**Robert Leon Hamrick - Founder & Visionary**



Bob was born January 23rd 1929 near Indiantown. As a young man, he worked on the family ranch as a young cattle man. From his earliest age, Bob had an immense curiosity about history, science, and technology and loved to read. When his family sold their ranch in the 1950s, Bob elected to study engineering at the University of Florida. Once he completed his Bachelor of Science in 1959, he took a position at the Central and Southern Florida Flood Control District, predecessor of the South Florida Water Management District (District), as a Water Resource Engineer. He worked closely with William V. Storch, the Director of Engineering at the District. Bob’s passion for the advancement of science and technology earned him the responsibility of assuring that the District was continually considering and applying cutting edge science and technology for water resources planning and engineering. By the mid- 1970s the District was considered among the most advanced regional water management agencies in the nation and was frequently hosting international academic and operational engineers and scientists.

Among Bob’s past accomplishments for the District include: 1) Advancement of computer technology within the District including the first main frame system for business and science applications, introduction of the word processor to the District, the introduction of the HP 1000 minicomputer to the District for capturing and processing the high resolution surface-groundwater electrical analog model output and the HP 3000 which was designed to be the first minicomputer delivered with a full featured operating system with time-sharing between terminals for the District Hydrological Modeling Division, and the District scientific work station network which were being utilized by scientist and engineers throughout the District 2) Advancement of hydrologic measurements such as remote sensing and NEXRAD. 3) Advancements of hydrologic model development and implementation. This included the electrical analog model referenced above and the implementation of hydrologic modeling and optimization programs for regional water management. And 4) Introduction of interannual to multidecadal climate variability for regional hydrologic planning operations.

Bob inspired the application of artificial neural networks (ANN) for climate pattern recognition and seasonal hydro-climatological predictions for the District. This application of ANN led to the implementation of climate based hydrologic outlooks into the Lake Okeechobee operational decision tree. Over the past few years AI has exploded, and especially since 2015. Much of that has to do with the wide availability of Graphical Processing Units(GPUs) that make parallel processing ever faster, cheaper, and more powerful. It also has to do with the simultaneous one-two punch of practically infinite storage and a flood of data of every stripe (that whole Big Data movement) – images, text, transactions, mapping data, together with atmospheric reanalysis. The Hydro-Climate Diagnostic and Prediction Center inspired by Bob’s visionary insights plan to apply the cutting edge deep learning technology to make temporally and spatially refined climate based hydrologic outlooks

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