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- **Research Interest:**

Hydrometeorology

- **Education and Appointments:**

2007 Professor, Institute of Tibetan Plateau Research

2003 Assoc. Prof., Dept. Civil Engineering, The University of Tokyo

2002 Researcher, Japan Sci. & Tech. Corporation

2001 Post-doctor, Telecom. Adv. Org. of Japan

2000 Researcher, Japan Sci. & Tech Corporation

2000 Ph.D., Department of Civil Engineering, University of Tokyo, Japan

1997 M.S., Department of Hydraulic Engineering, Tsinghua University, China

1994 B.E., Department of Hydraulic Engineering, Tsinghua University, China

Dr. Yang has published more than 70 ISI-indexed papers. He had been invited to give talks at AGU, AMS and AOGS annual assemblies as well as other academic meetings. He was granted "Young Scientist Award" at International Symposium of Climate Change, Beijing, 2003, for proposing a new theory to link the raindrop evaporation cooling with the plateau atmospheric boundary layer development and organized convective clouds.

Since 2009, the research team implemented several field experiments on the Plateau, including turbulent flux and radiation measurements on the Parlung No. 4 Glacier of southeastern Tibet, turbulent flux measurements at ITP Ngari station and Muztagh Ata station on western Tibetan dryland, and a multi-scale soil moisture and temperature monitoring network that consists of 56 sites in central Tibet.

More information may be found at the group webpage (<http://dam.itpcas.ac.cn/>)

- **Public Services:**

Associate Editor of Journal of Hydrology ; Member of Numerical Weather Forecast Committee of China ; Member of Plateau Meteorology Committee of China

- Honors:

Young Scientist Award, ISCC2003, Beijing

- Selected Publications:

1. Yang, K., J. Qin, L. Zhao, Y. Chen, W. Tang, M. Han, Lazhu, Z. Chen, N. Lv, B. Ding, H. Wu, C. Lin, 2013: Bulletin of the American Meteorological Society. DOI: 10.1175/BAMS-D-12-00203.1.
2. Tang, W-J, K. Yang, J. Qin , M. Min: Development of a 50-year daily surface solar radiation dataset over China. *Sci China Earth Sci*, in press.
3. Chen, X. L., Z. Su, Y. Ma, K. Yang, B. Wang, 2013: Estimation of surface energy fluxes under complex terrain of Mt. Qomolangma over the Tibetan Plateau, *Hydrol. Earth Syst. Sci.*, 17, 1607–1618.
4. Chen, Y. Y., K. Yang, J. Qin, L. Zhao, W. J. Tang and M. L. Han, 2013: Evaluation of AMSR-E retrievals and GLDAS simulations against observations of a soil moisture network on the central Tibetan Plateau, *J. Geophys. Res. Atmos.*, 118, doi:10.1002/jgrd.50301.
5. Lin, C. G., K. Yang, J. Qin, R. Fu, 2013: Observed coherent trends of surface and upper-air wind speed over China since 1960, *J. Climate*, 26, 2891–2903, doi:10.1175/JCLI-D-12-00093.1
6. Lei, Y., T. D. Yao, B. W. Bird, K. Yang, J. Zhai, Y. Sheng, 2013: Coherent lake growth on the central Tibetan Plateau since the 1970s: Characterization and attribution, *Journal of Hydrology*, 483, 61-67.
7. Chen, X-L, Z. Su, Y. Ma, K. Yang, J. Wen, Y. Zhang: An improvement of roughness height parameterization of Surface Energy Balance System (SEBS) over the Tibetan Plateau. *J. Appl. Meteorol. Clim.*, 52, 607-622.
8. Kattel, D. B., T. Yao, K. Yang, L. Tian, Y. Gao, D. Joswiak, 2013: Temperature Lapse Rate along Complex Mountain Terrain on the Southern Slope of the Central Himalayas, *Theor. Appl. Climatol.*, doi: 10.1007/s00704-012-0816-6.
9. Xue, B. L., L. Wang, X. Li, K. Yang, D. Chen, L. Sun, 2013: Evaluation of evapotranspiration estimates for two river basins on the Tibetan Plateau by a water balance method, *Journal of Hydrology*, doi: 10.1016/j.jhydrol.2013.04.005
10. Zhao, L., K. Yang, J. Qin, Y. Y. Chen, W. J. Tang, C. Montzka, H. Wu, C. G. Lin, M. L. Han, and H. Vereecken., 2013: Spatiotemporal analysis of soil moisture observations within a Tibetan mesoscale area and its implication to regional soil moisture measurements, *Journal of Hydrology*, 482, 92-104 doi:10.1016/j.jhydrol.2012.12.033
11. Zhao, L., K. Yang, J. Qin, and Y-Y Chen, 2012: Optimal exploitation of AMSR-E signals for improving soil moisture estimation through land data assimilation, *IEEE T. Geosci. Remote Sens.* 51, 399-410, DOI: 10.1109/TGRS.2012.2198483.

12. Yang, K., B-H Ding, J. Qin, W-J Tang, N. Lu, and C-G Lin, 2012: Can aerosol loading explain the solar dimming over the Tibetan Plateau?, *Geophys. Res. Lett.*, 39, L20710, doi:10.1029/2012GL053733.
13. Rasmy, M., T. Koike, D. Kuria, C.R. Mirza, K. Yang: Development of the Coupled Atmosphere and Land Data Assimilation System (CALDAS) and its application over the Tibetan Plateau. *IEEE T. Geosci. Remote Sens.* 50, 4227-4242, DOI: 10.1109/TGRS.2012.2190517.
14. Qin, J., K. Yang, T. Koike, H. Lu, Y. Ma, X. Xu, 2012: Evaluation of AIRS Precipitable Water Vapor against Ground-based GPS Measurements over the Tibetan Plateau and Its Surroundings, *Journal of the Meteorological Society of Japan*, 90(C), 87-98.
15. Zhang, R., T. Koike, X. Xu, Y. Ma, K. Yang, 2012: A China-Japan Cooperative JICA Atmospheric Observing Network over the Tibetan Plateau (JICA/Tibet Project) : An Overview. *Journal of the Meteorological Society of Japan*, 90(C), 1-16.
16. Chen, Y-Y, K. Yang, W-J Tang, J. Qin and L. Zhao, 2012: Parameterizing soil organic carbon's impacts on soil porosity and thermal parameters for Eastern Tibet grasslands, *Sci China Earth Sci*, 55, 1001–1011, doi: 10.1007/s11430-012-4433-0.
17. Qin, J., K. Yang, S-L Liang, W-J Tang, 2012: Estimation of daily photosynthetically active radiation under all-sky conditions from sunshine duration data, *Journal of Applied Meteorology and Climatology*, 51, 150-160, DOI: 10.1175/JAMC-D-10-05018.1.
18. Song, Y., J. Wang, K. Yang, M. Ma, X. Li, Z. Zhang, X. Wang, 2012: A revised surface resistance parameterisation for estimating latent heat flux from remotely sensed data, *Int. J. Appl. Earth Observ. Geoinf.*, 17, 76-84.
19. Lu, H., T. Koike, K. Yang et al., 2012: Improving land surface soil moisture and energy flux simulations over the Tibetan plateau by the assimilation of the microwave remote sensing data and the GCM output into a land surface model, *Int. J. Appl. Earth Observ. Geoinf.*, 17, 43-54.
20. Yang, K., B. Ye, D. Zhou, B. Wu, T. Foken, J. Qin, Z. Zhou, 2011: Response of hydrological cycle to recent climate changes in the Tibetan Plateau, *Climatic Change*, DOI 10.1007/s10584-011-0099-4.
21. Yang, K., X-F Guo, J. He, J. Qin, T. Koike, 2011: On the Climatology and Trend of the Atmospheric Heat Source over the Tibetan Plateau: An Experiments-Supported Revisit, *Journal of Climate*, 24, 1525-1541, doi: 10.1175/2010JCLI3848.1.
22. Yang, K., X-F Guo, B-Y Wu, 2011: Recent trends in surface sensible heat flux on the Tibetan Plateau, *Sci China Earth Sci.*, 54, 19-28, doi: 10.1007/s11430-010-4036-6
23. Chen, Y-Y, K. Yang, J. He, J. Qin, J-C Shi, J-Y Du, Q. He, 2011: Improving land surface temperature modeling for dry land of China, *J. Geophys. Res.*, doi:10.1029/2011JD015921.

24. Chen, X-L, Y-M Ma, H. Kelder, Z. Su, and K. Yang, 2011: On the behaviour of the tropopause folding events over the Tibetan Plateau, *Atmos. Chem. Phys.*, 11, 5113–5122, DOI:10.5194/acp-11-5113-2011
25. Guo, X-F, K. Yang, L. Zhao, W. Yang, S-H Li, M-L Zhu, T-D Yao, Y-Y Chen, 2011: Critical Evaluations of Scalar Roughness Length Parameterizations over a Melting Valley Glacier, *Boundary-Layer Meteorol.*, 139, 307–332.
26. Guo, X-F, K. Yang, Y-Y Chen, 2011: Weakening sensible heat source over the Tibetan Plateau revisited: effects of the land–atmosphere thermal coupling, *Theor Appl Climatol* (2011) 104:1–12, DOI 10.1007/s00704-010-0328-1
27. Lu, N., J. Qin, K. Yang, J-L Sun, 2011: A simple and efficient algorithm to estimate daily global solar radiation from geostationary satellite data, *Energy*, 36: 3179~3188.
28. Lu, N., J. Qin, K. Yang, Y. Gao, X. Xu, and T. Koike, 2011: On the use of GPS measurements for MODIS precipitable water vapor evaluation over southern Tibet, *Journal of Geophysical Research*, 116, D23117, doi:10.1029/2011JD016160.
29. Qin, J., Z-Q Chen, K. Yang, S-L Liang, W-J Tang, 2011: Estimation of monthly mean daily global solar radiation based on MODIS and TRMM products over the Tibetan Plateau and its surroundings, *Applied Energy*, 88: 2480~2489.
30. Qin, J., K. Yang, S-L Liang, H. Zhang, Y-M Ma, X-F Guo, and Z-Q Chen, 2011: Evaluation of surface albedo in GEWEX-SRB and ISCCP-FD data against validated MODIS product over the Tibetan Plateau, *Journal of Geophysical Research*, 116, D24116, doi:10.1029/2011JD015823.
31. Su, Z., J. Wen, L. Dente, R. van der Velde, L. Wang, Y. Ma, K. Yang, and Z. Hu, 2011: The Tibetan Plateau observatory of plateau scale soil moisture and soil temperature (Tibet-Obs) for quantifying uncertainties in coarse resolution satellite and model products, *Hydrology and Earth System Sciences* 15(7): 2303-2316.
32. Tang, W-J, K. Yang, J. Qin, CCK Cheng, and J. He, 2011: Solar radiation trend across China in recent decades: a revisit with quality-controlled data, *Atmospheric Chemistry and physics*, 11, 393–406, doi:10.5194/acp-11-393-2011.
33. Wang, F-X, L.Wang, T. Koike, H-C, Zhou, K. Yang, A-H Wang, W-L Li, 2011: Evaluation and application of a fine-resolution global dataset in a semiarid mesoscale river basin with a distributed biosphere hydrological model, *J. Geophys. Res.*, doi:10.1029/2011JD015990, in press.
34. Yang, W., X-F, Guo, T-D, Yao, K. Yang, L. Zhao, S. Li, M-L Zhu, 2011: Summertime surface energy budget and ablation modeling in the ablation zone of a maritime Tibetan glacier, *JGR-Atmosphere*, 116, D14116, doi:10.1029/2010JD015183.

35. Saavedra O., T. Koike, K. Yang, T. Graf, X. Li, L. Wang, and X. Han, 2010: Decision support for dam release during floods using a distributed biosphere hydrological model driven by quantitative precipitation forecasts. *Water Resources Research*, 46, W10544, doi:10.1029/2010WR009502.
36. Chen Y.Y., K. Yang, D-G Zhou, J. Qin, X-F Guo, 2010: Improving Noah Land Surface Model in Arid Regions with an Appropriate Parameterization of the Thermal Roughness Length. *Journal of Hydrometeorology*, 11, 995-1006.
37. Saavedra, O., T. Koike, K. Yang, D. Yang, 2010: Optimal Dam Operation during Flood Season using a Distributed Hydrological Model and a Heuristic Algorithm. *Journal of Hydrologic Engineering*, ASCE, 15, 580-586.
38. Wang, L., T. Koike, K. Yang, R. Jin, H. Li, 2010: Frozen soil parameterization in a distributed biosphere hydrological model. *Hydrol. Earth Syst. Sci.*, 14, 557-571.
39. Tang, W., K. Yang, J. He, J. Qin, 2010: Quality control and estimation of global solar radiation in China. *Solar Energy*, 84, 466-475.
40. Yang, K., J. He, W-J Tang, J. Qin, CCK Cheng, 2010: On downward shortwave and longwave radiations over high altitude regions: Observation and modeling in the Tibetan Plateau. *Agric. Forest. Meteorol.*, 150, 38-46, doi:10.1016/j.agrformet.2009.08.004.
41. Yang, K., J. Qin, X-F Guo, D-G Zhou, Y. Ma, 2009: Method development for estimating sensible heat flux over the Tibetan Plateau from CMA data. *Journal of Applied Meteorology and Climatology*, 48(12), 2474-2486, DOI: 10.1175/2009JAMC2167.1.
42. Wang, L, T. Koike, D. Yang, K. Yang, 2009: Improving the hydrology of SiB2 and its evaluation within the framework of a distributed hydrological model. *Hydrological Sciences Journal*, 54(6), 989-1006.
43. Wang, L., T. Koike, K. Yang, P. J. -F. Yeh, 2009: Assessment of a distributed biosphere hydrological model against MODIS land surface temperature and its application in the upper Tone river basin. *Journal of Hydrology*, 377, 21-34.
44. Qin, J., K. Yang, K., S-L Liang, X-F Guo, 2009: The altitudinal dependence of recent rapid warming over the Tibetan Plateau. *Climatic Change*, 97, 321-327, DOI 10.1007/s10584-009-9733-9.
45. Yang, K., T. Koike, I. Kaihotsu, J. Qin, 2009: Validation of a dual-pass microwave land data assimilation system for estimating surface soil moisture in semi-arid regions, *Journal of Hydrometeorology*, 10(3), 780-794.
46. Yang, K., Y.-Y. Chen, and J. Qin, 2009: Some practical notes on the land surface modeling in the Tibetan Plateau, *Hydrol. Earth Syst. Sci.*, 13, 687-701.
47. Ma, Y., Y. Wang, R.Wu, Z. Hu, K. Yang, M. Li, W. Ma, L. Zhong, F. Sun, X. Chen, Z. Zhu, S. Wang, and H. Ishikawa, 2009: Recent advances on the study of atmosphere-land interaction observations on the Tibetan Plateau. *Hydrol. Earth Syst. Sci.*, 13, 1103-1111.

48. Qin, Jun, S-L Liang, K. Yang, I. Kaihotsu, R-G Liu, T. Koike, 2009: Simultaneous estimation of both soil moisture and model parameters using particle filtering method through the assimilation of microwave signal. *J. Geophys. Res.*, 114, D15103, doi:10.1029/2008JD011358.
49. Tian, X-J, Z-H Xie, A-G Dai, C-X Shi, B-H Jia , F. Chen and K. Yang, 2009: A dual-pass variational data assimilation framework for estimating soil moisture profiles from amsr-e microwave brightness temperature, *J. Geophys. Res.*, doi:10.1029/2008JD011600.
50. Wang, L, T. Koike, K. Yang, T. J. Jackson, R. Bindlish, D. Yang, 2009: Development of a distributed biosphere hydrological model and its evaluation with the Southern Great Plains Experiments (SGP97 and SGP99), *J. Geophys. Res.*, 114, D08107, doi:10.1029/2008JD010800.
51. Lu, L., S-M Liu, Z-W Xu, K. Yang, X-H Cai, Li Jia, and J. Wang, 2009: The characteristics and parameterization of aerodynamic roughness length over heterogeneous surfaces, *Advances in Atmospheric Sciences*, 26(1), 180-190.
52. Yang, K., R. T. Pinker, Y. Ma, T. Koike, M. M. Wonsick, S. J. Cox, Y. Zhang, and P. Stackhouse (2008), Evaluation of satellite estimates of downward shortwave radiation over the Tibetan Plateau, *J. Geophys. Res.*, 113, D17204, doi:10.1029/2007JD009736.
53. Yang, K., T. Koike, H. Ishikawa et al., 2008: Turbulent flux transfer over bare soil surfaces: Characteristics and parameterization, *Journal of Applied Meteorology and Climatology*, 40(1), 276-290.
54. Tsuang, B-J, M-D Chou, Y-C Zhang, A. Roesch, K. Yang, 2008: Evaluations of land/ocean skin temperatures of the ISCCP satellite retrievals and the NCEP and ERA reanalyses, *Journal of Climate*, 21, 308-330.
55. Yang, K., J. Wang, 2008: A temperature prediction-correction method for estimating surface soil heat flux from soil temperature and moisture data, *Science in China (Serial D-Earth Science)*, 51(5), 721-729.
56. Yang, K., T. Koike, 2008: Satellite monitoring of surface water and energy budget in the Tibetan Plateau, *Advances in Atmospheric Sciences*, 25, 974-985, doi: 10.1007/s00376-008-0974-8.
57. Mirza, C. R., T. Koike , K. Yang, and T. Graf, 2008: Retrieval of atmospheric integrated water vapor and cloud liquid water content from satellite data using the 1-D Ice Cloud Microphysics Data Assimilation System (IMDAS), *IEEE Transactions on Geoscience and Remote Sensing*, 46 (1), 119-129.
58. Boussetta, S., T. Koike, K. Yang, T. Graf, M. Pathmathevan, 2008: Development of a coupled land-atmosphere satellite data assimilation system for improved local atmospheric simulations, *Remote Sensing of Environment*, 112, 720-734, doi:10.1016/j.rse.2007.06.002.
59. Yang, K., T. Watanabe, T. Koike et al., 2007: Auto-calibration system developed to assimilate AMSR-E data into a land surface model for estimating soil moisture and the surface energy budget, *Journal of the Meteorological Society of Japan*, 85A, 229-242.

60. Ma Yaoming, M. Song, H. Ishikawa, K. Yang, T. Koike, L. Jia, M. Menenti, Z. Su, 2007: Estimation of the regional evaporative fraction over the Tibetan Plateau area by using Landsat-7 ETM data and the field observations, *Journal of Meteorological Society of Japan*, 85A, 295 – 309.
61. Yang, K., M. Rasmy, S. Rauniyar et al., 2007: Initial CEOP-based review of prediction skill of operational general circulation models and land surface models, *Journal of the Meteorological Society of Japan*, 85A, 99-116.
62. Yang, K., T. Koike, P. Stackhouse et al., 2006: An assessment of satellite surface radiation products for highlands with Tibet instrumental data, *Geophysical Research Letters*, 33, L22403, doi:10.1029/2006GL027640.
63. Yang, K., T. Koike, B. Ye, 2006: Improving estimation of hourly, daily, and monthly solar radiation by importing global data sets, *Agricultural and Forest Meteorology*, 137, 43-55.
64. Yang, K., and T., Koike, 2005: Comments on “Estimating soil water content from soil temperature measurements by using adaptive Kalman filter”, *Journal of Applied Meteorology*, 44(4), 546-550.
65. Yang, K., T. Koike, B. Ye, and L. Bastidas, 2005: Inverse analysis of the role of soil vertical heterogeneity in controlling surface soil state and energy partition, *J. Geophys. Res.*, 110, D08101, doi:10.1029/2004JD005500.
66. Yang, K. and T. Koike, 2005: A general model to estimate hourly and daily solar radiation for hydrological studies, *Water Resources Research*, 41, W10403, 10.1029/2005WR003976.
67. Yang, K., T. Koike, H. Ishikawa, and Y. Mao, 2004: Analysis of the surface energy budget at a site of GAME/Tibet using a single-source model, *Journal of the Meteorological Society of Japan*, 82, 131-153.
68. Yang, K., T. Koike, H. Fujii, T. Tamura, X. Xu, L. Bian, And M. Zhou, 2004: The daytime evolution of the atmospheric boundary layer and convection over the Tibetan Plateau: Observations and simulations, *Journal of the Meteorological Society of Japan*, 82, 1777-1792.
69. Yang, K., T. Koike, D. Yang, 2003: Surface flux parameterization in the Tibetan Plateau, *Boundary-layer Meteorology* 106 (2), 245-262.
70. Yang, K., T. Koike, H. Fujii, K. Tamagawa, N. Hirose, 2002: Improvement of surface flux parameterizations with a turbulence-related length, *Quarterly Journal of Royal Meteorological Society* 128, Part B, No.584, 2073-2088.
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72. Yang, K., N. Tamai, T. Koike, 2001: Analytical solution of surface layer similarity equation, *Journal of Applied Meteorology* 40(9), 1647-1653.
73. Yang, K., G-W. Huang, N. Tamai, 2001: A hybrid model for estimating global solar radiation, *Solar Energy* 70, 13-22.

74. Yang, K, Y-P. Hong, X-Y. Zhou, and Y-L. Li, 2000: Study on anisotropic buoyant turbulence model, *Applied Mathematics and Mechanics*, 21 (1), 43-48.

Supported Projects:

1. 2008—2011: “Hundred-Talent” program of Chinese Academy of Sciences—Integrated study on land-atmosphere energy cycle based on satellite remote sensing and land data assimilation
2. 2009—2011: NSFC project—Development of land surface processes parameterizations for the Tibetan Plateau (grant No. 40875009)
3. 2009—2011: CAS innovation subproject—Energy and water exchanges at the glacier-atmosphere interface (KZCX2-YW-145)
4. 2009—2011: CAS innovation subproject—Development of a high-resolution surface forcing dataset for China (KZCX2-YW-Q10-2)
5. 2010-2014: MOST global change program subproject—Impact of Tibetan Plateau climate system on East Asia regional climatic changes and its mechanism (2010CB951703)