



Webinar Series

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Managed Aquifer Recharge in California – Long-Term Projects and New Emphasis Under the New Groundwater Law

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California has a long history of managed aquifer recharge, with groundwater overdraft beginning only 10 to 20 years after the advent of the first deep well turbine in Los Angeles in about 1900. The first MAR site was developed in the south San Francisco Bay Area, where agricultural production by groundwater pumping caused subsidence, flooding and inundation of the land surface by bay waters. Soon thereafter, seawater intrusion in Orange County resulted in the establishment of Orange County Water District with a mandate and authority to mitigate the saline water degrading groundwater with a seawater intrusion barrier, and managed aquifer recharge to raise groundwater levels in the basin. Los Angeles just to the north followed suit a couple decades later. California with its complex climate variability, geographic and in time, constructed a vast system of reservoirs and aqueducts coupled with the natural drainage system, to move water from the water rich north to the water poor south, and to help address the growing overdraft and land subsidence problems in the San Joaquin Valley and in the Los Angeles area. That worked for a while but groundwater declines increased again, even with increased MAR, and finally in September 2014 Governor Brown signed the Sustainable Groundwater Management Act (SGMA). The new groundwater law requires all high and medium priority basins (1) form new groundwater sustainability agencies (GSA) in 2016, (2) develop groundwater sustainability plans (GSP) by beginning of 2020 (critically overdrafted "COD" basins) or 2022 (remaining non-critical basins), and (3) achieve groundwater sustainability within 20 years of adopting plans. The COD basin GSPs indicate MAR is one of the key initiatives for sustainability; unfortunately, there may not be enough surface water available to meet all the COD GSP MAR needs. The state has commenced several additional key actions to address groundwater sustainability including: (1) FloodMAR in the vast agricultural areas to increase groundwater recharge, and (2) implementation of a three basin pilot project and release of a request for proposals for statewide aerial electromagnetics mapping to refine hydrogeologic conceptual models and map recharge areas. California has its challenges and is working collaboratively on some viable science-based solutions to address groundwater sustainability with increased MAR and a better understanding of the surface and subsurface resources under a new comprehensive groundwater policy framework .