

2023 Annual Reports the Working Group on Red Beds and Danxia Geomorphology

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1. Name of the Working Group

IAG/AIG Continuing Working Group on Red Beds and Danxia Geomorphology

Secretary : Dr. Ren Fang (Chinese Academy of Geological Sciences)

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2. Activities and achievements during the years of 2023

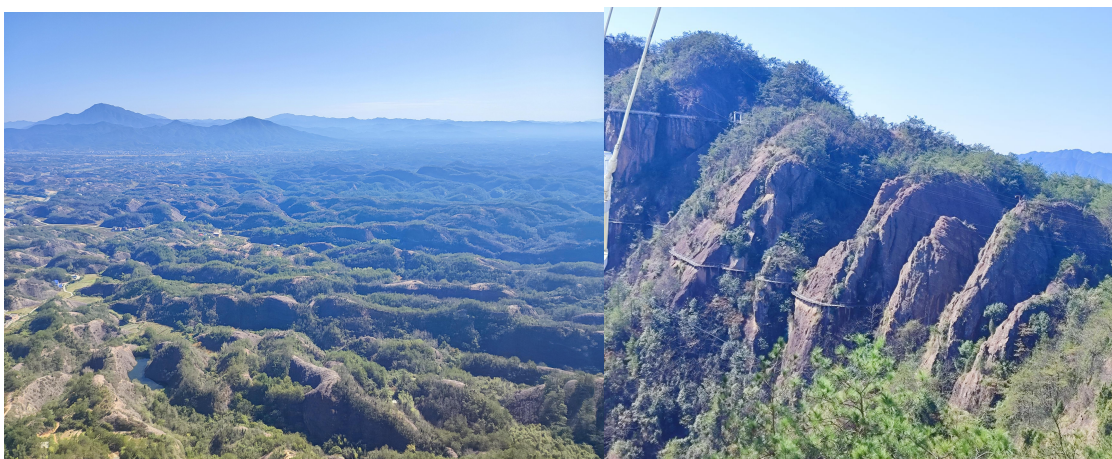
The following achievements have been finished by the Working Group during this period:

2.1 Activities cooperated with other authority and organization

In 2023, the Working Group, cooperated with the Chinese Global Geoparks Network(CGN), successfully organized the filed investigation in two discovered Danxia Sites, Linxia City in Gansu Province (in North China) and Pingjiang County in Hunan Province (in South China).

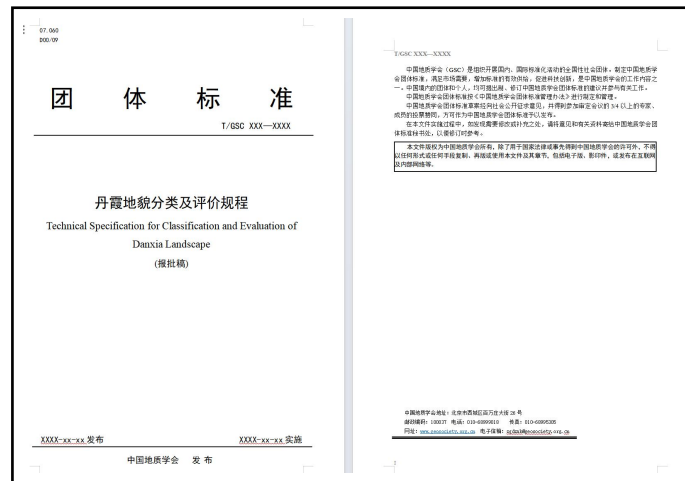


Danxia landform in Linxia City, Gansu Province



Danxia landform in Pingjiang County, Hunan Province

- The Working Group actively cooperated with the Geological society of China (GSC) and organized experts. After hard work over one and half years, the *Technical Specification for Classification and Evaluation of Danxia Landscape (in Chinese)* has been issued in Feb.,2024, which is considered a guidance for researchers who are dedicated to the Danxia landform research.



2.2 National conferences and meeting organized by the Working Group

Due to the impact of the budget reduction of many local governments of China after the epidemic, institutions that originally funded the offline meetings of the Working Group reduced their funding. Therefore, the meeting of the 2023 Working group were held by means of online and offline meetings.

- In 2023, the Working Group organized the online workshop on Red Beds and Danxia Landform, on July. 12.2023. The conference was attended by more than 83 participants, including academicians, students from 5 research institutions
- On Dec. 2023, the Working Group, together with the Chinese Global Geoparks Network(CGN), organized the online workshop for Global Geoparks featured by Danxia landform. There are 58 participants from 5 UNESCO Chinese Global Geoparks, academic institutions attended the online meeting.

2.3. Publications

2.3.1 Academic papers

There are 21 papers published on Danxia landform research during the year of 2023.

- Zhangye Danxia National Geopark[J]. China and Africa: English version, 2023, 15(11):62-63.
- Ding Hua, Liao Wenqiang, Duan Fenghao, et al. Landscape characteristics, spatial distribution and formation mechanism of Danxia landform in Shaanxi Province [J]. Arid Land Geography, 2023, 46(4):527-538.
- Huang Leqing, Wu Chihua, Zhou Liyun, et al. Hunan chenzhou danxia landform landscape characteristics, causes and evolution study [J]. Modern geology, 2023, 37 (6) : 1680-1694. The DOI: 10.19657 / j.g eoscience. 1000-8527.2023.118.
- Zhang Y. Application of virtual reality technology in pre-study course teaching: A case study of "Danxia landform of Longhushan" [J]. Reference for Middle School Geography Teaching, 2023(11):47-49.

- Li Xiaoning, JIANG Yongbiao, Wang Panpan. Geomorphologic characteristics and genetic analysis of Danxia at the northwest foot of Wuyi Mountains [J]. *Geology of East China*, 2023, 44(2):228-238.
- Li Chuanlei. Ecological niche study of rock shrub population in Danxia landform, Zhejiang Province [J]. *Forestry Science and Technology*, 2023(6):27-30.
- Liu H Y, Wu L. The difference and relation between Danxia landform, Yadan landform and colored hill landform in middle school geography teaching [J]. *Science Advisory*, 2023(10):193-195.
- Xiao Qinghua. Study on characteristics of Danxia landform in Hunan Province [J]. *Science and Technology Wind*, 2023(28):71-75.
- Wang Panpan, Jiang Yongbiao. Study on the relationship between water system pattern and Danxia landform in Gongshui Basin of Jiangxi Province [J]. *Jiangxi Science*, 2023, 41(3):501-506.
- Yang Liu, Chen Liuqin, Pan Zhixin, et al. Characteristics and origin of loess covered Danxia landform in northern Shaanxi [J]. *Journal of Mountain Science*, 2023, 41(4):508-520.
- Fang Bin, HE Shanli, Wang Yun, et al. Study on Danxia landform characteristics and genesis of Jinzhong Mountain in Shibing, Guizhou Province [J]. *Metallurgy and Materials*, 2023, 43(1):1-5.
- Liu Xilin, Zhang Xujiao, Li Junlei, et al. The unique canyon reddish Danxia landform and its scientific value in Hualong County, Qinghai Province [J]. *Modern geology*, 2023, 37 (1) : 12. DOI: 10.19657 / j.g eoscience. 1000-8527.2023.031.
- Liu G. Implementation strategy of in-depth study travel based on comprehensive thinking training: A case study of vegetation in Danxia microgeomorphic areas[J]. *Geography Teaching*, 2023(1):60-64.
- Chen Liuqin, Guo Fusheng, Shao Chongjian, et al Discussion on Danxia landform characteristics and its control factors in Jiangxi Province [J] *Journal of Geology*, 2022, 96 (11): 15 (in Chinese)
- Shi Hao, Yue Dapeng, Zhao Jingbo, et al Study on geochemical sedimentary characteristics and paleoenvironment of red sandstone in Jingbian Danxia landform area, northern Shaanxi [J] *Geological Review*, 2022, 68 (1): 12(in Chinese)
- Peng Xiaohua, Wu Hao, Li Xingwen, et al Study on the types and development mechanism of Danxia landform in Yan'an [J] *Geography of Arid Areas*, 2021, 44 (2): 9(in Chinese)
- Chen Liuqin Large honeycombed caves on the cliff of Cuiwei Peak Danxia landform [J] *Journal of Mountain Science*, 2022, 40 (2): 288-288(in Chinese)
- Text/Image by Chen Yaxin The Color Palette of Nature - Zhangye Colorful Danxia [J] *Health Care for the Middle and Elderly*, 2022 (3): 54-55(in Chinese)
- Luo Xinhua Exploration of the "Sixteen Scenery Books of Danxia Mountain" [J] *Journal of Shaoguan University*, 2022, 43 (7): 9 (in Chinese)
- Mengmengzi organized Zhangye Danxia: Crayon Painting of Nature [J] *In and out of class: Science Fans*, 2022 (3): 6-7 (in Chinese)

2.3.2 Popular science publicity of Danxia landform (Popular science articles and publications)

2.3.2.1 Popular science articles

- By Wong Zongci/Photography. Red-colored Danxial landform and clear water of Wuyishan Mountain [J]. *Zhejiang Forestry*, 2023(8):42-43.

- Wang Fengli, Wang Maoxiangtu. Drunkenly beautiful Danxia landform in Foguangyan [J]. World of Literature and History, 2023(2):1.
- Zhu Chengwen/Tu. Investigation of Wan 'an Town, Xiuning County, Anhui Province [J]. Popular Archaeology, 2023(8):87-90.
- Peng Wenbin. Yingtan of Bold Lichaotou [J]. Friends of Primary school Students: Reading and Writing Edition (Late), 2023(7):12-15.
- Li Chengming. Geological wonders of Danxia Landforms[J]. Western Development, 2023(7):158-159.
- Chen Fang, Ma Yidong,(figure). Ecological services of "China Red Stone Park" in Mount Danxia [J]. Forest and Man, 2023(6):74-79.
- Li Chengming. The vast and magnificent Cambra [J]. Western Development, 2023(4):156-159.
- Zhu Chengwen/Tu. Investigation of Wan 'an Town, Xiuning County, Anhui Province [J]. Popular Archaeology, 2023(8):87-90.
- Li Xiaorong. A preliminary investigation on the tomb of Danxiashan Pagoda [J]. Collections and Investment, 2023, 14(9):87-89.
- Li Zhongdong. Sichuan Basin: the low-key Danxia landforms [J]. Science Popularization and Culture of Natural Resources, 2023(2):36-41.]
- Huang Jianhua. Danxia landform of Feitianshan Mountain in southern Hunan [J]. Literary Life: Art China, 2023(8):142-143.
- Tea culture in Wuyishan Mountain featuring Danxia landform, the World Natural and Cultural Heritage Site [J]. Tea Ceremony, 2023(1):3.

2.3.2.2 Production and worldwide broadcasting of China Danxia popular science documentary (June, 2023-Feb. 2024)

In June 2023- Feb. 2024, the Working Group cooperated with the China Central Television Channel 4 (CCTV4) to produce the popular science documentary "China Danxia", which was translated into English and broadcast globally in the overseas edition of China Media Group Mobile. Four scientists on Danxia landform from the Working Group participated in the production of the program (<https://tv.cctv.cn/yskd/special/zgdx/index.shtml>).





导读 它们“色如渥丹、灿若明霞”，它们是沧海桑田自然造物的重要物证，它们的名字叫丹霞。中国是丹霞地貌最集中的国家，中国丹霞是一个由陡峻悬崖、红色山块、密集深切的峡谷、瀑布及河流构成的景观系统，集地质多样性、地貌多样性、生物多样性及景观珍奇性于一体。2010年，贵州赤水、福建泰宁、湖南桂林、广东丹霞山、江西龙虎山、浙江江郎山这六处代表性丹霞地貌以“中国丹霞”名称成功申报世界自然遗产。

人文风貌



什么是丹霞地貌? 广东丹霞山地貌特征 赤水丹霞奇观 千瀑之谜 龙虎山有何奇特之处?

2.3.2.3 Popular science online news report

1. Amazing Photography Shots of our World (*Design Your Way*, including Danxia landform introduction)

Design your way

Design Resources > Inspiration >

Danxia landform, China

PHOTOGRAPHY TIPS AND INSPIRATION

Amazing Photography Shots Of Our World (44 Amazing Pictures)

BY BOGDAN SANDU 1 APRIL 2023



These beautiful pics show the Danxia landform, one of the landscapes found in southeast and southwest China that “consist of a red bed characterized by steep cliffs”.

2. Preserving the Beauty of Danxia Landforms (*Science and Technology Daily*)

科技日报


Home | Innovation China | Cooperation | Comment | Policy | Case | Experts in China | IUSTC

position: EnglishChannel > News > Article

Preserving the Beauty of Danxia Landforms

Source: Science and Technology Daily | 2023-08-28 15:16:14 | Author: Staff Reporters

By Staff Reporters



During the late afternoon hours, the golden sunset lights spray over the Danxia mountains in Zhangye city, Gansu province. (PHOTO:VCG)

The Danxia landforms refer to various landscapes found in southeast, southwest and northwest China, which are formed by terrestrial red sediment featuring cliffs. They are all named after the mountain Danxia (Danxiashan) in Guangdong province, where Chinese scholars first identified it as a distinct landform category in the first half of the 20th century. These landforms, shaped over a geological history spanning millions of years, represent irreplaceable and non-renewable

Top News

Electric Vehicle: An Irreversible Trend

The exports of China's new energy vehicle (NEV) sector soared by 77.6 percent in 2023, reaching 1.2 million units, ranking first in the world for the ninth consecutive year.

Joint Efforts to Build World's Largest Radio Telescope

China was right there in the early conversations about what the future of radio astronomy might look like, and has played a critical role in creating the world's largest and most advanced

Stunning Indicators Call for More Joint Climate Action

"Sirens are blaring across all major indicators... Some records aren't just chart-topping, they're chart-busting. And changes are speeding up," United Nations Secretary-General António

more

- Commercial Spaceflight Develops at Rocket Speed
- Sipping Green Tea in Spring

3. Gansu's Danxia landform sees record-breaking surge in tourists (*China Daily*)

CHINADAILY.com.cn Home / China / Society

Gansu's Danxia landform sees record-breaking surge in tourists

By ZHANG YI and SHI XUEFAN in Zhangye, Gansu | chinadaily.com.cn | Updated: 2023-07-21 12:40

China Daily App Download



Tourists flock to the Zhangye Danxia National Geological Park in Gansu province to witness the beauty of the Danxia landform. [Photo by Shi Xuefan/chinadaily.com.cn]

This peak in visitor numbers marks a milestone for the park, surpassing the one million mark 12 days earlier than in 2019, before the COVID-19 epidemic. It is predicted that the park will reach its peak tourism season in early August, attracting even more visitors.

2.3.3 Special research project on Danxia landform (Dec., 2023- Nov. 2024)

The working Group is cooperating with the Pingjiang County, Yuyang City, Hunan Province to conduct the Danxia landform research in Shiniuzhai National Geopark of Pingjiang County. The project focus is as following:

“ Surface process of the Danxia landform in Pingjiang County, Yuyang City, Hunan Province ”

2.4 National Natural Science Foundation on Danxia landform research undertaken by members of the Working Group

The National Natural Science Foundation project “Comparative study of cave Genesis on steep slope of Danxia landform in Southeast and Northwest China (42361002) ”

2.5 Other activities

- The Working Group successfully supported the Linxia Geopark applying for the UNESCO Global Geopark. After the 2023 field investigation co-organized by the Working Group and Linxia City, the scientific report offered by the Working Group helped the Linxia City to prepare for the application documents of applying for the UNESCO Global Geopark. The application has been approved by the UNESCO in March, 2024.
- The Working Group has established long-term cooperation relationship with some Chinese UNESCO Global Geoparks featured by Danxia landforms, such as Longhushan UNESCO Global Geopark, Taining UNESCO Global Geopark, Danxiashan UNESCO Global Geopark, to publicize Danxia landform to the common people through the geotourism activities.

3 . Future plan

The Red beds & Danxia Geomorphology Working Group will continue to promote the red beds and Danxia landform research through widely cooperation with the Chinese Chinese Global Geoparks Network(CGN) and the Geological society of China (GSC) to attract more academic fellows to the Danxia landform research. Moreover, the Working Group will promote the Danxia landform research application in sustainable development for local communities by providing more science popularity publications for the Geoparks.

In the year of 2024, the Working Group is to urge scientists to do more quantitative research in the morphological features and the controlling factors of Danxia landforms.