

USGS NATIONAL AND LOCAL PROGRAMS IN WATER AVAILABILITY AND USE RESEARCH

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Water availability and use are reoccurring themes of priority research identified by the USGS. Elements of the USGS Water Availability and Use Science Program (WAUSP), launched to facilitate this research, include a comprehensive national inventory of water use and the development of operational and predictive models that integrate groundwater, surface water, and ecological systems, such as the National Hydrologic Model. At the local level, the USGS Caribbean-Florida Water Science Center is conducting WAUSP-funded collaborative research with State and local agencies that includes mapping of agricultural irrigated land-use by county, estimation of domestic self-supply and lawn watering withdrawals, and publications (5-year intervals) of water-use and availability compilations. Data compiled for 2015 for Florida indicates freshwater withdrawals totaled about 5,721 million gallons per day (Mgal/d) of which groundwater withdrawals totaled 3,604 Mgal/d (63 percent) and surface water withdrawals totaled 2,117 Mgal/d (37 percent). The majority of groundwater withdrawals (almost 62 percent) in 2015 were obtained from the Floridan aquifer system. Over the 40-year period between 1975 and 2015, there was an increase in freshwater withdrawals caused by large increases in population and expansion of irrigated acreage which were offset by decreases in water used for power generation and commercial-industrial-mining withdrawals. Since 2000, however, irrigated acreage has decreased statewide because of crop disease, storm damage, and urbanization. This decline, coupled with large gains in water conservation measures in the farming industry, has led to agricultural withdrawals in Florida being lower than public-supply withdrawals for the first time since water-use data were first reported in 1965. The use of alternative water sources, such as reclaimed wastewater and private lawn irrigation wells, has helped lower demands for potable, public supplied water in several areas of the State.

PRESENTER BIO: Richard Marella is Geographer with the U.S Geological Survey, Caribbean-Florida Water Science Center. His research and expertise includes water use and availability in Florida.