Geophysical Research Abstracts
Vol. 14, EGU2012-4134, 2012
EGU General Assembly 2012

Analysis of the Water Resources on Baseflow River Basin in Jeju Island, Korea

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Jeju Island is a volcanic island located at the southernmost of Korea, and is the heaviest raining area in Korea, but due to its hydrological / geological characteristics different from those of inland areas, most streams are of the dry form, and it relies on groundwater for water resources. As for some streams, however, springwater is discharged at a point near the downstream of the final discharge to maintain the flow of the stream; this has been developed as the source for water supply since the past, but the studies on detail observations and analysis are yet inadequate. This study utilizes the ADCP (Acoustic Doppler Current Profiler) hydrometer to regularly observe the flow amount of base run-off stream, and the water resources of base discharge basin of Jeju Island were analyzed using the SWAT (Soil & Water Assessment Tool) model. The detail water resource analysis study using modeling and site observation with high precision for Jeju Island water resources is expected to become the foundation for efficient usage and security of water resources against future climate changes.