Curriculum Vitae (December, 2019)

John Edward Ebel

Born - January 19, 1954 Clark AFB, Philippine Islands Citizenship - United States Married to Martha Elizabeth (Bouey) Ebel - 2 children

Education:

A. B.

A. B. Harvard, 1975 (Physics)
Ph.D. California Institute of Technology, 1981 (Geophysics)

Professional Experience:

Earl Anthony Graduate Fellowship	CALTECH, 1975-1976
Graduate Research Assistantship	CALTECH, 1975-1976 CALTECH, 1976-Oct. 1980
Research Fellow	CALTECH, Oct. to Dec. 1980
Asst. Professor of Geophysics, Boston College	January 1981 to 1986
Assoc. Professor of Geophysics, Boston College	1986 to 1994
Professor of Geophysics, Boston College	
Assistant Director, Weston Observatory	1994 to present
	January 1981 to 1993 1993 to 2013
Director, Weston Observatory	
Senior Research Scientist, Weston Observatory	2013 to present
Chairman, Dept. of Earth & Env. Sciences	2013 to 2016
NATO Postdoctoral Fellow, University of	4000 4007
Karlsruhe, West Germany	1986-1987
Member of Seismic Risk Analysis Subcommittee	
of Massachusetts Civil Defense Agency Earthquake	1001 1 1000
Project Advisory Committee	1981 to 1990
Member of Metropolitan Boston Earthquake Loss	1001: 1000
Study Evaluation and Selection Committee	1984 to 1990
Representative for Boston College, Incorporated Research	4005
Institutions in Seismology	1985 to present
Member of New England Seismic Advisory	1007 : 1001
Council (NESAC)	1985 to 1991
Chairman	1988 to 1991
Member of Technical Subcommittee 1, Seismic	1000 / 1001
Hazard Mapping, Building Seismic Safety Council	1989 to 1994
Secretary, Eastern Section of the Seismological	1000 : 1001
Society of America	1989 to 1991
Vice-Chairman, Eastern Section of the Seismological	1001 / 1000
Society of America	1991 to 1993
Chairman, Eastern Section of the Seismological Society	1000 1 1005
of America	1993 to 1995
Member of Executive Committee, Eastern Section of the	1005 to 1007
Seismological Society of America	1995 to 1997
Member, Publication Committee, Seismological Society	4000 to 0040
of America	1992 to 2010
Chairman	2003 to 2010
Member, Seismic Hazard Assessment Panel,	1000 1: 1000
National Research Council	1992 to 1996
Seismology Section, Spring Meeting Chairman, American	1000 / 1000
Geophysical Union	1990 to 1992
Member, New York State Low-Level Radioactive Waste	1000 : 1000
Disposal Panel, National Research Council	1993 to 1996
Editor in Chief, Seismological Research Letters	1994 to 2001
Member, Board of Directors, Seismological Society	0000 1: 0007
of America	2000 to 2007
Secretary, Seismology Section, American Geophysical	

1980

Union 2004 to 2006

Member, Editorial Committee, Journal of Seismology 2004

Member, Editorial Advisory Board, EOS, Transactions of

The American Geophysical Union 2008 to 2010

Historical Seismologist Editor, Seismological Research

Letters 2008 to present

Member, Peer Review Panel, U.S. National Seismic Hazard

Maps

Member, Participatory Peer Review Panel, NGA-East Project 2010 to 2018

Visiting Scientist, University of Strasbourg, France

Treasurer, Eastern Section of the Seismological Society

of America 2019 to present

2008

2017

Awards:

NATO Postdoctoral Fellow, University of Karlsruhe, Germany 1986-1987

JSA Award for Contributions in Observational Seismology, presented

by the Eastern Section of the Seismological Society of America 2003

Distinguished Service to the SSA, presented by the Seismological

Society of America 2004 Fellow, Geological Society of America 2015

Professional Societies:

Seismological Society of America Eastern Section, Seismological Society of America

American Geophysical Union

Geological Society of America

Earthquake Engineering Research Institute (affiliate member)

Publications:

Books:

Ebel, J.E., New England Earthquakes: The Surprising History of Earthquakes in the Northeast, Globe Pequot Press, Guilford, Connecticut, 304 pp., 2019.

Guidoboni, E., and J.E. Ebel, <u>Earthquakes and Tsunamis in the Past: A Guide to Techniques in Historical</u> Seismology, Cambridge University Press, Cambridge, England, 550 pp., 2009.

Peer Reviewed Articles in Scientific Journals (chronological from most recent):

- Dahal, N. and J.E. Ebel, Method for determination of focal mechanisms of Magnitude 2.5 to 4.0 earthquakes recorded by a sparse regional seismic network, <u>Bull. Seism. Soc. Am.</u>, in press, 2020.
- Ebel, J.E., M.C. Chapman, W.-Y. Kim and M. Withers, Current status and future of regional seismic network monitoring in the central and eastern United States, <u>Seism. Res. Lett.</u>, vol. XX, pp. XX, doi: 10.1785/0220190210, 2019.
- Jacobi, R.D., and J.E. Ebel, Seismotectonic implications of the Berne earthquake swarms west-southwest of Albany, NY, <u>Lithosphere</u>, 11, 750-764, https://doi.org/10.1130/L1066.1, 2019.
- Dahal, N., and J.E. Ebel, Method for determination of depths and moment magnitudes of small-magnitude local and regional earthquake recorded by a sparse seismic network, Bull. Seism. Soc. Am., 109, 124-137, doi: 10.1785/0120180141, 2018.
- Ebel, J.E., and J.C. Starr, A geophysical and field survey for the source region of the 1638 New Hampshire earthquake, <u>Seism. Res. Lett.</u>, 89, 1197-1211, 2018.
- Monecke, K., F.G. McCarthy, B. Hubeny, J.E. Ebel, D.J. Brabander, S. Kielb, E. Howey, G. Janigian, and

- J. Pentesco, The 1755 Cape Ann earthquake recorded in lake sediments of eastern New England an interdisciplinary paleoseismic approach, Seism. Res. Lett., 89, 1212-1222, 2018.
- Napoli, V.J., and J.E. Ebel, Relative location analysis and moment tensor inversion of the 2012 Gulf of Maine Earthquake Swarm, <u>Seism. Res. Lett.</u>, 89, 229-240, https://doi.org/10.1785/0220170131, 2017.
- Yilar, E., L.G. Baise and J.E. Ebel, Using H/V Measurements to determine depth to bedrock and V_{s30} in Boston, Massachusetts, <u>Engineering Geology</u>, 217, 12-22, http://dx.doi.org/10.1016/j.enggeo.2016.12.002, 2017.
- Ebel, J.E., and D.W. Chambers, Using the locations of *M* ≥ 4 earthquakes to delineate the extents of the ruptures of past major earthquakes, <u>Geophys. J. Int.</u>, 207 (2): 862-875, doi: 10.1093/gji/ggw312, 2016.
- Ebel, J.E., An Enigmatic Little Earthquake Swarm near Searsport, Maine, <u>Seism. Res. Lett.</u>, 87, 207-214, doi: 10.1785/0220150167, 2016.
- Ebel, J.E., Comment on "Aftershock Statistics for Earthquakes in the St. Lawrence Valley" by Azadeh Fereidoni and Gail M. Atkinson, <u>Seism. Res. Lett.</u>, 87, 149-151, doi: 10.1785/0220150120, 2016.
- Quiros, D.A., A. Cabolova, L.D. Brown, C. Chen, J.E. Ebel and J. Starr, Aftershock Imaging with Dense Arrays (AIDA) Following the Mw 4.0 Waterboro Earthquake of 16 October 2012 Maine, USA, Seism. Res. Lett., 86, 1032-1039, 2015.
- Ebel, J.E., Reply to "Comment on 'A New Analysis of the Magnitude of the February 1663 Earthquake at Charlevoix, Quebec' by John E. Ebel" by Alan Ruffman, <u>Bull. Seism. Soc. Am.</u>, v. 103, p. 2897, doi:10.1785/0120130149, 2013.
- Ebel, J.E., M. Dupuy and W.H. Bakun, Assessing the Location and Magnitude of the 20 October 1870 Charlevoix, Quebec Earthquake, <u>Bull. Seism. Soc. Am.</u>, 103, 589-594, doi: 10.1785/0120110063, 2013.
- Chambers, D.W., J.A. Baglivo, J.E. Ebel, and A.L. Kafka, Earthquake Forecasting Using Hidden Markov Models, Pure and Applied Geophysics, DOI 10.1007/s00024-011-0315-1, 2012.
- Kafka, A.L., and J.E. Ebel, Proximity to Past Earthquakes as a Least-Astonishing Hypothesis for Forecasting the Locations of Future Earthquakes, <u>Bull. Seism. Soc. Am.</u>, <u>101</u>, 1618-1629, doi: 10.1785/0120090164, 2011.
- Ebel, J.E., A New Analysis of the Magnitude of the February 1663 Earthquake at Charlevoix, Quebec, <u>Bull.</u> Seism. Soc. Am., 101, 1024-1038, doi: 10.1785/0120100190, 2011.
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- Kafka, A. L., and Ebel, J. E. Exaggerated Claims About Earthquake Predictions: "Amazing Success" or "Remarkably Unremarkable"?, <u>EOS, Transactions, American Geophysical Union</u>, vol. <u>88</u>, no. 1, pp. 1&6, 2007.
- Ebel, J.E., The Cape Ann, Massachusetts Earthquake of 1755: A 250th Anniversary Perspective, <u>Seism.</u> Res. Lett., <u>77</u>, pp. 74-86, 2006.
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- Ebel, J.E., and Kafka A.L., A Non-Poissonian Element in the Seismicity of the Northeastern United States, Bull. Seism. Soc. Am., 92, 2040-2046, 2002.
- Ebel, J.E. and M.T. Tuttle, Earthquakes in the Eastern Great Lakes Basin from a regional perspective, <u>Tectonophysics</u>, 353, 17-30, 2002.
- Ebel, J.E. and Hart, K.A., Observational Evidence for Amplification of Earthquake Ground Motions in Boston and Vicinity, Civil Engineering Practice, 16, no. 2, 5-16, 2001.
- Hayles, K.E., Ebel, J.E. and Urzua, A., Microtremor Measurements to Obtain Resonant Frequencies and Ground Shaking Amplification for Soil Sites in Boston, <u>Civil Engineering Practice</u>, <u>16</u>, no. 2, 17-36, 2001.
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- Mangino, S., Priestley, K. and Ebel, J., The Receiver Structure beneath the China Digital Seismograph Network Stations, Bull. Seism. Soc. Am., 89, 1053-1076, 1999.
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- Zhao, X. and J.E. Ebel, Radiation Pattern of Crustal Phases of New England Earthquakes, <u>Geophys. J.</u> Int., 106, 647-655, 1991.
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- Ebel, J.E., A Comparison of the 1981, 1982, 1986 and 1987-1988 Microearthquake Swarms at Moodus, Connecticut, Seism. Res. Lett., 60, p. 177-183, 1989.
- Ebel, J.E., The Seismicity of Maine, in <u>Neotectonics of Maine</u>, W. Thompson, ed., Maine State Geological Survey, p. 219-228, 1989.
- Ebel, J.E., The Effect of Crustal Scattering on Observed High-Frequency Earthquake Seismograms, Geophys. J. Int., 98, 329-341, 1989.
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- Kafka, A.L. and Ebel, J.E., Seismic Structure of the Earth's Crust Underlying the State of Maine, in <u>Studies of Maine Geology, Volume 1</u>, R.D. Tucker and R.G. Marvinney, eds., Maine Geological Survey, Augusta, Maine, 137-156, 1988.
- Ebel, J.E., P.G. Somerville and J.D. McIver, A Study of the Source Parameters of Some Large Earthquakes of Northeastern North America, J. Geophys. Res., 91, 8231-8247, 1986.
- Brown, E. and Ebel, J.E., An Investigation of the January 1982 Gaza, New Hampshire Aftershock Sequence, <u>Earthquake Notes</u>, <u>56</u>, 125-133, 1985.
- Ebel, J.E., Statistical Aspects of the Recent Seismicity in New England and Implications for Past and Future Activity, <u>Bull Seism. Soc. Am.</u>, <u>74</u>, 1311-1329, 1984.
- Ebel, John E., A Detailed Study of the Aftershocks of the M_C = 4.0 Earthquake near Bath, Maine, <u>Earthquake Notes</u>, <u>54</u>, 27-40, 1983.
- Ebel, J.E. and J.P. McCaffery, S.J., Hypocentral Parameters and Focal Mechanism of the 1983 Earthquake near Dixfield, Maine, <u>Earthquake Notes</u>, <u>55</u>, 21-24, 1984.
- Ebel, J.E., M_L Measurements for Northeastern United States Earthquakes, <u>Bull. Seism. Soc. Am.</u>, <u>72</u>, 1367-1378, 1982.
- Ebel, J.E., Vudler, V. and Celata, M., The 1981 Microearthquake Swarm near Moodus, Connecticut, Geophys. Res. Lett., 9, 397-400, 1982.
- Ebel, J.E. and Helmberger, D.V., P-Wave Complexity and Fault Asperities: The Borrego Mountain, California Earthquake of April 9, 1968, <u>Bull Seism. Soc. Am.</u>, 72, 413-437, 1982.
- Wallace, T.C., Helmberger, D.V., and Ebel, J.E., A Broadband Study of the August 13, 1978 Santa Barbara Earthquake, <u>Bull. Seis. Soc. Am.</u>, <u>71</u>, 1701-1718, 1981.

- Ebel, J.E., Source Processes of the 1965 New Herbrides Islands Earth Inferred from Teleseismic Waveforms, <u>Geophys. J.R., astr. Soc.</u>, <u>63</u>, 381-403, 1980.
- Ebel, J.E., Burdick, L.J., and Stewart, G.S., The Source Mechanism of the August 7, 1966 El Golfo Earthquake, Bull. Seism. Soc. Am., 63, 381-403, 1980.
- Ebel, J.E., Hill, R.L., and Pechmann, J.C., Strong Ground Motions for the Homestead Valley, California, Earthquake Inferred from a Water Tank "Seismoscope", <u>California Geology</u>, <u>33</u>, 106-109, 1980
- Hutton, L.K., Johnson, C.E., Pechmann, J.C., Ebel, J.E., Cole, D.M., Given, J.W., and German, P.T., Epicentral Locations for the Homestead Valley Earthquake Sequence, March 15, 1979, California Geology, 33, 110-114, 1980.
- Hill, R.L., Pechmann, J.C., Tremain, J.A., McMillan, J.R., Given, J.W., and Ebel, J.E., Surface Faulting and Surficial Shaking Effects Associated with the Homestead Valley Earthquakes of 15 March 1979, Mojave Desert, San Bernardino County, California, California Geology, 33, 60-67, 1980.
- Melosh, H.J., and Ebel, J.E., A Simple Model for Thermal Instability in the Asthenosphere, <u>Geophys. J.R.</u> <u>astr. Soc.</u>, <u>59</u>, 419-436, 1979.
- Hadley, D.M., Stewart, G.S., and Ebel, J.E., Yellowstone: Seismic Evidence for a Chemical Mantle Plume, <u>Science</u>, <u>193</u>, 1237-1239, 1976.

Peer Reviewed Articles in Conference Proceedings (chronological from most recent):

- Liu, S., J.E. Ebel, A. Urzua and V. Murphy, Shear-wave velocity analysis by surface-wave methods in the Boston area, <u>Proceedings of the 11th National Conference in Earthquake Engineering</u>, Earthquake Engineering Research Institute, Los Angeles, CA, 2018.
- Monecke, K., J. Ebel, I. Atanassova, and G. Janigian, The Seismic, Historic and Geological Record of Earthquakes in New England, Guidebook to Field Trips in Southeastern New England (MA-NH-RI), 106th Annual New England Intercollegiate Geological Conference, October 10-12, 2014, M.D. Thompson, Wellesley College, ed., http://www.library.unh.edu/gital/, 2014.
- Ebel, J.E., A. Urzua and J. Britton, The Effect of Local Surficial Geology on the Ground Motions of Future Earthquakes in Boston, Massachusetts: A Comparison with Seismic Codes, <u>Proceedings Volume</u> 1, 57th Canadian Geotechnical Conference, paper G33.119, 2004.
- Ebel, J.E., A. Urzua and J. Britton, The Expected Effect of Local Surficial Geology on the Ground Motions of Future Earthquakes in Boston, Massachusetts, <u>Proceedings Volume 1, Soil and Rock America 2003, 12th Panamerican Conference on Soil Mechanics, 39th U.S. Rock Mechanics Symposium, 221-228, 2003.</u>
- Algermissen, S.T., E.V. Leyendecker, G.A. Bollinger, N.C. Donovan, J.E. Ebel, W.B. Joyner, R.W. Luft and J.P. Singh, Probabilistic Ground-Motion Hazard Maps of Response Spectral Ordinates for the United States, <u>Proceedings</u>, of the Fourth International Conference on Microzonation, Stanford, CA, vol. 4, pp. 687-694, 1991.
- Ebel, J.E., The Seismicity of the Northeastern United States, in <u>Seismic Hazards, Ground Motions, Soil-Liquefaction and Engineering Practice in Eastern North America</u>, K. Jacob, ed. NCEER symposium proceedings, NCEER-87-0025, 178-188, 1987.

Major Reports (chronological from most recent):

- Ebel, J. E. and T.A. Morgan, Seismic Design of Buildings, Halfmoon Education, Inc., Altoona, WI, 2018.
- Ebel, J. E. and T.A. Morgan, Principles of Seismic Design, Foxmoor Continuing Education, Halfmoon Education, Inc., Altoona, WI, 2014.

- Wong, I., F. Terra, D. Bausch, J. Roselle, P. Morey, K. Rukstales, J. Ebel, L. Becker, and E. Fratto, HAZUS Analyses of Eleven Scenario Earthquakes in New England, prepared for FEMA, 445 pp., 2012.
- Ebel, J.E., A.R. Lazarewicz and A.L. Kafka, <u>Investigating Seismotectonics in the Eastern U.S. Using a Geographic Information System</u>, U.S. Nuclear Regulatory Commission Report NUREG/CR-6573, 98 pp., 1998.
- Ebel, J.E., R. Bedell and A. Urzua, <u>A Report on the Seismic Vulnerability of the State of Vermont</u>, submitted to the Vermont Emergency Management Agency, May, 1996.
- Williams, M.E., S.P. Nishenko and J.E. Ebel, Proceedings of the Working Group Meeting on Northeast United States Earthquake Probability, U.S. Geological Survey Open-File Report 94-643, 1995.
- Ebel, J.E., <u>A Study of Seismicity and Tectonics in New England</u>, U.S. Nuclear Regulatory Commission NUREG/CR-4354, 88 pp., 1985.
- Harrison, W.D. Edgar, P. Barosh, J. Ebel, G. Kuecher, M. Tisue, S. Tsai, M. Winters, M. Flower, and M. Sood, <u>Geology</u>, <u>Hydrology</u>, <u>and Mineral Resources of Crystalline Rock Areas of Northeastern United States</u>, Energy and Environmental Systems Division, Argonne National Laboratory report ANL/ES-136, Part 1, 1983.

Other Publications (chronological from most recent):

- Prepared in consultation with J.E. Ebel, History of Earthquakes in Connecticut, Northeast States Emergency Consortium, http://nesec.org/connecticut-earthquakes/, 2017.
- Prepared in consultation with J.E. Ebel, History of Maine Earthquakes, Northeast States Emergency Consortium, http://nesec.org/maine-earthquakes/, 2017.
- Prepared in consultation with J.E. Ebel, History of Earthquakes in Massachusetts, Northeast States Emergency Consortium, http://nesec.org/massachusetts-earthquakes/, 2017.
- Prepared in consultation with J.E. Ebel, History of Earthquakes in New Hampshire, Northeast States Emergency Consortium, http://nesec.org/new-hampshire-earthquakes/, 2017.
- Prepared in consultation with J.E. Ebel, History of Earthquakes in New Jersey, Northeast States Emergency Consortium, http://nesec.org/new-jersey-earthquakes/, 2017.
- Prepared in consultation with J.E. Ebel, History of Earthquakes in New York, Northeast States Emergency Consortium, http://nesec.org/new-york-earthquakes/, 2017.
- Prepared in consultation with J.E. Ebel, History of Earthquakes in Rhode Island, Northeast States Emergency Consortium, http://nesec.org/rhode-island-earthquakes/, 2017.
- Prepared in consultation with J.E. Ebel, History of Earthquakes in Vermont, Northeast States Emergency Consortium, http://nesec.org/vermont-earthquakes/, 2017.
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- Klotz, L. H. and J. E. Ebel, Earthquakes in the Eastern U.S.: How Vunerable Are We? <u>Evaluating Risks and Mitigating Losses: New Opportunities and New Challenges</u>, Proceedings of the First Annual Congress on Natural Disaster Loss Reduction, Insurance Institute for Property Loss Reduction, 43-49, 1994.
- Fratto, E.S., J.E. Ebel and K. Kadinsky-Cade, Earthquakes in New England, <u>Earthquakes and Volcanoes</u>, vol. 22, No. 6, pp. 242-251, 1990.
- Ebel, J.E., Earthquakes in New England, The Cape Naturalist, vol. 13, No. 4., pp. 63-66, 1985.
- Ebel, J., Miramichi, New Brunswick, Canada, earthquakes of January 1982, <u>Earthquake Information</u> Bulletin (USGS), vol. 14, No. 5, p. 187.
- Published Abstracts of Conference Presentations (last 5 years; chronologically from most recent):

 Ebel, J.E., Historical accounts of animal reactions before and during earthquakes in northeastern North

 America, https://www.seismosoc.org/wp-content/uploads/2019/11/ESSSA_2019_Program_FINALRev1.pdf, 2019.
- Ebel, J.E., Using recent M≥4 seismicity to estimate locations of the next M≥6.7 earthquakes in California, Abstract NH43A-07, presented at the 2019 Fall Meeting, AGU, San Francisco, CA, 9-13 Dec., 2019.
- Dahal, N.R. and J. Ebel, Determination of focal depths, moment magnitudes and focal mechanisms of some selected aftershocks of the Mw7.8 2015 Gorkha, Nepal earthquake, Abstract S11G-0427, presented at the 2019 Fall Meeting, AGU, San Francisco, CA, 9-13 Dec., 2019.
- Ebel, J., Using aftershocks to locate historical earthquakes, presentation IUGG19-1052, https://www.czech-in.org/cmPortalV15/CM_W3_Searchable/iugg19/ normal#!abstractdetails/0000732760, 2019.
- Cipar, J.J., and J.E. Ebel, P-wave travel time residual map for eastern North America, <u>Geological Society of America Abstracts with Programs</u>. Vol. 51, No. 1, doi: 10.1130/abs/2019NE-328490, 2019.
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