

6 Prof. Robert E. Criss



Name: Robert E. Criss

Organization: Washington University

E-mail: criss@wustl.edu

Education

Ph.D., California Institute of Technology, 1981

Research Interests

Geochemistry, Hydrology, Stable Isotope Geochemistry, Chemical Thermodynamics, Geochronology, Speleology, Field Geology, and Environmental Potamology.

Major Publications

Davisson, M. L. and Criss, R. E., Observational Hydrology, in progress, online at:
<http://www.observationalhydrology.com/>

Criss, R. E. and Kusky, T. M., editors (2009) Finding the Balance between Floods, Flood Protection, and River Navigation, published by Saint Louis University.

Criss, R. E. and Wilson, D. A., editors (2003) At the Confluence: Rivers, Floods, and Water Quality in the St. Louis Region, MBG Press, St. Louis, 278 p.

Criss, R. E. (1999) Principles of Stable Isotope Distribution, Oxford University Press, New York, 264 p. [QD466.5C1C75] (Errata)

Winston, W. E. and Criss, R. E. (2015) Dependence of Mean and Peak Streamflow on Basin Area in the Conterminous United States. Journal of Earth Sciences (accepted)

Criss, R. E. (2015) Statistics of Flood Populations in a Changing World. Journal of Earth Sciences DOI:10.1007/s12583-015-0641-9.
<http://en.earth-science.net/WebPage/RecommendList.aspx?id=18>

Tang, H., Zou, Z., Xiong, C., Wu, Y., Hu, X., Wang, L., Lu, S., Criss, R.E., Li, C. (2015) An evolution model of large consequent bedding rockslides, with particular reference to the Jiweishan rockslide in Southwest China. Engineering Geology, 186, 17-27.

Tang, H., Li, C., Hu, X., Su, A., Wang, L., Wu, Y., Criss, R.E., Xiong, C., Li, Y. (2015) Evolution characteristics of the Huangtupo landslide based on in situ tunneling and monitoring, Landslides, 12, 511-521.

Criss, R. E. and Hofmeister, A. M. (2015) Analytical representations for simple and composite polytropes and their moments of inertia. New Astronomy, 36, p. 26-31. Avail online: DOI: 10.1016/j.newast.2014.09.012

Criss, R. E. (2015) Use of Geochemical and Geophysical Techniques to Characterize and Prospect for Geothermal Resources and Hydrothermal Ore Deposits. Journal of Earth Sciences, 26#1, 73-77.

Hofmeister, A. M and Criss, R. E. (2015) Evaluation of the heat, entropy, and rotational changes produced by gravitational segregation during core formation. Journal of Earth Sciences 26#1, 124-133.

Hofmeister, A. M and Criss, R. E. (2013) How irreversible heat transport processes drive Earth's interdependent thermal, structural, and chemical evolution. Gondwana Research, Special

- Pub. on Secular Changes, 24 #2, p. 490-500.
- Hasenmueller, E. A. and Criss, R. E. (2013) Multiple sources of boron in urban surface waters and groundwaters: *Science of the Total Environment (STOTEN)*, 447, p. 235-247.
- Hasenmueller, E. A. and Criss, R. E. (2013) Geochemical techniques to discover open cave passage in karst spring systems: *Applied Geochemistry*, 29, p. 126-134.
- Hasenmueller, E. A. and Criss, R. E. (2013) Water balance estimates of evapotranspiration rates in areas with varying land use. in *Evapotranspiration-An Overview*, S.G. Alexandris, ed., ISBN 980-953-307-541-4, Ch. 1, p. 1-21. Avail. at: <http://www.intechopen.com/articles/show/title/water-balance-estimates-of-evapotranspiration-rates-in-areas-with-varying-land-use>.
- Criss, R. E., and Criss, E. M. (2012) Prediction of well levels in the alluvial aquifer along the lower Missouri River. *Ground Water* 50#4, p. 571-577 .DOI: 10.1111/j.1745-6584.2011.00877
- Hofmeister, A. M and Criss, R. E. (2012) A thermodynamic and mechanical model for formation of the Solar System via 3-dimensional collapse of the dusty pre-solar nebula. *Planetary and Space Science* 62, p. 111-131. DOI: 10.1016/j.pss.2011.12.017
- Criss, R. E. (2011) Same Approach, Worse Result. *Emergency Management Magazine*, July/August 2011, p. 10.
- Criss, R.E. (2010) A Darcian model for the flow of Big Spring and the head in the Ozark aquifer, Missouri USA. *Acta Carsologica, Special Issue on Karst Hydrology*, v. 39/2, p. 379-387.
- Lippmann, J. L., Criss, R. E. and Osburn, G. R. (2010), Reworked loess and red clays in Missouri caves: a comparative compositional study. *Missouri Speleology*, 50 #2-3, p. 10-20.
- Criss, R. E., Osburn, G. R., and House, R. Scott (2009) The Ozark Plateaus: Missouri, in *Caves and Karst of the USA*, Palmer, A.N. and Palmer M.V., eds., National Speleological Society, Huntsville AL, p. 156-170.
- Criss, R. E., (2009) Increased flooding of large and small watersheds of the central USA and the consequences for flood frequency predictions, in Criss RE and Kusky TM, eds, *Finding the Balance between Floods, Flood Protection, and River Navigation*, Saint Louis University, Center for Environmental Sciences, p. 16-21. URL: <http://www.ces.slu.edu>
- Criss, R. E. and Winston, W. E. (2008) Discharge predictions of a rainfall-driven theoretical hydrograph compared to common models and observed data. *Water Resources Research*, 44, W10407, doi:10.1029/2007WR006415.
- Criss, R. E., and Winston, W. E., (2008) Do Nash values have value? Discussion and alternate proposals. *Hydrologic Processes*, 22, p. 2723-2725, (doi:10.1002/hyp.7072).