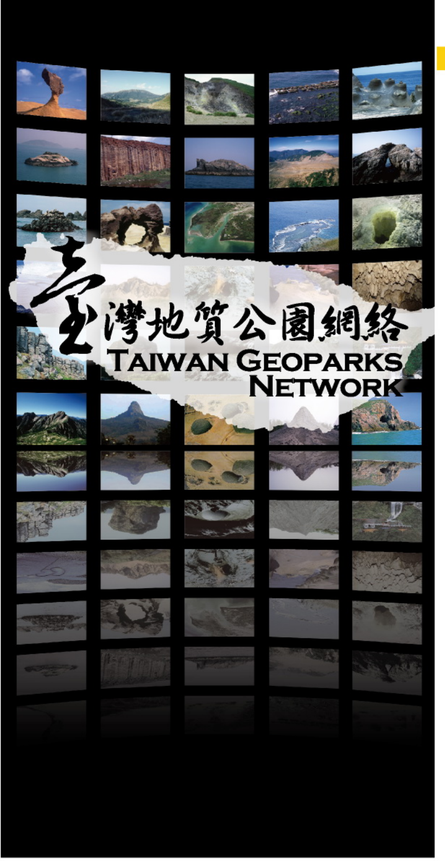
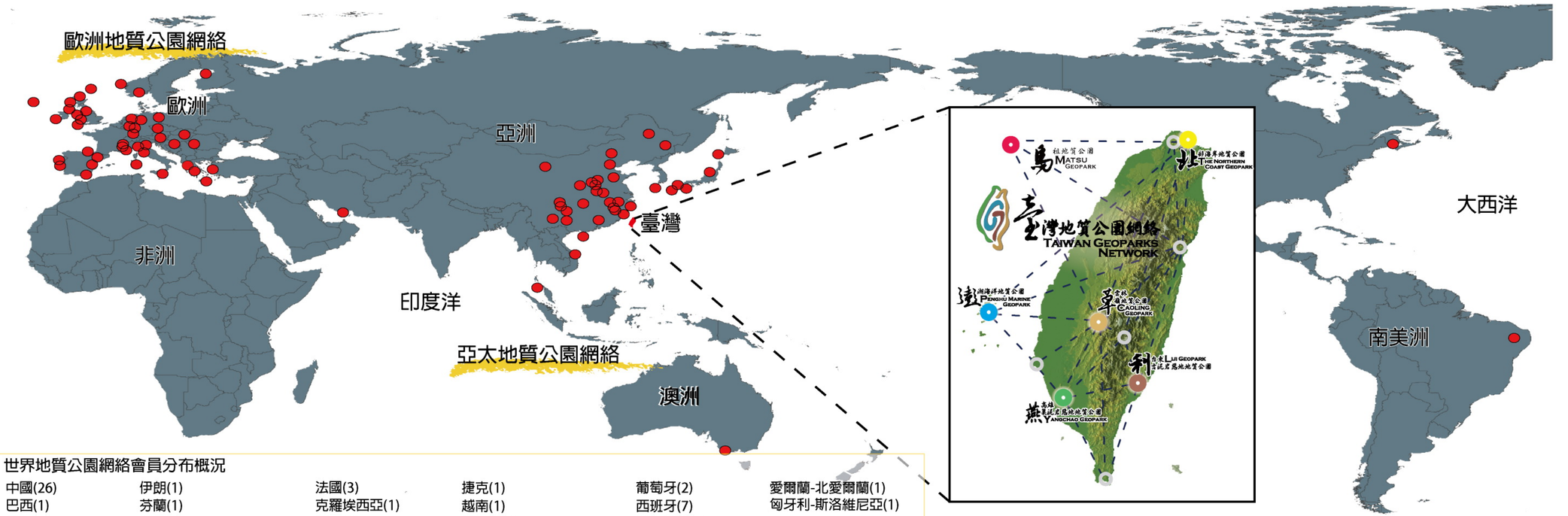



# 世界地質公園網絡 Global Geopark Netwook




世界地質公園網絡會員分布概況

| | | | | | |
|---|---|---|---|---|---|
| 中國(26) | 伊朗(1) | 法國(3) | 捷克(1) | 葡萄牙(2) | 愛爾蘭-北愛爾蘭(1) |
| 巴西(1) | 芬蘭(1) | 克羅埃西亞(1) | 越南(1) | 西班牙(7) | 匈牙利-斯洛維尼亞(1) |
| 日本(5) | 德國(5) | 英國(7) | 奧地利(1) | 澳大利亞(1) | |
| 加拿大(1) | 德國-波蘭(1) | 挪威(2) | 愛爾蘭共和國(2) | 韓國(1) | |
| 冰島(1) | 希臘(4) | 馬來西亞(1) | 義大利(8) | 羅馬尼亞(1) | 2012/4/30 製表 |

## 地質公園的核心價值

**地景保育：**

地質公園應以地景保育為出發點。

**環境教育：**

地質公園以教育宣導為手段，提供地球科學的知識與人文社會與環境互動的概念給大眾。

**社區參與：**

地質公園作為促進社區參與及地方產業發展的基礎。

**地景遊憩：**

地質公園以特殊地景點為主軸的生態旅遊活動。

## 地質公園網絡

世界地質公園網絡提供了地質遺跡的專家和從業人員一個合作與交流的平台。在聯合國教科文組織之下，並通過全球網絡合作夥伴，讓地方和國家重要的地質遺跡得到全世界的認可，並與其他地質公園工作人員的知識和經驗交流下從中獲益。

雖然臺灣不是聯合國的會員，為了建立臺灣地質公園之間橫向聯繫的管道，國內相關政府部門與學界參考世界地質公園網絡及歐洲地質公園網絡的模式，建立臺灣地質公園網絡，以協助臺灣地質公園之間交流與溝通的管道，建立臺灣地質公園的標準，並協助各地質公園的評估與推動

## 臺灣地質公園網絡

臺灣地質公園網絡的主要目的為實現地景保育、環境教育、社區參與以及地景遊憩等地質公園之核心價值。

政府相關單位與部門目前已針對島內具有此類特殊價值之區域進行評鑑與地質公園之設立。目前台灣地區共有澎湖海洋地質公園(玄武岩地景與海洋生態)、草嶺地質公園(山崩與構造地景)、燕巢地質公園(泥火山與惡地地景)、利吉地質公園(泥岩惡地地景)、北部海岸地質公園(海岸與奇岩地景)。

草嶺地質公園以其構造地形與順向坡引發的山崩聞名。現為林務局推動臺灣地區設置地質公園的示範區之一，除致力於地景資源保護和環境教育外，並發展地景旅遊為主體的休閒旅遊形式，促進草嶺地區的社經發展。

澎湖海洋地質公園以其顯著的火山地形與特殊的海洋生態聞名。在其範圍內隨處可見發達的火山地形(如柱狀玄武岩柱、熔岩平台等地景)，以及數千年歷史孕育下，當地獨特的人為活動與文化地景，再配合豐富的海洋生態等條件。使得澎湖海洋地質公園無論是地質條件上或是地理景觀上都有其相當特殊的價值與意義。

燕巢惡地地質公園則以豐富的泥岩惡地與泥火山聞名。泥火山地景所代表的地質條件為地底下受壓的天然氣伴隨著泥、水等物質沿著岩層間的裂縫自地底溢出。而在本區內由於泥火山噴發的溫度相當接近室溫，如此條件下創造出高度的易達性，進而使得本地的地景遊憩以及環境教育成為燕巢惡地地質公園之發展主軸。

台東利吉惡地地質公園有發展良好之惡地地形，區域內植物不易生長，泥質岩石因表面逕流所刻蝕之地形清晰，為欣賞惡地地形變化的好地點，亦為海陸板塊碰撞研究超基性蛇綠岩系的最佳露頭。因此無論是地質條件與地形景觀的特殊性皆有其重要性。

北部海岸地質公園區域內有許多特殊的海岸地形與奇岩等地景，由於此區域的觀光遊憩與產業發展等人為活動已有長久的發展歷史，因此地質公園的設立除了強化地景遊憩的功能外，亦將社區參與、地景保育、環境教育等核心價值納入此區域的未來發展策略，提升本區域的獨特性與永續發展之可能性。

作為地質公園概念在臺灣的推動者，我們深切地替台灣所擁有的特殊地景與文化景觀感到自豪。我們已經準備好將臺灣最美好的一面向世人展現。並以此作為臺灣對環境與全體人類的主要貢獻。

## ・其它相關資訊・

Global Geoparks Network, GGN
http://www.globalgeopark.org

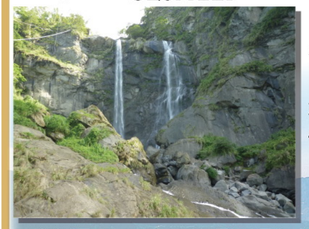
European Geoparks Network, EGN
http://www.europeangeoparks.org

Asia-Pacific Geoparks Network, APGN
http://asiapacificgeoparks.org

臺灣的國家地質公園網路
http://tgru.geog.ntu.edu.tw/Geopark/

行政院農業委員會林務局 發行
FORESTRY BUREAU, COUNCIL OF ARGICULTURE, EXECUTIVE YUAN
國立台灣大學地理環境資源學系台灣地形研究室 編印
DEPARTMENT OF GEOGRAPHY, NATIONAL TAIWAN UNIVERSITY
2012.4

# 草 雲林 嶺地質公園 CAOLING GEOPARK



草嶺地質公園位於雲林縣古坑鄉。位於園區內部的草嶺山崩極富盛名，此外亦有峭壁雄風、蓬萊瀑布、石壁壺穴等特殊的自然景觀。

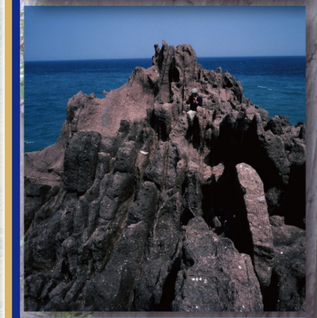
草嶺山崩位於園區內之西南側，其為一順向坡地形。此山崩為台灣最大的山崩之一，其面積約為四平方公里餘。在草嶺公路約42公里處，有一露頭呈現約為45度角直下清水溪谷(根據測量結果，露頭頂端和溪谷的高程落差約為140公尺)。由於從表面觀看此岩壁非常陡峭，故當地居民將此地名為”峭壁雄風”。

峭壁雄風的出現不僅僅是其獨特的景觀，更代表著此地的地質作用在長年作用下所累積的結果。這類顯著的滑動面與其下游之草嶺山崩的作用模式相互映證，而在露頭底部可見草嶺潭在個別山崩事件後形成的堰塞湖所遺留下來的跡證，更可以了解長年以來本地的環境變遷及其影響範圍。

蓬萊瀑布位於竹篙水溪的中游，瀑高約有30 m，水量充沛，沿著峭壁懸空而下，氣勢萬千。從草嶺往瑞里的途中，即可見到此懸掛於山壁之間的瀑布。

臺灣地區的壺穴以基隆河的大華和暖暖一帶最著名。草嶺地區的壺穴，因河流水量的變化，在空間上呈現出不同高度的壺穴群，這是臺灣地區少見的狀況，在石壁仙谷和連心池均可欣賞到此類特殊的壺穴群地景。

# 馬 祖地質公園 MATSU GEOPARK



馬祖位於臺灣西北方，面臨閩江口，行政隸屬連江縣，下轄南竿鄉、北竿鄉、東引鄉、莒光四鄉，包括：南竿、北竿、東莒、西莒、東引、亮島、高登、大坵、小坵還有許多無人島嶼，馬祖地層與中國大陸相連，直到一萬年前，冰河期結束造成海水面上升了近120公尺，馬祖列島與大陸才被海面分隔。

馬祖地區原有的自然景觀與人文景觀，是具有一定資源價值與意義的。馬祖不但有非常豐富的海洋資源，生態資源如黑嘴端鳳頭燕鷗等，也記錄了過去幾百年來人類活動的歷史。尤其是近數十年的兩岸對峙場景的歷史意義等文化資產，對台灣地區乃至於國際社會而言，都是具有特殊意義的地方。

馬祖列島大部份是由花岡岩組成，歷經千萬年的海浪侵蝕以及風化作用，呈現多樣化的地質景觀。包括壯闊的陰崖峭壁以及海蝕溝，層次分明的節理，彰顯浪濤錘鍊的海蝕門、海蝕柱、海蝕洞等，在馬祖地區到處可見。

馬祖因為其歷史際遇的關係，為海峽兩岸重要的戰略位置，而歷封長達數十年，直到1992年戰地政務解除，才於1994年開放觀光，形成現今特有的戰地風貌。四鄉五島更暗藏著複雜多樣的坑道系統，除了已開放參訪的南竿北海坑道、北竿午沙（北海）坑道與安東坑道之外，尚有更多不為人知的坑道與哨位砲口，深藏著家多官兵艱辛開鑿守衛的血淚故事。目前僅高登與亮島有駐軍，依然覆蓋著神秘面紗，未開放參訪。

# 北 部海岸地質公園 THE NORTHERN COAST GEOPARK

北海岸地質公園位於台灣北部，別名皇冠海岸。在本區域內有許多特別的自然與人文景觀，從高山、火山、海洋資源直到文化、產業等人為活動都是區域內相當具有價值的景觀資源。

觀音山為大屯火山區當中的一部份，其噴火口位於山系中心，因此在形態上屬於不規則狀火山。在觀音山系當中，大大小小共有約18個不同的噴火口。而在現有的地質中亦可看見古熔岩流、古火山角礫岩以及古火山灰沉積後不同物理特性所發育出的地形。

石門洞高約10公尺，從其形態可見其應為階狀台地向海延伸後，受海岸侵蝕影響而逐漸演變為現今的樣貌。

麟山鼻由於不同的地理條件而形成極為多樣性的環境及其生態系。深黑色的火山熔岩流風蝕後形成風稜石、藻礁，富含鐵質的沙岸配合當地眾多的鳥類、植生以及潮間帶生物等，使得此區域的生態系其組成物種具有相當高的歧異度和多樣性。

野柳為一向海洋延伸約1.7公里長的岬角，在野柳岬內隨處可見的微地形如蠹石、結核、豆腐岩、蠕狀岩、海拱、生痕化石、燭台石等風化作用下所形成的奇石，屢屢成為遊客所注目的焦點，而其背後所代表的科學意義其重要性更是不在話下。

鼻頭角為北海岸海岸線之轉折點，其骨幹為一向東北海岸線延伸之向斜軸，而其南方的龍洞岬則因其北側受海洋侵蝕的區域其岩石組成為相對堅硬的龍洞砂岩，因此突出海岸形成岬角。可見不同作用個別形塑出各異的地貌。

在宜蘭海岸外的島嶼，因其形狀如同一海中之巨龜，故得名龜山島。龜山島是台灣較年輕的火山島嶼其組成主要以安山岩、火山碎屑岩為主。此區目前仍殘留的火山活動使得龜山島的硫磺與溫泉等火山所遺留的資源成為此地相當重要的環境資源。

自三貂角起至大里為止的海岸可以見到一系列發達的海蝕平台，其中微構造影響所形成的線形排列除了顯現其構造外，更具有相當高的美學價值，為一相當特殊的自然地景。

# 澎 湖海洋地質公園 PENGHU MARINE GEOPARK

澎湖海洋地質公園坐落於臺灣西側的海岸外，其形成的原因為玄武岩質岩漿自地底噴出後逐漸冷卻而形成。根據玄武岩質岩漿物理特性中具有高流動性的特點，澎湖群島的型態便以平台為主，不若其他火山島具有高聳的山體。故在島嶼的邊界可以輕鬆發現大量玄武岩柱狀節理排列而成的斷崖，是相當具有特色的地景。如此特殊的地質構造、環境條件以及四千年來歷史孕育下的人為活動等天然條件的結合，澎湖海洋地質公園的重要性自然是不在話下。

在吉貝嶼南岸的海岸邊，可以見到居民利用珊瑚和玄武岩所構築的石滬。這種利用潮差捕魚的環境智慧，可知居民與海洋的關係是何等的緊密。海洋與強風的作用，使得相對堅硬的岩石在長年風化下形成一座座淺丘。如澎湖本島的奎壁山即是一相當典型的例子。當潮水退去時，連接淺丘與本島的淺灘除了是當地居民採集海洋資源的重要場域外，如同在海中漫步一般的景象，更是遊客到來時相當重要的旅遊體驗之一。

在本島西北側的小門嶼，有著豐富且多變的海岸地形以及大量生物遺骸所蓄積而成的石灰岩地形。位於海岸邊的鯨魚洞是一形貌相當特別的海拱，在早年科學不發達的年代，如此特殊的形貌便成為當地居民神話故事主要嘆詠的對象。可見地方歷史與文化已有相當悠久的源流。

望安是澎湖群島當中最早形成的島嶼之一，根據研究顯示島上出露的岩石約為一千六百萬年前便形成。而在島上可見因為不同次噴發事件所形成的階地，由於個別區域的層序具有差異，因此在最多階的區域便可見到如同天台山一般的高位階地，而在低位階地則受海洋侵蝕的影響形成多變的海崖。七美嶼的雙心石滬、望夫崖、七美人塚等特殊地景都是當地居民長年在生活場域中所見到的元素。故除了原先的經濟用途外，多半賦予了其他具有神話色彩的象徵，因此近年來七美嶼主打情侶為主的觀光訴求亦為當地文化與地景的結合。

位於本島南側的桶盤嶼，是非常典型的桌山地形，在島嶼南側的蓮花座以及如海上長城般整齊排列的玄武岩柱狀節理都是島上相當優美的地景。蓮花座由於位於潮間帶，因此每天不同時間點下具有各異的形貌，是台灣獨一無二的特殊地景。

# 燕 高雄 巢泥岩惡地地質公園 YANGCHAO GEOPARK

燕巢泥岩惡地地質公園位於高雄市，顯著的泥岩與惡地地形是本區域的特色。其中又以烏山頂泥火山、滾水坪泥火山以及新養女湖等為本區內最著名的特殊景點。

泥火山為一類似火山構造之假火山，其成因為地底所蘊含的天然氣挾伴泥岩隨著裂縫而逸出地表。由於在此區域的地表的組成物質為泥岩，因此當天然氣逸出時，泥質物質與水加上天然氣混和的結果，便以泥漿的形式噴出地表，故形成現今所見之泥火山景觀。而泥火山之噴發物因其具有水和泥等高比熱物質的影響，因此其溫度非常接近室溫，不同於火山常見的高溫等特質，此一特質亦使泥火山具有高度的易達性，成為相當重要的觀光景點。

烏山頂泥火山為一典型之錐狀泥火山，區域內共有數個頻繁噴發的噴發口，最大的噴發口目前為全臺灣可見最高的泥火山。這樣特殊的現象使得烏山頂泥火山無論是在地質學或是地形學的研究中皆具有其特殊性，而這樣的特殊性不僅是科學上的，更具有教育上以及美學上的價值。滾水坪泥火山位於區域內之北側，原先為一錐狀泥火山，然而自2009年的噴發以降，其外型逐漸轉變為盾狀泥火山。根據監測結果推測目前應為其休眠期。新養女湖為一盾狀泥火山，其頂部目前已形成一泥池。現有的遊憩活動中常見遊客於泥池中點火的方式驗證其天然氣的噴發狀況，此一”水火同源”的現象為一相當獨特的地景，而遊客讚嘆的同時也為此處構築相當不同於其他觀光景點的特殊音景，形成視覺與聽覺的多重享受。

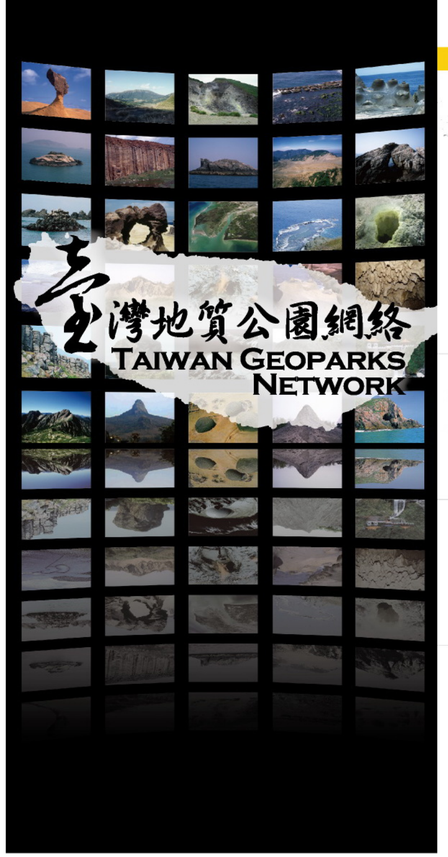
# 利 台東 LIJI GEOPARK 吉泥岩惡地地質公園

台東利吉惡地地質公園以泥岩惡地地形聞名。惡地地形除了本身在景觀上的特殊性外，周邊居民相應而生的土地利用及其人文景觀也是本地的特殊地景。在此園區內可見泥岩惡地與海岸地形的交會、惡地特有的植生與產業以及豐富的原住民文化。

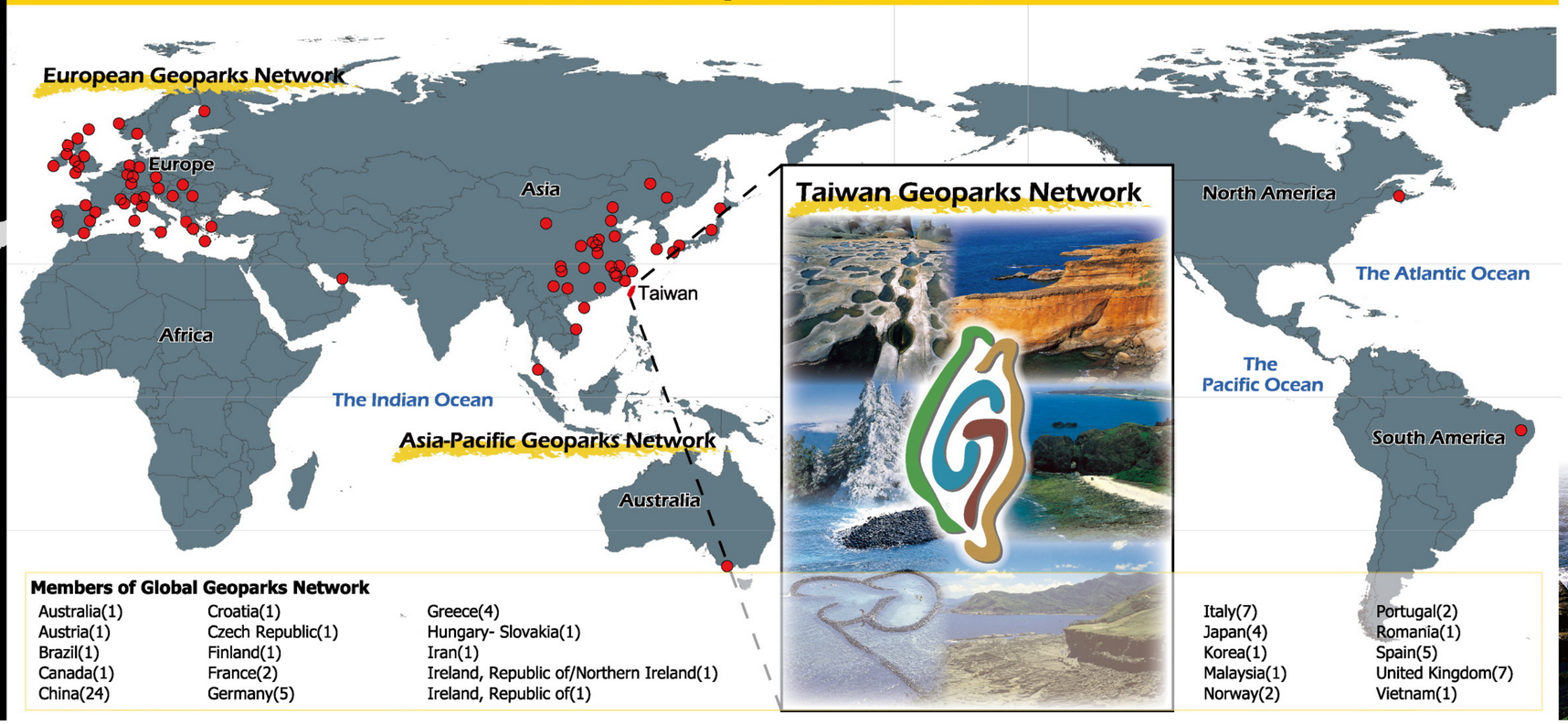
利吉惡地地質公園園區內主要以兩大社群為主-富源以及利吉。目前本區域的規畫以及參與者都是以社區居民為主，社區居民在地的情感配合專家學者的知識與構思，本區長遠的發展目標為容納周邊五大社區共同參與，形成”四富一吉”的集體參與形式，強化地質公園與在地居民間緊密的連結，形成環境中之生命共同體。

前述之五大社區根據其周邊環境各有其特色，利吉村以惡地環境下所栽植的惡地水果聞名。富源村則是以惡地與海岸交會的特殊地形見長。富山村優美的海岸線，廳廳成為旅人駐足的焦點。富岡村則是以富岡漁港為核心，除了提供外島的連結外，也是台東區域漁業的運作中心。富峰村在原住民數千年來歷史的薰陶下，有著截然不同的文化景觀。

利吉惡地除了在景觀與觀光具有特殊的價值之外，在科學板塊聚合體沒研究上也有其特殊性。在利吉惡地的範圍內，由於植生不易生長，因此可見大量且顯著的紋溝地形。這些紋溝地形具有快速變化的特性，使得此區域的監測活動在了解板塊聚合帶物質的地形發展上具有相當卓越的貢獻。




# Global Geoparks Network




**Members of Global Geoparks Network**

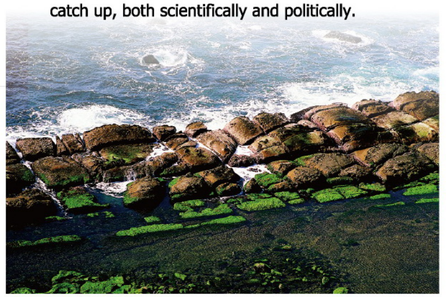
| | | |
|---|---|---|
| Australia(1) | Croatia(1) | Greece(4) |
| Austria(1) | Czech Republic(1) | Hungary- Slovakia(1) |
| Brazil(1) | Finland(1) | Iran(1) |
| Canada(1) | France(2) | Ireland, Republic of/Northern Ireland(1) |
| China(24) | Germany(5) | Ireland, Republic of(1) |
| Italy(7) | Portugal(2) | |
| Japan(4) | Romania(1) | |
| Korea(1) | Spain(5) | |
| Malaysia(1) | United Kingdom(7) | |
| Norway(2) | Vietnam(1) | |

## About Geoparks

Geoparks aim at protecting areas with particular geological and landscape features of scientific, educational and aesthetic values. In particular, enhancing local community involvement and sustaining local economy through eco-tourism are value-oriented as well. Geoparks may lie within national parks, national scenic areas, or even natural reserves.

As a member of the global community, Taiwan has promoted the protection of its geological and geomorphologic natural beauty with human values for more than two decades. Such endeavor aligns much with the UNESCO's efforts in promoting Global Geoparks Network.

Using geopark as a tool to preserve natural landscape, to conserve human socio-cultural assets and to manage for a sustainable future of Taiwan is not only strategic, but also real for life. Up till the end of 2010, there are a total of 25 countries enlisting 77 geopark sites. Taiwan is one country which has been doing its best to catch up, both scientifically and politically.



## Core Values of Taiwan Geoparks

**Landscape Conservation:**

Geoparks start with the essential value of environmental and landscape conservation.

**Environmental Education:**

Using environmental education as a means to provide scientific knowledge and to enhance human-environment interactive relational views and values are the main foci.

**Community Development:**

Involving local communities and enhancing local economy is crucial to community development from a bottom-up approach. Promoting Geopark is one vital tool for such ends.

**Recreation and Tourism:**

Geoparks are resourceful for recreation and eco-tourism development, which in turn should bring economic benefit to the local community.

## Geoparks Network

Network is a concept to fulfill geopark values. Networking becomes a significant way of learning from world-wide to enhance a national geopark development experience. By learning from other countries' geopark experience, a country or a geopark may reach its full potential to achieve the core values. There is not only the Global Geoparks Network, but also European Geoparks Network and Asia-Pacific Geoparks Network. Taiwan has started its process maturing its Geoparks Network since the last decade.

## Taiwan Geoparks Network

The Geoparks and Geoparks Network in Taiwan aim at fulfilling the core values of landscape conservation, environmental education, community development, and recreation and tourism. Taiwan governments are undertaking vigorous geopark planning and promotion. Examples are Caoling Geopark (featuring landslides), Penghu Marine Geopark (featuring basaltic landforms and marine ecology), Yanchao Geopark (featuring mud volcanoes and badlands), and Liji Geopark (featuring mudrock badlands).

Caoling Geopark manifests volatile geological landforms and dynamically various geomorphologic processes.

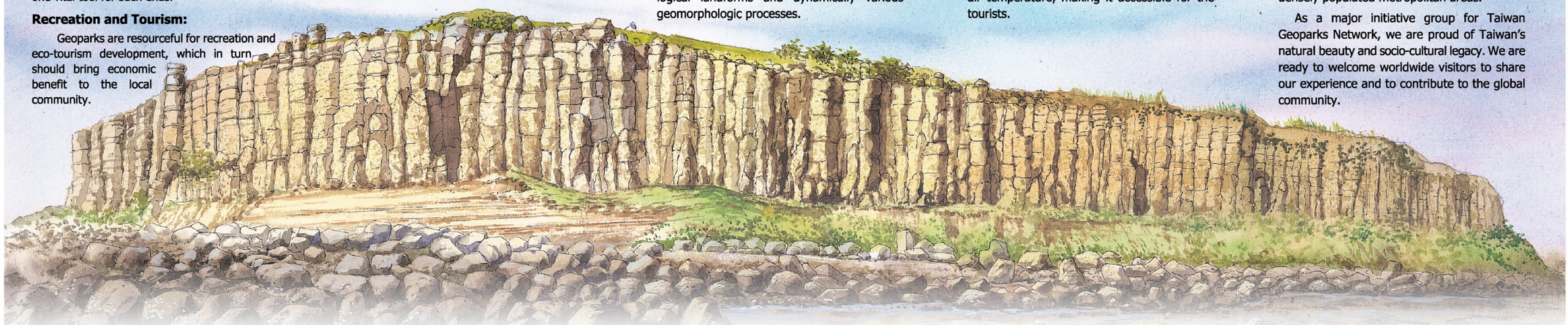
Penghu Marine Geopark is famous for its mesas and basaltic landforms. Magnificent basaltic cliffs are found everywhere. Various geologic structures and landforms, combined with artifacts of 4000 years of human activity, make it geologically and geographically valuable.

Yanchao Geopark is distinguished for its mudrock and badland. Mud volcanoes are pseudo-volcanoes where underground natural gas and mud are pressured and erupted along earth fractures. The mud is a mixture of water and mudstone with a temperature close to the air temperature, making it accessible for the tourists.

Liji Geopark features mudrock badland. Its areal communities are renowned for badland fruits, bays and ports, and aboriginal traditional cultures. For this rarely inhabited land of Taiwan, Geoparks network could be a means to a sound and bountiful future.

There are more sites in Taiwan to be promoted as Geopark, for the sake of a sustainable local economy and environmentally sound oceanic state. A case in hand is the Northern Coast Geopark. Not only does it have outstanding natural beauty, but also it has great public demand, due to its proximity to densely populated metropolitan areas.

As a major initiative group for Taiwan Geoparks Network, we are proud of Taiwan's natural beauty and socio-cultural legacy. We are ready to welcome worldwide visitors to share our experience and to contribute to the global community.



• Further Information •

Global Geoparks Network, GGN
http://www.globalgeopark.org

European Geoparks Network, EGN
http://www.europeangeoparks.org

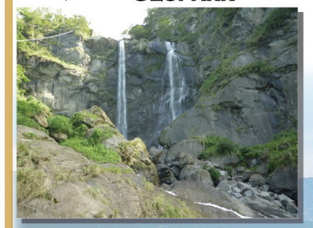
Asia-Pacific Geoparks Network, APGN
http://asiapacificgeoparks.org

Taiwan Geoparks Network, TGN
http://tgru.geog.ntu.edu.tw/Geopark/

行政院農業委員會林務局 發行
FORESTRY BUREAU, COUNCIL OF ARGICULTURE, EXECUTIVE YUAN
國立台灣大學地理環境資源學系台灣地形研究室 編印
DEPARTMENT OF GEOGRAPHY, NATIONAL TAIWAN UNIVERSITY

July, 2011

# 草 雲林嶺地質公園 CAOLING GEOPARK



Caoling Geopark is located in Gukeng, Yunlin County. It is well-known for Caoling Landslide, Huge Cliff, Penglai waterfall and Shibi pothole.

Caoling Landslide situated in the southwest of the Geopark. With its dip slope, it is one of the largest landslides in Taiwan, covering an area of more than four km$^2$. At around the 42$^{nd}$ Km of Caoling Highway, the landslide, measured 140 meters by 70 meters cuts into the Qingshui River at 45 degrees angle. It is particularly called "ciao bi syong fong", noting its magnificent landscape of steep slope, or simply "Huge Cliff".

"Ciao bi syong fong" is considered an evidence of slipping rock layer and of landslide as well. Its lower part was submerged into water reservoir (Caoling Lake) several times. The lower part is now emerged due to reservoir burst. Revealing water marks are evident of the reservoir history.

Penglai waterfall is located at the mid-stream of Jhu-gao-shui River. With a height of 30 meters, its falling water makes a splendid scene in raining seasons and attracts tourists.

Upon the upper stream of Penglai waterfall, varying erosions fromed pot-holes of different sizes, shapes and heights. Such scene is rarely found elsewhere in Taiwan. Variations of raining seasons and extreme precipitation conditions contribute to such differential results of erosions.

# 臺灣地質公園網絡 TAIWAN GEOPARKS NETWORK


# 北 部海岸地質公園 THE NORTHERN COAST GEOPARK

The Northern Coast Geopark, located in Northen Taiwan, is also called "the Crown Coast". It includes various natural and human culture sights, from the high mountains, volcanoes, plentiful marine resources, to cultural resources.

Guanyin Mountain is part of the Datun volcanic district. It is the poly-morphous valcano that erupts in the mountain center. There are 18 connected volcanoes in this district. The unique topography of Guanyin Mountain includes lava, explosive clastic rock and volcanic ash.

Linshan Cape has huge geological and ecological diversity. Black volcano lava ventifacts, iron sand banks, and various kinds of birds, plants, and sea life on the tidal zone are just examples of its diversity.

Shimen sea cave arch is about 10 meters high. The areal terrain takes the form of step-shaped tableland descending down toward the sea.

Yehliu is a headland stretching about 1,700 meters into the sea. It has special topographical features, such as cuestas, marine abrasion precipeces, arches, candlestick-shaped stone, mushroom rocks and many other weathered forms.

Bitou Cape lies exactly at the intersection of the east-west and the north-south trending coast. The geological structure consists of a synclinal axis extended in the Northeast sea area. Longdong is formed by the relatively hardest sandstone in the north bank.

Located off Yilan shoreline is the Turtle island. It is named after its shape. This dormant volcano island is composed of Andesitic pyroclastic rock and famous for its sulfur and hot spring.

The area between Sandiao Cape and Dali coast has a well-developed sea platform. Line-shaped patterns are vivid and renowned, owing to the visible rock stratum.

# 遼 湖海洋地質公園 PENGHU MARINE GEOPARK

Penghu Marine Geopark lies off the western coast of Taiwan main island. It is famous for its mesas and basalt. Magnificent basaltic cliffs are often found on the sides of mesas. Various geologic structures and landforms, combined with 4,000 years of human history, make Penghu archipelago geologically and geographically valuable. A total of ten geological spots are proposed as geopark.

At the southeastern coast of Jibei islet, sophisticated fishing weirs were built with coral reefs and basaltic rocks on the shallow abrasion platform. Such fine fishing weirs manifest the tight social and economic organizations of the area. Sandy beaches and heakland aretypical.

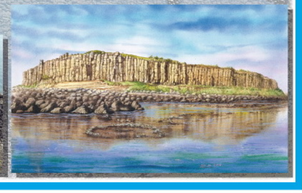
Sea and wind erosions generated many stacks. Kuei-bi-shan and Chi-yu are small hills of tholelite. When tide is low, the area around the two are easily accessed and shellfish and gastropods are sought by the local people. Sea strolling becomes a popular fun activity for tourists when low tide.

Located at the northwest, Siao-men-yu is known for its eroded coast and biostromal limestone. TheWhale Cave is one unique sea arch attracting tourists. It is named for its whale-like shape and local legends of a trapped whale. Other eroded features are sea cliffs and stony beach.

Tong-pan, lying to the south of Penghu main islet, is only 20 minutes cruise away. It is a typical mesa, well-known for its lotus paltform and basaltic columnar joint cliffs. The beauty of lotus platform lies at the tidal difference. Timing precision is required to see the natural beauty.

Wang-an has the oldest basalt of Penghu, including 16-million-year-old tholelite xenoliths. Also spectacular is the veins that are composed of different lavas and displayed on the sea cliffs and wave-cut platform in Tiantai hill. Since no trace of baking is found, these veins might have cut through each other before it cooled down.

Qimei extends from Sibei Bay and Double Heart Stone Weir, to various forms of eroded basaltic landscape. Legends of the local life make spots like Husband-waiting Reef and the Seven Beauty Tomb popular. Double Heart Stone Weir is particularly welcome by lovers.



# 燕 高雄巢泥岩惡地地質公園 YANGCHAO GEOPARK

Situated in Kaohsiung, Yanchao Geopark is renowned for its mudrock and badland. Significant scenic spots include Wushanding mud volcano, Kuansuiping mud volcano and Shinyannui mud pond.

Mud volcanoes are pseudo-volcanoes where underground natural gas and mud are pressured and erupted along earth fracture. The liquid mud is a mixture of water and mudstone with temperature close to the air temperature.



Wushanding mud volcano is a typical cone-shaped mud-erupting volcano. It has several fixed cones that erupt frequently. The scale of the cones is the largest among Taiwan's mudvolcanoes. The geological structural meaning and geomorphologic meaning of such landscape is emphasized for scientific, educational and aesthetic reasons.

Kuansuiping mud volcano is located one kilometer north of a technology university campus. It was a cone-shaped mud volcano, but due to an eruption in 2009 it becomes now a shield-shaped one. It is considered a dormant mud volcano.

Shinyannui mud volcano is a shield-shaped mud volcano. It includes a typical flat shield as an erupting origin and a mud pond. Tourists often come and light a match close to the center of mud pond to see the flame that may last for more than ten seconds. Such unique scene manifests a landscape where water and fire are of the same origin. Cheering and wowing sounds of the tourists are spectacular sound-scape on site.

# 利 台東 LIJI GEOPARK 吉泥岩惡地地質公園

Liji Geopark features mudrock badland. It is significant as its surrounding communities is renowned for badland fruits, sea ports and bays, mountainous landscape and aboriginal traditional cultures as well.

The Liji Geopark locates between two major communties, Fuyuan and Liji. The present planning focus lies at involving the two communities' stakehoders to understand and act for the geopark. Both core and periphery zones are delineated. The Geopark hopes to incorporate all five communities in the area, namely 4 Fu and 1 Ji, which represent a culturally sound and environmentally bountiful area.

The five communities within the Liji Geopark have their own distinctive characteristics. Liji community is famous for badland fruits. Fuyuan is known for its spectacular sea-mountain landscape. Fushan has a heavenly beauty of bay. Fugang serves as node linking Taitung, Orchid Island and Green Island. Lastly but not least is Fufong, which possesses a rich aboriginal traditional culture.

Liji has a fine development of badland in terms of scientific value. Within the area, plants do not grow easily and eroded gullies are seen all over. The vivid gullies possess an aesthetic value. It is an excellent site for monitoring and studying the outcrop exposure of ophiolite at the colliding area of marine and continenal tectonic plates as well.