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Born: November 5th, 1968 in Berne, Switzerland

Education:

Since February 2002 : **NCAR-Advanced Study Program Fellowship,** paleoclimate simulations with NCAR-CSM with focus on the climate of the 16th to 20th century, including internal and external forcing mechanisms.

February 2002: **Ph.D. Degree in Geosciences from University of Massachusetts.**

since January 1999 : **NCAR-CGD**, introducing stratospheric aerosol into NCAR-CSM, guided by Drs. Bette Otto-Bliesner and Jeffrey T. Kiehl (NCAR-CGD). Atmospheric and fully coupled experiments for climate impact of single volcanic eruptions and 20th century volcanic aerosol experiment and first transient coupled CSM experiment 1870 – present applying solar, volcanic, greenhouse gas and tropospheric aerosol perturbations.

January 1997-2002 : **University of Massachusetts**, Department of Geosciences,
Ph.D. program in Paleoclimatology with R.S. Bradley

1996 **University of Berne, Switzerland**
M.S. in Geography, Geology and Mineralogy

1987 **Gymnasium Köniz b. Berne, Switzerland**
B.S. (equiv.)

Scientific background from Universtity of Berne, University of Massachsuetts and NCAR:

- **National Center for Atmospheric Research:**
  - Transient simulations of 20th century climate change with PCM using solar, volcanic and anthropogenic forcings. Ensemble simulations.
  - Lectures and presentations in paleoclimatology and climate modeling for a number of visiting groups including i.e. graduate level students Colorado School of Mines, University of Colorado, Denver Middle School in prep. for mock United Nations conference on climate change, and US Air Force Academy.
  - Collaboration on Pinatubo modeling intercomparison with Gera Stenchikov (Rutgers).
  - Implementation of Volcanic Aerosol in CCM3/CSM, run CSM for single eruptions and solar variability, volcanic variability of the 20th century.
  - Handling and analysis of large datasets including visualization.
  - Collaboration with Geophysical Statistics Project at NCAR to study identification of external forcing signals in different climatic time series.

- **University of Massachusetts:**
  - Paleoclimatology, Quaternary Paleoclimatology, Climate Data Analysis, Regional Climate Change, Modes of Climate Variability
  - Design and run graduate level course "Modes of Climate Variability"
  - Guestlectures in courses "Introduction to Meteorology", "History of the Earth"
- **University of Berne, Switzerland:**
  - Climatology, Paleoclimatology and Meteorology from classes and seminars at the Institutes of Geography (Proff. Messerli, Wanner), Environmental Physics (Proff. Oeschger, Stauffer, Siegenthaler, Stocker), Botany (Prof. Ammann), Geology (Proff. Herb, Schluechter, Matter), History (Prof. Pfister)
  - **Masters in a Project on Paleoclimatology of Northern Chile (last 20,000 years):** "Climate Change in the arid Andes" (National Foundation for scientific research No. 20-36382.92) at University of Berne, with Prof. B. Messerli, Dr. M. Grosjean. "Genesis and distribution of precipitations in Northern Chile. A contribution to the climatology of the South American dry-diagonal" (June 1996).

Experience:

- Conference on The Hadley Circulation: Present, Past and Future, Honolulu, Hawaii.
- AGU Chapman Conference on Santorini, Greece
- Participant Swiss Climate Summer School led by Proff. T. Stocker and A. Lotter, University of Bern, with personal NSF-ESH Fellowship (July 1999)
- Visiting Fellow at the National Center for Atmospheric Research funded by NSF (1999-2000).
- Research Assistant Univ. of Massachusetts, Department of Geosciences with Raymond S. Bradley: Modeling of climate impact of explosive Volcanism. Further interaction with: M.E. Mann (Paleoclimate Reconstruction), J. Brigham-Grette (Quaternary Geology), M. Leckie (ODP), W.D. McCoy (Loess), M. Abbott (Paleolimnology) and E.A. CoBabe (Biogeochemistry) (1997-present).
- Assistant University of Berne: (i) practical courses for undergraduates, (ii) development of CHILE-Database with paleoproxidata, (iii) fieldwork and field assistance, (iv) technical support for students and computer installation (MS-DOS/Windows/UNIX) (1993-1996).
- Swiss Federal Office of Statistics, Department of Population and Census as programmer of data validation on IBM-Mainframe (IBM 3970) (1989-1996).

Publications (refereed):

Ammann C.M., G.A. Meehl G., W.M. Washington and C.S. Zender: to be submitted: Climate simulations of the 20th-Century with the PCM. To be submitted to GRL.

Ammann C.M., J.T. Kiehl, C.S. Zender, B.L. Otto-Bliesner and R.S. Bradley, submitted: Coupled simulations of the 20th century including external forcing. Journal of Climate.

Ammann C.M., P. Naveau, in review: Multi-decadal periodicity in tropical explosive volcanism and its influence on climate. Geophysical Research Letters.

Naveau P., **C.M. Ammann**, H.S. Oh and W. Guo, in review: A statistical methodology to extract the volcanic signal in climate time series. Journal of Geophysical Research.

Ammann C.M. and A. Waple, in press: History, Status and Prediction of Global Climate Change. The Encyclopedia of Life Support Systems. Invited article, UNESCO-EOLSS, Oxford, United Kingdom.

Oh, H.-S., **C.M. Ammann,** P. Naveau, D. Nychka, and B.L. Otto-Bliesner, in press: Multi-resolution time series analysis applied to solar irradiance and climate reconstructions. Journal of Atmospheric and Solar-Terrestrial Physics.

Kammer K., **C.M. Ammann** and B. Jenny, accepted: Rock glaciers at their climatic limit in the arid Andes 18-29°S. Permafrost and Periglacial Processes.

Ammann C.M., B. Jenny, K. Kammer and B. Messerli, 2001: Late Quaternary Glacier Response to Humidity changes in the Arid Andes of Chile (18°-29°S). Palaeogeography, Palaeoclimatology, Palaeoecology 172, 313-326.

Vuille M. and **C.M. Ammann**, 1997: Regional snowfall patterns in the high, arid Andes. Climatic Change 36, 413-423.

Publications/Abstracts:

Vuille M. and **C.M. Ammann**, in press: The climate of the arid and semiarid Andes. In: Veit H. and A. Schellenberger: Paleo-Geoecology of the Arid and semiarid Andes (Chile, Argentina) – 15 years of research (1987-2001). Geographica Bernensia, 2003.

Ammann C.M., 2002: The Role of Explosive Volcanism During the Cool Maunder Minimum. AGU Fall Meeting, San Francisco, 2002.

Adams, B., **C.M. Ammann** and M.E. Mann, 2002: Using Paleoclimatic reconstructions of ENSO variability during the past few centuries to re-examine the 'Volcano-ENSO' hypothesis. AGU Fall Meeting, San Francisco, 2002.

Wigley T.M., B.D. Santer, F.J. Wentz, C. Mears, M. Schabel, G.A. Meehl, J. Arblaster, **C.M. Ammann**, W.M. Washington, 2002: Understanding Tropospheric Temperature Changes: Challenges for Observational and Model Studies. AGU Fall Meeting, San Francisco, 2002.

Ammann C.M., 2002: Influence of explosive volcanism on the strength and variability of the Hadley circulation. The Hadley Circulation: Present, Past and Future. International Pacific Research Center, Honolulu, Hawaii, November 2002.

Ammann C.M., B.L. Otto-Bliesner, J.T. Kiehl and R.S. Bradley, 2002: Krakatau 1883: Problems with the "Reference Eruption". Chapman Conference, Volcanism and Climate, Santorini, June 17-21 2002. A. Robock (Convener).

Ammann C.M., B.L. Otto-Bliesner, J.T. Kiehl and W.M. Washington, 2002: Chapman Conference, Volcanism and Climate, Santorini, June 17-21 2002. A. Robock (Convener).

Naveau P. and **C.M. Ammann**, 2001: Statistical Modeling of Occurrences of Large Explosive Volcanism in the Tropics during the past six Centuries – Implications for Climate Variability. EGS Spring Meeting, Nice.

Ammann C.M., J.T. Kiehl, B.L. Otto-Bliesner and C.S. Zender, 2000: Contribution of explosive Volcanism to the Global Warming attribution in the 20th century. AGU 2000 Fall Meeting.

Brown L. and **C.M. Ammann,** 2000: Paleosecular variations at 23S: Results from Ignimbrites and Lava flows in the High Andes, Northern Chile. AGU 2000 Fall Meeting.

Ammann C.M., 1999: Signal of Explosive Volcanism in new Climate Reconstructions. Swiss Climate Summer School 1999, Meiringen-Hasliberg, Switzerland.

Ammann C.M., M.E. Mann and R.S. Bradley, 1999: Explosive Volcanism and ENSO: Search for a Relationship in a Multicentury Global Climate Reconstruction. EOS, Transactions, Vol. 80, No. 46, supplement, AGU 1999 Fall Meeting, F220.

Messerli B., **C.M. Ammann**, M. Geyh, M. Grosjean, B. Jenny, K. Kammer and M. Vuille, 1997: The problem of the „Andean Dry Diagonal" : Current precipitation, late Pleistocene snow line, and lake level changes in the Atacama Altiplano (18°S-28°30'S). Bamberger Geographische Schriften, Heft 15, 17-34.

Ammann C.M., B. Jenny and K. Kammer, 1996: Climate Change in den trockenen Anden. Geographica Bernensia, G-46, 132pp.

Grosjean M., **C.M. Ammann**, W. Egli, M.A. Geyh, B. Jenny, K. Kammer, Ch. Kull, U. Schotterer and M. Vuille, 1996: Klimaforschung am Llullaillaco (Nordchile) - zwischen Pollenkörnern und globaler Zirkulation. In: Festschrift Bruno Messerli, Jahrbuch der Geographsichen Gesellschaft Bern, Vol. 59, p. 111-121.

Grosjean M., B. Messerli, **C.M. Ammann**, M.A. Geyh, K. Graf, B. Jenny, K. Kammer, L. Nuñez, H. Schreier, U. Schotterer, A. Schwalb, B. Valero-Garcés and M. Vuille, 1995: Holocene environmental changes in the Atacama Altiplano and paleoclimatic implications. Bull. Inst. fr. études andines, Vol. 24, No. 3, p. 585-594.

In prep:

Ammann C, Bradley R.S., Stothers?, Zielinski?: The volcanic forcing since Krakatau, 1883.

Ammann C., Kiehl J.T., Otto-Bliesner B.L., Zender Ch.S.: Simulation of the climate impact of explosive volcanic eruptions in NCAR-CCM3 and CCSM.

Ammann C., Mann M.E., Bradley R.S.: Volcanoes signals and El Nino in a global climate reconstruction.

Adams, Mann, Ammann, Bradley: El Nino and Volcanic eruptions.

Naveau and Ammann: Use of Kalman Filter in extracting Volcanic signals in climate time series.

Ammann, C.: Krakatau, a challenge for climate modeling.

Ammann, Robock, Free: A new ice core based Volcanic Forcing record for climate modeling.

Honors received:

2002 : Early Career Scientist University Collaboration Travel Support ($1500) for visits at U. of Maine, U. of Massachusetts, Lamont-Doherty-Earth Observatory, Goddard Institute of Space Studies, Rutgers University, University of Virginia.

2002 : Election to Editorial Advisory Board for "Encyclopedia of Paleoclimatology", V. Gornitz (Editor)

2000 : Postdoctoral Appointment in the Advanced Study Program, National Center for Atmospheric Research

1999 : NSF-ESH Fellowship to Swiss Climate Summer School: „The Dynamics of the Earth System: Processes and Records of Past Climate Change", July 17-24, Meiringen Hasliberg, Switzerland.

1999 : NSF-visiting fellowship for the National Center for Atmospheric Research

1997 : Nominee for University Fellowship, University of Massachusetts

1986 : First prize in Swiss contest of young scientists and inventors ('Schweizer Jugend forscht') and participation in the European contest in Paris 1987.

Professional Memberships:

- American Geophysical Union
- American Meteorological Society
- Royal Meteorological Society
- American Quaternary Association
- American Geographical Society
- ISSI : International Space Science Institute, Bern, Switzerland