Groundwater Monitoring Network in Taiwan and it's meaning to the Earthquake induced Hydrological Changes.

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Abstract

This presentation is to introduce the stages results of the "Groundwater Monitoring Network in Taiwan." The plan is a 17-year project beginning from 1992 to 2008 for the purpose of improving groundwater monitoring in Taiwan area. A total of 517 hydrogeological survey stations and 990 groundwater monitoring wells will be constructed in order to set up the information system on hydrogeology and groundwater hydrology. The first stage (1992 to 1998) and second stage (1999 to 2003) of the plan completed 220 hydrogeological survey stations and 550 groundwater monitoring wells distribute all around the Taiwan island. Because of the network with spatial high density and the observation managed in systematize, the result of the network offers the good opportunity to revealed the earthquake induced hydrological changes.

We make a brief review for the past three years, and to introduce the recently results of the project. Follow the experience of last three years; we reorganize our main work for the future. Also revise the strategy to the scientific challenge. Beside the establishment of the good quality observation devices and monitoring system have been promote continuously. In the other related works, including (1) amplify effect of the signal from the resonate of well-aquifer system, (2) molding of a strain - pressure coupling system, (3) estimation of the rainfall effect to ground water level, (4) detecting the anomalies changes using static methods (5) radon monitoring in the groundwater. All the research items have planned to construct the different base of the project. The information system will be applied to groundwater monitoring and management. It is hoped that the conjunctive comparison from timing and spatial distribution of the earthquake induced physical and chemical changes of the groundwater can give insight into the problems that can't solved by limited observations. The observation of the network also can act as the experimental platform to test the model been used in different mechanism.