

عنوان مقاله:

Study of Groundwater Recharge the TEXAS-MEXICO Border Region

محل انتشار:

کنفرانس بین المللی مهندسی و علوم کاربردی (سال: 1394)

تعداد صفحات اصل مقاله: 16

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خلاصه مقاله:

Population growth in the United States (U.S.) and Mexico is focused in the arid southwest. One such region is the Texas-Mexico border region. However, groundwater resource extraction to meet human water needs often exacts deleterious environmental consequences, such as spring flow reduction or groundwater capture of surface water bodies. In the arid basins of this study, the evaluation of groundwater recharge to regional flow systems is critical for understanding groundwater resource extraction sustainability. As the climate has experienced a general drying trend in the southwest U.S. and northeastern Mexico since the Pleistocene Epoch, current recharge to these regional groundwater flow systems may be much less than historic values. Thus, prior to the initiation of groundwater development projects in the arid portions of Texas and Mexico, it is critical to ascertain the extent of regional groundwater systems. This Literature Review will integrate the findings of three papers dealing with groundwater flow systems of the arid Texas-Mexico border region. In particular, one flow system from will be described from recharge area (Ryan, Lobo, Southeast Eagle, and Wildhorse Flats) to discharge location (San Solomon Springs). While the Texas-Mexico border region is the geographic focus of this report, aquifers of this region are analogous to the less-studied aquifers in neighboring regions. In fact, research focuses on understanding regional groundwater flow in northeastern Mexico, an area with similar groundwater resource management challenges and future research will present a novel method of delineating regions groundwater systems from recharge source to discharge area.

کلمات کلیدی:

groundwater, Texas-Mexico, flow systems, resource management

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