

# Yuhao Pan

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## Education

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<b>The University of Hong Kong, Hong Kong</b> PhD student in area of Ecology and Biodiversity	<i>Hong Kong, China</i> <i>Since Aug. 1<sup>st</sup> 2023</i>
<b>University of Chinese Academy of Sciences</b> Master of Engineering in Resources and Environment, GPA: 3.91/4.0	<i>Beijing, China</i> <i>Jul. 2023</i>
<b>Beijing Normal University</b> Bachelor of Science in Geographical Information Science, GPA: 3.42/4	<i>Beijing, China</i> <i>Jul. 2020</i>

## Publications

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- **Pan, Yuhao**, Yan Wang, Shijun Zheng, Alfredo R. Huete, Miaogen Shen, Xiaoyang Zhang, Jingfeng Huang, Guojin He, Le Yu, Xiyan Xu, Qiaoyun Xie, and Dailiang Peng. (2022). "Characteristics of Greening along Altitudinal Gradients on the Qinghai–Tibet Plateau Based on Time-Series Landsat Images" *Remote Sensing*, 14(10): 2408.
- **Pan Yuhao**, Dailiang Peng, Jing M. Chen, Ranga B. Myneni, Xiaoyang Zhang, Alfredo R. Huete, Yongshuo H. Fu, Shijun Zheng, Kai Yan, Le Yu, Peng Zhu, Miaogen Shen, Weiming Ju, Wenquan Zhu, Qiaoyun Xie, Wenjiang Huang, Zhengchao Chen, Jingfeng Huang, Chaoyang Wu. (2022). " Land surface phenology shifts contributed by Land Cover Change " *Environmental Research Letters* 14: 044020.
- **Pan Yuhao**, Yunhao Chen, Xuchen Zhang, Fei Cao, Zhongping Sun, Xiaozheng Du, and Xiang Zhao. (2020) "Spatiotemporal changes analysis of land desertification sensitivity in Ningxia, China" *Journal of Beijing Normal University (Natural Science) (in Chinese with English Abstract)*, 56(4): 582-590.
- Zheng Shijun, **Yuhao Pan**, Le Yu, Shengwei Liu, and Dailiang Peng. (2022) "Possible future movement of the Hu line based on IPCC CMIP6 scenarios" *Environmental Research Communications*, 4: 095008.
- Qian Binxiang, Huichun Ye, Wenjiang Huang, Qiaoyun Xie, **Yuhao Pan**, Naichen Xing, Yu Ren, Anting Guo, Quanjun Jiao, and Yubin Lan. (2022) "A sentinel-2-based triangular vegetation index for chlorophyll content estimation." *Agricultural and Forest Meteorology* 322: 109000.
- Zheng Shijun, Bing Zhang, Dailiang Peng, Le Yu, Binbin Lin, **Yuhao Pan**, and Qiaoyun Xie. (2021) "The trend towards a warmer and wetter climate observed in arid and semi-arid areas of northwest China from 1959 to 2019." *Environmental Research Communications* 3(11): 115011.

## Research Experience

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- **Land cover change impacts on spring leaf green-up date**  
(Master Thesis, Working as the principle investigator) *Nov. 2021 – Jun. 2023.*  
**Research Contents:** (1) distinguishing the contributions of climate change and land cover change on leaf green-up date (GUD) interannual variability in Northern Hemisphere based on satellite estimated GUD data. (2) Using vegetation spring phenology model to simulate GUD in Northern Hemisphere, and quantifying the contributions of climate change and land cover change on GUD interannual variability by control experiment. (3) Simulating future land cover change impacts on GUD trends.  
**Responsibility:** (1) designed experiments and implementation plans. (2) collected and processed multi-source data including GUD, meteorological data (temperature, precipitation and radiation), ESA CCI land cover data, and CMIP6 data. (3) optimized spring phenology model parameters and simulated GUD from 1992 to 2100
- **Characteristics of Greening along Altitudinal Gradients on the Qinghai–Tibet Plateau Based on Time-Series Landsat Images**  
(Working as the principle investigator) *Sep. 2020 – Apr. 2021*  
**Research Contents:** (1) observing the effects of terrain and vegetation types on the spatiotemporal patterns in vegetation greening on the Qinghai–Tibet Plateau. (2)analyzing the factors driving this greening using the geographical detector and the velocity of the vertical movement of vegetation greenness isolines.

**Responsibility:** (1) Produced 30m Landsat NDVI timeseries data of the Qinghai–Tibet Plateau during 1992–2020 by Google Earth Engine. (2) collected and processed meteorological data (temperature and precipitation), and elevation data. (3) investigated the predominant role of temperature and precipitation between different types of terrain along the altitude.

- **Possible future movement of the Hu line based on IPCC CMIP6 scenarios**

(Working as participant)

*Sep. 2019 – Apr. 2021*

**Research Contents:** (1) analyzing the trends in precipitation and NPP (net primary productivity) on both sides of the Hu line. (2) exploring the possibility of Hu line movement

**Responsibility:** (1) collected and processed precipitation, temperature, and NPP data from different CMIP6 scenarios. (2) calculated the movement of the Hu line.

- **Research on vegetation response to the warmer and wetter climate in northwest China in recent decades**

(Working as participant)

*Sep. 2019 – Apr. 2021*

**Research Contents:** (1) analyzing the response of NDVI to climate change in northwest China. (2) revealing the drivers of interannual NDVI changes in northwestern China.

**Responsibility:** (1) collected and processed multi-source data including 30m Landsat NDVI, potential evapotranspiration, and dryness index. (2) attributed predominant role of temperature, precipitation, and human activity on vegetation growth.

- **Monitoring land desertification sensitivity in Ningxia, China**

(Bachelor Thesis, Working as the principle investigator)

*Sep. 2019 – Apr. 2020*

**This was supported by "Project of Undergraduate Research, Beijing Normal University"**

**Research Contents:** monitoring the characteristics of desertification sensitivity and its spatiotemporal changes in Ningxia using logistic regression model.

**Responsibility:** (1) designed experiments and implementation plans. (2) collected and processed multi-source data including soil (soil erosion and soil texture), topography (elevation, slope, aspect, topographic position index), environment (MODIS NDVI, land surface temperature, land cover, evapotranspiration, and potential evapotranspiration), and socio-economic (population and GDP). (3) built desertification sensitivity model based on logistic regression model. (4) investigated spatiotemporal changes of desertification sensitivity in Ningxia using Mann-Kendall test and Hurst index. And revealed the predominant driver of desertification development.

## Honors and Awards

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- **First Class Academic Scholarship**, University of Chinese Academy of Sciences, *Nov. 2021 and Nov. 2020*
- **"Merit Student"**, University of Chinese Academy of Sciences, *Jul. 2021*
- **National Encouragement Scholarship**, Beijing Normal University, *Dec. 2019*
- **The Second Prize Scholarship**, Beijing Normal University, *Dec. 2019 and Dec. 2018*
- **Contest Second Scholarship**, Beijing Normal University, *Dec. 2019*
- **Honorable Mention in Mathematical Contest in Modeling (MCM)**, American Consortium for Mathematics and Its Applications *Apr. 2019*
- **The Second Prize of "Jingshi Cup" Extra-curricular Science and Technology Works Contest**, Beijing Normal University, *Jul. 2018*

## Extracurricular Experience

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- **Reporter**, The Fifth Quantitative Remote Sensing Forum, Wuhan, China. *Jun. 2021*
- **Volunteer**, Summer volunteer teaching, Changning County Middle School, Changning County, Sichuan Province, China. *Jul. 2017*

## Technical Skills

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- **Programming Languages:** Python, Google Earth Engine (Javascript), MATLAB, IDL.
- **Software:** ArcGIS, ENVI, Arcpy (batch processing)
- **Hardware:** LAI2200, Track, ASD FieldSpec