

Obituary

Keith R. Long (1957–2019)



After a long illness, our colleague Keith Long, of the United States Geological Survey (USGS) Tucson office, passed away last March 29th. Those of you who know Keith are familiar with his diverse, significant contributions to mineral resource studies over his more than 30-year career with the USGS. Through this work, Keith pursued his enthusiasm for both earth science and economics, blending his academic knowledge (BS and BA, University of California Santa Cruz; MSc, University of Michigan; PhD, University of Arizona) with the practical early-career experience of working with exploration companies in Arkansas, California, Colorado, and Montana. At the USGS, Keith's work spanned many topics in both domestic and international contexts. His most important contributions are far too

numerous to list here but of particular note are his service as a founding member of the Center for Inter-American Mineral Resource Investigations in Tucson, which undertook cooperative mineral resource studies in Latin America, his work on of historical tailings production and disposal practices in support mineral environmental assessments, his investigation of the economics of porphyry copper mining, and his highly impactful summary and analysis of the principal rare earth element deposits of the USA. Somehow in all of this, he found time to lead projects and serve as Editor-in-Chief for *Natural Resources Research* (from 2009 to 2012).

Despite the impressive depth and breadth of Keith's professional contributions, what stays with me most about Keith is the way he battled through his many health challenges in recent years. Talking with Keith, whether in the Tucson office or over the phone, one would never know whether he was in a relatively good state of health or had just come back to work from a life-threatening and debilitating illness. Even in the last few days, he was asking colleagues to send him some work-related material to keep himself occupied. Keith maintained a positive attitude and dedication to his work no matter what personal or professional hurdles he encountered, and I have always considered him an outstanding example of a USGS scientist and colleague. Keith is survived by his wife Kay and a large, extended family in Arizona, California and Wyoming.

Colin Williams (USGS)