

RESUME

TED A. MAXWELL

EDUCATION

Franklin and Marshall College	1971 A.B., Geology
University of Utah	1973 M.S., Geology
University of Utah	1977 Ph.D., Geology

EMPLOYMENT HISTORY

2008-Present Senior Scientist, Center for Earth and Planetary Studies, National Air and Space Museum, Smithsonian Institution, Washington, D.C.

1996-2008 Associate Director for Collections and Research, National Air and Space Museum, Smithsonian Institution, Washington, D.C.

1992-1996 Senior Advisor for Science, National Air and Space Museum, and Geologist, Center for Earth and Planetary Studies, Smithsonian Institution, Washington, D.C.

1989-1991 Discipline Scientist, Planetary Geology and Geophysics Program, Solar System Exploration Division, National Aeronautics and Space Administration. (On leave from Smithsonian Institution).

1982-1998 Curator, Exploring the Planets Gallery, National Air and Space Museum, Smithsonian Institution, Washington, D.C.

1982-1989 Chairman, Center for Earth and Planetary Studies, National Air and Space Museum, Smithsonian Institution, Washington, D.C.

1976-1982 Geologist, Center for Earth and Planetary Studies, National Air and Space Museum, Smithsonian Institution, Washington, D.C.

1976 Visiting Graduate Fellow, Lunar Science Institute; research leading to completion of Ph.D. Dissertation: "Stratigraphy and Tectonics of Southeastern Serenitatis."

1973-1975 Graduate Research Assistant, University of Utah; geologic interpretation of Apollo Lunar Sounder data and lunar mapping.

1972-1973 NASA Fellowship Trainee, University of Utah; research of geomorphic aspects of Martian terrain from Mariner 9 images.

1970-1971 Lab Assistant, Franklin and Marshall College; preparation and instruction of undergraduate geology labs.

1970 National Science Foundation, Undergraduate Research Participation Grant, Geomorphic study of stream terraces, Bighorn Basin, Wyoming.

GRANTS

Principal Investigator: 2006-2010; Geologic Indicators of Lacustrine Environments on Mars, National Aeronautics and Space Administration.

Principal Investigator: 2003-2006; Evaluation of possible Lacustrine Features in the Martian Highlands, National Aeronautics and Space Administration.

Principal Investigator: 2002-2003; Geologic Indicators of Climate Change on Mars, National Aeronautics and Space Administration.

Principal Investigator: 1993-2002; Geomorphic Analyses of the Martian Highlands, National Aeronautics and Space Administration.

Collaborator/Project Secretary: 1995-1999; Sand Accumulations and Groundwater in the Sahara. International Geological Correlation Project 391, UNESCO (F. El-Baz, PI)

Co-Investigator: 1996-1998; Workshop on Sand Dune Accumulations and Groundwater Basins, National Science Foundation (F. El-Baz, PI).

Principal Investigator: 1993-1997; Tertiary through Recent Landscape Evolution in the Northeast

Sahara, National Aeronautics and Space Administration.
 Principal Investigator: 1993-1995; Undergraduate Research in Geologic Remote Sensing, National Science Foundation.
 Principal Investigator: 1980-1993; Photogeologic Investigations of Planetary Tectonic Features, National Aeronautics and Space Administration.
 Co-Investigator: 1986-1989; Structural Geology and Origin of Basalt-Plains Ridges, National Aeronautics and Space Administration (T.R. Watters, PI).
 Principal Investigator: 1989-1993; Geologic Mapping of Northern Lunae Planum, Mars, National Aeronautics and Space Administration.
 Co-Investigator: 1988-1991; Quaternary Geology: Eastern Sahara and American West, National Science Foundation (C.V. Haynes, PI).
 Director, Regional Planetary Image Facility: 1982-1989; National Aeronautics and Space Administration.
 Co-Investigator: 1985-1989; Environmental Processes and Spectral Reflectance Characteristics associated with Soil Erosion in Desert Fringe Regions, National Aeronautics and Space Administration (P.A. Jacobberger, PI).
 Principal Investigator: 1985-1988; Temporal and Spatial Variations of Sand Dunes in the Central Western Desert of Egypt, Programme d'Evaluation Preliminaire SPOT, Centre National d'Etudes Spatiales.
 Co-Investigator: 1977-1981; Morphologic Studies of the Moon and Planets. National Aeronautics and Space Administration (F. El-Baz, PI).
 Co-Investigator: 1978-1980; Analogs of Martian Eolian Features in Southwestern Egypt. National Aeronautics and Space Administration (F. El-Baz, PI).
 Principal Investigator: 1979; Comparative Studies of Desert Pavement. Smithsonian Institution Research Awards Program.
 Principal Investigator: 1978; Satellite Tracking of Western Desert Expedition. NASA Goddard Space Flight Center.

OTHER ACTIVITIES

Committees and Professional Service:

Member, Interagency Working Group on Scientific Collections ,NSTC, 2005-2008.
 Organizing Committee Chair: Mutual Concerns of Air and Space Museums Annual Conference; sponsored by the National Air and Space Museum, 1997-2008.
 Chair, Interim Editorial Board, Smithsonian Institution, responsible for creating new Scholarly Publishing Program for the Smithsonian, 2004-2006.
 Smithsonian Institution Distinguished Lecture Committee, 1999-2003.
 Listing in *Who's Who in Science and Engineering*, Fifth Edition, 2000.
 Member, Advisory Board, National Science Resources Center of the National Academy of Sciences and Smithsonian Institution, 1987-1991; 1996-2003.
 Review Committees (for NASA science programs): Lunar and Planetary Geosciences Review Panel (1989, 1990, PGGRP: 1995-1997, 2008, 2010); Space Shuttle Imaging Radar - B (1986); Mars: Evolution of Volatiles, Tectonism and Volcanism (1986, 1988, 1989); Space Shuttle Imaging Radar-C (1988); EOS, the Earth Observing System (1988); Cassini Mission (1990); MESUR Imaging Instrumentation (1992); NEAR Mission (1994), DISCOVERY Mission (1994) Mars Surveyor Mission Instruments (1995), Mars Pathfinder Participating Scientist (1996) Mars 2001 Lander (1997), Mars Polar Pathfinder Participating Scientist (1999), Planetary Comparative Review (2000), Mars Data Analysis Program (2004), Senior Review of Mars Program (2006), Discovery and Scout Mission Capabilities Enhancement Program (2008), Mars Fundamental Research Program (2009).
 Program Committee Member, Workshop on Early Mars: Geologic and Hydrologic Evolution,

Physical and Chemical Environments, and the Implications for Life, NASA/Lunar and Planetary Institute (April, 1997).

Committee on Committees, Geological Society of America, 1997

Smithsonian Institution representative to Intergovernmental Subcommittee on Global Change Research under the Committee for Environment and Natural Resources, 1993-1997.

Judge for American Institute of Physics, Science Writing for Children Book Award, 1992-1998.

Member, International Advisory Committee, International Centre for Desert Research, Third World Academy of Sciences, 1989-1990.

Planetary Image Accessibility Committee, Chair, for NASA Solar System Exploration Division, 1995-1996.

Speaker for Planetary Geology Speakers Bureau, 1990-1996.

Member, Planetary Geology and Geophysics Development Program Working Group, NASA, 1989-1992.

Member, Smithsonian Institution Office of Fellowships and Grants Earth Science Review Board, 1980-1985; 1992-1994.

Chairman, NASA Regional Planetary Image Facilities Directors Steering Group, 1985-1989.

Member, NASA Planetary Geology and Geophysics Working Group, 1986-1989.

Member, Columbus Quincentenary Planning Committee, Smithsonian Institution, 1985-1989.

Member, Education Committee, American Geological Institute, 1986-1988.

Adjunct Faculty Member, University of Virginia (Division of Continuing Education. 1987-1988.

Member, Youth Education Committee, National Space Club, Washington, D. C., 1985-1986.

Co-convenor, Mars: Evolution of its Climate and Atmosphere Summary Conference, July, 1986.

Editing and Consulting:

Associate Editor, Air and Space Smithsonian Magazine, Smithsonian Institution, Washington, D.C., 1989-2004.

Series Editor, Smithsonian Library of the Solar System, Smithsonian Institution Press, Washington, D.C. 1984-1999.

Associate Editor, Journal of Geophysical Research - Planets, American Geophysical Union, 1995-1998.

Consultant to *Cosmic Voyage*, Imax Films Corporation, Toronto, Canada, 1994-1996.

Consultant to *Destiny in Space*, Imax Films Corporation, Toronto, Canada, 1992-1994.

Editor for Planetology Section, EOS, Weekly News Magazine of the American Geophysical Union, 1991-1993.

Consultant for *Blue Planet*, Somerville Press, Book based on the Imax film of the same name, 1990-1991.

Consultant to *Blue Planet*, Imax Films Corporation, Toronto, Canada, 1989-1990.

Associate Editor, Proceedings of the Eighth Lunar Science Conference, *Geochimica et Cosmochimica Acta*, Supplement 8, (1977).

Consultant to Time-Life Books for *Life in Space* (1983), *Near Planets* (1988), *Starbound* (1990), Time-Life Books, Alexandria, Virginia.

Research Consultant in Planetary Sciences, George Washington University, Washington, D.C., (1983-1985).

Graduate Student Supervision (PhD level):

Thomas R. Watters, Ph.D. 1985, Dissertation: Compressional Deformation and Tectonic Evolution of the Tharsis Region of Mars. (through joint advisorship with faculty at George Washington University).

Christopher Swezy, Ph.D. 1997, Dissertation: Climatic and Tectonic Controls on Quaternary Eolian Sedimentary Sequences of the Chott Rharsa Basin, Southern Tunisia. (advisor

during fellowship at Smithsonian utilizing remote sensing; not a formal member of committee)

Kathleen Nicoll, Ph.D. 1998, Dissertation: Holocene Playas as Sedimentary Evidence for Recent Climate Change in the presently hyperarid Western Desert, Egypt. (member of dissertation committee at University of Arizona)

Robert A. Craddock, Ph.D. 1999, Dissertation: Geomorphic Analysis of Degraded Impact Craters on the Moon and Mars. (member of dissertation committee at University of Virginia)

Rossman P. Irwin III, Ph.D. 2005, Dissertation: Paleolakes and the Crustal Dichotomy Boundary on Mars. (member of dissertation committee at University of Virginia)

Professional Societies:

Fellow: American Association for the Advancement of Science

Fellow: Geological Society of America; Planetary Geology Division Secretary-Treasurer (1988), Second Vice Chairman (1989), Vice Chairman (1990), Chairman (1991).

Member: American Geophysical Union

Member: Geological Society of Washington; Counselor (1999 - 2000)

Member: American Quaternary Association

Exhibit Scripts:

Scientific Advisor for "The Batiks of Mary Edna Fraser" Exhibit at Emory University, January 2004.

"Exploring the Planets," 40 Panel display concerning results of planetary missions; Constructed for traveling exhibit by Smithsonian Institution Traveling Exhibition Service, (1988).

"The Outer Planets," Updated information on the outer planets resulting from Earth-based observations and space missions, Exploring the Planets Gallery, National Air and Space Museum, (1985).

"Exploring Comets," Display of scientific information, artifacts, and Plans for comet missions, Exploring the Planets Gallery, National Air and Space Museum, (1985).

"The Viking View of Mars," Display of artifacts and science results from the Viking Missions; includes computer-driven sequence showing surface and orbital images and meteorology results, Exploring the Planets Gallery, National Air and Space Museum, (1983).

PUBLICATIONS: 2000-

Maxwell, T.A. and U.B. Marvin, 2001, Geologic Maps of the Dardanus Sulcus (Jg-6), Misharu (Jg-10), Nabu (Jg-11), and Namtar (Jg-14) Quadrangles of Ganymede. U.S. Geol. Surv. Geologic Investigations Series I-2642 (2 sheets).

Haynes, C.V. Jr., T.A. Maxwell, D.L. Johnson, and A. Kilani, 2001, Research Note: Acheulian Sites near Bir Kiseiba in the Darb el Arba'in Desert, Egypt: New Data. *Geoarchaeology*, v. 16, p. 143-150.

Maxwell, T.A. and C. V. Haynes, Jr., 2001, Sand Sheet Dynamics and Quaternary Landscape Evolution of the Selima Sand Sheet, Southern Egypt. *Quaternary Science Reviews*, v. 20, p. 1623-1647.

Irwin, R.P. III, T.A. Maxwell, A.D. Howard, R.A. Craddock and D.W. Leverington, 2002, A large paleolake basin at the head of Ma'adim Vallis, Mars. *Science*, v. 296, p. 2209-2212.

Campbell, B.A., T.A. Maxwell and A. Freeman, 2004, Mars orbital SAR: Obtaining geologic information from radar polarimetry. *Jour. Geophys. Res.*, 109, E07008, doi:10.1029/2004JE002264.

Leverington, D.W. and T.A. Maxwell, 2004, An Igneous Origin for Features of a Candidate Crater-Lake System in Western Memnonia, Mars. *Jour. Geophys. Res.*, 109, E06006, doi:10.1029/2004JE002237.

- Grant, J.A., T.A. Maxwell, A.K. Johnston, A. Kilani and K.K. Williams, 2004, Documenting drainage evolution in Bir Kiseiba, southern Egypt: Constraints from ground-penetrating radar and implications for Mars. *Jour Geophys. Res.*, 109 E09002, doi: 10.1029/2003JE002232.
- Irwin, R.P. III, A. D. Howard and T. A. Maxwell, 2004, Geomorphology of Ma'adim Vallis, Mars and associated paleolake basins. *Jour. Geophys. Res.*, v. 109, doi: 10.1029/2004JE002287.
- Maxwell, T.A., B. Issawi, and C. V. Haynes, Jr., 2010, Evidence for Pleistocene Lakes in the Tushka Region, South Egypt. *Geology*, in press.

Recent Abstracts

- Maxwell, T.A., 2007, Interpretation of Mars-analog Terrain in Egypt with Orbital and Ground-penetrating Radar. Invited lecture presented at Second Internat. Conf. on Geology of the Tethys, Cairo University, Egypt, March, 2007.
- Maxwell, T.A., J.A. Grant, B.A. Campbell, 2007, Orbital and Ground-penetrating Radar Studies of Mars-analog Terrain in Egypt. Paper presented at Spring Amer. Geophys. Union Meeting 2007. Published electronically at: http://www.agu.org/meetings/sm07/sm07-sessions/sm07_P34A.html.
- Irwin, R.P. III, T.A. Maxwell and A.D. Howard, 2007, Water budgets on early Mars: Empirical constraints from paleolake basin and watershed areas. Paper presented at 7th International Conf. on Mars, 2007. Published electronically at <http://www.lpi.usra.edu/meetings/7thmars2007/pdf/3400.pdf>.
- Craddock, R.A., M. Hutchinson, S. Tooth, J. Stein and T. Maxwell, 2007, Evidence for Buried River Channels in the Simpson Desert, Australia. Paper presented at XVII INQUA Congress, Cairns, AU.
- Johnson, D.L., T. A. Maxwell, C. V. Haynes, Jr., and D.N. Johnson, 2007, Saharan Biofabric: A Biomarker for Planetary Soils? Paper presented at Geol. Soc. America Ann. Mtg., http://gsa.confex.com/gsa/2007AM/finalprogram/abstract_131931.htm.
- Maxwell, T.A., R. P. Irwin III, A.D. Howard and M. Higgie, 2008, Occurrence of paleolakes on early Mars and empirical constraints on water budgets. Paper presented at 39th Lunar and Planetary Science Conference. Published electronically at: <http://www.lpi.usra.edu/meetings/lpsc2008/pdf/2384.pdf>.
- Maxwell, T.A., B. Issawi, and C.V. Haynes, Jr., 2010, Pleistocene Mega-lakes of Egypt's Western Desert. Presented at Fifth Internat. Conference on the Geology of the Tethys Realm, Qena, Egypt.