



## **Peak Groundwater Depletion: Towards Sustainable Groundwater Management**

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The concept of Peak Groundwater Depletion was introduced by Steward & Allen (2016), where the rate of depletion in an aquifer increases until a peak is reached, followed by decreasing rates of pumping until an equilibrium is reached with available recharge rates. Spatial analysis of the rates of depletion across the High Plains Aquifer reveal complicated patterns where significant regions have been dewatered while other areas have more sustainable supplies. And, yet, integration of the groundwater depletion across the High Plains aquifer reveals that a peak occurred in 2006, whereby net annual extractions from this important source of irrigation are now declining. This trend clearly articulates the transition from predevelopment conditions before significant pumping into a future with less groundwater availability. Opportunities exist now to plan for future water supplies and best practices to manage this precious region of agricultural production and supply the world's foods of the future.