

Curriculum Vitae Vera Markgraf

Personal details:

Born 20 December 1942, Berlin, Germany.

Education:

University of Zürich, Switzerland, 1962-1964.

University of Tübingen, Germany, 1964. Specialized studies in plant physiology (Prof. Dr. Bünning), geology and mineralogy at the Faculty of Natural Science.

University of Bern, Switzerland, 1964-1968. Specialization in palynology (Prof. Dr. Welten).

Ph.D. Thesis in Natural Sciences, University of Bern, Switzerland, 1968, "Vegetational History and Bog Development of a Small Lake near Timberline in the Valais, Switzerland" (*Botanische Jahrbücher*, 89, 1969).

Career:

1968-1971: Research Assistant, Geobotanical Institute of the University of Bern, Switzerland, Research grant from the Swiss National Research Council. Studies on problems of the Swiss late- and postglacial vegetation history.

Specialization in pollen morphology at the National Museum (Prof. Dr. Troels-Smith and Dr. S. Jorgensen) in Copenhagen, Denmark, and on seed macrorests at the Botanical Institute of the Polish Academy of Science, Krakow, Poland (Prof. Dr. Srodon and Dr. K. Wasylikowa).

1972-1975: Research grants from the French Atomic Energy Agency ("Bourse Joliot Curie" and "Collaborateur Etranger") for research on paleoclimatology of the upper Pleistocene of the Venice area (Italy) and of the late- and postglacial of Argentina, in the laboratory: Centre des Faibles Radioactivités, Gif-sur-Yvette, France. Field trips to Argentina in 1973 and for two months in 1975 to collect sediments from the latitudes 31°S, 41°S and 52°S for palynological research, supported by the French Atomic Energy Commission, Saclay.

1975-1978: Research Associate, Dept. Geosciences, Laboratory of Paleoenvironmental Studies, University of Arizona, Tucson. NSF grants, Office of Climate Dynamics, 1977 to 1979, 1980 to 1982, to support paleoclimatic research in Argentina and interhemispheric paleoclimatic correlation.

1978-1981: Assistant Professor of Palynology, Department of Geosciences, University of Arizona, Tucson.

1981-present: Research Associate, Institute of Arctic and Alpine Research, University of Colorado, Boulder.

1984: Visiting Fellow in the Department of Biogeography and Geomorphology, Australian National University, Canberra, for four months, to study paleoclimates of Tasmania.

1985-present: Professor Attendant Rank, Dept. Geography, University of Colorado, Boulder.

1987-2003: Research Professor, University of Colorado.

1999-2000: Visiting Professor, Eidgenössische Technische Hochschule (ETH), Zürich, Switzerland, University of Bern, Switzerland, and PAGES Project Office, Bern, Switzerland.

2003-present: Research Professor Emeritus, University of Colorado.

2008: Honorary PhD (Dr. h.c.), University of Bern, Switzerland

2007-present: Adjunct faculty in the College of Engineering and Natural Sciences, Northern Arizona University.

Funding:

National Science Foundation, Program of Climate Dynamics: ATM-77-009101, ATM-79-19771-01, ATM-82-12836, ATM-86-18217, ATM-90-03839, ATM-93-02551, ATM-93-21857, ATM-95-26139; ATM-97-09145; ATM-00-82067.

National Science Foundation, International Cooperative Science Program: INT-80-25347 for co-funding ATM-82-12836 as part of joint research project NSF - CONICET (Argentine Research Council).

National Science Foundation, Division of Polar Programs, DPP-86-1398.

National Science Foundation, Division of Earth Sciences, EAR-97-09145.

American Philosophical Society, 1986.

National Geographic Society, 1987, 1991.

National Oceanographic and Atmospheric Administration, NOAA-40RANE004010 and NOAA-40RANE102030, NOAA-GC-94-086.

Department of Energy, DE-FC03-90ER61010.

University Colorado Global Change and Environmental Quality Program.

US Geological Survey 048244-94.

Professional Societies:

American Quaternary Association; International Organization for Paleobotany; American Association for Stratigraphic Palynology; Association des Palynologues de Langue Française; Asociacion Latino-Americana de Paleobotanica y Palinologia; International Commission for Palynology; Society of Archaeological Sciences; Bernische Botanische Gesellschaft.

Professional Positions:

Program Chairperson of 7th Biennial Meeting of American Quaternary Association, Seattle 1982.

Council Member, American Quaternary Association, 1988-1992.

Member, Advisory Board: NOAA Pollen Data Base, NOAA Lake Level Data base, 1990-2000.

Member, University of Colorado Museum External Advisory Committee, 1991-1999.

Member, IGBP-PAGES Steering Committee, 1998-2000.

Chair, IGBP-PAGES Executive Committee, 2000-2002.

Member, University of Minnesota, Limnological Research Center, Core Facility Advisory Committee, 2000-2002.

Courses Taught:

1969: Graduate-level course, Introduction to Palynology, at the University of Bern, Switzerland.

1977-1981: Graduate-level courses at the University of Arizona: Quaternary Palynology; Paleoenvironment and Man in the Old World; Paleoplantgeography; Several seminars on Quaternary palynology.

1981-present: Graduate-level seminars at the University of Colorado, Departments of Geology and Geography.

Supervision of Graduate dissertations: Bern, 1969-1971; Arizona, 1977-1981; and Colorado, 1981-2003.

Graduate students supervised and financially supported:

Department of Geosciences, University of Arizona 1975 to 1981:

Pacifico Payawal, Fred Wiseman, Julio Betancourt, Ben Brown, Mary K. O'Rourke, Patricia Fall, Bonnie Fine, R.S. Thompson; member of numerous PhD committees.

Institute of Arctic and Alpine Research, University of Colorado 1981 to 2002:

Lysanna Anderson, Ulli Huber; member of numerous PhD committees in Geology and Geography, including from Argentina and Chile: Ricardo Villalba, Ricardo Grau, Thomas Kitzberger, Antonio Lara.

Postdoctoral Fellows supervised 1999-2003:

Ray Kenny, Mel Reasoner.

Books:

1978 Markgraf, V. and H.L. D'Antoni: *Pollen flora of Argentina*. University of Arizona Press, 208pp.

1992 H. Diaz and V. Markgraf, (eds.): *El Niño: The Historical and Paleoclimatic Record of the Southern Oscillation*. Cambridge University Press, 476pp.

2000 H. Diaz and V. Markgraf, (eds.): *El Niño and the Southern Oscillation: Multiscale Variability and Regional Impacts*. Cambridge University Press, 496pp.

2001 V. Markgraf, (ed.). *Interhemispheric Climate Linkages*. Academic Press, 488pp.

Articles:

- 1967 Markgraf, V.: Spät- und nacheiszeitliche Bildungs- und Vegetationsgeschichte eines Hochmoorrandes im schweizerischen Mittelland. **Botanische Jahrbücher**, 86:537-548.
- 1969 Markgraf, V.: Moorkundliche und vegetationsgeschichtliche Untersuchungen an einem Mooree and der Waldgranze im Wallis. **Botanische Jahrbücher**, 89:1-63.
- 1970 Markgraf, V.: Paleohistory of the spruce in Switzerland. *Nature*, 228:249-251.
Markgraf, V.: Waldgeschichte im Alpenraum seit der letzten Eiszeit. **Umschau**, 24:787-790.
- 1971 Hilscher, Fliri and V. Markgraf: Weitere Untersuchungen zur Chronologie der alpinen Vereisung (Bänderton von Baumkirchen, Inntal. Nordtirol). **Zeitschrift für Gletscherkunde und Glazialgeologie**, 7:5-24.
- 1972 Markgraf, V.: Die Ausbreitungsgeschichte der Fichte in der Schweiz. **Berichte Deutschen Botanischen Gesellschaft**, 85:165-172.
- Welten, M. and V. Markgraf: Paläobotanischer Beitrag. In: C. Schindler: Zur Geologie der Gotthard-Nordrampe der Nationalstrasse N 2. **Eclogae Geologicae Helveticae**. 65:391-423.
- 1974 Markgraf, V.: Paleoclimatic evidence derived from timberline fluctuations. **Colloque Internat. CNRS (Centre Nationale Recherche Scientifique)** No. 219: Les methodes quantitatives d'étude des variations du climat au cours du Pleistocène, p.67-77.
- Markgraf, V.: Le climat en Europe pendant les 15 dernieres millenaires d'après les fluctuations de la limite des forets. (*Colloque CNRS*): Approche geologique des quinze derniers millenaires. **Bulletin Societe Languedocienne de Geographie**, 8(3/4):337-338.
- 1977 Bortolami, G., J. Ch. Fontes, V. Markgraf and J.F. Saliège: Land, sea and climate in the upper Adriatic region during upper Pleistocene and Holocene. **Palaeogeography, Palaeoclimatology, Palaeoecology**, 21(2):113-138.
- Markgraf, V. and J.C. Lerman: Schweizer Radiocarbon Datierungen 1959-1974. **Interner Bericht der Schweiz. C-14 Kommission der SNG/SGG. Berne**.
- D'Antoni, H.L. and V. Markgraf: Informe conjunto sobre la investigación paleoecologica y paleoclimatica cuaternaria en la Argentina, mediante analysis de polen. 16pp.
- 1978 D'Antoni, H.L. and V. Markgraf: Dispersión del polen actual en el oeste arido argentino. **Anales, CONICET-IANIGLA (Consejo Nacional Investigación Científica y Técnica - Instituto Argentino Nivologia y Glaciologia)**, p.125-150.
- 1980 Markgraf V.: New data on the late- and postglacial vegetation history of the profile "La Misión," Tierra del Fuego. Symp. Quaternary Vegetational History of Savannas and Deserts, **Proceedings 4. International Palynological Congress**, Lucknow, India, December 1976-77, 3:68-74.
- D'Antoni, H.L. and V. Markgraf: Dispersión del polen actual in Argentina en relación con la vegetación. **Memorias III. Coloquio Paleobotanica y Palynologia**, Mexico City, September 1977:53-74.
- Markgraf, V.: Nuevos datos para la historia vegetacional del Tardiglacial y Postglacial de "La Misión," Tierra del Fuego, **Memorias III Coloquio Paleobotanica y Palynologia**, Mexico City, September 1977:75-81.
- Markgraf, V.: Pollen transport in einem Berggebiet (Pollen dispersal in a mountain area). **Proceedings 1. International Aerobiology Conference**, Munich 1979, p.30-50.
- Markgraf, V.: Pollen dispersal in a mountain area. **Grana**, 19:127-146.
- Markgraf, V.: Paleoclimatic reconstruction of the last 15,000 years in subantarctic and temperate regions of Argentina. **IV Symposium des Palynologues de Langue Française: Palynologie et Climats**, Paris 1979. **Memoirs Musée Histoire Naturelle**, B, XXVII., 87-97.
- 1981 Markgraf, V., H.L. D'Antoni and T. Ager: Modern pollen dispersal in Argentina. *Palynology*, 5:43-63.
- Markgraf, V. and L. Scott: The lower timberline in Central Colorado during the last 15,000 years. **Geology**, 9:231-234.
- Fall, P., G. Kelso and V. Markgraf: Paleoenvironmental reconstruction at Canyon del Muerto, Arizona. **Journal of Archeological Science**, 8:297-307.
- Payawal, P.C. and V. Markgraf: Vegetation and modern pollen rain of Mt Makiling, Philippines. I. Vegetation analysis of the NE slope. **Kalikasan, Philippine Journal of Biology**, 10:255-267.
- 1982 Markgraf, V. and J.P. Bradbury: Chronostratigraphy of South America. **Striae**, 16:40-45.
- Markgraf, V.: The future of Palynology (ed. N.O. Frederiksen) **Palynology**, 6:1-7.
- 1983 Markgraf, V.: Late and postglacial vegetational and paleoclimatic changes insubantarctic, temperate, and arid environments in Argentina. **Palynology**, 7:43-70.
- Markgraf V., J.P. Bradbury, R.M. Forester, W. McCoy, G. Singh and R. Sternberg: Reassessment of the 1.6 m yr record from San Agustin Plains, New Mexico. **New Mexico Geological Society, Guidebook**, 34th Field Conference, Socorro Region II, p.291-297.

- 1984 Markgraf, V.: Late Pleistocene and Holocene vegetation history of temperate Argentina: Lago Morenito, Bariloche. **Dissertationes Botanicae**, 72:235-254. (Festschrift Welten).
- Markgraf, V., J. Platt Bradbury, R.M. Forester, G. Singh, and R.S. Sternberg: San Agustin Plains, New Mexico: Age and paleoenvironmental potential reassessed. **Quaternary Research**, 22:336-343.
- 1985 Markgraf, V.: Paleoenvironmental history of the last 10,000 years in northwestern Argentina. *Zentralblatt für Geologie und Paläontologie*, (Symposium: Sudamerika - Geomorphologie und Paläoökologie des jüngern Quartärs, eds. K. Garleff & S. Stingl), 11/12 (1984):1739-1749.
- Markgraf, V.: Late Pleistocene faunal extinctions in southern Patagonia. **Science**, 228:1110-1112.
- Valencio, D.A., K.M. Creer, A.M. Sinito, M.M. Mazzoni, M.S. Alonso and V. Markgraf: Paleomagnetism sedimentology of the Llao-Llao area, southwestern Argentina (41°S, 71.5°W): paleolimnological aspects. In: **Quaternary of South America** (J. Rabassa, ed.), 3:109-147.
- 1986 Markgraf, V. and T. Lennon: Paleoenvironmental history of the last 13,000 years of the Eastern Powder River Basin, Wyoming, and its implication for prehistoric cultural patterns. **Plains Anthropologist**, 31:1-12.
- Markgraf, V.: Plant Inertia Reassessed. **The American Naturalist**, 127:725-726.
- Markgraf, V., J.P. Bradbury and J. Busby: Paleoclimates of the last 13,000 years in southwestern Tasmania. **Palaios**, 1:368-380.
- Markgraf, V., J.P. Bradbury and J. Fernandez: Bajada de Rahue, Prov. Neuquen, Argentina: an interstadial deposit in northern Patagonia. **Palaeogeography, Palaeoclimatology, Palaeoecology**, 56:251-258.
- Markgraf, V.: Paleoclimas del ultimo glacial y postglacial en los Andes de Argentina. (Late and postglacial paleoclimates of the Argentine Andes). **Acta Geocriogenica**, (Actas Cuarta Reunion Subcomision Latinoamericana sobre Importancia de Procesos Periglaciales), 4:93-110, in spanish.
- Askin, R.A. and V. Markgraf: Palynomorphs from the Sirius Formation, Dominion Range, Antarctica. **Antarctic Journal of U.S., Review 1986**, 21:34-35.
- 1987 Markgraf, V.: Paleo Environmental changes at the northern limit of the subantarctic *Nothofagus* forest, lat.37°S, Argentina. **Quaternary Research**, 28:119-129.
- Markgraf, V.: Paleoclimates of the Southern Argentina Andes. *Current Research in the Pleistocene*, 4:150-157.
- 1988 Markgraf, V.: Fells Cave: 11,000 years of changes in paleoenvironments, fauna and human occupation. In: **Travels and Archaeology in South Chile** (J.B. Bird and M. Bird) Ed. J. Hyslop. University of Iowa Press, p.196-201.
- Galloway, R., V. Markgraf, and J.P. Bradbury: Dating shorelines of lakes in Patagonia, Argentina. **Journal of South American Earth Sciences**, 1:195-198.
- Veblen, T.A. and V. Markgraf: Steppe expansion in Patagonia? *Quaternary Research*, 30:331-338.
- 1989 Markgraf, V.: Reply: Southern westerlies during the last glacial maximum. **Quaternary Research**, 31:426-432.
- Markgraf, V.: Palaeoclimates in Central and South America since 18,000 yr B.P. based on pollen and lake level records. **Quaternary Science Reviews**, 8:1-24.
- Ashworth, A.C. and V. Markgraf: Climate of the Chilean Channels between 11,000 and 10,000 yr B.P. based on fossil beetle and pollen analyses. **Revista Chilena Historia Natural**, 62:61-74.
- Markgraf, V.: Late Pleistocene/Holocene paleoclimates from subantarctic latitudes. **Antarctic Journal US, Review 1989**, 1-2.
- 1991 Markgraf, V.: Younger Dryas in southern South America. **Boreas**, 20:63-70.
- Fernandez, J., V. Markgraf, H.O. Panarello, M. Albero, F.E. Angiolini, S. Valencio and M. Arriaga: Paleoenvironments and paleoclimates, extinct and extant fauna, and human occupation in the Altiplano of northwestern Argentina during late Pleistocene/Holocene transition. **Geoarchaeology**, 6:251-272.
- Markgraf, V.: Late Pleistocene environmental and climatic evolution in southern South America. **Bamberger Geographische Schriften**, 11:271-281.
- Ashworth, A.C., V. Markgraf, and C. Villagran: The late Quaternary climatic history of the Chilean Channels based on fossil pollen and beetle analysis. **Journal of Quaternary Science**, 6:279-291.
- 1992 Markgraf, V., J.R. Dodson, P.A. Kershaw, M.S. McGlone, and N. Nicholls: Evolution of late Pleistocene and Holocene climates in the circum-South Pacific land areas. **Climate Dynamics**, 6: 193-211.
- McGlone, M.S., A.P. Kershaw, and V. Markgraf: En Niño/Southern Oscillation climatic variability in Australasian and South American paleoenvironmental records. In (H.F. Diaz and V. Markgraf, eds.) **El Niño: The Historical and Paleoclimatic Record of the Southern Oscillation**. Cambridge University Press, 435-462.
- Diaz, H.F., Markgraf, V. and Hughes, M. 1992. Synthesis and future prospects. In (H.F. Diaz and V. Markgraf, eds.) **El Niño: The Historical and Paleoclimatic Record of the Southern Oscillation**. Cambridge University Press, 463-471.

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- Markgraf, V. 1992. Analisis polinico de los sedimentos. In (J. Fernandez, ed.) La Cueva de Haichol. **Anales de Arqueologia y Etnologia**, 43/45:97-103.
- 1993 Markgraf, V. Paleoenvironments and paleoclimates in Tierra del Fuego and southernmost Patagonia, South America. **Palaeogeography, Palaeoclimatology, Palaeoecology**, 102:53-68.
- Markgraf, V. Climatic history of central and South America since 18,000 yr B.P.: Comparison of pollen records and model simulations. In (H.E. Wright, J.E. Kutzbach, T. Webb III, W.F. Ruddiman, F.A. Street-Perrott, P.J. Bartlein, eds.). *Global Climates Since the Last Glacial Maximum*, University of Minnesota Press, 357-387.
- Webb, T.III, Ruddiman, W.F., Street-Perrott, F.A., Markgraf, V., Kutzbach, J.E., Bartlein, P.J., Wright, H.E., Prell, W.L. Climatic changes during the past 18,000 years: regional syntheses, mechanisms, and causes. In (H.E. Wright, J.E. Kutzbach, T. Webb III, W.F. Ruddiman, F.A. Street-Perrott, P.J. Bartlein, eds.). *Global Climates Since the Last Glacial Maximum*, University of Minnesota Press, 514-535.
- Markgraf, V. Younger Dryas in southernmost South America - an update. **Quaternary Science Reviews**, 12:351-355.
- 1994 White, J.W.C., Ciais, P., Figge, R.A., Kenny, R., and Markgraf, V. A high-resolution record of atmospheric CO₂ content from carbon isotopes in peat. **Nature**, 367:153-156.
- Markgraf, V. and Anderson, L.A. Fire history of Patagonia: Climate versus human cause. **Revista Instituto Geologico Sao Paulo (Brasil)**, 15:35-47.
- 1995 Markgraf, V., McGlone, M. and G. Hope. Neogene paleoenvironmental and paleoclimatic change in southern temperate ecosystems - a southern perspective. **Trends in Ecology and Evolution**, 10:137-178.
- Markgraf, V., White, J.W., Figge, R., and Kenny, R. Multivariate climate reconstruction for the last 14,000 years in southernmost South America. (C.M. Isaacs and V.L. Tharp, eds.) Proceedings of the 11th Annual Pacific Climate (PACLIM) Workshop, *Interagency Ecological Program, Technical Report* 40:21-28, California Water Resources.
- Forman, S.L., Oglesby, R., Markgraf, V., and Stafford, T. Paleoclimatic significance of late Quaternary eolian deposition on the Piedmont and High Plains, Central United States. **Global Planetary Climate Change** 11:35-55.
- Markgraf, V. PEP I, The Americas Transect. In: *Paleoclimates of the Northern and Southern Hemispheres*. PAGES Series 95-1, pp.23-42.
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- 1996 Markgraf, V., Romero, E. and Villagran, C. History and paleoecology of South American *Nothofagus* forests. In (T.T. Veblen and R.S. Hill, eds.) *Ecology and Biogeography of Nothofagus Forests*, Yale University Press, pp. 354-386.
- Markgraf, V., Anderson, L., Keltner, J., Grimm, E. The Latin American Pollen Database Site Inventory. **NGDC-NOAA, Paleoclimatology Publication Series Report** No. 4. 58pp.
- Markgraf V. and Kenny, R. Character of rapid vegetation and climate change during the late-glacial in southernmost South America. *Proceedings NATO Workshop on Past and Future Rapid Environmental Changes*, Springer Verlag, pp.81-90.
- 1997 Markgraf, V. & Betancourt, J. Late Holocene amberat deposits from northern Patagonia. **Holocene**, 7:323-327.
- 1998 Markgraf, V. Paleoclimates of South America. In (J.e. Hobbs, J.A. Lindesay, H.A. Bridgman, eds.). *Climates of the Southern Continents: Present, Past and Future*. John Wiley & Sons, Chichester, England, p.249-264.
- Markgraf, V. Present and past inter-hemispheric climate linkages in the Americas and their societal effects. **EOS**, 79:371, 378.
- 1999 Markgraf, V. and M.M. Bianchi: Paleoenvironmental changes during the last 17,000 years in western Patagonia: Mallin Aguado, Province of Neuquen, Argentina. **Bamberger Geographische Schriften**, 19:175-193.
- Kenny, R., Markgraf, V. & White, J.W.C. Palaeotemperature estimates from the last 14,000 (radiocarbon) years BP from D/H isotopes in peat in southern South America. **Modern Geology**, 21:365-378.
- 2000 Markgraf, V., Baumgartner, T.R., Bradbury, J.P., Diaz, H.F., Dunbar, R.B., Luckman, B.H., Seltzer, G.O., Swetnam, T.W., Villalba, R. Paleoclimate reconstruction along the Pole-Equator-Pole transect of the Americas (PEP 1). **Quaternary Science Reviews**, 19:125-140.
- Markgraf, V. PANASH: Editorial and Workshop Report. **PAGES News**, 8:1-5.
- Markgraf, V. & Diaz, H.F. The ENSO record: A synthesis. In H.F. Diaz and V. Markgraf (eds.) *El Niño and the Southern Oscillation: Multiscale Variability, Global and Regional Impacts*. Cambridge University Press. p.465-488.
- 2001 Whitlock, C., Markgraf, V., Bartlein, P. & Ashworth, A. Temperate coastal regions in the Americas during the last glacial maximum and early Holocene. In: V. Markgraf (ed.) *Interhemispheric Climate Linkages*. Academic Press,

p.391-415.

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- Markgraf, V. and G. Seltzer: Pole-Equator-Pole Paleoclimates of the Americas Integration: Towards the big picture. In: V. Markgraf (ed.) **Interhemispheric Climate Linkages**. Academic Press, p. 433-422.
- Markgraf, V. Pole-Equator-Pole Paleoclimates of the Americas: PEP 1. A Review. In: **Southern Hemisphere Paleo- and Neoclimates** (P. Smolka and W. Volkheimer, eds.). Springer Verlag (p. 103-126).
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- 2002** Markgraf, V., Webb, R.S., Anderson, K.H., and Anderson, L. Modern pollen – climate calibration for southern South America. **Palaeogeography, Palaeoclimatology, Palaeoecology** 181:375-397.
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- 2003** Huber, U.M. & Markgraf, V. Holocene moisture changes and fire frequency at Rio Rubens Bog, southern Patagonia. In (T.A. Veblen, W. Baker, G. Montenegro, T.T. Swetnam & eds.). **Fire and Climatic Change in Temperate Ecosystems of the Western Americas**. Springer Verlag, p. 357-380.
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- Markgraf, V. and McGlone, M. South temperate ecosystem responses. In: T.E. Lovejoy and L. Hannah, eds., **Climate Change and Biodiversity**, pp. 142-156.
- 2005** Gilli, A., Anselmetti, F.S., Ariztegui, D., Beres, M., McKenzie, J.A., Markgraf, V. Seismic stratigraphy, buried beach ridges and contourite drifts: the late Quaternary history of the closed Lago Cardiel basin, Argentina (49°S). **Sedimentology** 42: 1-23.
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- 2006** Whitlock, C., Bianchi, M.M., Bartlein, P.J., Markgraf, V., Marlon, J., Walsh, M., McCoy, N. 2006. Postglacial vegetation, climate, and fire history along the east side of the Andes (lat 41 – 42.5°S), Argentina. **Quaternary Research** 66:187-201.
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- 2007** Markgraf, V., Whitlock, C., Haberle, S. Vegetation and fire history during the last 18,000 cal yr BP in Southern Patagonia: Mallin Pollux, Coyhaique, Province Aisen (4541'30"S, 7150'30"W 640m elevation. **Palaeogeography, Palaeoclimatology, Palaeoecology** 254:492-507.
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