

# 認識土石流及大規模崩塌

## About debris flow and large-scale landslide

### 崩塌 Landslide

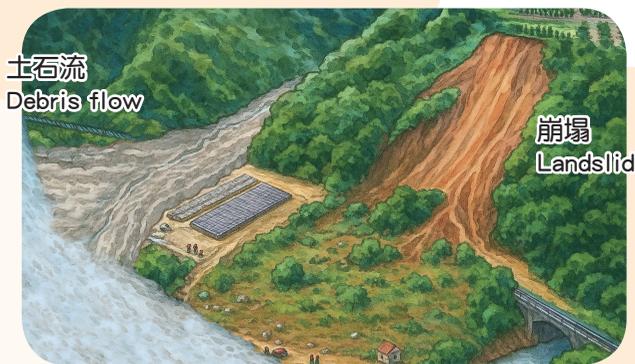
由於降雨、地震等因素導致不穩定的山坡突然崩落。

Unstable hillsides suddenly collapse due to factors such as rainfall and earthquakes.

### ★前兆現象 Harbinger phenomenon

可能的跡象包括坡面出現裂縫、落石增加、地下水湧出等。

Possible signs include cracks in slope surfaces, increased rockfall, and groundwater gushing out.



### 土石流 Debris flow

當強降雨或河道阻塞時，大量泥沙、石塊順著坑溝或溪流沖下，造成嚴重災害。

When there is heavy rain or a river is blocked, large amounts of mud, sand and rocks rush down the gully or streams, causing serious disasters.

### ★前兆現象 Harbinger phenomenon

溪水變濁、水位上升或突然斷流、異常聲音等。

The stream becomes turbid, the water level rises, sudden flow stoppage, and there are unusual sounds, etc.

### 地滑 Slide

由於地下水影響，整片土地緩慢滑動，影響範圍較大。

Due to the influence of groundwater, the entire land slid slowly, affecting a large area.

### ★前兆現象 Harbinger phenomenon

地面裂縫、樹木或電線桿傾斜、房屋變形等。

Cracks in the ground, leaning trees or electric poles, deformation of houses, etc.

### 大規模崩塌 Large-Scale Landslide

符合以下條件之一者，即為大規模崩塌：

- 1 崩塌面積超過 10 公頃  
Landslide area exceeding 10 ha.
- 2 土方量達 10 萬立方公尺  
Debris volume up to 100,000 m<sup>3</sup>.
- 3 崩塌深度在 10 公尺以上  
Depth of landslide exceeding 10 m.

### ★前兆現象 Harbinger phenomenon

樹木是否有歪斜、道路、擋土牆或結構物中出現裂縫、震動造成的地鳴聲，有樹木裂開之聲音、坡腹隆起等。

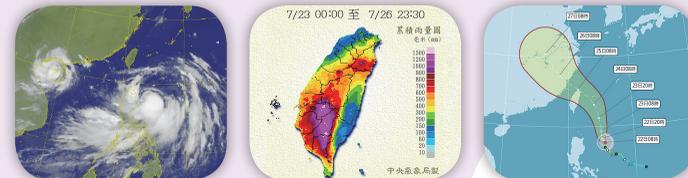
Are there any leaning trees, cracks in roads, retaining walls or structures, or ground rumbling caused by vibrations? There were sounds of trees cracking and the slope rising.



# 注意防災資訊 Aware of disaster preventive information

## 隨時注意天氣預報 Keep aware of the weather forecast

颱風是可以預測的，事前充分準備就可避免災害的發生。  
As typhoons are predictable, full preparation ahead can avoid the happening of disasters.



## 防災資訊快遞 Instant disaster prevention information

防災相關資訊可至農業部農村發展及水土保持署 - 永續水土保育圖書查詢  
Disaster prevention related information can be found at the Debris Flow Disaster Prevention Information Network Facebook (<https://www.facebook.com/ARDSWC/>)

- 1 電視新聞及廣播  
TV news and radio
- 2 土石流及大規模崩塌防災資訊網  
The website of Debris flow and Large-scale Landslide Disaster Prevention Information
- 3 當地土石流防災專員通知  
Notice from local agent for debris flow disaster prevention
- 4 加入【土石流及大規模崩塌防災資訊網】LINE BOT  
Add the [Debris flow and Large-scale Landslide Disaster Prevention Information] LINE BOT
- 5 開啟細胞廣播客製化防災網址  
Activate the customized disaster prevention URL of cell broadcast  
提供五項核心資訊 Provide five core information:
  - 警戒區在哪裡 Where is the warning zone?
  - 我應該做什麼 What should I do?
  - 目前降雨情形 The current rainfall situation
  - 建議防災物品 Recommended disaster prevention items
  - 避難處所及電話 Refuge location and telephone number



## 注意土石流及大規模崩塌警戒發布 Pay attention to published alerts on debris flow and large-scale landslide

### 黃色警戒 Yellow alert

發布條件 Release conditions :  
預測雨量 > 警戒值  
Forecast rainfall > Warning value

應變作為 Emergency response :  
1. 地方政府應進行疏散撤離勸告。  
Local governments should give evacuation advices.  
2. 行動不便及定期就醫需求者建議進行預防性疏散。  
To minority group, preventive evacuation is necessary.

### 疏散對象 Evacuation objects :

土石流及大規模崩塌潛勢區影響範圍內保全住戶，非全村或全鄉疏散。  
Residential households within the area affected by debris flow and large-scale landslide potential areas, but not the entire village or township.

海上颱風警報 - 預測颱風之 7 級風暴風範圍可能侵襲臺灣或澎湖、金門、馬祖 100 公里以內海域時之前 24 小時，應即刻發佈海上警報，之後每隔 3 小時發布一次，必要時可以加發。

Sea Warning - When the predicted 7-level storm wind range of the typhoon may affect the seas within 100 km of Taiwan, the Pescadores (Penghu), Kinmen, or Matsu, a sea warning should be issued 24 hrs in advance. After that, the warning should be issued every 3 hrs, and additional warnings may be issued if necessary.

陸上颱風警報 - 預測颱風之 7 級風暴風範圍可能觸及臺灣或澎湖、金門、馬祖陸上之前 18 小時，應即刻發佈陸上颱風警報，之後每隔 3 小時發布一次，必要時可以加發。  
Land Warning - When the predicted 7-level storm wind range of the typhoon may reach Taiwan or the Pescadores (Penghu), Kinmen, or Matsu land areas, a land warning should be issued 18 hrs in advance. After that, the warning should be issued every 3 hrs, and additional warnings may be issued if necessary.

### 紅色警戒 Red alert

發布條件 Release conditions :  
實際降雨 > 警戒值  
Actual Rainfall > Warning value

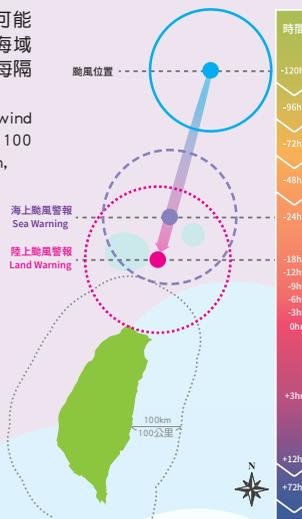
應變作為 Emergency response :  
地方機關應勸告或強制其撤離，並做適當之安置。  
Local governments should advise or force citizens to evacuate and make proper arrangements.

## 土石流及大規模崩塌分布圖、雨量警戒基準值、疏散避難圖查詢 Refer to distribution maps of debris flows and large-scale landslides, rainfall standard value for alerts, evacuated route maps

可至土石流及大規模崩塌防災資訊網查詢

Can be made on the website of Debris flow and Large-scale Landslide Disaster Prevention Information

(<https://246.ardswc.gov.tw>)



# 農業部農村發展及水土保持署

Agency of Rural Development and Soil and Water Conservation, MOA.

南投市中興新村光華路 6 號

No.6, Guanghua Rd., Nantou City, Nantou County

## 049-2394300

## 緊急連絡電話 Emergency Contact Number

- 全國緊急救援手機專線：112  
National emergency rescue mobile phone hotline:
- 居住（所在）地警察局：110  
Police station of your place of residence:
- 居住（所在）地消防局：119  
Fire station in your place of residence:
- 中央災害應變中心：02-81959119  
Central Emergency Operation Center:



## 防災資訊網 Disaster Prevention Information

土石流及大規模崩塌防災資訊網  
Debris Flow and Large-scale Landslide Disaster Prevention Information

<https://246.ardswc.gov.tw>



| 緊急避難集合地點 | 緊急聯絡電話 | 存放緊急物品之地點 |
|----------|--------|-----------|
|          |        |           |
|          |        |           |
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土石流及大規模崩塌災情通報專線 0800-246-246  
Debris Flow And Large-Scale Landslide Reporting Line

## 常備防災應變用品

Things always available  
in response to disasters

### 隨身衣物 Clothing

雨具、鞋襪、保暖衣物、個人衛生用品  
raincoat, shoes & socks, warm clothing, personal hygiene articles

### 飲食品 Foods

口糧、飲用水  
potable water, rations

### 貴重物品 Valuable items

存摺、印章、健保卡、身分證、現金  
passbooks, seals, health insurance card, ID card, cash

### 醫療用品 Medical supply

簡易急救藥品與個人藥品  
simple first aids kit and personal medicine

### 救災裝備 Rescue articles

繩索、哨子、工具刀、安全帽、口罩  
ropes, whistle, tool knife, helmet, mask

### 照明設備 Lighting

手電筒、打火機、蠟燭、火柴  
flashlights, lighter, candles, matches

### 通訊設備 Communication devices

手機、收音機、無線電、電池、行動電源  
cell phones, radio, air telephone, batteries, power bank

### 有幼童的家庭 In families with children

奶粉、紙尿褲、奶瓶、毛巾  
milk powder, diapers, milk bottles, towels

## 雨量觀測

Rainfall observation

### 雨量分級 Rainfall classifications

- 24 小時累積雨量達 500 毫米以上  
24-hour cumulative rainfall of 500 mm or more
- 24 小時累積雨量達 350 毫米以上，或 3 小時累積雨量達 200 毫米以上  
The accumulated rainfall in 24 hours is more than 350 mm, or the accumulated rainfall in 3 hours is more than 200 mm
- 24 小時累積雨量達 200 毫米以上，或 3 小時累積雨量達 100 毫米以上  
The accumulated rainfall in 24 hours is more than 200 mm, or the accumulated rainfall in 3 hours is more than 100 mm
- 24 小時累積雨量達 80 毫米以上，或每小時累積雨量達 40 毫米以上  
The accumulated rainfall in 24 hours is more than 80 mm, or the accumulated rainfall in 1 hour is more than 40 mm



### 降雨感受 Rainfall Feelings

- 每小時 10-20mm 雨量 10-20mm rainfall per hour  
在外撐傘腳會淋濕，地面形成水窪  
When you hold an umbrella outside, the legs will get wet and a puddle will form on the ground.
- 每小時 20-30mm 雨量 20-30mm rainfall per hour  
即便撐傘身體也會淋濕，路上有積水  
Even with an umbrella, you will get wet, and there is water on the road.
- 每小時 30-50mm 雨量 30-50mm rainfall per hour  
雨勢像水桶倒水，道路像河川一樣  
The rain is pouring like a bucket, and the road is like a river.
- 每小時 50mm 以上雨量 Rainfall above 50 mm per hour  
就像瀑布一樣，撐傘完全沒用，白茫茫一片  
Just like a waterfall, holding an umbrella is completely useless, the visibility is extremely poor as it is white.

## 自主防災作為

Self-precaution for  
Disaster Prevention

### 注意防災資訊

Pay attention to disaster prevention information

- 注意收聽氣象報告與土石流及大規模崩塌警戒等訊息  
Keep updated on debris flow and large-scale landslide alerts.
- 與家人親友及疏散避難人員保持聯繫  
Communicate with your family and relatives/friends and the evacuation / escape administrative .
- 清理排水溝，暢通水路  
Clean up drain ditches to keep the room for water flow.
- 注意雨量變化，了解當地土石流及大規模崩塌雨量警戒基準值  
Mind the changes in rainfall and understand the local standard value for debris flow alerts.

### 疏散避難準備

Preparation for evacuation and escape

- 檢視居家環境安全，關好門窗  
Inspect your home and surrounding safety; close the doors and windows properly.
- 準備緊急避難包及隨身衣物重要證件  
Have the emergency grab bag, clothing and important papers ready.
- 持續注意土石流及大規模崩塌警戒等訊息  
Keep attentive to debris flow and large-scale landslide alerts.
- 弱勢族群及易成孤島地區應提早疏散  
If underprivileged and in an area liable to isolation, you should evacuate earlier.

### 疏散撤離 Evacuate

- 攜帶緊急避難包及隨身衣物重要證件，準備疏散

With the emergency grab bag, your clothing and important papers at hand, be ready to evacuate.

- 疏散至緊急避難處所，若有災害擴大之虞，則疏散至外地收容所

Evacuate to an emergency shelter, or, if there is concern over escalated disaster, a shelter outside your local region/town.

- 通知親友你已疏散至避難處所

Inform your relatives and friends of your evacuation to the shelter.

- 在自家留言相關訊息

Leave relevant messages in your own home.

- 洪水水勢強勁且水深達膝蓋時，即使是成人行走也會非常困難。

When floodwaters are strong and the water is knee deep, walking can be very difficult even for adults.

- 淹水（尤其洪水）通常是茶色且混濁的無法看到水溝與道路的邊界，或是敞開的下水道人孔蓋。如果不得不在水中移動，請使用棍棒確認腳下的情況再前進。

Flooded water (especially floods) is usually brown and turbid and it is impossible to see the boundaries between ditches and roads, or open sewer manhole covers. If you have to move in the water, use a stick to check the conditions under your feet before moving forward.

### 靜待警戒解除

Wait in calm till the debris flow alert is lifted

- 於避難處所，靜待土石流及大規模崩塌警戒解除

Stay in the shelter and wait in calm till the debris flow alert is lifted.

- 聽從地方政府指示，安全返回家園

Follow the directions by the local government to return home safely.

# 土石流 及 大規模崩塌 防災指南

Debris Flow And  
Large-Scale Landslide

Disaster Prevention Guide



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