海底下  
藏有這麼多機關！



原來如此！



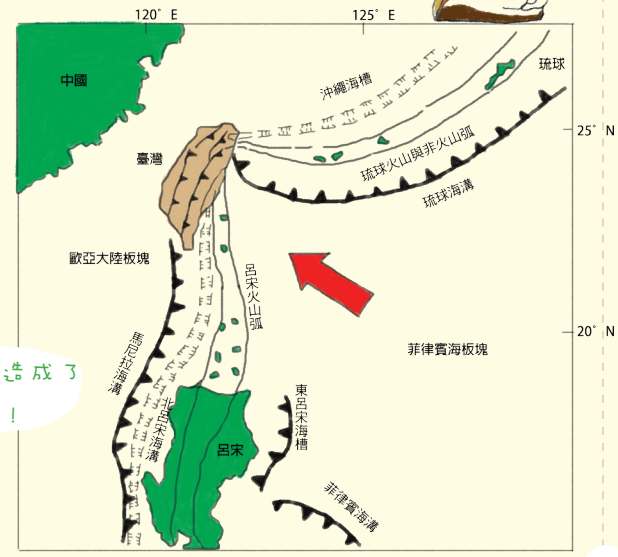
原來台灣是  
這樣形成的！



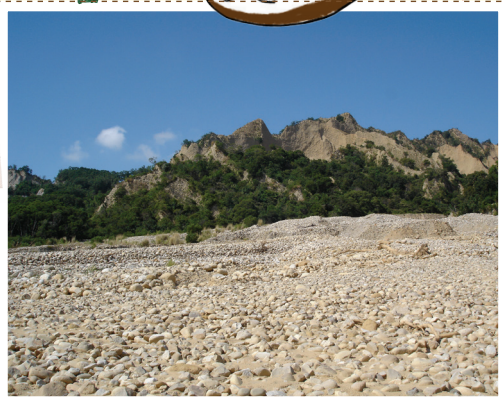
台灣附近地區地體構造圖  
(資料來源：中央地質調查所)



草嶺的山崩造成了  
堰塞湖！



原來海底下  
藏有這麼多機關！



那些垂直的裂隙  
稱為節理！



## Geological Features

Taiwan has a diversity of geology, including metamorphic, igneous and sedimentary rocks. The Central Range is dominated by metamorphic rocks, the northern Taiwan and the Penghu archipelago are dominated by igneous rocks, and the western foothills are home to major sedimentary rocks. For example, Matsu Geopark is famous for its granite, Penghu Marine Geopark is featured by basaltic landscape, and Yenchao Geopark is characterized by mudstone.



## 台灣地質特色

以地質的特性區分，台灣有變質岩帶、火成岩的火山地形與西部麓山地帶的沈積岩，多元地質造就多元地景與地形。例如馬祖地質公園的花岡岩、澎湖海洋地質公園的玄武岩地景，以及燕巢地質公園著名的泥火山與惡地等，顯示台灣地質構造與地形的多樣性。

# 台灣地形特色

台灣的地景多變且具多樣性，因位處板塊交界帶上，屬年輕之褶皺造山地帶，加以氣候高溫、多濕、降雨大、地震多等特性，成就豐富的動態地景。高山、丘陵、盆地、台地、平原、海洋、潟湖、濕地、沙丘等地景，整個台灣宛如奇特的地球科學博物館。



## Terrain Features

Located at the colliding edge of two plates, Taiwan's geology is relatively young and dynamic. The young geological structure along with earthquakes, subtropical environment of high temperature, humidity and extreme rainfalls, unique and complicated landscapes have evolved in Taiwan. Abundant landscapes including alpines, hills, basins, tablelands, plains, swamps, wetlands, and sand dunes spread throughout the island state. These countless landscapes make Taiwan a unique global earth science museum.

## 台灣的特殊生態

因板塊碰撞的各種地形、季風、緯度的緣故，台灣有多樣的生態環境。從海岸濕地到高山草原、從熱帶生態到溫帶生態系一應俱全，生態的多樣性是各地質公園的特色。除了陸域生態外，海洋與島嶼的生態也豐富了台灣的地景、生態與文化。

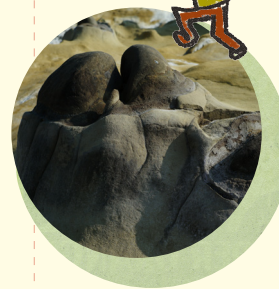


瞭解更多了！

這裡的生態好豐富喔~



瞭解更多了！



台榕氣根向周圍纏繞，真有趣！



## Bountiful Ecology

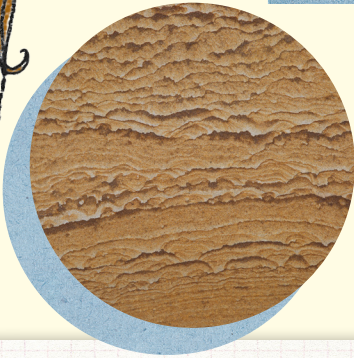
With tectonic movement and its various landforms, monsoon, unique currents and subtropical high elevation, Taiwan has rich bio-diversity. From coastal wetlands to meadows in subtropical high mountains, and from tropical ecology to moderate alpine ecology, the ecological diversity of Taiwan is literally parallel to its geo-diversity. Both land ecology and marine and island ecology have enriched Taiwan's landscape and culture.

## 地景多樣性：風化與侵蝕

由於亞熱帶氣候，岩石易於風化；颱風豪雨侵蝕，易形成多樣的微地形。差異的風化作用與侵蝕作用形成多元地景；在海岸地帶，海水與鹽扮演重要角色；高山地帶以物理風化為主要的地形雕塑者；而颱風豪雨侵蝕，更創造多樣地景。



風化紋的紋路好特別喔～



這個石頭長得好像蠟燭的燭台耶！



這種有許多小孔的岩石就是蜂窩岩～



海蝕拱門是海蝕地形的景觀～



## Geo-diversity---weathering and erosion

Due to subtropical climate, weathering effect is significant. Seasonal typhoons and torrential rains produce various landforms and micro-forms of landscapes. The differentiation of weathering and erosion contribute to geo-diversity. In the coastal areas, sea water and salt play significant roles in shaping landforms. In the alpine areas, physical weathering is the main shaping power. Typhoon and torrential rains contribute even more to the diversity of landforms.



## 海岸地形

台灣四面環海，在海水的作用下，海岸地景特別發達，特別的海岸地景多數成為國家風景區或國家公園。北部的岬灣海岸、西部的堆積海岸、南部的珊瑚礁海岸與東部的斷層海岸，都是典型的海岸地景。

以北部岬灣海岸而言，由於地形受地質構造的控制，岩層抵抗侵蝕的力量不同，形成岬灣相間。特殊的海岸地景包括海蝕平台、單面山及豆腐岩等，其間亦夾雜著沙灘；北部的海蝕平台規模是台灣最大的。

東北角有許多海蝕平台！

## Coastal Landforms

Taiwan is surrounded by ocean and thus the coastal zones are made up of a diversity of landscapes. Most coastal areas with particular and valuable landscapes are under the jurisdiction of the National Scenic Areas or National Parks. Northern Taiwan is famous for its rocky shores; coral reef can be found mainly in the south; and cliff coasts can be found in eastern Taiwan.

Rock structure and resistance to erosion and weathering determine landforms at the coast. Thus bays are formed where weak rocks are eroded; capes and headlands are formed where rocks resist erosion and weathering. Other special coastal landscapes include wave cut platforms, cuestas and chessboard rocks, which are significant features along northern and north-eastern coasts. Sandy beaches can be occasionally found between them.



## 特殊的海岸地景



台灣北部海岸的蕈狀岩，主要是砂岩岩層受到海水侵蝕後，加上節理及風化的影響，形成整齊的裂隙。質地較堅硬，而形狀不規則的石灰質結核，造就各種奇形怪石。

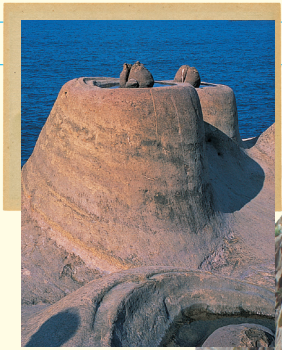
台灣西部海岸以堆積性海岸為主。由於受到河川上游帶來泥沙及海水的作用，造成海岸線的動態變化，形成許多沙洲、濕地、潟湖等地景。

## Unique Coastal Landforms

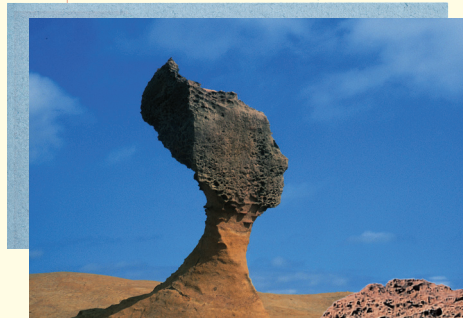
Sandstone rocks in northern Taiwan are easily eroded and weathered to become unique landscapes. For example, joints on the sandstone rocks are eroded and form distinctive patterns on the rocks and become fascinating features to visitors. Irregular limestone rocks in sandstone become resistant cementation and form candle rocks.

The sedimentary coast of south-western Taiwan is changing rapidly due to variation in sediment inputs from rivers, along with marine and aeolian processes. Sandy beaches, sand bars, lagoons, wetlands and sand dunes are commonly found along south-western coast.

台灣西南部有許多沙洲地形！



好壯觀！

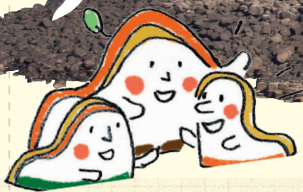


這是長得很像蘑菇的蕈狀岩！





台灣的地形  
很多變喔！



## 泥岩與玄武岩地景

台灣西南部有一狹長的泥岩區域，面積約1,200平方公里。泥岩受雨水、颱風、豪雨侵蝕而形成的惡地為主要的景觀。泥岩地區特殊的泥火山，乃由於地底下的天然氣伴隨著泥漿冒出地表，堆積成小丘，貌似各種形態的火山而得名。

澎湖因玄武岩的熔岩流不甚黏稠的特性，造成平頂的方山地形。這些方山的邊坡在岩漿冷凝、收縮過程中，形成了近似六邊形的玄武岩柱狀節理。不同時期的各種噴發，造成了玄武岩地景的多樣性。



泥岩區的地形又  
稱作惡地地形～



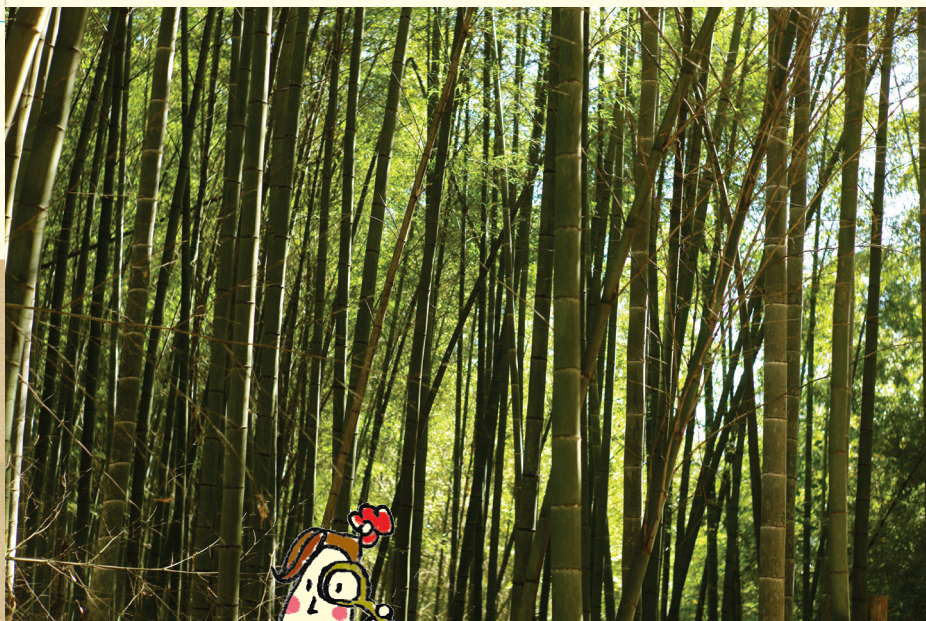
原來是  
這樣形成的～

## Mudstone and Basaltic Landforms

A strip of mudstone area in south-western Taiwan covers 1,200 km<sup>2</sup>. Mudstone landforms are easily eroded and change by precipitation, typhoons and torrential rains. Mud volcanoes are created by the eruption of muddy liquids and gases that originate under the earth's surface in the mudstone area. Mud volcanoes, small in size though, form attractive landscapes.

Basaltic mesas are made possible by the basic characteristics of lava flow of the Penghu Archipelago. The quiet eruption and slow movement of the lava allowed the hexagonal joint patterns of basaltic columns to be formed. Today, basaltic columns can be observed widely in Penghu Archipelago.





屏東竹林是屏東的特色！



## 地質公園產品



細細看起來  
好好吃喔！

地質公園產品可以地質公園區域的農、林、漁、牧產品，加上技藝與文化創意，形成地質公園在地社會經濟的一部份；地質公園產品也可以是結合地質公園區域的社會文化所創造的產品。例如惡地的芭樂和釋迦均因其環境而有特殊的風味。馬祖的養殖漁業及釀酒是重要在地特產。地質公園產品是永續社會經濟發展的基礎。

## Geo-products

Geo-products partly come from agricultural produce of geopark areas. With the local handcraft, technique, and cultural heritage, great innovative products and much value-added agricultural production could become possible. Geo-products could be innovation of the geopark's local social and cultural milieu as well.

Each geopark community has its own unique way of presenting itself through products and innovation. For example, both Lichi and Yencho Mudstone Badland Geoparks are famous for their badland fruits. Matsu Geopark is famous for its aquaculture and winemaking. Geo-products are a crucial base for sustainable development of geopark communities.



## 環境教育

環境教育讓地質公園內的社區與學生深刻認知所處環境，更能提供造訪者環境教育的機會。瞭解地質公園的環境特色，欣賞特殊的地景及其生態，能提升環境保育的素養。透過學校所在地的學生、家庭以及社團的合作與解說，是地質公園工作的一環。



## Environmental Education

Environmental education within the geopark area provides opportunity for the locals to understand and appreciate their own environment, and serves the geopark visitors to understand and enjoy landscapes. In the latter case, local communities and schools can serve as interpreters or guides. Through geopark environmental education, the conservation of landscapes and geo-tourism activities will be encouraged. The interpretation service provided by the locals will not only enhance the significance of local knowledge, but also provide income opportunity.

地質公園培育了許多小小解說員～



井仔腳瓦盤鹽田是個環境教育設施場所喔！

