Speaker: Brad A. King
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Session Title: Estimating Growing Season Hydraulic Loading Rate using U.S. Bureau of Reclamation Agricultural Meteorological System (AgriMet) Data

Abstract: Water Reuse permits require that the growing season hydraulic loading rate be substantially equal to the irrigation water requirement of the crop produced. The irrigation water requirement of the crop is determined from crop evapotranspiration (ET) which is dependent upon site-specific climatic and agronomic conditions. Estimating ET has been a research topic for over 50 years. As a result, numerous empirical models are available to estimate ET. Since the models are empirical, they each incorporate some climatic bias in their result based on the experimental conditions under which they were developed. The U.S. Bureau of Reclamation AgriMet system uses the 1983 Kimberly-Penman model for estimating ET, which was developed by Dr. James Wright at the USDA Agricultural Research Service Northwest Irrigation and Soils Research Laboratory located at Kimberly, Idaho. The 1983 Kimberly-Penman model is calibrated for the climatic conditions of southern Idaho and represents a good choice for estimating crop water use in Idaho. Application of the Kimberly-Penman model for estimating crop specific ET will be discussed along with how AgriMet data can be used to calculate growing season hydraulic loading rate.

Professional Background:
Education:
B.S. Agricultural Engineering, 1980, University of Idaho
M.S. Engineering, 1984, Washington State University
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Professional Experience:
1983 – 1993, Research Associate/Instructor, Department of Agricultural Engineering, University of Idaho
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