

Publications

2023

- Cao, C., R. Sun, Z. Wu, Q. Li, and K. Fraedrich 2023: Streamflow Response to Climate and Land-use Changes in a Tropical Island Basin. *Sustainability* 15, 13941
- Fang, X., Z. Li, C. Cheng, K. Fraedrich, A. Wang, Y. Chen, Y. Xu, and S. Lyu 2023: Response of freezing/thawing indexes to the wetting trend under warming climate conditions over the Qinghai – Tibet Plateau during 1961–2010: a numerical simulation. *Advances in Atmospheric Sciences* 39, 2011-2022, doi: 10.1007/s00376-022-2109-z
- Fang, X., Z. Li, C. Cheng, K. Fraedrich, and S. Lyu 2023: Changes of timing and duration of the near-surface ground surface freeze on the Tibetan Plateau in the highly wetting period from 1998 to 2005. *Climate Change* 176, 59
- Fang, X., A. Wang, S. Lyu, and K. Fraedrich 2023: Dynamics of freezing/thawing indices and frozen ground from 1961 to 2010 on the Qinghai-Tibet Plateau. *Remote Sensing* 15, 3478.
- Xu, J., X. Zhi, D. V. Sein, W. Cabos, Y. Luo, L. Zhang, F. Dong, K. Fraedrich, D. Jacob 2023: Predictability of coastal boundary layer jets in South China using atmosphere-ocean coupling. *Journal of Geophysical Research – Atmospheres- e2023JD039184*
- Xu, J., H. Wu, Y. Xu, N. V. Koldunov, X. Zhang, L. Kong, M. Xu, K. Fraedrich, and X. Zhi, 2023: Validation of Nadir SWH and Its Variance Characteristics from CFOSAT in China's Offshore Waters. *Remote Sensing* 15, 1005.
- Dong, F., X. Zhi, S. Zhu, L. Zhang, F. Ge, Y. Fan, Y. Lyu, J. Wang, and K. Fraedrich 2023: Principal Modes of Diurnal Cycle of Rainfall over South China during the Pre-summer Rainy Season. *J. Climate* 22, 2457–2470
- Deng, R., Y. Guan, D. Cai, T. Yang, K. Fraedrich, C. Zhang, J. Tang, Z. Liao, Z. Wie, and Shan Guo 2023: Supervised versus semi-supervised urban functional area prediction: uncertainty, robustness and sensitivity. *Remote Sensing* 15, 341-364.
- Huang, Siyi, L. Yu, D. Cai, J. Zhu, Z. Liu, Z. Zhang, Y. Nie, K. Fraedrich 2023: Driving mechanisms of urbanization: Evidence from geographical, climatic, social economic and night-time light data. *Ecological Indicators* 148, 110046
- Sun, R., G. Lan, C. Yang, Z. Wu, B. Chen, and K. Fraedrich 2023: Soil quality of tropical forests on Hainan Island (China): Spatio-temporal variation and its influence factors. *Land Degradation & Development* 34, 1–15
- Roca-Flores E., G. G. Naumis, E. Madrigal-Solis, K. Fraedrich, and E. F. Torres 2023: Hurricane season complexity: the case of North-Atlantic tropical cyclones. *International Journal of Modern Physics C*, 34, 2350151
- Sun, X., F. Ge, Q. Chen, K. Fraedrich, and X. Li, 2023: How striking is the intergenerational difference in exposure to compound heatwaves over Southeast Asia? *Earth's Future* 11, e2022EF003179
- Cai, D., K. Fraedrich, F. Sielmann, S. Zhu and L. Yu, 2023: Attribution and causality analyses of regional climate variability. *Land* 12, 817

2022

- Roca-Flores E., G.G. Naumis, E. Madrigal-Sol, and K. Fraedrich 2022: Typhoon complexity: Northwest Pacific tropical cyclone season complex systems analysis. *International Journal of Modern Physics C* 33,
- Schertzer, D., V. Dimri and K. Fraedrich 2022: COVID-19 and Geoscience. Proceedings of the 18th Annual Meeting of the *Asia Oceania Geosciences Society* (Special Session), doi.org/10.1142/9789811260100_0079.

- Zhang L., R. Shi, K. Fraedrich, and X. Zhu 2022: Enhanced joint effects of ENSO and IOD on Southeast China winter precipitation after 1980s. *Climate Dynamics* 56, 277-292, doi.org/10.1007/s00382-021-05907-5
- Cai, D., L. Yu, J. Zhu, K. Fraedrich, Y. Guan, F. Sielmann, C. Zhang, and M. Yue 2022: The shrinkage of lake Lop Nur in the twentieth century: A comprehensive ecohydrological analysis. *J. Hydrometeorology* 23, 1245-1255.
- Feng, Yuning, S. Du, K. Fraedrich, and X. Zhang 2022: Fine-grained climate classification for the Qaidam Basin. *Atmosphere* 13, 913.
- Feng, Yuning, S. Du, X. Zhang, and K. Fraedrich 2022: Varying snow cover with climate change on the Tibetan Plateau: a regional climate perspective. *Annals of the Photogrammetry, Remote Sensing and Spatial Information Sciences*, Volume X-3/W1.
- Fraedrich, K. 2022: Hermann Flohn - 25ster Todestag, Eine Stunde History, *DLF Nova*, 2p.

2021

- Bye, J.T., K. Fraedrich, S. Schubert, and X. Zhu 2021: Future climate in the Far North. In: *The Arctic is Dying* (eds. H. E. Borries-Sawala and S.-A. Ditze), WVT, p. 15-24.
- Egger, J. and K. Fraedrich 2021: Overlooked centrifugal and Coriolis forces in the atmosphere due to the Earth's motion in the solar system. *arXiv-1602.01259v1*-16pp.
- Ge, F., S. Zhu, F. Sielmann, K. Fraedrich, X. Zhu, L. Zhang, X. Zhi, and H. Wang, 2021: Precipitation over Indochina during the monsoon transition: Modulation by Indian Ocean and ENSO regimes. *Climate Dynamics* 56, 2491-2504.
- Hoegh-Guldberg, O. et al. 2021: Impacts of 1.5°C Global Warming on Natural and Human Systems. *IPCC-Report*.
- Shao, Y., K. Fraedrich, K. and M. Ishizuka, 2021 Modelling Soil Moisture in Hyper-Arid Conditions. *Boundary-Layer Meteorol.* 179, 169–186
- Sun, R., X. Zhang, K. Fraedrich, and Q. You, 2021: CMIP5 climate projections for the Yamzhog Yumco Basin: an environmental testbed for alpine lakes. *Theoretical and Applied Climatology* 143, 795–808. <https://doi.org/10.1007/s00704-020-03451-6>
- Sun, R., Z. Wu, G. Lan, C. Yang, and K. Fraedrich 2021: Effects of rubber plantations on soil physicochemical properties on Hainan Island, China. *Journal of Environmental Quality* 50, 1351-1363, doi: 10.1002/jeq2.20282
- Xu, J., N.V. Koldunov, M. Xu, X. Zhu, K. Fraedrich, X. Jiang, S. Zhu, and X. Zhi 2021: Impacts of Indian Ocean Dipole-like SST on Rice Yield Anomalies in Jiangsu Province. *Frontiers in Earth Science* 8, 171-181, doi: 10.3389/feart.2020.568365
- Yu, M., S. Guo, Y. Guan, D. Cai, C. Zhang, K. Fraedrich, Z. Liao, X. Zhang and Z. Tian 2021: Spatiotemporal heterogeneity analysis of Yangtze River Delta urban agglomeration: Evidence from nighttime light data (2001 to 2019). *Remote Sensing* 13, 1235, doi.org/10.3390/rs1307123

2020

- Fiedler, S., T. Crueger; R. D'Agostino; K. Peters; T. Becker; D. Leutwyler; L. Paccini; J. Burdanowitz; S.A. Buehler; A. U. Cortes; T. Dauhut; D. Dommenges; K. Fraedrich; L. Jungandreas; N. Maher; A. K. Naumann; M. Rugenstein; M. Sakradzija; H. Schmidt; F. Sielmann; C. Stephan; C. Timmreck; X. Zhu; and B. Stevens: Simulated Tropical Precipitation Assessed Across Three Major Phases of the Coupled Model Intercomparison Project (CMIP). *Monthly Weather Review* 148, 3653-3680
- Lei, Y., Zhang, F., Miao, L., Yu, Q.-R., Duan, M., Fraedrich, K., 2020: Potential impacts of future reduced aerosols on internal dynamics characteristics of precipitation based on

- model simulations over southern China. *Physica A: Statistical Mechanics and its Applications* 545, Art.-No. 123808. doi:10.1016/j.physa.2019.123808.
- Sun, R., Z. Wu, B. Chen, C. Yang, D. Qi, G. Lan, and K. Fraedrich 2020: Effects of land-use change on eco-environmental quality in Hainan Island, China. *Ecological Indicators* 109, 105777, doi:10.1016/j.ecolind.
- Zhu, S., A. Reca, C. Remedio, D.V. Sein, F. Sielmann, F. Ge, J. Xu, T. Peng, D. Jacob, K. Fraedrich, and X. Zhi 2020: Added value of the regionally coupled model ROM in the East Asian summer monsoon modeling. *Theoretical and Applied Climatology* 140, 375–387
- Zhu, S., F. Ge, F. Sielmann, Mengting Pan, K. Fraedrich, A. Reca, C. Remedio, D.V. Sein, D. Jacob, H. Wang, X. Zhi, 2020: Seasonal temperature response over the Indochina Peninsula to a worst-case high emission forcing: A study with the regionally coupled model ROM. *Theoretical and Applied Climatology* 142, 613–622.
- Zhu, S., F. Ge, Y. Fan, L. Zhang, F. Sielmann, K. Fraedrich, and X. Zhi, 2020: Conspicuous temperature extremes over Southeast Asia: seasonal variations under 1.5°C and 2°C global warming. *Climatic Change* 160, 343-360.

2019

- Xu, J. W., N. Koldunov, A. Reca, C. Remedio, D. Sein, D. Rechid, X. Zhi, X. Jiang, M. Xu, X. Zhu, K. Fraedrich, and D. Jacob 2019: Downstream Effect of Hengduan Mountains on East China in the REMO Regional Climate Model. *Theoretical and Applied Climatology* 135, 1641–1658.
- Song, B., X. Zhi, M. Pan, M. Hou, C. He, and K. Fraedrich 2019: Turbulent heat flux reconstruction in the North Pacific from 1921 to 2014. *J. Meteor. Soc. Japan* 97, 893-911
- Ji, L., X. Zhi, S. Zhu, K. Fraedrich 2019: Probabilistic precipitation forecasting over East Asia using Bayesian model averaging. *Weather and Forecasting* 34, 377-392
- Ge, F., S. Zhu, T. Peng, Y. Zhao, F. Sielmann, K. Fraedrich, X. Zhi, X. Liu, W. Tang, L. Ji 2019: Risks of precipitation extremes over Southeast Asia: does 1.5 or 2 degree global warming make a difference? *Environmental Research Letters* 14, 044015
- Ge, F., T. Peng, K. Fraedrich, F. Sielmann, X. Zhu, X. Zhi, X. Liu, W. Tang, and P. Zhao 2019: Assessment of trends and variability in surface air temperature on multiple high-resolution datasets over the Indochina Peninsula. *Theor. Appl. Climatol.* 135, 1609-1627
- Fan, Y., K. Fan, X. Zhu and K. Fraedrich 2019: El Nino-related precipitation anomalies in Southeast Asia modulated by the Atlantic Multidecadal Oscillation. *J. Climate* 32, 7971-7987
- Cai, D., K. Fraedrich, Y. Guan, S. Guo, C. Zhang, L.M.V. Carvalho, and X. Zhu 2019: Causality of Biodiversity Loss: Climate, vegetation, and urbanization in China and America, *Sensors* 19, 4499
- Cai, D., K. Fraedrich, Y. Guan, S. Guo, C. Zhang, R. Sun, and Z. Wu 2019: Remote sensing greenness and urbanization in ecohydrological model analysis: Asia and Australasia (1982-2015), *Sensors* 19, 4693
- Cai, D., K. Fraedrich, Y. Guan, S. Guo, C. Zhang, and X. Zhu 2019: Urbanization and climate change: Insights from eco-hydrological diagnostics, *Science of the Total Environment (STOTEN)* 647, 29-36

2018

- Mikolajevich, U., F. Ziemer, G. Cioni, M. Claussen, K. Fraedrich, M. Heidkamp, C. Hohenegger, D. J. de la Cuesta, M.-L. Kapsch, A. Lemburg, T. Mauritsen, K. Meraner, N. Röber, H. Schmidt, K. D. Six, I. Stemmler, T. Tamarin-Brodsky, A. Winkler, X. Zhu, and B. Stevens 2018: The climate of a retrograde rotating Earth. *Earth System Dynamics* 9, 1191-1215, doi.org/10.5194/esd-9-1191-2018

Holden, P.G., N. R. Edwards, A. Ridgwell, R. D. Wilkinson, K. Fraedrich, F. Lunkeit, H. E. Pollitt, J.-F. Mercure, P. Salas, A. Lam, F. Knobloch, U. Chewpreecha and J.E. Viñuales 2018: Climate-carbon cycle uncertainties and the Paris Agreement. *Nature Climate Change* 8, 609–613

Xu, J., N. Koldunov, A. R. C. Remedio, D. V. Sein, X. Zhi, X. Jiang, M. Xu, X. Zhu, K. Fraedrich, D. Jacob 2018: Role of the Sub-Grid-Scale Topographic effects over the Tibetan Plateau in the REMO Regional Climate Model. *Climate Dynamics* 51, 4525-4542, DOI: 10.1007/s00382-018-4085-7

Zhang, X., S. Guo, Y. Guan, D. Cai, C. Zhang, K. Fraedrich, X. Han, and Z. Z. Tian 2018: Urbanization and spillover effect for three megaregions in China: Evidence from DMSP/OLS nighttime lights. *Remote Sensing* 10, 1888-2004

2017

Cai, D., Fraedrich, K., Guan, Y., Guo, S., & Zhang, C. (2017): Urbanization and the thermal environment of Chinese and US-American cities. *Science of the Total Environment (STOTEN)*, 589, 200–211

Cai, D., Q. You, K. Fraedrich, and Y. Guan 2017: Spatiotemporal temperature variability over the Tibetan Plateau: Altitudinal dependence associated with the global warming hiatus. *J. Climate* 30, 969-983

Ge, F., F. Sielmann, X. Zhu, K. Fraedrich, X. Zhi, T. Peng, and L. Wang 2017: The link between Tibetan Plateau monsoon and Indian summer precipitation: a linear diagnostic perspective. *Climate Dynamics* 49, 4201-4215, DOI 10.1007/s00382-017-3585-1

Tao H., T. Fischer, B. Su, T. Jiang, and K. Fraedrich 2017: Observed changes in maximum and minimum temperatures in Xinjiang Province, China. *International Journal of Climatology* 37, 5120-5128

Zhang, L., F. Sielmann, K. Fraedrich, and X. Zhi 2017: Atmospheric response to Indian Ocean Dipole forcing: Changes of Southeast China winter precipitation under global warming. *Climate Dynamics* 48, 1467-1482, doi: 10.1007/s00382-016-3152-1.

Zhang, F., P. Yang, K. Fraedrich, X. Zhou, G. Wang, and J. Li 2017: Reconstruction of driving forces from non-stationary time series including stationary regions and application to climate change. *Physica A* 473, 337-343

Zhang, F., Y. Lei, Q.-R. Yu, K. Fraedrich, and H. Iwabuchi 2017: Causality of the drought in the southwestern United States based on observations. *J. Climate* 30, 4891-4896

2016

Bordi, I., X. Zhu, and K. Fraedrich 2016: Precipitable water vapor and its relationship with the Standardized Precipitation Index: Ground-based GPS measurements and reanalysis data. *Theoretical and Applied Climatology* 123, 263-275.

Borth, H., H. Tao, K. Fraedrich, A. Schneidereit, and X. Zhu 2016: Hydrological extremes in the Aksu-Tarim River Basin. Part II: Mid-latitude dynamics. *Climate Dynamics* 46, 2039-2050.

Cai, D., K. Fraedrich, F. Sielmann, Y. Guan, and S. Guo 2016: Land cover characterization and aridity changes of South America (1982 to 2006): An attribution by eco-hydrological diagnostics. *J. Climate* 29, 8175-8189.

Fraedrich, K., I. Bordi, and X. Zhu 2016: Climate dynamics on global scale: resilience, hysteresis and attribution of change. In: *The Fluid Dynamics of Climate*, International Centre for Mechanical Sciences (CISM), Springer Verlag, 143-159.

Fraedrich, K., F. Sielmann, D. Cai, and X. Zhu 2016: Climate dynamics on watershed scale: along the rainfall-runoff chain. In: *The Fluid Dynamics of Climate*, International Centre for Mechanical Sciences (CISM), Springer Verlag, 183-209.

- Hertwig, E. F., Lunkeit, and K. Fraedrich 2016: The role of atmospheric greenhouse gases, orbital parameters, and Southern Ocean gateways - an idealized model study. arXiv-1602.01259v1-34p.
- Holden, P.B., N.R. Edwards, K. Fraedrich, E. Kirk, F. Lunkeit, and X. Zhu 2016: PLASIM-GENIE: a new intermediate complexity AOGCM. *Geosci. Model Dev.* 9, 3347-3361.
- Lin H., Q. You, Y. Zhang, Y. Jiao, and K. Fraedrich 2016: Impact of large-scale circulation on the water vapor balance of the Tibetan Plateau in summer, *Intern. J. Climatol.* 36, 4213-4221.
- Provenzale, A., E. Palazzi, and K. Fraedrich (Eds) 2016: *The Fluid Dynamics of Climate*, International Centre for Mechanical Sciences (CISM), Springer Verlag, 209pp.
- Tao, H., H. Borth, K. Fraedrich, A. Schneidereit, and X. Zhu, 2015: Hydrological extremes in the Aksu-Tarim River Basin. Part I: Climatology and regime shift. *Climate Dynamics* 46, 2028-2037.
- Tao, H., T. Fischer, Y. Zeng, K. Fraedrich, 2016: Evaluation of TRMM 3B43 Precipitation Data for Drought Monitoring in Jiangsu Province, China. *Water* 2016, 8, 221; doi:10.3390/w8060221.
- You, Q., Z. Jiang, Y. Bao, N. Pepin, K. Fraedrich 2016: Trends in upper tropospheric water vapor over the Tibetan Plateau from remote sensing dataset. *Intern. J. Climatol.* 36, 4862-4872.
- Zhang, C., D. Cai, S. Guo, Y. Guan, K. Fraedrich, Y. Nie, X. Liu, and X. Bian, 2016: Spatial-temporal dynamics of China's terrestrial biodiversity: A dynamic habitat index diagnostic. *Remote Sensing* 8, 227-245.
- Zhu, X., J. Bye, K. Fraedrich, and I. Bordi, 2016: Statistical structure of intrinsic climate variability under global warming. *J. Climate* 29, 5935-5947.

2015

- Bordi, I., R. De Bonis, K. Fraedrich, and A. Sutera 2015: Interannual variability patterns of the world's total column water content: Amazon River basin. *Theor. Appl. Climatol.* 122, 441-455.
- Cai, D., K. Fraedrich, F. Sielmann, L. Zhang, X. Zhu, S. Guo, and Y. Guan, 2015: Vegetation dynamics on the Tibetan Plateau (1982 to 2006): An attribution by eco-hydrological diagnostics, *J. Climate* 28, 4576-4584.
- Fraedrich, K., 2015: A minimalist model of terminal lakes: Qinghai Lake (China) and Lake Chad (N-Africa). *Hydrology Research* 46, 222-231, doi:10.2166/nh.2013.015(6).
- Fraedrich K., F. Sielmann, D. Cai, L. Zhang, and X. Zhu, 2015: Validation of an ideal rainfall-runoff chain in a GCM environment, *Water Resources Management*, 29, 313-324.
- He, C., X. Zhi, Q. You, B. Song, K. Fraedrich 2015: Multi-model ensemble forecasts of tropical cyclones in 2010 and 2011 based on the Kalman Filter method. *Meteorology and Atmospheric Physics* 127, 467-479, doi: 10.1007/s00703-015-0377-1.
- Hertwig, E., F. Lunkeit, and K. Fraedrich 2015: Low Frequency climate variability of an aquaplanet. *Theoretical and Applied Climatology* 121, 459-478.
- Lemmen, C., K. Haberkorn, R. Blender, K. Fraedrich, and K. W. Wirtz, 2015: Global land use and technological evolution simulations to quantify interactions between climate and pre-industrial cultures. In M. Schulz and A. Paul (eds.), *Integrated Analysis of Interglacial Climate Dynamics (INTERDYNAMIC)*, Springer Briefs in Earth System Sciences, 103-105. DOI 10.1007/978-3-319-00693-2_17.
- Orsolini, Y., L. Zhang, D. Peters, K. Fraedrich, X. Zhu, A. Schneidereit, B. van den Hurk 2015: Extreme events over North China in August 2010 and their link to eastward-propagating wave-trains across Eurasia: observations and monthly forecasting. *Quart. J. R. Meteorol. Soc.* 141, 3097-3105.

- Ragone F., K. Fraedrich, H. Borth, and F. Lunkeit 2015: Coupling a minimal stochastic lattice-gas model of a cloud system to an AGCM. *Quart. J. Roy. Meteor. Soc.* 141, 37-51.
- Zhang, L., F. Sielmann, K. Fraedrich, X. Zhu, and X. Zhi, 2015: Variability of winter extreme precipitation in Southeast China: Contributions of SST anomalies. *Climate Dynamics*, 45, 2557-2570, doi:10.1007/s00382-015-2492-6.
- Zhang, L., K. Fraedrich, X. Zhu, F. Sielmann, and X. Zhi, 2015: Interannual variability of winter precipitation in Southeast China. *Theor. Appl. Climatol.* 119, 229-238, doi: 10.1007/s00704-014-111-5.
- Zhang W., Y. Leung, and K. Fraedrich 2015: Different El Niño types and intense typhoons in the western North Pacific. *Climate Dynamics* 44, 2965-2977.

2014

- Barbini, L., I. Bordi, and K. Fraedrich 2014: Stochastic resonance in the Benard system. *Eur. Phys. J. Plus* 129, 190, 2-11.
- Blessing, S., T. Kaminski, F. Lunkeit, I. Matei, R. Giering, A. Köhl, M. Scholze, E. Kirk, P. Hermann, K. Fraedrich, and D. Stammer, 2014: Testing variational calibration and initialization of an Earth System Model. *Tellus A* 66.
- Bordi, I., K. Fraedrich, A. Sutera, and X. Zhu, 2014: Ground-based GPS measurements: Time behavior from half-hour to years. *Theoretical and Applied Climatology* 115, 615-625.
- Cai, D., Y. Guan, S. Guo, C. Zhang, and K. Fraedrich 2014: Mapping plant functional types over broad mountainous regions: A hierarchical soft time-space classification applied to the Tibetan Plateau. *Remote Sensing* 6, 3511-3532.
- Cai, D., K. Fraedrich, F. Sielmann, Y. Guan, S. Guo, L. Zhang, and X. Zhu 2014: Climate and vegetation: An ERA-1 Interim and GIMMS NDVI Analysis, *J. Climate*, 27, 5111-5118.
- Holden, P.B., N.R. Edwards, P.H. Garthwaite, K. Fraedrich, F. Lunkeit, E. Kirk, M. Labriet, A. Kanudia, and F. Babonneau, 2014: PLASIM-ENTSem: a spatio-temporal emulator of future climate change for impacts assessment. *Geoscientific Model Development* 7, 433-451.
- Tao, H., H. Borth, K. Fraedrich, B. Su, and X. Zhu, 2014: Drought and wetness variability in the Tarim River Basin and connection to large-scale summer atmospheric circulation. *Intern. J. Climatology*, 34, 2678-2684, doi: 10.1002/joc.3867.
- Tao, H., K. Fraedrich, C. Menz, and J. Zhai 2014: Trends in extreme temperature indices in the Poyang Lake Basin, China. *Stochastic Environmental Research and Risk Assessment (SERRA)*, 28, 1543-1553, doi:10.1007/s00477-014-0863-x.
- You, Q., J. Min, K. Fraedrich, L. Zhang, S. Kang, and X. Meng, 2014: Projected trends in mean maximum and minimum surface temperature in China from simulations. *Global and Planetary Change* 112, 53-63.
- You, Q., K. Fraedrich, S. Kang, X. Zhu, 2014: Observed surface wind speed in the Tibetan Plateau since 1980. *Intern. J. Climatol.* 34, 1873-1882.
- You, Q., K. Fraedrich, F. Sielmann, J. Min, S. Kang, Z. Ji, X. Zhu, and G. Ren, 2014: Present and projected degree days in China from reanalysis and simulations, *Climate Dynamics* 43, 1449-1462, doi: 10.1007/s00382-013-1960-0.
- Zhang, L., X. Zhu, K. Fraedrich, F. Sielmann, and X. Zhi, 2014: Interdecadal variability of winter precipitation in Southeast China. *Climate Dynamics* 43, 2239-2248, doi: 10.1007/s00382-014-2048-1.

2013

- Bathiani, S., M. Claussen, and K. Fraedrich, 2013: Detecting hotspots of atmosphere-vegetation interaction via slowing down – Part I: A stochastic approach. *Earth Systems Dynamics* 4, 63-78.

- Bathiani, S., M. Claussen, and K. Fraedrich, 2013: Detecting hotspots of atmosphere-vegetation interaction via slowing down – Part II: Application to a global climate model. *Earth Systems Dynamics* 4, 79-93.
- Barbini, I., I. Bordi, K. Fraedrich, and A. Sutera, 2013: The stochastic resonance in a system of gradient type. *European Physics Journal Plus* 128, doi: 10.1140/epjp/i2013-13013-5, 1-12.
- Bordi, I., K. Fraedrich, A. Sutera, and X. Zhu, 2013: On the effect of decreasing CO₂ concentrations in the atmosphere. *Climate Dynamics* 40, 651-662.
- Bye, J.T., K. Fraedrich, S. Schubert, and X. Zhu, 2013: The changing length of the warming period of the annual temperature cycle in the high latitudes under global warming. *Atmosphere-Ocean* 51, 309-318.
- Fraedrich, K., F. Sielmann, L. Zhang, and X. Zhu, 2013: Applications of an ideal rainfall-runoff chain: validation and climate change. *European Water Resources Association (EWRA)*, 845-852.
- Li, S., Y. Rong, Y. Liu, Z. Liu, and K. Fraedrich, 2013: Dynamic analogue initialization for ensemble forecasting. *Advances in Atmospheric Sciences* 30, 1406-1420.
- Neu, U., M.G. Akperov, N. Bellenbaum, R. Benestad, R. Blender, R. Caballero, A. Cocinozza, H.F. Dacre, Y. Feng, K. Fraedrich, J. Grieger, S. Gulev, J. Hanley, T. Hewson, M. Inatsu, K. Keay, S.F. Kew, J. Kindem, G.C. Leckebusch, M.L.R. Liberato, P. Lionello, I. I. Mokhov, J.G. Pinto, C.C. Raible, M. Reale, I. Rudeva, M. Schuster, I. Simmonds, M. Sinclair, M. Sprenger, N.D. Tilinina, I.F. Trigo, S. Ulbrich, X.L. Wang, and H. Wernli, 2013: IMILAST - A Community Effort to Intercompare Extratropical Cyclone Detection and Tracking Algorithms. *Bull. Amer. Meteor. Soc.*, 94, 529–547.
- Schalge, B., R. Blender, J. Wouters, K. Fraedrich and F. Lunkeit, 2013: Towards a fluctuation theorem in an atmospheric circulation model. *Phys. Reviews E* 87, 052113-1-4.
- Sun, R., X. Zhang, Y. Sun, D. Zheng, and K. Fraedrich, 2013: SWAT-based streamflow estimation and its responses to climate change in Kadongjia River Watershed, South Tibet, China. *J. Hydromet.* 14, 1571-1586.
- You, Q., A. Sanchez-Lorenzo, M. Wild, D. Folini, K. Fraedrich, G. Ren, and S. Kang, 2013: Decadal variation of surface solar radiation in the Tibetan Plateau from observations, reanalysis and model simulations. *Climate Dynamics* 40, 2073-2086.
- You, Q., K. Fraedrich, G. Ren, N. Pepin, and S. Kang, 2013: Variability of temperature in the Tibetan Plateau based on homogenized surface stations and reanalysis data. *International Journal of Climatology* 33, 1337-1347.
- You, Q., K. Fraedrich, G. Ren, N. Pepin, and S. Kang, 2013: Can temperature extremes in China be calculated from reanalysis? *Global and Planetary Change* 111, 268-279.
- You, Q., G. Ren, K. Fraedrich, Y. Ren, P. Wang, and S. Kang, 2013: Winter temperature extremes in China and their possible causes. *International Journal of Climatology*, doi: 10.1002/joc.3525, 33, 1444-1445.
- Zhang, D., R. Blender, and K. Fraedrich, 2013: Volcanoes and ENSO in millennium simulations: global impacts and regional reconstructions in East Asia. *Theoretical and Applied Climatology* 111, 437-454.
- Zhang, H., K. Fraedrich, R. Blender, and X. Zhu, 2013: Precipitation extremes in CMIP5 simulations on different time scales. *J. Hydromet.* 14, 923-928,
- Zhang, H., K. Fraedrich, X. Zhu, and R. Blender, 2013: World's greatest observed point rainfalls: Jennings (1950) scaling law. *J. Hydromet.* 14, 1952-1957,
- Zhu, X., K. Fraedrich, and W. Wang, 2013: Future climate in the Tibetan Plateau from a Statistical Regional Climate Model. *J. Climate* 26, 10125-10138,

- Bathiany, S., M. Claussen, and K. Fraedrich, 2012: Implications of climate variability for the detection of multiple equilibria and for rapid transitions in the atmosphere-vegetation system. *Climate Dynamics*, 38, 1775-1790,
- Bordi, I., K. Fraedrich, A. Sutera, and X. Zhu, 2012, On the climate response to zero ozone. *Theoretical and Applied Climatol.* 108, 293-300,
- Bordi, I., K. Fraedrich, A. Sutera, and X. Zhu, 2012: Transient response to well-mixed greenhouse gas changes. *Theor. Appl. Climatol.* 109, 245–252,
- Bothe, O., K. Fraedrich, and X. Zhu, 2012: Precipitation climate of Central Asia and the large-scale atmospheric circulation. *Theoretical and Applied Climatology* 108, 345-354, DOI 10.1007/s00704-011-0537-2,
- Bothe, O., K. Fraedrich, and X. Zhu, 2012: Tibetan Plateau summer precipitation: covariability with circulation indices. *Theoretical and Applied Climatology* 108, 293-300, DOI 10.1007/s00704-011-0538-1,
- Espa, S., I. Bordi, T. Frisius, K. Fraedrich, and A. Sutera, 2012: Zonal jets and cyclone-anticyclone asymmetry in decaying rotating turbulence: Laboratory experiments and numerical simulations. *Geophysical and Astrophysical Fluid Dynamics*, doi:10.1080/03091929.2011.637301,
- Fraedrich, K., 2012: A suite of user-friendly global climate models: Hysteresis experiments. *Eur. Phys. J. Plus*, 127, doi: 10.1140/epjp/i2012-12053-7,
- Hannachi, A., T. Woolings, and K. Fraedrich, 2011: The North Atlantic jet stream: Preferred positions, paths and transitions. *Q. J. R. Meteorol. Soc.*, 138, 862-877,
- Langmack, H., K. Fraedrich, and F. Sielmann, 2012: Tropical cyclone track analog ensemble forecasting in the extended Australian basin: NWP combinations. *Q. J. R. Meteorol. Soc.*, 138, 1828-1838. PUMA,
- Schneidereit, A., S. Schubert, P. Vargin, F. Lunkeit, X. Zhu, D. Peters, K. Fraedrich, 2012: Large scale flow and the long-lasting blocking high over Russia: Summer 2010. *Mon. Wea. Rev.*, 140, 2967–2981,
- Sienz, F., O. Bothe, and K. Fraedrich, 2012: Monitoring and quantifying future climate projections of dryness and wetness extremes: SPI bias. *Hydrol. Earth Syst. Sci.* 16, 2143-2157, doi:10.5194/hess-16-2143-2012
- You, Q., K. Fraedrich, G. Ren, B. Ye, X. Meng, and S. Kang, 2012: Inconsistencies of precipitation in the eastern and central Tibetan Plateau between surface adjusted data and reanalysis. *Theoretical and Applied Climatology*, 109, 485-496, doi: 10.1007/s00704-012-0594-1,

2011

- Blender, R., X. Zhu, and K. Fraedrich, 2011: Observation and modeling of 1/f-noise in weather and climate. *Advances in Science and Research*, 6, 137-140, DOI:10.5194/asr-6-137-2011,
- Blender, R., X. Zhu, D. Zhang, and K. Fraedrich, 2010: Yangtze runoff, precipitation, and the East Asian Monsoon in a 2800 years climate control simulation. *Quaternary International*, 244, 194-201,
- Bothe, O., K. Fraedrich, and X. Zhu, 2011: Large-scale circulations and Tibetan Plateau summer drought and wetness in a high-resolution climate model. *Intern. J. Climatol.*, 31, 832-846, DOI: 10.1002/joc.2124,
- Bye, J., K. Fraedrich, E. Kirk, S. Schubert, and X. Zhu, 2011: Random walk lengths of about 30 years in global climate. *Geophysical Research Letters*, 38, L05806, doi:10.1029/2010GL046333,
- Dahms, E., H. Borth, F. Lunkeit, and K. Fraedrich, 2011: ITCZ splitting and the influence of large-scale eddy fields on the tropical mean state. *J. Met. Soc. Japan*, Vol.89, No.5, 399-411,

- Dunst, M. and K. Fraedrich, 2011: Obituary for Günter Fischer. *Meteorologische Zeitschrift*, 20, 253-254,
- Fraedrich, K. and F. Sielmann, 2011: An equation of state for land surface climates. *International Journal of Bifurcation and Chaos*, 21, 3577-3587.
- Lucarini, V., K. Fraedrich, and F. Ragone, 2011: New results on the thermodynamical properties of the climate system. *J. Atmos. Sci.*, 68, 2438-2458,
- Schalge, B., R. Blender, and K. Fraedrich, 2011: Blocking detection based on synoptic filters. *Advances in Meteorology*, ID 717812, 11 pages, doi:10.1155/2011/717812,
- Schmittner, A., T. A. M. Silva, K. Fraedrich, E. Kirk, and F. Lunkeit, 2011: Effects of mountains and ice sheets on global ocean circulation. *J. Climate*, 24, 2814-2829,
- You, Q., S. Kang, G. Ren, K. Fraedrich, N. Pepin, Y. Yan, L. Ma, 2011: Observed changes in snow depth and number of snow days in the eastern and central Tibetan Plateau. *Climate Research*, 46, 171-183,
- Zhang, D., R. Blender, X. Zhu, and K. Fraedrich, 2011: Temperature variability in China in an ensemble simulation for the last 1200 years. *Theoretical and Applied Climatology*, 103, 387-399,
- Zhang, D., R. Blender, and K. Fraedrich, 2011: Volcanic and ENSO effects in China in simulations and reconstructions: Tambora eruption 1815. *Climate of the Past Discussions*, 7, no. 3, 2061-2088,
- Zhu, X., O. Bothe, and K. Fraedrich, 2011: Summer atmospheric bridging between Europe and East Asia - Influences on drought and wetness on the Tibetan Plateau. *Quaternary International* 236, 151-157, doi:10.1016/j.quaint.2010.06.015

2010

- Bordi, I., K. Fraedrich, and A. Sutera, 2010: Northern Hemisphere climate trends in reanalysis and forecast model predictions: The 500-hPa annual means. *Geophysical Research Letters*, 37, L11809, doi:10.1029/2010GL043217,
- Bothe, O., K. Fraedrich, and X. Zhu, 2010: The large-scale circulations and summer drought and wetness on the Tibetan plateau. *Intern. J. of Climatol.*, 30, 844-855, DOI: 10.1002/joc.1946,
- Dekker, S. C., de Boer, H. J., Brovkin, V., Fraedrich, K., Wassen, M. J., and Rietkerk, M., 2010: Biogeophysical feedbacks trigger shifts in the modelled climate system at multiple scales. *Biogeosciences*, 7, 1237-1245,
- Fraedrich, K., 2010: A parsimonious stochastic water reservoir: Schreiber's 1904 equation. *Journal of Hydrometeorology*, 11, 575-578,
- Lucarini, V., K. Fraedrich, and F. Lunkeit, 2010: Thermodynamic Analysis of Snowball Earth Hysteresis Experiment: Efficiency, Entropy Production, and Irreversibility. *Q. J. R. Meteorol. Soc.*, 136, 2-11,
- Lucarini, V., K. Fraedrich, and F. Lunkeit, 2010: Thermodynamics of Climate Change: Generalized Sensitivities. *Atmos. Chem. Phys.*, 10, 9729-9737,
- Orlowsky, B., O. Bothe, K. Fraedrich, F.-W. Gerstengarbe, and X. Zhu, 2010: Future climates from bias-bootstrapped weather analogues: an application to the Yangtze River basin. *J. Climate*, 23, 3509-3524,
- Riemann-Campe, K., R. Blender, and K. Fraedrich, 2010: Global memory analysis in observed and simulated CAPE and CIN. *International Journal of Climatology*, 31, 1099-1107, DOI: 10.1002/joc.2148,
- Schneidereit, A., S. Schubert, P. Vargin, F. Lunkeit, X. Zhu, D. Peters, K. Fraedrich 2010: Large-Scale Flow and the Long-Lasting Blocking High over Russia: Summer 2010. *Mon. Wea. Rev.* 140, 2967-2981,

- Schneidereit, A., R. Blender, and K. Fraedrich, 2010: Radius-depth model for midlatitude cyclones in re-analysis data and simulations. *Q. J. R. Meteorol. Soc.*, 136, 50-60, DOI: 10.1002/qj.523,
- Sienz, F., A. Schneidereit, R. Blender, K. Fraedrich, and F. Lunkeit, 2010: Extremes of North Atlantic cyclones. *Tellus* 62A, 347–360.
- Wang, G., A. J. Dolman, R. Blender, and K. Fraedrich, 2010: Fluctuation regimes of soil moisture in ERA-40 re-reanalysis data. *Theoretical and Applied Climatology*, 99, 1-8, DOI: 10.1007/s00704-009-0111-3,
- Zhai, J. Q., B. Liu, H. Hartmann, B. D. Su, T. Jiang, and K. Fraedrich, 2010: Dryness/wetness variations in ten large river basins of China during the first 50 years of the 21st century. *Quaternary International*, 226, 101-111,
- Zhang, D., R. Blender, X. Zhu, and K. Fraedrich, 2010: Temperature variability in China in an ensemble simulation for the last 1200 years. *Theoretical and Applied Climatology*, 103, 387-399, DOI: 10.1007/s00704-010-0305-8,
- Zhu, X. K. Fraedrich, Z. Liu, and R. Blender, 2010: A demonstration of long term memory and climate predictability. *J. Climate*, 23, 5021-5029, DOI: 10.1175/2010JCLI3370.1

2009

- Bordi, I., K. Fraedrich, and A. Sutera, 2009: Observed drought and wetness trends in Europe: an update. *Hydrology and Earth System Sciences*, 13, 1519-1530,
- Bordi, I., K. Fraedrich, M. Ghil, and A. Sutera, 2009: Zonal-flow regime changes in a GCM and in a simple quasi-geostrophic model: The role of stratospheric dynamics. *J. Atmos. Sci.*, 66, 1366-1383,
- Chattopadhyay, R., B. N. Boswami, A. K. Sahai, and K. Fraedrich, 2009: The role of stratiform rainfall in modifying the northward propagation of Monsoon Intraseasonal Oscillation. *Journal of Geophysical Research*, 114, D19114-(1-19),
- Fraedrich, K., R. Blender, and X. Zhu, 2009: Continuum climate variability: long-term memory, extremes, and predictability. *International Journal of Modern Physics B*, 23, (28 & 29, 5403-5416,
- Fraedrich, K. and X. Zhu, 2009: Yangtze discharge memory. *Quaternary Sciences*, 29, 696-700,
- Frisius, T., K. Fraedrich, W. Wang, and X. Zhu, 2009: A spectral barotropic model of the wind-driven world ocean. *Ocean Modelling*, 30, 3, 10-322,
- Kirk, E., K. Fraedrich, F. Lunkeit, and C. Ulmen, 2009: The Planet Simulator: A coupled system of climate modules with real time visualization. *CSPR Report*, Linköping Universitet, 45, Art. 7,
- Kunz, T., K. Fraedrich, and F. Lunkeit, 2009: Response of idealized baroclinic wave life cycles to stratospheric flow conditions. *J. Atmos. Sci.*, 66, 2288-2302.,
- Kunz, T., K. Fraedrich, and F. Lunkeit, 2009: Synoptic scale wave breaking and its potential to drive NAO-like circulation dipoles: A simplified GCM approach. *Q. J. R. Meteorol. Soc.*, 135, 1-19,
- Kunz, T., K. Fraedrich, and F. Lunkeit, 2009: Impact of synoptic scale wave breaking on the NAO and its connection with the stratosphere in the ERA-40 reanalysis. *J. Climate*, 22, 5464-5480,
- Lucarini, V. and K. Fraedrich, 2009: Symmetry breaking, mixing, instability, and low frequency variability in a minimal Lorenz-like system. *Phys. Rev. E*, 026313-(1-8),
- Orlowsky, B. and K. Fraedrich, 2009: Upscaling European surface temperatures to North Atlantic circulation-pattern statistics. *International Journal of Climatology*, 29, 839-849,
- Riemann-Campe, K., K. Fraedrich, and F. Lunkeit, 2009: Global climatology of convective available potential energy (CAPE) and convective inhibition (CIN) in ERA-40 reanalysis data. *Atmospheric Research*, 93, 534-545,

Zhai, J. Q., B. Liu, H. Hartmann, B. D. Su, T. Jiang, and K. Fraedrich, 2009: Dryness/wetness variations in China during the first 50 years of the 21st century. *Hydrol. Earth Syst. Sci. Discuss.*, 6, 1385-1409,

2008

Blender, R., K. Fraedrich, and F. Sienz, 2008: Extreme event return times in long-term memory processes near 1/f. *Nonlinear Processes Geophys.*, 15, 557-565,

Blessing, S., R. J. Greatbatch, K. Fraedrich, and F. Lunkeit, 2008: Interpreting the atmospheric circulation trend during the last half of the 20th century: Application of an adjoint model. *Journal of Climate*, 21, 4629-4646,

Bordi, I., K. Fraedrich, and A. Sutera, 2008: Multiple jets observed in the summer Northern Hemisphere troposphere. *Il Nuovo Cimento*, DOI 10.1393/ncc/i2007-10271-5,

Fraedrich, K. and F. Lunkeit, 2008: Diagnosing the entropy budget of a climate model. *Tellus A*, 60, 921-931,

Franzke, C., R. Blender, K. Fraedrich und F. Lunkeit, 2008: Dynamische Antriebsmechanismen der NAO. (Dynamical Mechanisms of the NAO). *Promet*, 3/4, 108-112,

Kunz, T., K. Fraedrich, and E. Kirk, 2008: Optimization of simplified GCMs using circulation indices and maximum entropy production. *Climate Dynamics*, 30, 803-813,

Wang, G., T. Jiang, R. Blender, and K. Fraedrich, 2008: Yangtze 1/f discharge variability and the interacting river-lake system. *Journal of Hydrology*, 351, 230-237, DOI:10.1016/j.jhydrol.2007.12.016.

2007

Bordi, I., K. Fraedrich, F. Lunkeit and A. Sutera, 2007: Tropospheric double-jets, meridional cells and eddies: a case study and idealized simulations. *Mon. Wea. Rev.*, 135, 3118-3133, Fraedrich, K., 2007: Forecasting: Predictability, Probability, and Persistence. *Mitt. Math. Ges. Hamburg*, 26, 5-28,

Fraedrich, K. 2007: Long term memory in the climate system. The John E. Kutzbach Symposium, University of Wisconsin-Madison, USA, May 2004, p35-47,

Grosfeld, K., G. Lohmann, N. Rimbu, K. Fraedrich, and F. Lunkeit, 2007: Atmospheric multidecadal variations in the North Atlantic realm: proxy data, observations, and atmospheric circulation model studies. *Climate of the Past*, 3, 39-50,

Junge, M. and K. Fraedrich, 2007: Temperature anomalies in the northeastern North Atlantic: Subpolar and subtropical precursors on multiannual time scales. *Journal of Climate*, 20, 1976-1990,

Kleidon, A., K. Fraedrich, and C. Low, 2007: Multiple steady-states in the terrestrial atmosphere-biosphere system: a result of a discrete vegetation classification? *Biogeosciences*, 4, 707-714,

Langmack, H., F. Sielmann und K. Fraedrich, 2007: Analog-Vorhersagen von Hurrikan-Zugbahnen. *Promet*, 33, 65-70,

Schneidereit, A., R. Blender, K. Fraedrich, and F. Lunkeit, 2007: Iceland climate and North Atlantic cyclones in ERA40 reanalyses. *Meteorologische Zeitschrift*, 16, 17-23,

Sienz, F., I. Bordi, K. Fraedrich, and A. Schneidereit, 2007: Extreme dry and wet events in Iceland: observations, simulations and scenarios. *Meteorologische Zeitschrift*, 16, 9-16.,

Stenzel, O., B. Grieger, H. U. Keller, R. Greve, K. Fraedrich, and F. Lunkeit, 2007: Coupling Planet Simulator Mars, a general circulation model of the Martian atmosphere, to the ice sheet model SICOPOLIS. *Planetary and Space Science*, 55, 2087-2096.

Wang, Y., T. Jiang, O. Bothe, and K. Fraedrich, 2007: Changes of pan evaporation and reference evapotranspiration in the Yangtze River basin. *Theor. Appl. Climatol.*, 90, 13-23,

Zhang, Zengxin, K. Fraedrich, J. Tong, and Z. Jinchi, 2007: Projection of Future Precipitation Extremes in the Yangtze River Basin 2001-2050. *Advances in Climate Change Research*, 3, 340-344.

2006

Blender, R., K. Fraedrich, and B. Hunt, 2006: Millennial climate variability: GCM-simulation and Greenland ice cores. *Geophysical Research Letters*, 33, L04710, DOI 10.1029/2005GL024919.

Blender, R. and K. Fraedrich, 2006: Long term memory of the hydrological cycle and river runoffs in China in a high-resolution climate model. *International Journal of Climatology*, 26, 1547-1565, DOI: 10.1002/joc.1325,

Bordi, I., K. Fraedrich, M. Petitta, and A. Sutera, 2006: Extreme value analysis of wet and dry periods in Sicily. *Theor. Appl. Climat.*, 87, 61-71,

Bordi, I., K. Fraedrich, M. Petitta, and A. Sutera, 2006: Large-scale assessment of drought variability based on NCEP/NCAR and ERA-40 re-analyses. *Water Resources Management*, 20, 899-915,

Bordi, I., K. Fraedrich, F. Lunkeit, and A. Sutera, 2006: On non-linear baroclinic adjustment with the stratosphere. *Il Nuovo Cimento, Sect. C* , 29 (5), 497-518,

Kleidon, A., K. Fraedrich, E. Kirk, and F. Lunkeit, 2006: Maximum entropy production and the strength of boundary layer exchange in an atmospheric general circulation model. *Geophys. Res. Letters*, 33, L06706,

Seiffert, R., R. Blender, and K. Fraedrich, 2006: Subscale forcing in a global atmospheric circulation model and stochastic parameterisation. *Q. J. R. Meteor. Soc.*, 132, 1627-1643 DOI: 10.1256/qj.05.139,

Zhu, X., K. Fraedrich, and R. Blender, 2006: Variability regimes of simulated Atlantic MOC. *Geophys. Res. Letters*, 33, L21603- DOI: 10.1029/2006GL027291,

2005

Aigner, A.A. and K. Fraedrich, 2005: Atmospheric and Oceanic Sciences. In *Encyclopedia of Nonlinear Science*, Routledge, New York, p18-25, ISBN: 1-57958-385-7,

Blessing, S., K. Fraedrich, M. Junge, T. Kunz, and F. Lunkeit, 2005: Daily North-Atlantic Oscillation (NAO) index: Statistics and its stratospheric polar vortex dependence. *Meteorol. Zeitschrift*, 14, 763-769,

Bordi, I., K. Fraedrich, M. Petitta, and A. Sutera, 2005: Methods for predicting drought occurrences. In EWRA (European Water Resources Association),

Fraedrich, K., 2005: Stochastic-dynamic analyses of subscale processes - Observations in the tropics and applications in a GCM - ECMWF. Workshop on: representation of sub-grid processes using stochastic-dynamic models, 6-8 June 2005., p65-78,

Fraedrich, K., A. A. Aigner, E. Kirk, and F. Lunkeit, 2005: General Circulation Models of the Atmosphere. In *Encyclopedia of Nonlinear Science*, Routledge, New York, p359-361, ISBN: 1-57958-385-7,

Fraedrich, K., H. Jansen, E. Kirk, U. Luksch, and F. Lunkeit, 2005: The Planet Simulator: Towards a user-friendly model. *Meteorol. Zeitschrift*, 14, 299-304,

Fraedrich, K., H. Jansen, E. Kirk, and F. Lunkeit, 2005: The Planet Simulator: Green planet and desert world. *Meteorol. Zeitschrift*, 14, 305-314,

Fraedrich, K., E. Kirk, U. Luksch, and F. Lunkeit, 2005: The Portable University Model of the Atmosphere (PUMA): Storm track dynamics and low frequency variability. *Meteorol. Zeitschrift*, 14, 735-745,

Jiang, T., Q. Zhang, R. Blender, and K. Fraedrich, 2005: Yangtze delta floods and droughts of the last millennium: Abrupt changes and long-term memory. *Theoretical and Applied Climatology*, 82, 131-141, DOI: 10.1007/s00704-005-0125-4,

- Junge, M. M., R. Blender, K. Fraedrich, V. Gayler, U. Luksch, and F. Lunkeit, 2005: A world without Greenland: impacts on the Northern Hemisphere winter circulation in low- and high-resolution models. *Climate Dynamics*, 24, 297-307,
- Kleidon, A. and K. Fraedrich, 2005: Biotic entropy production and global atmosphere-biosphere interactions. In: *Non-Equilibrium Thermodynamics and the Production of Entropy. Life, Earth, and Beyond. Series: Understanding Complex Systems.* (eds. A. Kleidon, R. D. Lorenz), Springer-Verlag, 173-189., ISBN: 3-540-22495-5,
- Luksch, U., C. C. Raible, R. Blender, and K. Fraedrich, 2005: Decadal cyclone variability in the North Atlantic. *Meteorologische Zeitschrift*, 14, 747-753., DOI: 10.1127/0941-2948/2005/0075,
- Pérez-Munuzuri, V., R. Deza, K. Fraedrich, T. Kunz, and F. Lunkeit, 2005: Coherence resonance in an atmospheric global circulation model. *Phys. Rev. E*, 71, 065602(1-4),
- Segschneider, J., B. Grieger, H. U. Keller, F. Lunkeit, E. Kirk, K. Fraedrich, A. Rhodin, and R. Greve, 2005: Response of the intermediate complexity Mars Climate Simulator to different obliquity angles. *Planetary and Space Science*, 53, 659-670,

2004

- Blender, R. and K. Fraedrich, 2004: Comment on "Volcanic forcing improves atmosphere-ocean coupled general circulation model scaling performance" by D. Vyushin, I. Zhidkov, S. Havlin, A. Bunde, and S. Brenner. *Geophys. Res. Letters*, 31, (22), L22213, doi:10.1029/2004GL020797,
- Blessing, S., K. Fraedrich, and F. Lunkeit, 2004: The Climate in Historical Times. Towards a Synthesis of Holocene Proxy Data and Climate Models. (eds. H. Miller, J. F. W. Negendank, G. Flöser, H. von Storch, H. Fischer, G. Lohmann, and T. Kumke). Springer-Verlag, 383-396,
- Bordi, I., K. Fraedrich, F-W Gerstengarbe, P. C. Werner, and A. Sutera, 2004: Potential predictability of dry and wet periods: Sicily and Elbe-Basin (Germany). *Theor. Appl. Climatol.*, 77, 125-138.,
- Bordi, I., K. Fraedrich, J.-M. Jiang, and A. Sutera, 2004: Spatio-temporal variability of dry and wet periods in eastern China. *Theor. Appl. Climatol.*, 79, 81-91.,
- Bordi, I., K. Fraedrich, J.-M. Jiang, and A. Sutera, 2004: Dryness and wetness variability of eastern China watersheds. *Proceedings of a Sino-German Workshop: Climate Change and Yangtze Floods.* (eds. T. Jiang, L. King, M Gemmer, and Z. Kundzewicz), Science Press, Beijing, 25-35.
- Dethloff, K., W. Dorn, A. Rinke, K. Fraedrich, M. Junge, E. Roeckner, V. Gayler, U. Cubasch, and J. H. Christensen, 2004: The impact of Greenland's deglaciation on the Arctic circulation. *Geophys. Res. Letters*, 31, L19201, isbn 10.1029/2004GL020714.,
- Fraedrich, K. and R. Blender, 2004: Reply to: Scaling of atmosphere and ocean temperature correlations in observations and climate models. *Phys. Rev. Lett.*, 92, 039802-(1), DOI:10.1103/PhysRevLett.92.039802,
- Fraedrich, K., U. Luksch, and R. Blender, 2004: 1/f-model for long-time memory of the ocean surface temperature. *Phys. Rev. E*, 70, 037301(1-4), DOI: 10.1103/PhysRevE.70.037301,
- Grieger, B., Segschneider, J. H. U. Keller, A. Rhodin, F. Lunkeit, E. Kirk, and K. Fraedrich, 2004: Simulating Titan's tropospheric circulation with the portable university model of the atmosphere. *Advances in Space Research*, 34, 1650-1654.,
- Metzger, S., M. Latif, and K. Fraedrich, 2004: Combining ENSO-forecasts: a feasibility study. *Mon. Wea. Rev.*, 132, 456-472.,
- Raible, C., U. Luksch, and K. Fraedrich, 2004: Precipitation and northern hemisphere regimes. *Atmospheric Science Letters*, 5, 43-55.,

Yano, J.-I., R. Blender, C. Zhang, and K. Fraedrich., 2004: 1/f - Noise and pulse-like events in the tropical atmospheric surface variabilities. *Q. J. R. Meteorol. Soc.*, 130, 1697-1721., DOI: 10.1256/qj.03.42,

2003

Blender, R., U. Luksch, K. Fraedrich, and C. Raible, 2003: Predictability study of the observed and simulated European climate using linear regression. *Q. J. R. Meteorol. Soc.*, 129, 2299-2313., DOI: 10.1256/qj.02.103,

Blender, R. and K. Fraedrich, 2003: Long time memory in global warming simulations. *Geophys. Res. Letters*, 30, (14), 1769-1772., DOI: 10.1029/2003GL017666,

Bordi, I., K. Fraedrich, J. Jiang, and A. Sutera, 2003: Dry and wet periods in Eastern China watersheds: Patterns and predictability. *Journal of Lake Sciences*, 15, 56-67.,

Fraedrich, K., 2003: Predictability: Short- and long term memory of the atmosphere. In *Chaos in Geophysical Flows* (eds. G. Boffetta, S. Larcotta, G. Visconti and A. Vulpiani). International Summer School on Atmospheric and Oceanic Sciences (ISSAOS 2001), Otto Editore, Torino, Italy, 63-104.,

Fraedrich, K. and R. Blender, 2003: Scaling of atmosphere and ocean temperature correlations in observations and climate models. *Phys. Rev. Lett.*, 90, 108501-(1-4), DOI: 10.1103/PhysRevLett.90.108501,

Fraedrich, K., C.C. Raible, and F. Sielmann, 2003: Analog ensemble forecasts of tropical cyclone tracks in the Australian region. *Wea. Forecasting*, 18, 3-11.,

Fraedrich, K., E. Kirk, U. Luksch und F. Lunkeit, 2003: Ein Zirkulationsmodell für Forschung und Lehre. *Promet*, 29, 34-48.,

Gerstengarbe, F.-W., K. Fraedrich, H. Oesterle und P. C. Werner, 2003: Space-time variability of observed temperature trends. *Beiträge zur Klima- und Meeresforschung.*, 70. Geburtstag Peter Hupfer (Hrsgb. F.-M. Chmielewski und T. Foken, 25-31

Kleidon, A., K. Fraedrich, T. Kunz, and F. Lunkeit, 2003: The atmospheric circulation and states of maximum entropy production. *Geophys. Res. Letters*, 30, 23, 9-(1-4),

Pérez-Munuzuri, V., M. N. Lorenzo, P. Montero, K. Fraedrich, E. Kirk, and F. Lunkeit, 2003: Response of a global atmospheric circulation model to spatio-temporal stochastic forcing: ensemble statistics. *Nonlinear Processes Geophys.*, 10, 453-461.,

2002

Fraedrich, K., 2002: Fickian diffusion and Newtonian cooling: A concept for noise induced climate variability with long-term memory? *Stochastics and Dynamics*, 2, 403-412.,

Fraedrich, K., and C.-D. Schönwiese, 2002: Space-time variability of the European climate. In *The Science of Disaster: Climate Disruptions, Heart Attacks, and Market Crashes* (eds. A. Bunde, J. Kropp, and H.J. Schellnhuber). Springer Verlag, 120-155.,

Jiang, J.-M., R. Mendelssohn, F. Schwing, and K. Fraedrich, 2002: Coherency detection of multiscale abrupt changes in historic Nile flood levels. *Geophys. Res. Letters*, 29, 8, 112-(1-4),

Müller, W., R. Blender, and K. Fraedrich, 2002: Low frequency variability in idealized GCM experiments with circumpolar and localized storm tracks. *Nonlinear Processes Geophys.*, 9, 37-49.,

2001

Fraedrich, K., 2001: Simple Climate Models. In *Progress in Probability* (eds. P. Imkeller and J.-S. von Storch). Birkhäuser Verlag, 49, 65-100.,

Fraedrich, K., F.W. Gerstengarbe, and P.C. Werner, 2001: Climate shifts in the last century. *Climatic Change*, 50, 405-417.,

- Fraedrich, K. and T. Frisius, 2001: Two-level primitive equation baroclinic instability on an f-plane. *Q. J. R. Meteorol. Soc.*, 127, 2053-2068.,
- Franzke, C., K. Fraedrich, and F. Lunkeit, 2001: Teleconnections and low frequency variability in idealised experiments with two storm tracks. *Q. J. R. Meteorol. Soc.*, 127, 1321-1339.,
- Jiang, J., K. Fraedrich, and Y.-R. Zou, 2001: A scanning t-test of multiscale abrupt changes and its coherence analysis. *Chinese Journal of Geophysics*, 44, 31-38.,
- Raible, C., G. Bischof, K. Fraedrich, and E. Kirk, 2001: Comments on "Statistical single-station short term forecasting of temperature and probability of precipitation: Area interpolation and NWP combination"; *Wea. Forecasting*, 16, 768-770.,
- Raible, C., U. Luksch, K. Fraedrich, and R. Voss, 2001: North Atlantic decadal regimes in a coupled GCM simulation. *Climate Dynamics*, 18, 321-330.,
- Raible, C. C., E. Kirk und K. Fraedrich, 2001: Kurzfristvorhersagen von Niederschlagswahrscheinlichkeit und Temperatur. *Promet*, 27, 80-86.,
- Sura, P., K. Fraedrich, and F. Lunkeit, 2001: Regime transitions in a stochastically forced double-gyre model. *J. Phys. Oceanogr.*, 31, 411-426.,
- Walter, K., U. Luksch, and K. Fraedrich, 2001: A response climatology of idealised midlatitude SST anomaly experiments with and without stormtrack. *J. Climate*, 14, 467-484.,
- Yano, J.-I., K. Fraedrich, and R. Blender, 2001: Tropical convective variability as 1/f-noise. *J. Climate*, 14, 3608-3616.

2000

- Bagliani, M., K. Fraedrich, J. von Hardenberg, F. Lunkeit, and A. Provenzale, 2000: Lagrangian tracer homogenization and dispersion in a simplified atmospheric GCM. II *Nuovo Cimento*, 23C, 433-448.,
- Fraedrich, K., 2000: Politikberatung zum Globalen Wandel - Ein Modell. *Festschrift Albrecht Kessler*. Universität Freiburg, ISSN 1435-618X, 9-34.,
- Fraedrich, K., R. Morison, and L.M. Leslie, 2000: Improved tropical cyclone track predictions by error recycling. *Meteorol. Atmos. Phys.*, 74, 51-56.,
- Franzke, C., K. Fraedrich, and F. Lunkeit, 2000: Low frequency variability in a simplified atmospheric global circulation model: Storm track induced 'spatial resonance'. *Q. J. R. Meteorol. Soc.*, 126, 2691-2708.,
- von Hardenberg, J., K. Fraedrich, F. Lunkeit, and A. Provenzale, 2000: Transient chaotic mixing during a baroclinic life cycle. *Chaos*, 10, 122-134.,
- Kleidon, A., K. Fraedrich, and M. Heimann, 2000: A green planet versus a desert world: Estimating the maximum effect of vegetation on the surface energy balance. *Climatic Change*, 44, 471-493.,
- Renn, O., Klink, A., Schellnhuber, H. J. und Fraedrich, K., 2000: Das Risikokzept des Wissenschaftlichen Beirats der Bundesregierung Globale Umweltveränderungen (WBGU). *Zeitschrift f. Angewandte Umweltforschung*, 13, 210-217.,
- Sickmüller, M., R. Blender, and K. Fraedrich, 2000: Observed winter cyclone tracks of the northern hemisphere in re-analysed ECMWF data. *Q. J. R. Meteorol. Soc.*, 126, 591-620.,
- Sievers, O., K. Fraedrich, and C.C. Raible, 2000: Self-adapting analog ensemble predictions of tropical cyclone tracks. *Wea. Forecasting*, 15, 623-629.,
- Sura, P., F. Lunkeit, and K. Fraedrich, 2000: Decadal variability in a simplified wind-driven ocean model. *J. Phys. Oceanogr.*, 30, 1917-1930.,
- Werner, P.C., F.-W. Gerstengarbe, K. Fraedrich, and H. Oesterle, 2000: Recent climate change in the North Atlantic/European sector. *Int. J. Climatol.*, 20, 463-471.

1999

- Fraedrich, K., A. Kleidon, and F. Lunkeit, 1999: A green planet versus a desert world: Estimating the effect of vegetation extremes on the atmosphere. *J. Climate*, 12, 3156-3163.,
- Gerstengarbe, F.-W., P.C. Werner, and K. Fraedrich, 1999: Applying non-hierarchical cluster analysis algorithms to climate classification: some problems and their solution. *Theor. Appl. Climatol.*, 64, 143-150.,
- Raible, C. C., G. Bischof, K. Fraedrich, and E. Kirk, 1999: Statistical single station short-term forecasting of temperature and probability of precipitation: Area interpolation and NWP-combination. *Wea. Forecasting*, 14, 203-214.,
- Smith, L.A., C. Ziehmann, and K. Fraedrich, 1999: Uncertainty dynamics and predictability in chaotic systems. *Q. J. R. Meteorol. Soc.*, 125, 2855-2886.

1998

- Fraedrich, K., 1998: Response of tropical convective complexes to primary circulation induced heating. *Meteorol. Atmos. Phys.*, 67, 83-92.,
- Fraedrich, K., 1998: Obituary Hermann Flohn. *Q. J. R. Meteorol. Soc.*, 124, 655.
- Fraedrich, K. and B. Rückert, 1998: Metric adaption for analog forecasting. *Physica A*, 253, 379-393.,
- Frisius, T., F. Lunkeit, K. Fraedrich, and I. A. James, 1998: Storm-track organization and variability in a simplified atmospheric global circulation model (SGCM). *Q. J. R. Meteorol. Soc.*, 124, 1019-1043.
- Kirk, E. and K. Fraedrich, 1998: Probability of precipitation: Short-term forecasting and verification. *Contrib. Atmos. Phys.*, 71, 263-271.
- Lunkeit, F., K. Fraedrich, and S.E. Bauer, 1998: Storm tracks in a warmer climate: Sensitivity studies with a simplified global circulation model. *Climate Dynamics*, 13, 813-826.
- Schubert, M., J. Perlwitz, R. Blender, K. Fraedrich, and F. Lunkeit, 1998: North Atlantic cyclones in CO₂-induced warm climate simulations: frequency, intensity, and tracks. *Climate Dynamics*, 14, 827-837,

1997

- Blender, R., K. Fraedrich, and F. Lunkeit, 1997: Identification of cyclone track regimes in the North Atlantic. *Q. J. R. Meteorol. Soc.*, 123, 727-741.,
- Fraedrich, K., 1997: Atmospheric Variability: Modelling, Diagnostics, and Forecasting. In *Past and Present Variability of the Solar-Terrestrial System: Measurements, Data Analysis and Theoretical Models* (eds. G. Cini Castagnoli and A. Provenzale, 431-483,
- Fraedrich, K., 1997: Hermann Flohn 1912-97. *Meteorol. Z.*, NF, 6, 313-314,
- Fraedrich, K., J. Jiang, F.-W. Gerstengarbe, and P. C. Werner, 1997: Multiscale detection of abrupt climate changes: Application to Nile River flood levels. *Int. J. Climatol.*, 17, 1301-1315,
- Fraedrich, K., J.L. McBride, W. M. Frank, and R. Wang, 1997: Extended EOF-analysis of tropical disturbances: TOGA COARE. *J. Atmos. Sci.*, 54, 2363-2372,
- Jiang, J., Zhang, D., and K. Fraedrich, 1997: Historic climate variability of wetness in East China (1960-1992): A wavelet analysis. *Int. J. Climatol.*, 17, 969-981,
- Leslie, L. M. and K. Fraedrich, 1997: A new general circulation model: Formulation and preliminary results in a single- and multiprocessor environment. *Climate Dynamics*, 13, 35-43.

1995/96

- Fraedrich, K., 1996: Das Lorenz-Modell - ein Paradigma für Wetter und Vorhersagbarkeit. *Promet*, 25, 62-79,

- Fraedrich, K., F. Sielmann, and C. Ziehmann, 1995: Estimates of spatial degrees of freedom. *J. Climate*, 8, 361-369,
- Fraedrich, K. and J. L. McBride, 1995: Large-scale convective instability revisited. *J. Atmos. Sci.*, 52, 1914-1923,
- Fraedrich, K. und C. Ziehmann, 1995: Praktische Vorhersagbarkeit: Persistenz in rotem Rauschen. *Z. Meteorol.*, NF 4, 139-149,
- McBride, J.L. and K. Fraedrich, 1995: CISK: a theory for the response of tropical convective complexes to variations in sea surface temperature. *Q. J. R. Meteorol. Soc.*, 121, 783-796.,
- Wang, R., K. Fraedrich, and S. Pawson, 1995: Phase-space characteristics of the tropical stratospheric quasi-biennial oscillation. *J. Atmos. Sci.*, 52, 4482-4500,
- Ziehmann-Schlumbohm, C., Fraedrich, K. und L. A. Smith, 1995: Ein internes Vorhersagbarkeits-Experiment im Lorenz-Modell. *Z. Meteorol.*, NF 4, 15-21,

1993/94

- Cho, H.-R., K. Fraedrich, and J. T. Wang, 1994: Cloud clusters, Kelvin wave-CISK, and the Madden-Julian oscillations in the equatorial troposphere. *J. Atmos. Sci.*, 51, 68-76,
- Fraedrich, K., 1994: ENSO Impact on Europe? - A Review. *Tellus*, 46A, 541-552,
- Fraedrich, K., E. Kirk und U. Luksch, 1994: Niederschlagswahrscheinlichkeit und Kurzfristprognose in Hamburg. *Schlaglichter der Forschung* (Hrsg. R. Ansorge). Reimer Verlag, Berlin, *Hamburger Beiträge zur Wissenschaftsgeschichte*, 473-490,
- Fraedrich, K. and C. Ziehmann-Schlumbohm, 1994: Predictability experiments with persistence forecasts in a red noise atmosphere. *Q. J. R. Meteorol. Soc.*, 120, 387-428,
- James, P.M., K. Fraedrich, and I.N. James, 1994: Wave-zonal flow interaction and ultra-low frequency variability in a simplified general circulation model. *Q. J. R. Meteorol. Soc.*, 120, 1045-1067,
- Fraedrich, K., C. Bantzer, and U. Burkhardt, 1993: Winter climate anomalies in Europe and their associated circulation. *Climate Dynamics*, 8, 161-175,
- Fraedrich, K., S. Pawson, and R. Wang, 1993: An EOF analysis of the vertical time-delay structure of the quasi-biennial oscillation. *J. Atmos. Sci.*, 50, 3357-3365,
- Fraedrich, K. and C. Larnder, 1993: Scaling regimes of composite rainfall time series. *Tellus*, 45A, 289-298,
- Fraedrich, K. and K. Müller, 1993: Climatology of wavenumber-frequency spectra at the 500 mb height along 50 N during the El Nino/Southern Oscillation extremes. *Z. Meteorol.*, NF., 2, 80-84,
- Fraedrich, K. and R. Wang, 1993: Estimating the correlation dimension of an attractor from noisy and small data sets based on re-embedding. *Physica D*, 65, 373-398.,
- Labitzke, K., B. Naujokat, S. Pawson, R. Wang, and K. Fraedrich, 1993: Intraseasonal tropical-extratropical interactions observed in the stratosphere. In *Coupling Processes in the Lower and Middle Atmosphere*, (eds. E. Thrane, T. Blix, and D. Fritts, Kluwer, pp., 35-47,

1992

- Fraedrich, K., 1992: Combination of weather forecasts: Some applications. 12th Conference on Probability and Statistics, Toronto. *Amer. Meteorol. Soc.*, J45-49
- Fraedrich, K., R. Kuglin, and K. Müller, 1992: Northern hemisphere circulation regimes during the extremes of the El Nino/Southern Oscillation. *Tellus*, 44A, 33-40,
- Fraedrich, K. and K. Müller, 1992: Climate anomalies in Europe associated with ENSO extremes. *Int. J. Climatol.*, 12, 25-31,
- Leslie, L.M., G.D. Hess, G.J. Holland, P.R. Morison, and K. Fraedrich, 1992: Predicting changes in intensity of tropical cyclones using a Markov chain technique. *Aust. Met. Mag.*, 40, 41-46,

1991

- Fraedrich, K., 1991: Short range skill prediction. ECMWF Workshop on: New developments in predictability, 13-15 November 1991, p41-53,
- Fraedrich, K. and C. Bantzer, 1991: A note on fluctuations of the Nile River flood levels (715-1470). *Theor. Appl. Climatol.*, 44, 167-171,
- Fraedrich, K. and L.M. Leslie, 1991: Predictability studies of the Antarctic atmosphere using both analogue and chaos theory. *Aust. Met. Mag.*, 39, 1-9,
- Wang, R., S. Wang, and K. Fraedrich, 1991: An approach to reconstruction of temperature on seasonal basis using historical documents from China. *J. Climatol.*, 11, 381-392

1989/90

- Fraedrich, K., 1990: European Grosswetter during the warm and cold extremes of the El Nino/-Southern Oscillation. *Int. J. Climatol.*, 10, 21-32,
- Fraedrich, K., R. Grotjahn, and L.M. Leslie, 1990: Estimates of cyclone track predictability, Part II: Fractal analysis of mid-latitude cyclones. *Q. J. R. Meteorol. Soc.*, 116, 317-335.,
- Leslie, L.M. and K. Fraedrich, 1990: Reduction of tropical cyclone position errors using an optimal combination of independent forecasts. *Wea. Forecasting*, 5, 158-161,
- Morison, R. P., Fraedrich, K., G. D. Hess, and L.M. Leslie, 1990: Operational, short-term prediction of rainfall using a cycled Markov chain method. *Aust. Met. Mag.*, 38, 201-206.
- Baines, P.G. and K. Fraedrich, 1989: Topographic effects on the mean tropospheric flow patterns around Antarctica. *J. Atmos. Sci.*, 46, 3401-3415,
- Fraedrich, K. and L. M. Leslie, 1989: Estimates of cyclone track predictability, Part I: Tropical cyclones in the Australian region. *Q. J. R. Meteorol. Soc.*, 115, 79-92,
- Fraedrich, K. and J. L. McBride, 1989: The physical mechanism of CISK and the free ride balance. *J. Atmos. Sci.*, 46, 2642-2648,
- Fraedrich, K. and N. R. Smith, 1989: Combining predictive schemes in long-range forecasting. *J. Climate*, 2, 291-294,
- Hess, G. D., L. M. Leslie, A. E. Guymer, and K. Fraedrich, 1989: Application of a Markov technique to the operational, short-term forecasting of rainfall. *Aust. Met. Mag.*, 37, 83-91,
- Leslie, L. M., Fraedrich, K., and T. J. Glowacki, 1989: Forecasting the skill of a regional numerical weather prediction model. *Mon. Wea. Rev.*, 117, 550-557.,

1987/88

- Fraedrich, K., 1988: El Nino/Southern Oscillation predictability. *Mon. Wea. Rev.*, 116, 1001-1012,
- Fraedrich, K. and L. M. Leslie, 1988: Real-time short-term forecasting of precipitation at an Australian tropical station. *Weather and Forecasting*, 3, 104-114.,
- Fraedrich, K. and L. M. Leslie, 1988: A minimal model for the short-term prediction of rainfall in the tropics. *Wea. Forecasting*, 3, 243-246,
- Fraedrich, K., 1987: Estimating weather and climate predictability on attractors. *J. Atmos. Sci.*, 44, 722-728,
- Fraedrich, K., 1987: El Nino iterations. *Contrib. Atmos. Phys.*, 60, 22-33,
- Fraedrich, K. and J. Egger, 1987: Topographic Rossby waves over Antarctica. *Tellus*, 39A, 110-115,
- Fraedrich, K. and L. M. Leslie, 1987: Evaluation of techniques for the operational, single station, short term forecasting of rainfall at a mid-latitude station (Melbourne). *Mon. Wea. Rev.*, 115, 1645-1654,
- Fraedrich, K. and L. M. Leslie, 1987: Combining predictive schemes in short-term forecasting. *Mon. Wea. Rev.*, 115, 1640-1644,

- Fraedrich, K. and M. Lutz, 1987: A modified time-longitude diagram applied to 500 mb heights along 50 North and South. *Tellus*, 39A, 25-32,
- Holland, G.J., L. M. Leslie, K. Fraedrich, and G.B. Love, 1987: The challenge of very short-range prediction in the tropics. *Mesoscale Analysis and Forecasting, ESA-Journal*, 11, 287-295.

1985/86

- Fraedrich, K., 1986: Estimating the dimensions of weather and climate attractors. *J. Atmos. Sci.*, 43, 419-432
- Fraedrich, K., R. Bach, and G. Naujokat, 1986: A single station climatology of central European fronts: number, time, and precipitation statistics. *Contrib. Atmos. Phys.*, 59, 54-65
- Fraedrich, K. and M. Lutz, 1986: Zonal teleconnections and longitude-time lag-correlations of the 500 mb geopotential along 50° South. *J. Atmos. Sci.*, 43, 2116-2126
- Fraedrich, K. and K. Müller, 1986: On single-station forecasting: probability of precipitation in Berlin. *Contrib. Atmos. Phys.*, 59, 427-434
- Fraedrich, K., 1985: On the distribution of cloud top heights based on stochastic forcing. *Tellus*, 37A, 176-184
- Eckardt, M. und K. Fraedrich, 1985: Eine Berliner Böenlinie am 25. Juli 1965. *Meteorol. Rdsch.*, 38, 119-120
- Fraedrich, K., M. Lutz, and A. Spekat, 1985: Statistical analysis of the 500 mb geopotential along 50° North: Zonal teleconnections in winter and summer. *Contrib. Atmos. Phys.*, 58, 346-360

1983/84

- Fraedrich, K. and T. Dümmel, 1983: On single station forecasting: the geopotential height, its vertical and time structure and 500 mbar ARMA prediction. *Contrib. Atmos. Phys.*, 56, 221-239,
- Fraedrich, K. and E. Kietzig, 1983: Statistical analysis and wavenumber-frequency spectra of the 500 mbar geopotential along 50 South. *J. Atmos. Sci.*, 40, 1037-1045.
- Fraedrich, K. and K. Müller, 1983: On single station forecasting: sunshine and rainfall Markov chains. *Contrib. Atmos. Phys.*, 56, 108-134,
- Spekat, A. and K. Fraedrich, 1983: Further studies on single station climatology: (iii) Time spectral analysis of Halley Bay (Antarctic) rawinsonde data. *Contrib. Atmos. Phys.*, 56, 213-220,

1979/80

- Böttger, H. and K. Fraedrich, 1980: Disturbances in the wavenumber-frequency domain observed along 50°N. *Contrib. Atmos. Phys.*, 53, 90-105,
- Fraedrich, K., 1980: Einfache Klima-Modelle. *Promet*, 10, 2-6,
- Fraedrich, K., 1979: Catastrophes and resilience of a zero-dimensional climate system with ice-albedo and greenhouse effect. *Q. J. R. Meteorol. Soc.*, 105, 147-167,
- Fraedrich, K., 1979: Analysis of a simple climate system. *Man's Impact on Climate* (eds. W. Bach, J. Pankrath, W. Kellogg, Elsevier, Amsterdam, 65-76.
- Fraedrich, K., H. Böttger, and T. Dümmel, 1979: Evidence of short, long and ultra-long period fluctuations and their related transports in Berlin rawinsonde data. *Contrib. Atmos. Phys.*, 52, 348-361,
- Müller, K., A. Buchwald, and K. Fraedrich, 1979: Further studies on single station climatology: (i) the summer confluence of subtropic and polar front jet, (ii) the two northern cold poles. *Contrib. Atmos. Phys.*, 52, 362-373,

1977/78

- Fraedrich, K., 1978: Structural and stochastic analysis of a zero-dimensional climate system. Q. J. R. Meteorol. Soc., 104, 461-474,
Fraedrich, K. and H. Böttger, 1978: A wavenumber-frequency analysis of the 500 mbar geopotential at 50 N. J. Atmos. Sci., 35, 745-750,
Fraedrich, K., 1977: Further Studies on a transient cumulus cloud ensemble and its large scale interaction. J. Atmos. Sci., 34, 335-343,
Fraedrich, K., A. Behlau, G. Kerath, and G. Weber, 1977: A simple model for estimating the evaporation from a shallow water reservoir. Tellus, 29, 428-434,
Nitsche, G., W. Wergen, and K. Fraedrich, 1977: Boundary layer diffusion modelling: the Gaussian plume approach versus the spectral solution. Boundary-Layer Meteorology, 12, 127-139,

1975/76

- Fraedrich, K., 1976: A mass budget of transient cumulus determined from direct cloud observations. J. Atmos. Sci., 33, 262-268,
Fraedrich, K., E. Ruprecht, and U. Trunte, 1976: Determination of the cirrus overflow divergence as seen by satellite. J. Appl. Meteor., 15, 1312-1316,
Kreuels, R., K. Fraedrich, and E. Ruprecht, 1975: An aerological climatology of South America. Meteorol. Rdsch., 28, 17-24,

1973/74

- Fraedrich, K., 1974: Dynamic and thermodynamic aspects of the parameterization of cumulus convection by compensating subsidence and lateral mixing. Part II. J. Atmos. Sci., 31, 1838-1849.
Fraedrich, K., 1973: On the parameterization of cumulus convection by lateral mixing and compensating subsidence. Part I. J. Atmos. Sci., 30, 408 – 413,
Fraedrich, K. und G. Tetzlaff, 1973: Eine log-lineare Analyse von Windfilmprozessen aus der zentralen Sahara im ungestörten Tagesgang. Arch. Met. Geoph. Biokl. B 21, 11-16,
Flohn, H. und K. Fraedrich, 1973: Eingriffe in das Klima. Umwelt, 5, 20-21,

1966-72

- Fraedrich, K., 1972: A simple climatological model for the dynamics and energetics of the nocturnal circulation at Lake Victoria. Q. J. R. Meteorol. Soc., 98, 322-335,
Fraedrich, K., 1972: On the evaporation from a lake in warm and dry environment. Tellus, 24, 116-121,
Fraedrich, K., 1971: Modell einer lokalen atmosphärischen Zirkulation mit Anwendung auf den Victoria-See. Contrib. Atmos. Phys., 44, 95-114,
Fraedrich, K., 1968: Das Land- und Seewindsystem des Victoria-Sees nach aerologischen Daten. Archiv für Meteorologie, Geophysik und Bioklimatologie, A 17, 186-206,
Fraedrich, K., 1967: Zur Struktur der tropischen Konvektionsbewölkung über Südostafrika. Meteorol. Rdsch., 20, 168-171.
Flohn, H. und K. Fraedrich, 1966: Tagesperiodische Zirkulation und Niederschlagsverteilung am Victoria-See (Ostafrika). Meteorol. Rdsch., 19, 157-165

Books

- Fraedrich, K. 1974: Energetik synoptischer Störungen mit kaltem Kern. Bonner Meteorologische Abhandlungen, 20, Dümmler's Verlag.
Fraedrich, K., M. Hantel, H.C. Korff and E. Ruprecht (eds.), 1973: Climatological Research. Bonn, Dümmler's Verlag, 609pp.

- Fraedrich, K. H. Nitsche, B. Rudolf, W. Thommes, and W. Wergen, 1978: Konvektion und Diffusion über einem Kühlturm: Entwurf eines Modells. *Bonner Meteorologische Abhandlungen*, 25, Dümmler's Verlag.
- Beese, F. O., K. Fraedrich, P. Klemmer, J. Kokott, L. Kruse-Graumann, C. Neumann, O. Renn, H.-J. Schellnhuber, E.-D. Schulze, M. Tilzer, P. Velsinger, and H. Zimmermann, 1997: *World in Transition: Ways Towards Sustainable Management of Freshwater Resources*. Berlin, Heidelberg, New-York: Springer, 392pp.
- Beese, F. O., K. Fraedrich, P. Klemmer, J. Kokott, L. Kruse-Graumann, C. Neumann, O. Renn, H.-J. Schellnhuber, E.-D. Schulze, M. Tilzer, P. Velsinger, and H. Zimmermann, 1998: *The Accounting of Biological Sinks and Sources under the Kyoto Protocol - A Step Forwards or Backwards for Global Environmental Protection?* Berlin, Heidelberg, New-York: Springer, 75 pp.
- Beese, F. O., K. Fraedrich, P. Klemmer, J. Kokott, L. Kruse-Graumann, C. Neumann, O. Renn, H.-J. Schellnhuber, E.-D. Schulze, M. Tilzer, P. Velsinger, and H. Zimmermann, 1998: *World in Transition: Strategies for Managing Global Environmental Risks*. Berlin, Heidelberg, New-York: Springer, 383pp.
- Beese, F. O., K. Fraedrich, P. Klemmer, J. Kokott, L. Kruse-Graumann, C. Neumann, O. Renn, H.-J. Schellnhuber, E.-D. Schulze, M. Tilzer, P. Velsinger, and H. Zimmermann, 1999: *Welt im Wandel: Umwelt und Ethik*. Metropolis-Verlag, Marburg, 149pp.
- Beese, F. O., K. Fraedrich, P. Klemmer, J. Kokott, L. Kruse-Graumann, C. Neumann, O. Renn, H.-J. Schellnhuber, E.-D. Schulze, M. Tilzer, P. Velsinger, and H. Zimmermann, 2000: *Welt im Wandel: Erhaltung und nachhaltige Nutzung der Biosphäre*. Berlin, Heidelberg, New-York: Springer, 482pp.
- Beese, F. O., K. Fraedrich, P. Klemmer, J. Kokott, L. Kruse-Graumann, C. Neumann, O. Renn, H.-J. Schellnhuber, E.-D. Schulze, M. Tilzer, P. Velsinger, and H. Zimmermann, 2001: *Welt im Wandel: Neue Strukturen globaler Umweltpolitik*. Berlin, Heidelberg, New-York: Springer, 223pp.
- Provenzale, A., E. Palazzi, and K. Fraedrich (Eds) 2016: *The Fluid Dynamics of Climate*, International Centre for Mechanical Sciences (CISM), Springer Verlag, 209pp.

Miscellaneous

- Breuer, L.J., Fraedrich, K., C. Muster, E. Ruprecht, E. Scheidtman, 1973: Radarindex und Schauersysteme in den Tropen: Ein Vergleich zwischen Kontinent und Ozean. *Klimatologische Forschung* (Hrg. K. Fraedrich, M. Hantel, H.C. Korff, E. Ruprecht), *Bonner Meteorologische Abhandlungen* (ISSN 0006-7156), 17, Dümmler's Verlag, 303-313.
- Rudolf, B. and K. Fraedrich, 1974: Konvektion über Kühltürmen. *Ann. Meteorol.* NF 9, 65-68.
- Charney, H. and K. Fraedrich, 1975: The role of fixed points and closed orbits in dynamical models of climate. *Analysis and Computation of Equilibria and Regions of Stability* (ed. H.R. Grümmer), International Institute for Applied Systems Analysis (IIASA), 230-233.
- Fraedrich, K., 1977: Estimating variations of the earth's climate. *Climate and Solar Energy Conversion* (eds. J. Williams, G. Krömer, J. Weingart), International Institute for Applied Systems Analysis (IIASA), 45-58.
- Fraedrich, K. 1977: *Klima und Klima-Simulation. Großtechnische Energienutzung und menschlicher Lebensraum*. Seminar TU Wien und International Institute of Applied Systems Analysis (Leitung: L. Bauer und W. Häfele, Hrsg. K. Strnadt und H. Porias), 205-216.

- Fraedrich, K., 1978: On the parameterisation of a transient cumulus cloud ensemble. In *The Parameterization of Cumulus Convection. Workshop of the European Centre for Medium-Range Weather Forecasts (ECMWF)*, 94-101.
- Fraedrich, K., T. Dümmel und K. Müller, 1984: Stochastische Wettervorhersage an einer Station. 100 Jahre Deutsche Meteorologische Gesellschaft in Berlin (Hrsg. H. Fortak), 209-236.
- Holland, G.J., L. M. Leslie, K. Fraedrich, and G.B. Love, 1987: The challenge of very short-range prediction in the tropics. In *Mesoscale Analysis and Forecasting, ESA-Journal (ESA-SP-282)*, 11, 287-295.
- Fraedrich, K., 1988: Short-term rainfall prediction by stochastic models. *Statistische Methoden in der Experimentellen Forschung 1988-91* (Hrsg. J. Kaufmann und H. Weiß), 239-248.
- Fraedrich, K. 1991: Short-range skill prediction. In *New Developments in Predictability. Workshop of the European Centre for Medium-Range Weather Forecasts (ECMWF)*, 41-54.
- Fraedrich, K. and R. Wang, 1992: A modified version of the Grassberger-Procaccia algorithm via re-embedding. *Nonlinear Dynamics: Attractor Approximation and Global Behaviour* (N. Koks, V. Reitmann, T. Riedrich), TU-Dresden, 53-82.
- Lammel, G., A. Block, and K. Fraedrich, 1998: Climate risks: Phenomenology and options to cope. From *Risk Analysis: Opening the Process. Society for Risk Analysis Europe (SRA-E)*, 8th Conference, Paris October 11-14, Institute de Protection et de Surete Nucleaire (IPSN), 453-457.
- Fraedrich, K., 2003: Langzeit-Gedächtnis: Beobachtungen, Simulationen, Konzepte. *Terra Nostra*, 2003/6, Alfred-Wegener-Stiftung, 136-140.
- Kirk, E., K. Fraedrich, H. Jansen, U. Luksch, F. Lunkeit, 2003: Der Planetensimulator. *Terra Nostra*, 2003/6, Alfred-Wegener-Stiftung, 240-244.
- Gerstengarbe, F.-W., K. Fraedrich, H. Oesterle, und P. C. Werner, 2003: Space-time variability of observed temperature trends. *Beiträge zur Klima- und Meeresforschung*. 70. Geburtstag Peter Hupfer (Hrsgb. F.-M. Chmielewski und T. Foken), 25-31.
- Fraedrich, K., 2003: Temperature scaling: Observation, simulations and concepts. *Shanghai Symposium on Nonlinear Science and Application, NSA 2003*.
- Fraedrich, K., 2007: Long term memory in the climate system. *John E. Kutzbach symposium, University of Wisconsin-Madison, USA, May 2004*, p35-47.