

Curriculum Vitae of Stefan Brönnimann

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MSc in Geography, University of Bern (1997)
PhD, University of Bern (2001)

Current position

Chair of Climatology, Institute of Geography, University of Bern (since 2010)

Scientific activities

- President of Commission “Atmospheric Chemistry and Physics” (ACP) of sc.nat
- Lead author, Chapter 2 of the contribution of Working Group I to the 5th assessment report of the Intergovernmental Panel on Climate Change (IPCC)
- PI, co-PI, or member of several national and international projects (SNF, NCCR Climate, EU FP-7, HORIZON2020, COST, ERAnet.RUS)
- Active in international initiatives “The Twentieth Century Reanalysis Project” (20CR), “Atmospheric Circulation Reconstructions over the Earth (ACRE)”, “International Surface Temperature Initiative” (ISTI)
- Leader, Work Package 2 of Oeschger Centre for Climate Change Research, University of Bern
- Member, Steering Group Oeschger Centre for Climate Change Research, University of Bern
- Editor/coordinator of *Meteorologische Zeitschrift*, since August 2006, *Climate of the Past* since 2012, *Physik in unserer Zeit* since 2012, Editor of *Geographica Bernensia* since 2011.
- Head of conference board, international workshops “Weather and Climate Extremes During the Past 100 years”, Diessenhofen (Switzerland), 7-9 June 2010, “Variability of Global Atmospheric Circulation During the Past 100 years”, Monte Verità (Switzerland), 15-20 June 2008, “Climate variability and extremes during the past 100 years”, Gwatt (Switzerland), 24–26 July 2006, “Bicentenary of the Great Tambora Eruption”, Bern (Switzerland), 7-10 April 2015
- Managing Director of Institute of Geography, University of Bern (2014-2015)

Publications of Stefan Brönnimann, last 5 years

Journal articles

- Wegmann M., S. Brönnimann and G. P. Compo (2016) Tropospheric circulation during the early twentieth century Arctic warming. *Climate Dynamics* (online first), doi:10.1007/s00382-016-3212-6.
- Stucki, P., C. Welker, S. Dierer, J. J. Gómez-Navarro, S. Brönnimann, O. Martius (2015) Peak winds of historical winter storms in Switzerland – downscaling and gust parameterization. *Tellus A* **68**, 31820.
- Welker, C., O. Martius, P. Stucki, S. Dierer, and S. Brönnimann (2016) Modelling economic losses of historic and present-day high-impact winter windstorms in Switzerland. *Tellus A* **68**, 29546.
- Brugnara, Y., R. Auchmann, S. Brönnimann, A. Bozzo, D. C. Berro, and L. Mercalli (2016), Trends of mean and extreme temperature indices since 1874 at low-elevation sites in the southern Alps. *J. Geophys. Res.* **121**, doi:10.1002/2015JD024582.
- Raible, C.C., S. Brönnimann, R. Auchmann, P. Brohan, T. L. Frölicher, H.-F. Graf, P. Jones, J. Luterbacher, S. Muthers, R. Neukom, A. Robock, S. Self, A. Sudrajat, C. Timmreck, M. Wegmann (2016) Tambora 1815 as a test case for high impact volcanic eruptions: Earth system effects, *WIREs Climate Change*, **7**, 569–589.
- Jacques-Coper, M., S. Brönnimann, O. Martius, and C. S. Vera (2016) Summer heat waves in South-eastern Patagonia: an analysis of the intraseasonal timescale, *Int. J. Climatology*, **36**, 1359-1374
- Schmocker, J., H. P. Liniger, J N. Ngeru, Y. Brugnara, R. Auchmann, and S. Brönnimann (2016) Trends in mean and extreme precipitation in the Mount Kenya region from observations and reanalyses, *Int. J. Climatol.* **36**, 1500-1514
- Brönnimann, S., A. M. Fischer, E. Rozanov, P. Poli, G. P. Compo, P. D. Sardeshmukh (2015) Southward shift of the Northern tropical belt from 1945 to 1980, *Nature Geoscience* , **8**, 969-974.
- Wegmann, M., Y. Orsolini, M. Vázquez Dominguez, L. Gimeno Presa, R. Nieto, O. Bulygina, R. Jaiser, D. Handorf, A. Rinke, K. Dethloff, A. Sterin, S. Brönnimann (2015) Arctic moisture source for Eurasian snow cover variations in autumn, *Env. Res. Lett.*, **10**, 054015.
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- Jacques-Coper, M., S. Brönnimann, O. Martius, C. S. Vera, and S. B. Cerne (2015) Evidence for a tropical modulation by the Madden-Julian Oscillation of the intraseasonal summer temperature in Eastern Patagonia, *J. Geophys. Res.* **120**, 7340–7357.
- Stickler, A., S. Storz, C. Jörg, R. Wartenburger, H. Hersbach, G. Compo, P. Poli, D. Dee, and S. Brönnimann (2015) Upper-air observations from the German Atlantic Expedition (1925-27) and comparison with the Twentieth Century and ERA - 20C reanalyses, *Meteorol. Z.*, **24**, 525-544
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- Brönnimann, S., J. Bhend, J. Franke, S. Flückiger, A. M. Fischer, R. Bleisch, G. Bodeker, B. Hassler, E. Rozanov, and M. Schraner (2013) A global historical ozone data set and signatures of El Niño and the 11-yr solar cycle. *Atmos. Chem. Phys.*, **13**, 9623-9639.
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- Wartenburger, R., S. Brönnimann, A. Stickler (2013) Observation Errors and Representativity Errors in Upper-Air Observations. *J. Geophys. Res.* **118**, 12012-12028.
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- Bhend, J., J. Franke, D. Folini, M. Wild, and S. Brönnimann (2012) An ensemble-based approach to climate reconstructions. *Clim. Past*, **8**, 963-976.
- Breitenmoser, P., J. Beer, S. Brönnimann, D. Frank, F. Steinhilber, and H. Wanner (2012) Solar and volcanic fingerprints in tree-ring chronologies over the past 2000 years. *Paleogeography Paleoclimatology Paleoecology*, **313-314**, 127-139.
- Brönnimann, S. and G. P. Compo (2012) Ozone highs and associated flow features in the first half of the twentieth century in different data sets. *Meteorol. Z.*, **21**, 49-59.
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- Brönnimann, S., A. N. Grant, G. P. Compo, T. Ewen, T. Griesser, A. M. Fischer, M. Schraner, and A. Stickler (2012) A multi-data set comparison of the vertical structure of temperature variability and change over the Arctic during the past 100 years. *Clim. Dynam.*, **39**, 1577-1598.
- Brönnimann, S., O. Martius, H. von Waldow, C. Welker, J. Luterbacher, G. P. Compo, P. D. Sardeshmukh, and T. Usbeck (2012) Extreme winds at northern mid-latitudes since 1871. *Meteorol. Z.*, **21**, 13-27.
- Brönnimann, S., T. Griesser, A. Stickler (2012) A gridded monthly upper-air data set from 1918 to 1957. *Clim. Dynam.*, **38**, 475-493.
- Kuglitsch, F. G., R. Auchmann, R. Bleisch, S. Brönnimann, O. Martius, and M. Stewart (2012) Break detection of annual Swiss temperature series. *J. Geophys. Res.*, **117**, D13105.
- Stucki, P., R. Rickli, S. Brönnimann, O. Martius, H. Wanner, D. Grebner, Jürg Luterbacher (2012) Five weather patterns and specific precursors characterize extreme floods in Switzerland. *Meteorol. Z.*, **21**, 531-550.
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- Brönnimann, S., G. P. Compo, R. Spadin, R. Allan, and W. Adam (2011) Early ship-based upper-air data and comparison with the Twentieth Century Reanalysis. *Clim. Past*, **7**, 265-276.
- Compo, G.P., J.S. Whitaker, P.D. Sardeshmukh, N. Matsui, R.J. Allan, X. Yin, B.E. Gleason, R.S. Vose, G. Rutledge, P. Bessemoulin, S. Brönnimann, M. Brunet, R.I. Crouthamel, A.N. Grant, P.Y. Groisman, P.D. Jones, M. Kruk, A.C. Kruger, G.J. Marshall, M. Maugeri, H.Y. Mok, Ø. Nordli, T.F. Ross, R.M. Trigo, X. Wang, S.D. Woodruff, S.J. Worley (2011) The Twentieth Century Reanalysis Project. *Q. J. R. Meteorol. Soc.*, **137**, 1-28.
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Monographs

- Brönnimann, S. and D. Krämer (2016) *Tambora and the „Year Without a Summer“ of 1816. A Perspective on Earth and Human Systems Science*. Geographica Bernensia G90. 48 pp.
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- Brönnimann, S. (2015) *Climatic changes since 1700*. Springer, Advances in Global Change Research Vol. 55, 360+xv pp.
- METEOTEST und Geographisches Institut Universität Bern (2014) *Karten der Sturmgefährdung in der Schweiz. Flächendeckende Darstellung der Böenspitzen in der Schweiz für verschiedene Wiederkehrperioden*. Im Auftrag des Bundesamtes für Umwelt und des Bundesamtes für Meteorologie und Klimatologie. Bern, www.bafu.admin.ch/naturgefahren/01919/index.html
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Other publications

- Stahelin, J., S. Brönnimann, T. Peter, R. Stübi, and F. Tummon (2016) Early Swiss ozone observations: impact on international ozone research and value in present atmospheric research. In: “From Weather Observations to Atmospheric and Climate Sciences in Switzerland - celebrating 100 years of the Swiss Society for Meteorology”, S. Willemse and M. Furger (eds.), vdf Hochschulverlag AG an der ETH Zürich 2016, pp. 325-349.
- Brönnimann, S., A. Giesche, S. Hunziker and M. Jacques-Coper (2015). *CLIMANDES Climate science e-learning course*. Geographica Bernensia U27. DOI: 10.4480/GB2015.U27.
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- Auchmann, R., S. Brönnimann, and F. Arfeuille (2015) Tambora: das Jahr ohne Sommer. *Physik in unserer Zeit*, **46**, 64–69. DOI: 10.1002/piuz.201401390.
- Brönnimann, S., Martius, O. and Dierer, S. (2014) Die Wetter-Zeitmaschine. *Physik in unserer Zeit*, **45**, 84–89.

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