

Graduate Brother Highlight: Dr. James O'Brien

BΦ Beta Phi (1957) Rutgers University

Have you ever wondered how El Nino and La Nina affect the climate or how they can also have a real economic impact on the world economy? Dr. James O'Brien, the Robert O. Lawton Distinguished Professor Emeritus, at Florida State University in Tallahassee, Florida does... all of the time. In the mid-1970's O'Brien's interest was piqued when a paper was published related to El Nino and climate variability around the world. The study led him to develop the first models using real wind data over the Pacific to reproduce the amplitude and timing of El Nino (Source: FSU Department of Oceanography Newsletter, No. 18, Summer 1999).

Dr. O'Brien's work led to how scientists today determine weather patterns which affect the world and are successful at forecasting droughts, floods, and other extreme weather events. "It wasn't easy at first. A lot of folks were upset with us because what we were forecasting went against everything known at the time about meteorology and climatology. Eventually, we were able to run a study that examined real trade winds and how the winds impacted the climate events based on El Nino. People were convinced after that," offers Dr. O'Brien.

El Nino begins off of the coast of Ecuador due to warmer than normal waters. The warmer ocean has a direct impact on the strength of hurricanes. "El Nino kills hurricanes in the Atlantic," Dr. O'Brien states. "More important for the United States is La Nina, the opposite of El Nino. La Nina also begins off the coast of Ecuador, but with cooler than normal waters. La Nina spawns more hurricanes." Based on the research related to El Nino/La Nina, Dr. O'Brien and his graduate students began building models that assisted in forecasting the economic impact of specific regions in the United States and abroad. "We've received calls from farmers and CEO's of Fortune 500 companies wanting us to help them," Dr. O'Brien responds.

Dr. O'Brien and his team conduct very applied climatology studies on a host of issues related to El Nino/La Nina. "One day we could be assisting farmers decide what and how much to grow each season; the next day we're looking at how to place fire suppression teams in advance of forest fire season. By knowing the climate we are able to help many prepare for various impacts based on their location."

Dr. O'Brien's research interest has generated the interest of the federal government. "Our research is supported by over \$10 million dollars in federal grants," he offers. Dr. O'Brien's present research focuses on how to categorize heavy rain storms based on location. "Again, this is very applied climatology research that benefits many people in the long run," offers Dr. O'Brien.

Dr. O'Brien's research even leads to some very interesting conversations with government officials. You may think that these meetings occur in boardrooms and university research labs, but there are times when one might bump into someone in say... the grocery store... and one thing leads to another. "I was standing in line at a grocery store a few years back and Governor Jeb Bush was standing right behind me. I

said something witty to break the ice and the next thing I know the Governor responds 'La Nina is coming; means a lot of fires. Right?' I was amazed and gratified that he knew about my research and we started to talk more. I was serving as the State of Florida's Climatologist so the Governor had heard my name through different sources and was interested in the work we were doing," Dr. O'Brien chuckles.

Dr. O'Brien was the oldest of nine children. His parents came to the United States in 1926 and married in 1934. "We were a strong Irish family. My dad thought that as the oldest I would finish high school and work with him to bring home money. But I went to high school in Summit, New Jersey, where there was a high percentage of students who went onto college and I was encouraged to study Chemistry. I attended Rutgers, studied Chemistry, served as a dorm counselor (now known as a Resident Assistant), and joined the Fraternity."

After graduating, Dr. O'Brien felt there was not a field in Chemistry he was interested in pursuing. He entered the Air Force and served as a meteorologist; briefing pilots on weather conditions for their sorties. After which, he entered Texas A&M University at College Station to complete his Masters Degree and Ph.D. in Meteorology. He completed his post-doctoral work at the National Center for Atmospheric Studies. He began his tenure at Florida State University in 1969, becoming a full-tenured professor in 2 years. He is now retired but works about 30 hours per week on his research.

He lives in Tallahassee with his wife and enjoys fishing (fresh and salt water) and competitive Bridge competitions, as well as reading. He also enjoys spending time with his children and 8 grandchildren.

