

Winston Tseon Loong CHOW (周祥龙)

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Winston Chow is Lee Kong Chian Professor of Urban Climate based at Singapore Management University's (SMU) [College of Integrative Studies](#) (CIS). He is also the Pillar Lead of Urban Systems at SMU's [Urban Institute](#). He holds a Ph.D. in Geography from Arizona State University, with a Masters and two Bachelor's Degrees from the National University of Singapore.



In 2023, Dr. Chow was elected as [Co-Chair](#) of the [Intergovernmental Panel on Climate Change's](#) (IPCC) [Working Group II](#) for its 7th Assessment Report (AR7) Cycle from 2023 – 2030, which assesses climate impacts, adaptation and vulnerability. The IPCC is the leading international body for assessing climate change science under the United Nations, providing policymakers with regular, comprehensive assessments of the science related to climate change. As part of his co-chair duties, Dr. Chow helps to lead the IPCC's [Special Report on Climate Change and Cities](#), as well as for the [Working Group II Assessment for AR7](#), and the update to the IPCC Technical Guidelines of Climate Impacts and Assessment. He also leads the IPCC's WGII Technical Support Unit based in Singapore at SMU for the duration of AR7.

Through the [SULTREE](#) (Sustainable Urban Living In Tropical & Extreme Environments) lab in SMU, he led research into reducing Singapore's urban heat risks through the multi-institute [Cooling Singapore initiative](#), which was funded by Singapore's National Research Foundation and contributed to [Singapore's Green Plan 2030](#). He also conducts urban climate research through collaborations with SMU's [Singapore Green Finance Centre](#) on sustainable data centres, and on urban climate resilience as a [Fellow of the Centre for Liveable Cities Singapore](#).

Dr. Chow sits on advisory panels on international urban climate resilience projects, such as the [Innovate4Cities Initiative](#) (Global Covenant of Mayors for Climate and Energy), the [Melbourne Centre for Cities](#) (Australia) and the [Red&Blue consortium](#) (Netherlands), and is affiliated faculty with the [Centre for Nature-based Climate Solutions](#) in Singapore,

As Full-time Faculty, he teaches undergraduate and graduate courses on climate change and sustainability in SMU, while also conducting seminars for Executive Development courses on these topics. In CIS, he mentors undergraduates enrolled in the [individualised major](#) and [second major](#) programme for their capstone projects and dissertations. He regularly collaborates and consults with cross-sector industry partners on sustainability initiatives in Singapore, such as from the financial, philanthropic, legal, and built environment industries.

Lastly, Dr. Chow regularly gives outreach talks to community and educational institutions; is often an invited keynote speaker, panellist and moderator for local and international conferences, and frequently speaks to local and international media on a wide range of climate and sustainability issues. He also volunteers his time to advise on key sustainability initiatives in Singapore, such as the [SG Eco Fund](#), [Environment and Resources Standards Committee](#), and the [Singapore Emission Factors Registry](#).

Education

- **Doctor of Philosophy (2011)** School of Geographical Sciences and Urban Planning, Arizona State University
- **Master of Social Sciences (2005)** Geography, National University of Singapore
- **Bachelor of Social Sciences (First Class Honours) (2002)** Geography, National University of Singapore
- **Bachelor of Arts (with Merit) (2001)** English Literature and Geography, National University of Singapore

Employment Experience

- **Professor of Urban Climate (Tenured)**
College of Integrative Studies, Singapore Management University (Jan 2024 –)
 - Lee Kong Chian Professorship (Oct 2025 –)
 - Pillar Lead (Urban Systems), Urban Institute, Singapore Management University (Jan 2024 –)
 - Lee Kong Chian Research Fellow (Jul 2023 – Sep 2025)
- **Associate Professor of Urban Climate (Tenured)**
College of Integrative Studies, Singapore Management University (Jul 2019 – Dec 2023)
- **Assistant Professor of Geography (Tenure-Track)**
Department of Geography, National University of Singapore (Aug 2013-Jun 2019)
 - Adjunct appointment as Honorary Assistant Professor, Institute of Water Policy, Lee Kuan Yew School of Public Policy, National University of Singapore (Apr 2016-Jun 2019)
- **Research Fellow & Postdoctoral Research Associate**
Department of Engineering, College of Technology and Innovation, Arizona State University;
 - Concurrent appointment with Department of Geography, National University of Singapore (Jun 2011-Aug 2013)

Roles in the Intergovernmental Panel on Climate Change (IPCC)

- **Co-Chair**, Working Group II on Impacts, Adaptation and Vulnerability, 7th Assessment Cycle (Jul 2023 – 2030); Elected during IPCC-59 in Nairobi
- **Scientific Steering Committee Member**, 7th Assessment Cycle, Special Report on Climate Change and Cities
- **Lead Author**, 6th Assessment Cycle Working Group II, 2017-2022
 - Chapter 6 “Cities, Settlements and Key Infrastructure”
 - Cross Chapter Paper 2, “Cities and Settlements by the Sea”
 - Technical Summary
- **Contributing Author**, 6th Assessment Cycle, 2017-2022
 - Working Group I, Chapter 12 “Climate Change Information for Regional Impact and for Risk Assessment”
 - Working Group III, Chapter 8 “Urban Systems and other Settlements”
- **Member**, IPCC Task Group on Data (TG-Data), 2020 – 2025
- **Scoping Expert**, 6th Assessment Cycle Working Group II and Synthesis Report

Major Research Interests

- Urban heat island science, impacts, and mitigation
- Urban vulnerability to climate change risk and climate adaptation
- Sustainable data centres in tropical cities

Awarded research grants (5 ongoing out of 19 total awards)

- **“How hot is it? Precision and accuracy of thermal indices in representing outdoor thermal perceptions in Singapore”** Funding Agency: Ministry of Education, Singapore. 2 years; Nov 2025 – Oct 2027; Lead Principal Investigator.

- **Developing a risk assessment and communication platform to translate climate projections to policy** Funding Agency: National Environmental Agency, Singapore. 4 years: Sep 2023 – Aug 2027; Co-Principal Investigator
- **Climate Transformation Hub** Funding Agency: Ministry of Education, Singapore. 7 years; Oct 2023 – Sep 2030; Co-Principal Investigator.
- **Cool Paints Trials in Schools to mitigate UHI effects** Funding Agency: National Environmental Agency, Singapore. 2.25 years; May 2023 – Jun 2024; Principal Investigator.
- **Cooling Singapore 2.0: Urban Climate Risks** Funding agency: National Research Foundation; 3.5 years; Oct 2022 – Mar 2026; Lead Principal Investigator.

Selected Research Publications since 2024 (Full list: [Google Scholar](#); current h-index of 40)

- Creutzig, F., T. McPhearson, R. Bardhan, C. Belmin, **W.T.L. Chow** et al. 2025. “Bridging the scale between the local particular and the global universal in climate change assessments of cities” *Nature Cities*. [10.1038/s44284-025-00226-w](https://doi.org/10.1038/s44284-025-00226-w).
- Liu, F.H.M., K. P.Y. Lai, B. Seah, and **W.T.L. Chow**. 2025. “Decarbonising digital infrastructure and urban sustainability: The case of data centres” *Nature Urban Sustainability* [10.1038/s42949-025-00203-1](https://doi.org/10.1038/s42949-025-00203-1).
- Ching, G.N., S.K. Yik, S.L. Heng, B.H. Ho, P.J. Crank, M. Mandelmlch, X.T. Ho, and **W.T.L. Chow**. 2025 “Park cool island modifications to assess radiative cooling of a tropical urban park” *Scientific Reports*. [10.1038/s41598-025-00207-y](https://doi.org/10.1038/s41598-025-00207-y)
- Mandelmlch, M., S.K. Yik, B.H. Ho, G.N.Y. Ching, P.J. Crank and **W T L Chow**. 2025: “Sensor lag adjustments on a mobile meteorological cart in tropical environments: a case study from an Urban Park in Singapore” *Environmental Research Communications*, [10.1088/2515-7620/ade75e](https://doi.org/10.1088/2515-7620/ade75e)
- **Chow, W.T.L.** 2024: “Reducing urban overheating risks through climate-resilient development in the warming tropics” *One Earth*, [10.1016/j.oneear.2023.12.018](https://doi.org/10.1016/j.oneear.2023.12.018)
- Banerjee S, R.X. Y. Pek, S.K. Yik, G.N.Y. Ching, X.T. Ho, Y. Dzyuban, P.J. Crank, J.A. Acero, and **W.T.L Chow**. 2024: “Assessing impact of urban densification on outdoor microclimate and thermal comfort using ENVI-met simulations for Combined Spatial-Climatic Design (CSCD) approach.” *Sustainable Cities and Society*. [10.1016/j.scs.2024.105302](https://doi.org/10.1016/j.scs.2024.105302)
- Gillerot, L., K. Rozario, P. De Frenne, R. Oh, Q. Ponette, A Bonn, **W.T.L. Chow** et al. 2024: “Forests are chill: The interplay between thermal comfort and mental wellbeing” *Landscape and Urban Planning*, [10.1016/j.landurbplan.2023.104933](https://doi.org/10.1016/j.landurbplan.2023.104933)
- Nazarian, N., B. Bechtel, G. Mills, M.A. Hart, A. Middel, E.S. Krayenhoff, G.S. Langendijk, L. Zhao, A. Pitman, and **W.T.L. Chow**. 2024: “Integration of urban climate research within the global climate change discourse.” *PLoS Climate*, [10.1371/journal.pclm.0000473](https://doi.org/10.1371/journal.pclm.0000473)

Commentaries, keynotes, and public talks (selected since 2024)

- **Chow, W.T.L.** 2025: “Building Urban Resilience”, 16th Jul 2025. *Asian Management Insights*. 12(2): 26-33. Invited Commentary. Available from [Asian Management Insights](#)
- Stockholm Environment Institute (SEI) “Episode 17: Why heat is the defining climate challenge for cities” SEI Asia Podcast: Environment and Policy in Asia. 1 Dec 2025. Available from [SEI Asia Podcast](#)
- Bloomberg News Podcast. “ESG Currents: Food, Trust and the Art of IPCC Climate Diplomacy” 3 Dec 2025. Available from [Bloomberg News](#)
- **Chow, W.T.L.** and M. Krause. 2025. “Foreword” in *Global Cooling Watch 2025: The Free Degrees* United Nations Environment Programme & The Cool Coalition. 11 November 2025, Available at [UNEP](#)
- Invited Keynotes for “Ministerial Roundtable: Leadership for Catalyzing Innovative Solutions and Cooperation,” and “Diversities and Synergistic Shifts Across Systems” at 9th Asia-Pacific Climate Change Adaptation (APAN) Forum. Bangkok, Thailand.
- **Chow, W.T.L.** and M.K Gupta. 2024: “Commentary: Why the IPCC’s upcoming special report on cities matters for South-east Asia” Invited Commentary, Available from [The Straits Times \(Online\)](#).

- **Chow, W.T.L.** 2024 “Finding Harmony: Innovative Paths for a Sustainable Future” Invited Commentary. Available from [Our Better World](#) (Online)
- “The Challenges of Designing a Climate-Resilient Future City” DP Architects DesignFUTURE Conference, Singapore, Singapore. 22 Nov 2024. [Invited Keynote](#).
- Channel NewsAsia (CNA), 2024: “Climate Conversations Podcast: Must climate communication be so dense?” 12th Dec 2024. Available from [CNA](#).
- “Fireside chat – climate action.” OCBC Bank Sustainability Day. Singapore, Singapore. 16th Aug 2024. OCBC Bank, [Invited Speaker](#)
- Talking Point. 2024: “How do we beat the heat?” 30th Jun 2024. Available from [CNA Insider](#) and [MeWatch](#) (online)
- “The Time is Now: Why Climate Finance Matters” Turning the tide on Climate Finance: CFA Society Singapore Gala Dinner. Singapore, Singapore. 16 May 2024. CFA Society Singapore. [Invited Keynote](#).

Classes Taught in Singapore Management University

- **COR600 Principles of Climate Change** (Graduate) Core course, Master of Sustainability.
- **COR602 Business and Climate Change** (Graduate) Elective course, Master of Sustainability.
- **COR2203 Climate Change: Global and Local Solutions** (Undergraduate) Elective course offered by College of Integrative Studies.
- **COR2210 Technological Innovations enhancing Urban Sustainability** (SMU-X) Elective course offered by College of Integrative Studies.
- **Climate Change Management** (IBF-STC Accredited Course for business professionals). Offered by Singapore Green Finance Centre.
- **Sustainability and Climate Change** (Executive Development Programmes).

Selected Service Roles in Singapore Management University (SMU)

- **Co-Director**, Deferred Declaration of Degree Programme, College of Integrative Studies (2022-2023)
- **University Faculty Senate Member** (2022-2023)
- **Academic advisor**, University Ad-hoc Committee on SMU Sustainability reporting (2020-2021)
- **Basket Co-ordinator**, Technology and Society (2019 –2021)
- **Member**, Undergraduate Curriculum Committee (2019 – 2022)

Selected Service to Public

- **Invited Member**, Singapore Emissions Factor Registry, Singapore Business Federation (SBF) and the Agency for Science, Technology and Research (A*STAR) (Sep 2024 –)
- **Invited Member**, Advisory Committee, SG Eco Fund, Ministry of Sustainability and the Environment (Nov 2020 – Nov 2023)
- **Invited Member**, Environment and Resources Standards Committee, Enterprise Singapore (Aug 2020 –Jul 2023)
- **Member**, Geography Syllabus Development Committee, Ministry of Education, Singapore
- Regular News, TV and radio **media appearances** as a Climate expert: [click here for a search engine summary](#)