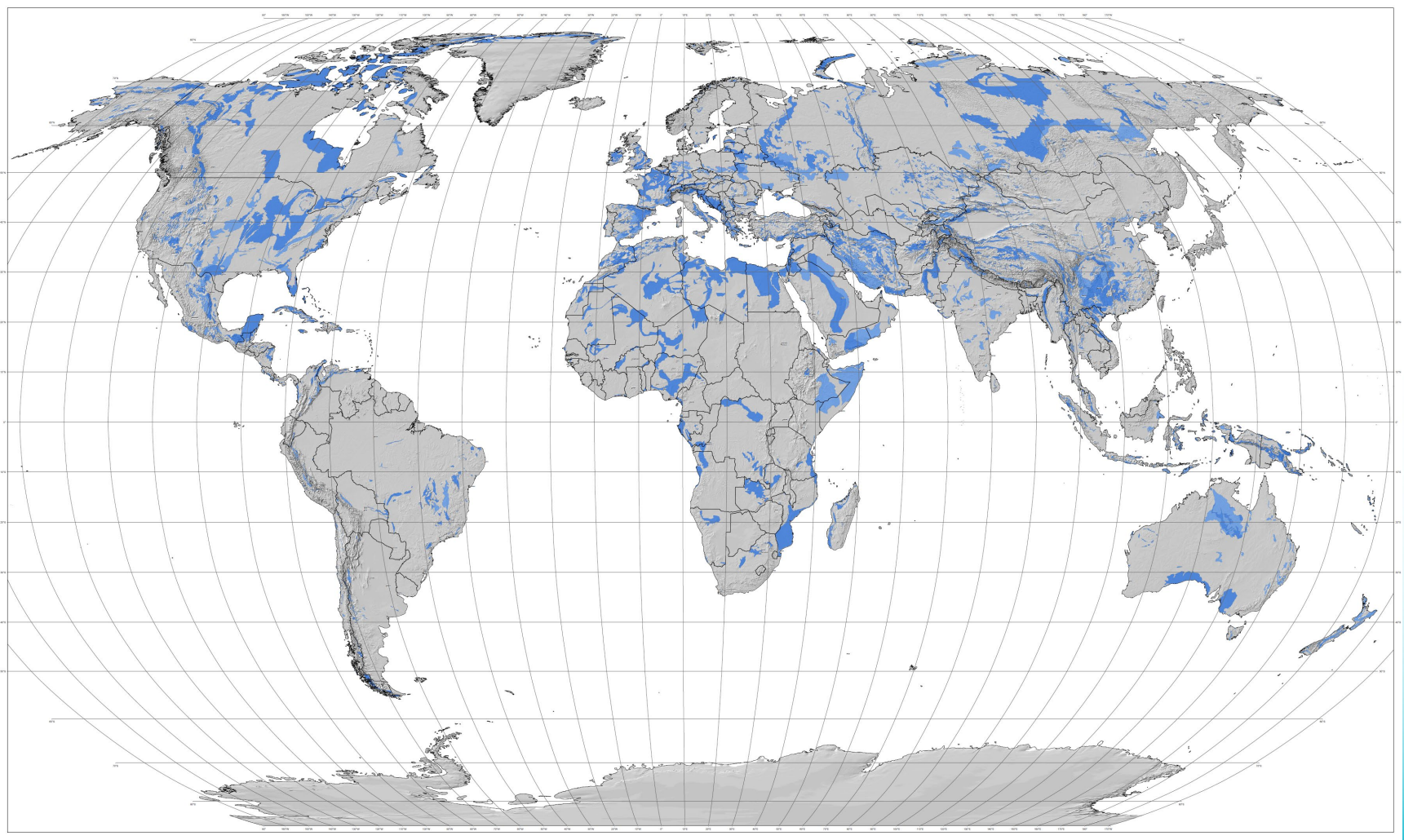


# Geoscience Outreach in the International Year of Caves and Karst

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# Karst and the World



Chen et al., 2017

# What is the International Year of Cave and Karst?

**Organized by the UIS  
to educate:**

- the public
- policymakers
- land managers
- educators
- students
- scientists
- the world!

about the importance  
and challenges of caves  
and karst



**Explore, Understand, Protect**

# What is the International Year of Cave and Karst?



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Caves

Karst hydrology

Surface phenomena

Events

Partners



# A Resource for Cave and Karst information



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## Surface phenomena

Karst rock formations on the surface are formed through **dissolution** during direct contact between rainwater and the rock on the surface or the rock buried under soil. The intensity of dissolution is influenced mainly by the amount of rainfall, available carbon dioxide, and rock characteristics. The amount of rainfall is key: the more water that is available, the faster the rock will dissolve (the largest amount of rainfall is in the tropics, at around 2,500 mm/year). Lack of water (arid areas such as deserts and the Arctic with less than about 7 mm/year), means little or no dissolution. As rainfall dissolves the land surface, the height of the area decreases over thousands of years in a process called karst denudation.

The karst features that form on a rock surface depend on the amount of water that falls or flows over the rock, the type of rock, the presence or absence of soil and vegetation, as well as the steepness of the slope. The specific conditions determine if small corroding groves (rills, meanders, karren) are created, or larger features (dolines or hums). Surface karst features mostly reflect recent climates. Modern arid climates may have few and small karst features, but some may have large caves below formed hypogenically during wetter past climates.

Land surfaces in karst areas can vary greatly. Many karst areas have few or thin soils, creating rocky surfaces that are impossible for agriculture and are even difficult to cross. In such areas, any thick soils are concentrated at the bottom of dolines and wide fractures. In some climates and rock types, such as dolomite, the rock surfaces are smoother, dells and other traces of a surface water drainage occur, soils are thicker, and cultivation is common. In most karst areas, there is usually no water on the surface because it enters the ground easily through crevices, dolines, caves, and related features.



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## Event announcements

The following events are supporting our cause. To add your event, send your announcement in the format below to [webmaster@uis-speleo.org](mailto:webmaster@uis-speleo.org).



**Date:** due to COVID-19 pandemic **POSTPONED** to 24-31 July 2022

**Location:** Le Bourget-du-Lac, Savoie, France

**Event name:** 18th International Congress of Speleology

**Event description:** The UIS hosts an International Congress of Speleology every four years, which is the world's most significant gathering of cave and karst scientists, managers, educators, and explorers. This year the congress will be expanded into the major international event that will celebrate the International Year of Caves and Karst.

**For more information:** <https://uis2021.speleofs.fr>



**Date:** all year

**Location:** online event

**Event name:** Meet the Hypogenic Caves

**Event description:** On the occasion of the International Year of Caves, the Hypogenic Caves 2021 project is created to help identify hypogenic caves through images on social networks Facebook, Instagram, Twitter and a website dedicated to them. During 52 weeks of the 2021 an image of a cavity will be published weekly describing the morphologies, speleoforms or their relationship with the hypogenic caves.

**For more information:** <http://www.hypogenic-caves.com/>



**Date:** all year

**Location:** online and possibly in person in Italy

**Event name:** Italian National Days of Speleology (Giornate Nazionali della Speleologia)

**Event description:** A year-long series of events to safeguard caves and teach the importance of caves.

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## Event Results – June

The following events were held to support our cause. Please send the results of your event in the format below to [webmaster@uis-speleo.org](mailto:webmaster@uis-speleo.org).



**Date:** 1.6.2021

**Location:** online

**Event name:** Boegan Live – La riscoperta del Canin

**Event description:** The 1st season of "Boegan live" consists of six online appointments that are available online. This initiative aims to enhance some of the work carried out by members and supporters in recent years. Specifically, the six meetings are included in two fundamental macro themes: historical and scientific. The goal is to create awareness of the transversal nature of speleological activity through the enhancement of the territory and attention to environmental issues.

**Event report:** <https://youtu.be/W5Z1QSGbs5U>



**Date:** 1.6.2021

**Location:** online

**Event name:** Els estanys càrstics del Geoparc Orígens

**Event description:** The webinar was about the formation of karst lakes, their ecological importance and how their formation allows us to find out the past climatic conditions. By Arnau Blasco, researcher in the Department of Evolutionary Biology, Ecology and Environmental Sciences at the UB.

**Event report:** <https://youtu.be/Lra83P2WVe0>



**Date:** 1.6.2021

**Location:** Podtsov vrh, Slovenia

**Event name:** Let's explore the Zadlog karst field with geologist

**Event description:** After a re-inspection of Zadloško polje and its surrounding, located in the Idrija UNESCO Global Geopark, it became clear, that it has unusual and complex geological structure, which is practically almost »invisible« due to natural leveling of the terrain, permanent farming and

# How is it Organized?



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## Partners

The following organizations are supporting our cause. To join them, send your organization's logo and website to [webmaster@uis-speleo.org](mailto:webmaster@uis-speleo.org).

### International organisations



### National organisations





# Summary Results to Date

## As of 3 April 2022:

- 261 partners from 51 countries
  - 465 events completed
  - 30 events planned
  - 14 planned events are multiple events
  - 6 government proclamations
  - and more keep rolling in daily
- Over 50 million contacts!



# Summary of Geoscience Results to Date

## As of 3 October 2021:

- 53 of 242 partners are geoscience organizations (22%)
  - 117 of 322 events completed on geoscience (36%)
  - 27 geoscience events of 74 planned (36%)
- IYCK website has richest cave and karst geoscience video lecture library



# Biggest Event!

**Celebration at UNESCO Headquarters on 13 September 2021!**



From: <https://en.unesco.org/about-us/unesco-house> (2021)

# International Outreach and Call for Action

**Encourage UNESCO to develop inventories of all caves, karst features, and their contents in UNESCO-protected areas**



Mayan incense burners, Balamku, Mexico

# International Outreach and Call for Action

**Suggest that UNESCO evaluate protected areas for adequacy of cave and karst protection, and expand protection as needed**



Polluted cave stream, Lost River Cave, USA

# International Outreach and Call for Action



Invite UNESCO to join the UIS to develop an international ban in the trade of cave materials (speleothems, animals, sediments, and rocks)

Asian wholesale market of cave materials

# Next Steps

## Explore, Understand, Protect:

- Keep exploring
- Continue the research
- Continue events and promotions
- Follow-up with decisionmakers and others of influence
- Don't forget tomorrow's explorers, scientists, and leaders!

