

Michael A. Fortune

Atmospheric Scientist, Educator

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Education:

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| Ph.D., Atmospheric Science | Colorado State University |
| M.S., Meteorology | University of Wisconsin |
| B.S., Physics | University of Michigan |

Achievements:

AS A COMMUNICATOR OF SCIENCE:

Publisher and Editor, 2002 - present
Climate Science Forum newsletter, Silver Spring, MD, published online at <http://climate-science.org> .

- Founded a newsletter to communicate topics in climate science and change to an informed lay audience
- Communicated complex science issues in language easy for the public to understand
- Negotiated with authors to render their writing understandable yet accurate
- Published a newsletter under deadlines
- Coordinated a team of graphic and web site designers
- Titles written for the newsletter are listed below under “Some science articles for the public.”

Newsletter Editor, 2005 - 2006 and **Vice-President,** 2006 - 2007

Washington DC Chapter of the American Meteorological Society (AMS), Washington, DC.

- Published a newsletter online and in print for one of the most active chapters of the AMS. See http://www.dc-ams.org/Newsletters/Newsletters_0506/body_newsletters_0506.htm
- Organized meetings that showcased speakers in private and public sectors of atmospheric science

AS A SCIENCE MANAGER:

Technical Assistant to the Director, 2005 - 2007

Center for Satellite Applications and Research (STAR), of the National Oceanic and Atmospheric Administration (NOAA), Satellites & Information Service (NESDIS), Camp Springs, MD.

Employer: *Short & Associates, Inc.*, Chevy Chase, MD.

- Assisted the Director in managing the Center, by handling requests from NOAA and other federal agencies for action, delegating action on a response, coordinating responses by managers
- Interviewed scientists and edited their submissions to write a “*Science and Technology Road Map*”
- Oversaw the design of the new STAR website, with the Director and webmaster
- Published “*The Best of STAR*” for 2005 and 2006: a summary of the most useful satellite products that STAR has released for routine use
- Prepared briefings for the Director to present to top decision makers of NOAA
- Informed the scientific community about achievements of the Center’s 134 scientists

AS AN ATMOSPHERIC SCIENTIST:

Consultant 2004

Employer: **World Meteorological Organization (WMO)**, Geneva, Switzerland. Work done at:
Servicio Meteorológico Nacional, México City, México.

Expert on satellite precipitation estimates at the National Meteorological Service of Mexico.

- Verified performance of the precipitation observation technique that NOAA transferred to Mexico. Collaboration with hydrologists, meteorologists, emergency managers, and users was essential
- Concluded that the satellite precipitation estimates were deficient in high elevations, and recommended that Mexico negotiate improvements with NOAA

Subject Matter Expert 1998 - 2004

NOAA - National Weather Service, Silver Spring, MD. Employer: **Teculan, Inc.**, Greenbelt, MD.

- Added satellite precipitation estimates to the precipitation analysis package, for the operational River Forecasting Centers of the National Weather Service (NWS)
- Added capability to correct the bias of satellite precipitation products by using surface observations
- Developed software for the NWS River Forecasting Centers
- Designed procedures for verifying satellite products
- Transferred technologies for monitoring rainfall and forecasting river flow from the US to Mexico
- Verified accuracy of satellite measurements of rainfall in the US and Mexico
- Collaborated closely with Mexico's national expert on satellite remote sensing
- Led four training workshops in different regions of Mexico (in Spanish)

Research Meteorologist, 1996 - 1998

NOAA - Satellites and Information Service, Office of Research and Applications, Camp Springs, MD.

Employer: **University of Wisconsin**, Madison, WI.

- Verified performance of NOAA's operational technique for estimating precipitation from satellite data. Published findings in *Fortune* (1998)

Graduate Research Assistant, 1984-1989

Colorado State University, Dept of Atmospheric Sciences, Fort Collins, CO.

- Analyzed Doppler radar measurements from a storm-penetrating aircraft and ground radars
- Integrated these data with in-cloud observations
- Constructed a conceptual model of airflow in mesoscale convective storm systems
- Completed a dissertation, published a journal paper (*Fortune et al*, 1992)

Research Meteorologist, 1979 - 1984

Instituto de Pesquisas Espaciais (INPE), São José dos Campos, São Paulo, Brazil.

- Creatively applied locally processed satellite image data to investigate weather and climate anomalies in Brazil
- Identified Pacific Ocean precursors of severe freeze episodes in Brazil (*Fortune and Kousky*, 1983)
- Monitored ground surface temperature during freezing conditions in real time with satellite data
- Taught courses on interpretation of weather satellite data to visiting scientists and forecasters

AS AN EDUCATOR AT UNIVERSITIES:

Assistant Professor, Meteorology, 1991 -1995

Northern Illinois University, Department of Geography, DeKalb, IL.

- Published a conceptual model of mesoscale convective rainfall systems (Fortune et al, 1992)
- Estimated precipitation amount with radar data, and verified these estimates with ground truth.
- Managed a science team, and obtained external funding for the radar precipitation work
- Organized and taught eight undergraduate courses for meteorology majors
- Mentored students who became broadcast meteorologists

Instructor, Meteorology, 1989 -1991

Iowa State University, Dept. of Geological and Atmospheric Sciences, Ames, Iowa.

- Prepared and taught laboratory courses in weather analysis and forecasting for meteorology students

Publications in peer-reviewed scientific literature:

Book review of “*Global Warming: Myth or Reality*” by Marcel Leroux. Review by Michael Fortune (2007). *Bulletin of American Meteorological Society*, **88**, 89-92.

“State of the Climate in 2004,” co-author, chapter 6, Levinson, D., ed. (2005).
Bulletin of the American Meteorological Society, **86**, s1-s86, June 2005.

“Frontal wave-like evolution in some mesoscale convective complexes,” M. A. Fortune, W. R. Cotton, and R. L. McAnelly (1992). *Monthly Weather Review*, **120**, 1279-1300.

“Two severe freezes in Brazil: precursors and synoptic evolution,” M. Fortune and V. Kousky (1983).
Monthly Weather Review, **111**, 181-196.

“Properties of African squall lines inferred from time lapse satellite imagery,” M. Fortune (1980).
Monthly Weather Review, **108**, 153-168.

Publications in other scientific or technical literature:

Climate Science Forum, a periodic newsletter from 2002 to 2007. Michael A. Fortune, editor, P.O. Box 3593, Silver Spring, MD 20918. Available at <http://climate-science.org> .

“Automated satellite-based estimates of precipitation: an assessment of accuracy,” M. A. Fortune (1998).
NOAA Technical Report NESDIS 90, NOAA/NESDIS, Washington DC, 43 p.

“The McIDAS weather data display system in University Education,” M. A. Fortune (1994).
Illinois GIS and Mapnotes, no. 13.

“Observational study of microphysics in the stratiform region and transition region of a mid-latitude mesoscale convective complex,” Ye Jiadong, Fan Beifen, W.R. Cotton, and M.A. Fortune (1991).
Acta Meteorologica Sinica, **5**, #5, 527-540.

“Federal findings on energy for industrial chemicals,” J. Saxton, M. Kramer, D. Robertson, M. Fortune, N. Legett, and R. Capell (1974). *Chemical Engineering*, **81** (September): 71-80.

Some science articles written for the public:

These articles, published in *Climate Science Forum* between 2002 and 2007, may be viewed at the site: http://climate-science.org/Guest/best_articles.htm.

“Arctic Ice at Record Low Extent: with one more month remaining in the melting season.”
Climate Science Forum, Autumn 2007.

“Earth is Warmer. Has the Atmosphere Warmed Too?” Winter 2004.

“Fair Warning? How Arctic Climate Change has Rapidly Freshened Deep Atlantic Waters,” 2002.

Unusual achievements:

- Weather forecaster for balloon pilots (self employed, part-time) from 1995 to 2001. Delivered weather briefings and short term forecasts to pilots of hot air balloons at events and competitions in 6 states from Wisconsin to Rhode Island. Briefed balloonists on weather and safety at conferences; spoke to the public in various community forums about weather, safety, climate and environmental issues.
- Visited national meteorological centers of 10 nations in South America, and gave courses on satellite image interpretation, in Spanish and Portuguese.

Other Qualifications:

- Computer skills include proficiency in programming in FORTRAN and C, and in image processing / analysis of satellite and radar imagery; also proficient in databases, Structured Query Language, spreadsheets, and scientific graphics.
- Proficient in desktop publishing (Quark *XPress*, Adobe *In-Design*, Microsoft *Publisher*), graphical design, and design of web pages.
- Active member of American Meteorological Society (AMS) and American Geophysical Union (AGU). Officer of Washington-DC chapter of the American Meteorological Society for two years.