

# NGUYEN TAN THAI HUNG

Paleoclimate

Water resources management

Statistics & Machine learning

**R • C++ • MATLAB • Python**

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🏠 [ntthung.github.io](https://ntthung.github.io)

🔄 [github.com/ntthung](https://github.com/ntthung)

## Research statement

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I study variability and changes in the water cycle across spatiotemporal scales, and apply this knowledge to water resources management. I advocate open science and science communication.

## Education

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2016 – 2021	<b>Singapore University of Technology and Design (SUTD)</b> Doctor of Philosophy	📍 Singapore
2009 – 2012	<b>Delft University of Technology (TU Delft)</b> <b>National University of Singapore (NUS)</b> Double Master of Science degrees	📍 The Netherlands 📍 Singapore
2005 – 2009	<b>National University of Singapore</b> <b>(jointly conferred by the University of Melbourne)</b> Bachelor of Engineering (Civil)	📍 Singapore 📍 Australia

## Awards and scholarships

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2019	Lamont Postdoctoral Fellowship, Columbia University Teaching Excellence Award–Most Outstanding Teaching Assistant, SUTD Best Research Project, SUTD Research Fest
2018	Winner, SUTD 3-Minute Thesis Competition
2017	Outstanding Teaching Assistant Award, SUTD
2016	President’s Graduate Fellowship, SUTD
2010	Keppel Corporation Study Grant, SGD 30,000
2009	Singapore-Delft Water Alliance Study Grant, SGD 50,000
2009	Engineering Innovation & Research Award, NUS
2007	NUS Award for Studying Abroad, SGD 11,000
2005	Civil Engineering Scholarship, SGD 24,000

## Teaching

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2020	<b>Teaching Associate, Columbia University</b> ( <i>invited, remotely</i> ) Course: Predicting the Effects of Climate Change on Global Forests
2016 – 2018	<b>Graduate Teaching Assistant, SUTD</b> Courses: Engineering Systems Architecture, Quality and Reliability

## Talks

### Academic

2019	<i>Streamflow variability in Monsoon Asia over the past eight centuries</i>	
	Woods Hole Oceanographic Institution	📍 USA
	Tree Ring Lab, Lamont Doherty Earth Observatory	📍 USA
	Earth Observatory of Singapore & Asian School of Environment, Nanyang Technological University	📍 Singapore
	Centre for Climate Research Singapore	📍 Singapore
2018	<i>A linear dynamical systems approach to streamflow reconstruction</i>	
	Centre for Climate Research Singapore	📍 Singapore

### Industrial

2018	<i>Building trust: An engineer's non-engineering challenge</i>	
	Singapore University of Technology and Design	

## Conferences and workshops

AGU 2020 (American Geophysical Union)	📍 Virtual
MODSIM 2019 (Modelling & Simulation Society of Australia and New Zealand)	📍 Australia
AOGS 2019 (Asia Oceania Geosciences Society)	📍 Singapore
EGU 2019 (European Geosciences Union)	📍 Austria
SAPEC-2019 Isotopes in the Environment	📍 Vietnam
AGU 2018	📍 USA
29 <sup>th</sup> European Dendroecological Field Week, 2018	📍 Croatia
EGU 2018	📍 Austria
AOGS 2017	📍 Singapore

## Service

### Conferences and field school organized

2020	<b>SAPEC-2020 Data and Methods in Paleo Proxy Sciences</b>	📍 Vietnam
	<i>Organizing team member</i>	
	Field school with 40 scientists and students from 12 countries.	
2018 – 2019	<b>ESD Summer Conference Series</b>	📍 Singapore
	<i>Founder and lead organizer</i>	
	Student-led annual conferences showcasing research in Engineering Systems & Design	

### Peer review

Since 2017	Reviewer for <i>Quaternary Science Review</i> , <i>Water Resources Research</i> , <i>Journal of Water Resources Planning and Management</i> , <i>Environmental Modelling &amp; Software</i> , and <i>Water Management</i> .	
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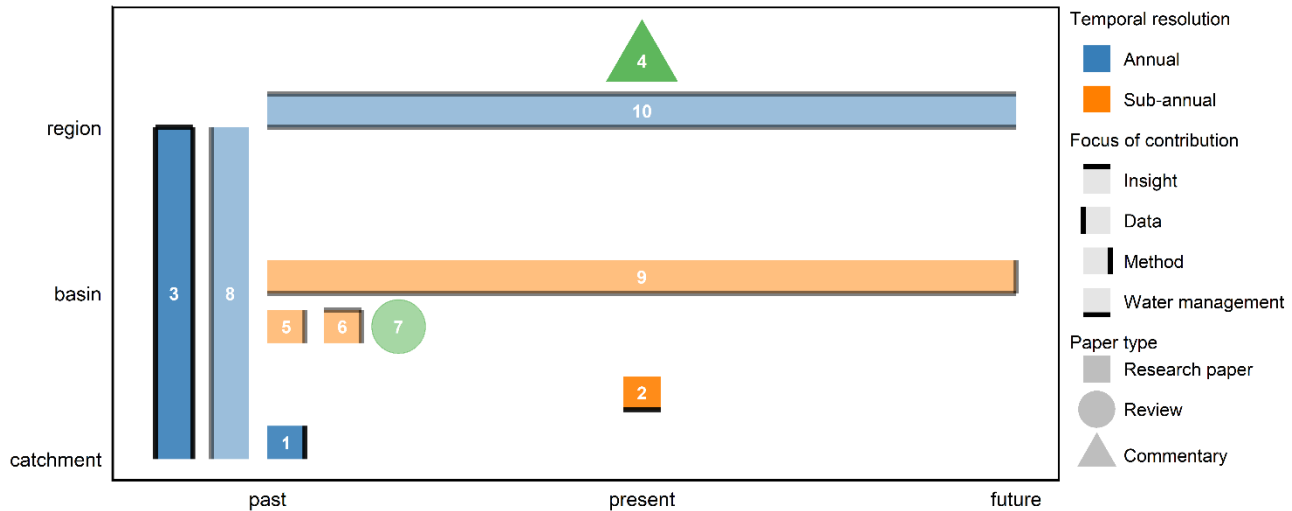
## Community

Since 2019 Regional Representative, Past Global Changes (PAGES) Early Career Network.

## Publications (published and planned)

### Overview

Below is a layout of my publications and projects in pipeline. The numbers follow the list in the next section.



### Journal papers

1. **Nguyen, H. T. T., & Galelli, S.** (2018). A Linear Dynamical Systems Approach to Streamflow Reconstruction Reveals History of Regime Shifts in Northern Thailand. *Water Resources Research*, 54(3), 2057–2077. DOI: [10.1002/2017WR022114](https://doi.org/10.1002/2017WR022114)
2. Libisch-Lehner, C. P., **Nguyen, H. T. T.**, Taormina, R., Nachtnebel, H. P., & Galelli, S. (2019). On the Value of ENSO State for Urban Water Supply System Operators: Opportunities, Trade-Offs, and Challenges. *Water Resources Research*, 55(4), 2856–2875. DOI: [10.1029/2018WR023622](https://doi.org/10.1029/2018WR023622)
3. **Nguyen, H. T. T.**, Turner, S. W. D., Buckley, B. M., & Galelli, S. (2020). Coherent Streamflow Variability in Monsoon Asia Over the Past Eight Centuries—Links to Oceanic Drivers. *Water Resources Research*, 56(12). DOI: [10.1029/2020WR027883](https://doi.org/10.1029/2020WR027883)
4. Galelli, S., **Nguyen, H. T. T.**, Turner, S. W. D., and Buckley, B. M. (2021). Time to use dendrohydrological data in water resources management? Commentary, to appear in *Journal of Water Resources Planning and Management*.
5. **Nguyen, H. T. T.**, Galelli, S., Xu, C., & Buckley, B. (2020). Multi-Proxy, Multi-Season Streamflow Reconstruction with Mass Balance Adjustment. *Earth and Space Science Open Archive*. DOI: [10.1002/essoar.10504791.1](https://doi.org/10.1002/essoar.10504791.1)

6. Chowdhury, A. K., Dang, T. D., **Nguyen, H. T. T.**, Koh, R., & Galelli, S. (2021). The Greater Mekong's climate-water-energy nexus: How ENSO-triggered regional droughts affect power supply and CO2 emissions. *Earth's Future*, e2020EF001814. DOI: [10.1029/2020EF001814](https://doi.org/10.1029/2020EF001814)

## In pipeline

7. Buckley, B.M., Nguyen, H., Galelli, S., Ummenhofer, C.C., D'Arrigo, R.D., Hansen, K.G., and Stahle, D.K. The Southeast Asian Dendrochronology Project: Hydroclimate variability over the past millennium. *Quaternary Science Reviews* (invited review, manuscript in preparation).
8. **Nguyen, H.**, Barbarossa, V., Turner, S.W.D., Buckley, B.M., and Galelli, S. A high-resolution paleo streamflow record for Monsoon Asia with surrogate streamflow data. Presented at MODSIM 2019; work in progress.
9. **Nguyen, H. T. T.**, Vu, D. T., and Galelli, S. On the value of streamflow reconstruction to flood management in the Chao Phraya River Basin. *Work in progress*.
10. Paleoclimate model simulation and paleostreamflow reconstruction. This work will be carried out in my postdoc.

## Media

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*PhD and Parenthood: An Insider's Story.*

Blog post on doing a PhD as a parent, first appeared on *The Early Pages*, blog site of the PAGES Early Career Network, and reproduced by TODAYonline (a Singapore newspaper). For this article I was also interviewed live on air by Channel News Asia's FM 93.8.

<https://theearlypages.blogspot.com/2019/08/phd-and-parenthood-insiders-story.html>

## Industrial experience

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2011 – 2015 **Keppel Group of Companies**

I led teams to commission, operate, and maintain water treatment plants.

- *Senior Operations & Maintenance Engineer (2015)* 📍 Singapore  
Ulu Pandan NEWater Plant
- *Process Engineer (2013 – 2014)* 📍 Qatar  
Doha North Sewage Treatment Works
- *Trainee (2011 – 2012)* 📍 Singapore  
Keppel Seghers

Awards:

- Safety Supervisor of the year (2014)
- Safety Innovation Project (2014, 2015)