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# Comparative study of groundwater vulnerability in a karst aquifer in Central Florida

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Numerous methods exist for assessing the vulnerability of groundwater to surface contamination. One of the most commonly used is the DRASTIC model, however this method is not specifically created for karst environments. Aquifers in karst environments can be especially vulnerable to contamination due to a surface lithology that can rapidly transmit pollutants into the groundwater. Such features include sinkholes, solutionally enlarged fractures and even caves. EPIK is one method developed specifically for karst but it has not been applied to central Florida. In this study we have taken the approach of combining components of DRASTIC and EPIK to produce a new model for measuring groundwater vulnerability, which we termed the karst aquifer vulnerability index (KAVI). This method uses the ERIK approach to karst to expand upon the vadose zone media component of DRASTIC while keeping DRASTIC's other major components intact. An additional component incorporated into KAVI is landuse type, which is not covered adequately in DRASTIC. A comparison of all three methods will be undertaken to determine the suitability of each method for this part of Florida.