

Curriculum Vitae of Thian Yew Gan, PhD, PEng, PE, Fellow of ASCE

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<https://www.daad-canada.ca/en/2020/03/19/research-ambassador-profile-dr-thian-yew-gan/>

Education Background

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| 1987 | Ph.D., University of Washington at Seattle, USA |
| 1979 | M.S.E., University of Texas at Austin, USA |
| 1977 | B.E. (Hons) Civil Engineering, University of Malaya |

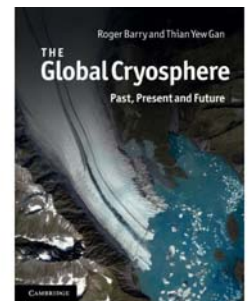


Biography

Thian Yew Gan is a professor of the University of Alberta, Edmonton, Canada since 1993, research ambassador of German Academic Exchange Service, and a fellow of the American Society of Civil Engineers (ASCE). Dr. Gan is internationally renowned for his many innovative, multidisciplinary contributions to our understanding in hydrology, hydroclimatology, cryosphere, remote sensing of environment, and water resources management. He is a pioneer in research regarding climate change impact to water resources, and developed many practical engineering tools/models for hydrologic forecasting, and innovative algorithms to retrieve large-scale spatial information from remotely sensed data. Dr. Gan has supervised 10 postdoctoral fellows, graduated 17 PhDs and 30 master students, has published two books, “*Global Cryosphere – Past, Present and Future*”, 1st & 2nd Edition, Cambridge University Press, and over 140 refereed papers in various reputable, peer reviewed international journals of (1) Nature Publishing Group, e.g., Nature Climate Change; (2) American Geophysical Union, e.g., Water Resources Research, Journal Geophysical Research-atmosphere; (3) American Meteorological Society, e.g., Journal of Climate, Journal Applied Meteorology, Journal of Hydrometeorology, (4) Royal Meteorological Society such as International Journal of Climatology, (5) Elsevier Science, e.g., Advances in Water Resources and Journal of Hydrology, (6) ASCE such as Journal of Hydrologic Engineering, (7) Hydrologic Processes, International Journal of Remote Sensing, Remote Sensing of Environment, Int. J. of Applied Earth Observation and Geoinformation, & Quaternary International.

Visiting Professorships and Honors

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|---------------|--|
| 2020 | LEWI fellow, Hong Kong Baptist University |
| 2020 | Robert & Maude Gledden Senior Visiting Fellow, University Western Australia |
| 2019 | Nanshan Professor, Southern U. Science & Technology, Shenzhen, China |
| 2019 | Visiting Professor-World Expert Lecture, University of Philippines Visayas |
| 2018-2022 | Lead Author & Expert reviewer, Intergovernmental Panel of Climate Change |
| 2019 | University Fellow, Hong Kong Baptist University |
| 2018 | Expert reviewer, Special Rept SR1.5, Intergovernmental Panel of Climate Change |
| 2016, 2017 | Visiting Professor, Chinese University of Hong Kong and Hong Kong University |
| 2015 | Visiting Professor, Technical University of Berlin, Germany |
| 2014 | Isaac Manasseh Meyer Fellow, National University of Singapore, Singapore |
| 2013 | Visiting Scholar, United Nation University-FLORES, Dresden, Germany |
| | Visiting Professor, Aalto University, Otaneimi, Finland |
| | Tan Chin Tuan Fellow, Nanyang Technological University, Singapore |
| 2012 | Rosby Visiting Fellow, International Meteorological Institute, Stockholm University |
| 2011-Present | DAAD (German Academic Exchange Service) Research Ambassador, Germany. |
| 2011 | Erskine Visiting Fellow, University of Canterbury, Christchurch, New Zealand |
| 2010 | Visiting professor to EPFL, EFLUM Lab of Env. Fluid & Hydrology, Lausanne, Switzerland |
| 2009 | France-Canada Research Grant Recipient, Cemagref, Anthony Cedex, France |
| 2007, 2008 | Cooperative Inst. Research on Environmental Sc. Visiting Fellow, Uni. of Colorado at Boulder |
| 2006/07 | Guest University Professor (W3), Technical University of Munich |
| 1998-2005 | Adjunct professor of Utah State University |
| 2004 | Elected Fellow of American Society of Civil Engineers |
| 2004- Present | Honorary Professor of Xian University of Technology, China |
| 2010-2013 | Honorary professor of Yangtze University, China |
| 1999-2000 | Visiting professor of Kyoto University and JSPS Fellow |
| 1999 | Guest professor of Saga University, Japan |



2002-present	Professor, Dept. of Civil & Environmental Engineering, University of Alberta
1996-2002	Tenured Associate Professor, Dept. of Civil & Environmental Engineering, Uni. of Alberta
1993-1996	Untenured Associate Professor, Dept. of Civil & Environmental Engineering, Uni. of Alberta.
1992-93	Regional Hydrologist, Indian & Northern Affairs Canada, Canada
1991	Visiting Research fellow, National Hydrology Research Centre, Canada
1989-1990	Assistant professor of Asian Institute of Technology, Thailand

Awards

2020	LEWI fellow, Hong Kong Baptist University
2020	Robert and Maude Gledde Senior Visiting Fellowship, University Western Australia
2019	University Fellowship (Sir Run-Run Shaw Foundation), Hong Kong Baptist University
2017	Association of Science and Engineering Technology Professionals of Alberta Technical (ASET) Excellence Award of 2017
2014	Isaac Manasseh Meyer Fellowship of National University of Singapore
2013	Tan Chin Tuan Fellowship, Nanyang Technological University, Singapore
2012	Rosby Fellowship, Stockholm University, Sweden
2011	Erskine Visiting Fellowship, University of Canterbury, New Zealand
2010	SWISS National Science Foundation (NSF) Fellowship
2007	CIRES (Cooperative Institute Research on Environmental Sciences) Fellowship, University of Colorado at Boulder
2006	German Academic Exchange Service (DAAD) Professorship at Technical University Munich
2000	Japan Society for the Promotion of Science (JSPS) Fellowship

Hirsch index score: **H40** and about **6,000** scientific citations (Google Scholar).

Research Gate score = **40.54** (Top 97.5% of Research Gate members of over 16 million)

Books: (1) Barry, R., and Gan, T. Y., 2011, *Global Cryosphere, Past, Present and Future*, 472 pages, Cambridge University Press, ISBN: 9780521769815 (Hardcover) & 9780521156851 (Paperback).

(2) Barry, R., and Gan, T. Y., 2020, *Global Cryosphere, Past, Present and Future*, 2nd Edition, in press, Cambridge University Press.

Campus ADMINISTRATIVE COMMITTEE

Office	Committee/ Department	Department/ University
University Fellow of HKBU (2019)	Develop student exchange program between HKBU and U of Alberta	Department of Geography, Hong Kong Baptist Univ.
Advisor (2017)	HKU Science Dean's Advisory Board for Director of Research Division of Earth and Planetary Science	Faculty of Science Hong Kong University (HKU)
Committee member Chair (2009-2010)	Faculty staff search Committee	University of Alberta
Member (2009-2012)	Academic Faculty Committee, AASUA	University of Alberta
Committee member	Graduate Faculty Committee	University of Alberta
Committee member	Dean of Augustana College Search Committee	Augustana College, University of Alberta
Committee member	Dean of Engineering Search Committee	Faculty of Engineering University of Alberta
Councillor & Member (July, 2002 – June 2003)	Faculty Evaluation Committee	Faculty of Engineering University of Alberta
Moderator (Aug 1997–Aug1998)	New Professors' Forum	Faculty of Engineering
Graduate Coordinator (Sep.1996–Jun1999)	Water Resources Graduate Programming	Civil & Environmental Engineering, U. of Alberta
Member (Sep.1996–Jun2000)	Department Infrastructure	Civil & Environmental Engineering, U. of Alberta
Member (Sep1994–Aug1996)	Academic Planning	Civil & Environmental Engineering, U. of Alberta
Member	Task Force on Risk Analysis in Civil Engineering	Civil & Environmental Engineering, U. of Alberta

Refereed Journal Papers

- (144) Yang, Y., Gan, T. Y. and Tan, X., 2020, Changing characteristics of dry and wet spells in Canada, submitted to *Climatic Change*.
- (143) Tariku, T. B., K. E., Gan, X., Tan, Gan, T. Y., H. Shi, Tilmant, A., 2020, Climate Change Impact to Blue Nile River Basin and the Optimal Operation of its Multi-reservoir System for Hydropower and Irrigation, submitted to *Science of Total Environment*.
- (142) Gizaw, M., and Gan, T. Y., Yang Y., 2020, Trends in Convective Available Potential Energy (CAPE) and extreme precipitation indices over the United States and southern Canada for summer of 1979-2013, submitted to *Journal of Theoretical and Applied Meteorology*, Elsevier Science.
- (142) Pervin, L., and Gan, T. Y., 2020, Sensitivity of physical parameterization schemes in WRF model for dynamic downscaling of climatic variables over the MRB, *J. of Water and Climate Change*, IWA Publishing, <https://doi.org/10.2166/wcc.2020.036>
- (141) Kuo, C. C., Gan, T. Y., Gan, K. E., Yang, Y., 2020, Projections of Intensity Duration Frequency curves of central Alberta under climate change impact, revised, *International Journal of Climatology*.
- (140) Mahmoud, S., and Gan, T. Y., 2020, Multidecadal variability in the Nile River Basin hydroclimate controlled by ENSO & Indian Ocean Dipole, *Science of Total Environment*, <https://doi.org/10.1016/j.scitotenv.2020.141529>
- (139) Wu, Y., Gan, T. Y., She, Y., Xu, C., Yan, H., 2020, Five centuries of tree-ring based reconstruction of streamflow variability in Athabasca River basin, Canada and teleconnection to climate patterns, *Science of Total Environment*, <https://doi.org/10.1016/j.scitotenv.2020.141330>
- (138) Shi, H., Fu, Q., Gan, T. Y., Li, T., and, Zhou, Z., 2020, Assessing spatiotemporal characteristics of drought and its effects on climate-induced yield of maize in Northeast China, *J of Hydrology*, Elsevier Science, 588 (2020) 125097, <https://doi.org/10.1016/j.jhydrol.2020.125097>.
- (137) Lai, Y., Li, j., Gu, X., Chen, D., Kong, D., Gan, T. Y., Liu, M., Li, Q., Wu, G., 2020, Greater flood risks in response to slowdown of tropical cyclones over the coast of China, *Pro. Nat. Academy Science*, www.pnas.org/cgi/doi/10.1073/pnas.1918987117
- (136) Tariku, T. B., T. Y. Gan, J. Li, X. Qin, 2020, Impact of Climate Change on Hydrology and Hydrologic Extremes of Upper Blue Nile River basin, in press, *Water Resources Management & Planning*, ASCE.
- (135) Allan, R.P, Barlow, M., Byrne, M.P., Cherchi, A., Douville, H., Fowler, H.J., Gan,T.Y., et al., 2020, Advances in understanding large-scale responses of the water cycle to climate change, *Annals of New York Acad. of Sc.*, Special Issue: The Year in Climate Science Research Review, [doi: 10.1111/nyas.14337](https://doi.org/10.1111/nyas.14337)
- (134) Zhang, S., Gan, T. Y., Bush, A. B. G., 2020, Variability of Arctic sea ice based on quantile regression and the teleconnection with large-scale climate patterns, *J. of Climate*, [DOI: 10.1175/JCLI-D-19-0375.1](https://doi.org/10.1175/JCLI-D-19-0375.1)
- (133) Kuo, C. C., Gan, T. Y., and Wang, J., 2020, Climate Change Impact to Mackenzie River Basin Projected by a Regional Climate Model, *Climate Dynamics*, [DOI: 10.1007/s00382-020-05177-7](https://doi.org/10.1007/s00382-020-05177-7)
- (132) Li, J., Gan, T. Y., et al., 2019, Tackling resolution mismatch of precipitation extremes from gridded GCMs and site-scale observations: implication to assessment and future projection, *Atmospheric Research*, doi.org/10.1016/j.atmosres.2020.104908
- (131) Zhou, Z, Shi, H., Tian, Fu, Q, Li, X., Gan, T. Y., Liu, K., 2020, Is the cold region in Northeast China still getting warmer under climate change impact? *Atmospheric Research*, doi.org/10.1016/j.atmosres.2020.104864
- (130) Liu, B., Tan, X, T. Y., Gan, et al., 2020, Global atmospheric moisture transport associated with precipitation extremes: Mechanisms and climate change impacts, *WIREs Water*, [DOI:10.1002/wat2.1412](https://doi.org/10.1002/wat2.1412)
- (129) Gaafar, M., Mahmoud, S., Gan, T. Y., Davies, E., 2019, A practical GIS-based hazard assessment framework for water quality in stormwater systems, *Journal of Cleaner Production*, <https://doi.org/10.1016/j.jclepro.2019.118855>
- (128) Yang, Y., Gan, T. Y and Tan, X., 2019, Spatiotemporal changes of drought characteristics and dynamic influences of climate patterns in Canada, *Atmosph. Res.*, <https://doi.org/10.1016/j.atmosres.2019.104695>
- (127) Tan, X., Gan, T. Y., et al., 2019, Trends in persistent seasonal-scale atmospheric circulation patterns responsible for seasonal precipitation totals and occurrences of precipitation extremes over Canada, *J. of Climate*, [https://doi: 10.1175/JCLI-D-18-0408.1](https://doi.org/10.1175/JCLI-D-18-0408.1)

- (126) Yang, Y., Gan, T. Y. and Tan, X., 2019, Spatiotemporal changes in precipitation extremes over Canada and their teleconnections to large-scale climate patterns, *J. of Hydrometeorology*, AMS, DOI: [10.1175/JHM-D-18-0004.1](https://doi.org/10.1175/JHM-D-18-0004.1)
- (125) Tan, X., Gan, T. Y., and Chen, D., 2019, Synoptic moisture pathways associated with mean and extreme precipitation over Canada for winter and spring, *Climate Dynamics*, <https://doi.org/10.1007/s00382-019-04649-9>
- (124) Chen, S., Gan, T. Y., Tan, X., Shao, D., and Zhu, J., 2019, Assessment of CFSR, ERA-Interim, JRA-55, MERRA-2, NCEP-2 Reanalysis data for drought analysis over China, *Climate Dynamics*, Vol. 53, Issue 1-2, pp. 737-757, DOI: [10.1007/s00382-018-04611-1](https://doi.org/10.1007/s00382-018-04611-1)
- (123) Tan, X., Chen, S., Gan, T. Y., Liu, B. J., Chen, X. H., 2019, Dynamic and thermodynamic changes conducive to the increased occurrence of extreme spring fire weather over western Canada under possible anthropogenic climate change, *Agricultural and Forest Meteorology*, 265, 269-279, <https://doi.org/10.1016/j.agrformet.2018.11.026>
- (122) Mahmoud, S., and T. Y. Gan, 2019, [Irrigation Water Management in arid regions of Middle East: Assessing Spatio-temporal Variation of Actual Evapotranspiration through Remote Sensing Techniques and Meteorological Data](https://doi.org/10.1016/j.agwat.2018.08.040), *Agricultural Water Management*, <https://doi.org/10.1016/j.agwat.2018.08.040>
- (121) Scheepers, H., Wang, J., Gan, T. Y., and Kuo, C. C., 2018, [The impact of climate change on inland waterway transport: effects of low water levels on the Mackenzie River](https://doi.org/10.1016/j.jhydrol.2018.08.059), Vol. Pg. 285-298, *J of Hydrology*, <https://doi.org/10.1016/j.jhydrol.2018.08.059>
- (120) Jiang, R., X Wang, J Xie, TY Gan, 2018, [Discussion of “Uses of Precipitation-Based Climate Indices in Drought Characterization” by Chandramouli V. Chandramouli, Nicholas Kaoukis, Mohammad Karim, and Leslie Dorworth](https://doi.org/10.1061/(ASCE)HE.1943-5584.0001536), *J. of Hydrologic Engineering*, [https://doi.org/10.1061/\(ASCE\)HE.1943-5584.0001536](https://doi.org/10.1061/(ASCE)HE.1943-5584.0001536)
- (119) Tan, X., Gan, T. Y., and Chen, D., 2018, [Synoptic moisture pathways associated with mean and extreme precipitation over Canada for summer and autumn](https://doi.org/10.1007/s00382-018-4300-6), *Climate Dynamics*, <https://doi.org/10.1007/s00382-018-4300-6>
- (118) Tan, X., Chen, S., Gan, T. Y., 2018, [Multi-model extreme event attribution of the weather conducive to 2016 Fort McMurray wildfire](https://doi.org/10.1016/j.agrformet.2018.06.010), *Agricultur. & Forest Met.*, <https://doi.org/10.1016/j.agrformet.2018.06.010>
- (117) Mahmoud, S., & Gan, T. Y., 2018d, [Multi-criteria Approach to develop flood susceptibility maps in arid regions of Middle East](https://doi.org/10.1016/j.jclepro.2018.06.047), *J. of Cleaner Production*, 216-229, <https://doi.org/10.1016/j.jclepro.2018.06.047>
- (116) Mahmoud, S., and Gan, T. Y., 2018c, [Implications of urbanization on long-term air temperature, relative humidity, vapor pressure and human thermal comfort in a hot-arid environment](https://doi.org/10.1016/j.buildenv.2018.06.007), *Building and Environment*, Elsevier Science, 142, 83–100, <https://doi.org/10.1016/j.buildenv.2018.06.007>
- (115) Kuo, C. C., and Gan, T. Y., 2018, [Estimation of precipitation and air temperature using WRF over Mackenzie River Basin](https://doi.org/10.1002/joc.5716), *International Journal of Climatology*, 2018;1–11. <https://doi.org/10.1002/joc.5716>
- (114) Tan, X., Gan, T. Y., Chen, S., 2018, [Modeling distributional changes in winter precipitation of Canada using Bayesian spatiotemporal quantile regression subjected to different teleconnections](https://doi.org/10.1007/s00382-018-4241-0), *Climate Dynamics*, <https://doi.org/10.1007/s00382-018-4241-0>
- (113) Tan, X., Gan, T. Y., and Horton, D., 2018, [Projected timing of perceivable change in extreme climate](https://doi.org/10.1111/gcb.14329), *Global Change Biology*, <https://doi.org/10.1111/gcb.14329>
- (112) Mahmoud, S., and T. Y. Gan, 2018b, [Urbanization and climate change implications in flood risk management: developing an efficient decision support system for flood susceptibility mapping](https://doi.org/10.1016/j.scitotenv.2018.04.282), 636 (2018), 152-167, *Science of Total Environment*, Elsevier Science, <https://doi.org/10.1016/j.scitotenv.2018.04.282>
- (111) Mahmoud, S., and T. Y. Gan, 2018a, [Impact of anthropogenic climate change and human activities on environment and ecosystem services in arid regions](https://doi.org/10.1016/j.scitotenv.2018.03.290), *Science of Total Environment*, Elsevier Science, 633, 1329–1344, <https://doi.org/10.1016/j.scitotenv.2018.03.290>
- (110) Tariku, T. B., and Gan, T. Y., 2018, [Regional Climate Change Impact on Extreme Precipitation and Temperature of the Nile River Basin](https://doi.org/10.1007/s00382-018-4092-8), *Climate Dynamics*, <https://doi.org/10.1007/s00382-018-4092-8>
- (109) Li, J., Gan, T.Y., Chen, D., Zhang, Q., Hu, Z., Gu, X., 2018, Impacts of spatial resolutions on projected changes in precipitation extremes: from site- to grid- scales, *Hydrology and Earth System Sciences*, Sci. Discuss., <https://doi.org/10.5194/hess-2017-359>
- (108) Li, J., Chen, D., Gan, T.Y., and Lau, G.N.C., 2018, [Elevated increases in human-perceived temperature under climate warming](https://doi.org/10.1038/s41558-017-0036-2), *Nature Climate Change*, 8, pg. 43–47, Nature Publishing Group, <https://doi.org/10.1038/s41558-017-0036-2>

- (107) Tariku, T. B., and Gan, T. Y., 2017, [Sensitivity of the weather research and forecasting model to parameterization schemes for regional climate of Nile River Basin](https://link.springer.com/article/10.1007/s00382-017-3870-z), *Climate Dynamics*, 50:4231–4247, <https://link.springer.com/article/10.1007/s00382-017-3870-z>
- (106) Jun, C., Qin, X. S., Gan, T. Y., Tung, Y. K., De Michele, C., 2017, [Bivariate frequency analysis of rainfall intensity and duration for urban stormwater infrastructure design](https://doi.org/10.1016/j.jhydrol.2017.08.004), *Journal of Hydrology*, Vol 553, 374–383, <https://doi.org/10.1016/j.jhydrol.2017.08.004>
- (105) Gizaw, M., Biftu, G., Gan, T. Y., Moges, S., and Koivosalo, H., 2017, [Potential Impact of climate change on streamflow of major Ethiopian rivers](https://doi.org/10.1007/s10584-017-2021-1), *Climatic Change*, <https://doi.org/10.1007/s10584-017-2021-1>
- (104) Tan, X., Gan, T. Y., Shao, D., 2017, [Effects of persistence and large-scale climate anomalies on trends and change points in extreme precipitation of Canada](https://dx.doi.org/10.1016/j.jhydrol.2017.05.028), *Journal of Hydrology*, Elsevier Science, 550 (2017) 453–465, <https://dx.doi.org/10.1016/j.jhydrol.2017.05.028>
- (103) Tan, X., Gan, T. Y., Chen, D., 2017, [Moisture sources and pathways associated with the spatial variability of seasonal extreme precipitation over Canada](https://doi.org/10.1007/s00382-017-3630-0), *Climate Dynamics*, <https://doi.org/10.1007/s00382-017-3630-0>
- (102) Tan, X., Gan, T. Y., and Shao, D., 2017, [Wavelet analysis of precipitation extremes over Canadian ecoregions and teleconnections to large-scale climate anomalies](https://doi.org/10.1002/2016JD025533), *J. of Geophysical Research-Atmosphere*, 121, AGU, <https://doi.org/10.1002/2016JD025533>
- (101) Kuo, C. C., Gan, T. Y., and Higuchi, K., 2017, [Potential impacts of climate change to streamflow patterns of River basins of Lake Simcoe](https://doi.org/10.1061/(ASCE)HE.1943-5584.0001548), *J. of Hydrologic Engineering*, 22(9): 04017028, [https://doi.org/10.1061/\(ASCE\)HE.1943-5584.0001548](https://doi.org/10.1061/(ASCE)HE.1943-5584.0001548)
- (100) Tan, X., and Gan, T. Y., 2017, [Multifractality of Canadian precipitation and streamflow](https://doi.org/10.1002/joc.5078), *Int. J. Climatology*, John Wiley & Sons, <https://doi.org/10.1002/joc.5078>
- (99) Tan, X., and Gan, T. Y., 2017, [Non-stationary analysis of the frequency and intensity of heavy Precipitation over Canada and their relations to large-scale climate patterns](https://doi.org/10.1007/s00382-016-3246-9), 1-19, *Climate Dynamics*, <https://doi.org/10.1007/s00382-016-3246-9>
- (98) Gizaw, M., and Gan, T. Y., 2016, [Impact of Climate Change and El Niño Episodes on Droughts in sub-Saharan Africa](https://doi.org/10.1007/s00382-016-3366-2), *Climate Dynamics*, Springer, <https://doi.org/10.1007/s00382-016-3366-2>
- (97) Gizaw, M., and Gan, T. Y., 2016, [Regional Flood Frequency Analysis using Support Vector Regression under historical and future climate](https://doi.org/10.1016/j.jhydrol.2016.04.041), *Journal of Hydrology*, 538, 387-398, <https://doi.org/10.1016/j.jhydrol.2016.04.041>
- (96) Islam, Z., and Gan, T. Y., 2016, [Combined Impacts of Climate Change and ENSO on Surface Water Management of South Saskatchewan River Basin](https://doi.org/10.1061/(ASCE)WR.1943-5452.0000683), *J. Water Resou. Manage. & Plan.*, [https://doi.org/10.1061/\(ASCE\)WR.1943-5452.0000683](https://doi.org/10.1061/(ASCE)WR.1943-5452.0000683)
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- (94) Jiang, R., Gan, T. Y., Xie, J., Ni, W., and Kuo, C. C., 2015, [Historical and Potential Changes of Precipitation and Temperature of Alberta subjected to Climate Change Impact: 1900-2100](https://doi.org/10.1007/s00704-015-1664-y), *Journal of Theoretical and Applied Climatology*, <https://doi.org/10.1007/s00704-015-1664-y>
- (93) Elsanabary, M., Gan, T. Y., 2015, [Evaluation of climate Anomalies Impacts on the Upper Blue Nile Basin in Ethiopia Using a Distributed and a Lumped Hydrologic Models](https://doi.org/10.1016/j.jhydrol.2015.09.052), *Journal of Hydrology*, 530, 225-240. <https://doi.org/10.1016/j.jhydrol.2015.09.052>
- (92) Gan, T. Y., Mari Ito, S Huelsmann, X Qin, X Lu, S. Y Liong, P Rutschman, M Disse & H Koivosalo, 2015, [Possible climate change/variability and human impacts, vulnerability of African drought prone regions, its water resources and capacity building](https://doi.org/10.1080/02626667.2015.1057143), *Hydrological Sciences Journal*, <https://doi.org/10.1080/02626667.2015.1057143>
- (91) Gizaw, M., and Gan, T. Y., 2015, [Possible Impact of climate change on future extreme precipitation of the Oldman, Bow and Red Deer River Basins of Alberta](https://doi.org/10.1002/joc.4338), *Int. Journal Climatology*, 36(1), 208-224. <https://doi.org/10.1002/joc.4338>
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- (87) Kuo, C. C. and Gan, T. Y., 2015, [Risk of exceeding Extreme Design Storm Events Under Possible Impact of Climate Change](https://doi.org/10.1061/(ASCE)HE.1943-5584.0001228), *J. Hydrologic Engineering*, 20(12), 26 pages, ASCE, [https://doi.org/10.1061/\(ASCE\)HE.1943-5584.0001228](https://doi.org/10.1061/(ASCE)HE.1943-5584.0001228)
- (86) Islam, Z., and Gan, T. Y., 2015, [Potential Combined Hydrologic Impacts of Climate Change and El Niño Southern Oscillation to South Saskatchewan River Basin](https://doi.org/10.1016/j.jhydrol.2015.01.043), *J. of Hydrology*, 523, 34-48. <https://doi.org/10.1016/j.jhydrol.2015.01.043>
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- (2) Gan, T.Y. & S.J. Burges, 1990, [An assessment of a conceptual rainfall-runoff model's ability to represent dynamics of small hypothetical catchment: 2. Hydrologic responses for extreme rainfall](#), *Wat. Re. Res.*, 26(7), 1605-1619. <http://doi.org/10.1029/WR026i007p01605>
- (1) Lettenmaier, D.P., and T.Y. Gan, 1990, [Hydrologic sensitivities of the Sacramento-San Joaquin River Basin to global warming](#), *Water Resour. Res.*, 26(1), 69-86. <http://doi.org/10.1029/WR026i001p00069>

Membership and Activities in Professional Associations

Association	Capacity
Association of Professional Engineers, Geologists & Geophysicists, Province of Alberta, Canada (APEGA)	Professional Engineer Examiner
Professional Engineers & Land Surveyors, State of Washington, USA	Professional Engineer
American Society of Civil Engineers (ASCE)	Fellow
Society for Engineering Education (ASEE)	Member
International Association of Hydrological Sciences (IAHS)	Head of Hydrology Section, Canada
American Geophysics Union (AGU)	Member
Primary convener and convener of AGU Fall meetings (2016-2019)	
Canadian Meteorological and Oceanographic Society (CMOS)	Member

Editorship, Journal and Academic Reviewer, Seminars, Symposiums, & Professional Consultations

Assoc. Editor, *Int. J. of Lowland Technology*, International Assoc. of Lowland Tech., 1999 – 2002.

Regular reviewers for over thirty refereed journals of Nature Publishing Group, American Geophysical Union (AGU), American Meteorological Society, Royal Meteorological Society, Elsevier Science, journals of American Society of Civil Engineers, remote sensing journals, and others.

Canadian Representative to International Commission on Surface Water, IAHS International

Commissions. Regular examiner of professional engineers' examinations for APEGGA, Alberta

Consultant and Expert witness for City of Edmonton; Golder Associates of Calgary, Alberta; TransAlta Utilities, Alberta Transportation & Utilities, Alberta Environment Appeal Board, Canada Natural Resources Limited, Energy Utility Board, Alberta, ISL Engineering Consultant, Alberta

Research Ambassador of German Academic Exchange Service (DAAD) since 2011

Selection committee member of DAAD scholarships for North American students in natural sciences. External examiner to PhD thesis of universities of Canada, Finland, Hong Kong, Singapore and India.

Primary Convener and convener, Keynote Speaker and speakers of symposiums and seminars of AGU, AOGS, China, Hong Kong, and European Geophysical Union

Reviewer of tenure and promotion of professors of Canada, Singapore, Finland, Hong Kong, & Malaysia Host to Visiting Scholars from Finland, China, Singapore, Brazil, and Korea

Community Service

Sunday school teacher for Edmonton Christian Community Church (ECCC), seminar speaker for churches in Canada (ECCC), Singapore (Power to Change), Malaysia, Finland, and Germany

Occasional Volunteer for the Hope Mission, City of Edmonton, Alberta

Selected Professional Presentations

- (249) Gan*, T. Y., Perspectives on Multi-facet Impacts of Climate Warming and Pollution to the hydrosphere and cryosphere, 8th Summer Conference, International Association of Chinese Youth in Water Science, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, August 11, 2020, INVITED.
- (248) Gan*, T. Y., and Mahmoud, S., 2019, Urbanization and Climate Change implication in flood risk management and multi-criteria approach in developing flood susceptibility maps, Dec 23, 2019, Shenzhen Water Planning & Design Institute Co., Ltd., China, INVITED
- (247) Gan*, T. Y., and Mahmoud, S., 2019, Urbanization and Climate Change implication in flood risk management and multi-criteria approach in developing flood susceptibility maps, Dec 21, 2019, Sun-yet Sen University, Guangzhou, China INVITED
- (246) Gan*, T. Y., 2019, Scholarship Opportunities for Undergraduates, Graduate, Postdocs and Professors/Scholars from the German Academic Exchange Service (DAAD), Dec 19, 2019, Southern University of Science and Technology, Shenzhen, China INVITED
- (245) Gan*, T. Y., and Mahmoud, S., 2019, Urbanization and Climate Change implication in flood risk management and multi-criteria approach in developing flood susceptibility maps, Dec 12, 2019, Southern University of Science and Technology, Shenzhen, China INVITED
- (244) Gan, T. Y., 2019, Perspectives on Multi-facet Impacts of Climate Warming and Pollution to the hydrosphere and cryosphere, Dec 5, 2019, University of Science and Technology, Shenzhen, China INVITED
- (243) Gan, T. Y., and Mahmoud, S., 2019, Urbanization and Climate Change implication in flood risk management and multi-criteria approach in developing flood susceptibility maps, IAHS-ICWQ Symposium, Nov 29, 2019, Chuhai, China INVITED
- (242) Gan, T. Y., 2019, Guide on the direction of writing a research proposal for monitoring, prediction, analysis, adaptation of natural hazards, November 22, 2019, U of Philippines Visayas, INVITED
- (241) Gan, T. Y., 2019, Climate Models of IPCC, uncertainties of climate model projections, risk assessments of natural hazards (prediction, monitoring, analysis), U of Philippines Visayas, November 22, 2019, INVITED