Oklahoma ACS Family Night Friday 07 September 2018

THE FUTURE OF WATER Data or Instincts?

Todd Halihan

Boone Pickens School of Geology

Oklahoma State University, Stillwater, OK



Mankind uses economics, politics, and basic instincts to make decisions about water. However, the data on the hydrologic cycle suggests we are developing water incorrectly for two basic reasons. The first is our instincts are built upon water that is visible, so we ignore evapotranspiration which causes salinization, reduced water availability, and increased infrastructure costs. The second is our development of water preceded satellite data and computing power. This resulted in ignoring complicated groundwater systems that need to be defined on the meter scale and adopting simple concepts like dams and center pivot irrigation that do not require significant data management. A framework to improve our water resources will be presented as well as some case studies on how these problems present themselves.

Oklahoma Baptist University, Shawnee, OK http://www.okbu.edu

6:00 pm Social Hour & Picnic Wood Science Building

lawn games [indoor/outdoor]—volleyball & croquet

7:30 pm Presentation Wood Science Building large lecture hall

Menu

Hamburgers & hotdogs potato chips pickles cookies soft drinks Cost

\$12 members \$8 students \$5 children under 12 **RSVP Deadline**

Tuesday, Sep 4th, 5 pm Contact Nathan Malmberg <u>nathan.malmberg@okbu.edu</u> 405-585-4126

[indicate # of adults & # children]



OBU map QR code

Todd Halihan Biographical Sketch

Todd Halihan, Ph.D., P.Gp., is a Professor of Geology at Oklahoma State University and Chief Technical Officer for Aestus LLC. His professional interests center in subsurface characterization and sustainable water supply. Halihan has been an associate editor for Groundwater and has served as Secretary-Treasurer of the U.S. Chapter of the International Association of Hydrogeologists. He served as Chair of the Hydrogeology Division and the South-Central Section of the Geological Society of America. He currently serves on the Oklahoma governor's Coordinating Council on Seismic Activity.

Halihan has worked on over 200 different research and commercial sites in more than 30 U.S. states and overseas. His international research work has occurred in Australia, Bahamas, Brazil, Mexico,

and South Africa along with a number of other countries on a commercial basis. He has also spent a significant amount of time in his home state of Oklahoma evaluating the Arbuckle Group of carbonates and associated springs.

Halihan is the recipient of the Karin and Robert J. Sternberg Award for Excellence, the Partners in Conservation Award from the U.S. Department of Interior, and the Sterling L. Burks Award for Outstanding Environmental Research. He is also a professional driller in the state of Oklahoma and a PADI divemaster (Professional Association of Diving Instructors). He has provided input to stories on CBS, Fox News, NPR, CNBC, Popular Science, The New Yorker, and The New York Times.