

Review of cooperative hydrological and geochemical research for earthquake prediction in Taiwan for recent three years

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Since 2001, Geological Survey of Japan (GSJ), AIST, Disaster Prevention Research Center (DPRC), National Cheng Kung University and Water Resource Agency (WRA) have continued cooperative hydrological and geochemical research for earthquake prediction in Taiwan. At the first Japan-Taiwan International Workshop on Hydrological and Geochemical Research for Earthquake Prediction, which was held at GSJ in September 2002, I suggested 7 problems, which should be solved, through the discussion of the first workshop as follows;

- (1) What are conditions of sensitive wells? Or how can we detect sensitive wells systematically?
- (2) What is a mechanism of preseismic changes in unconfined groundwater level?
- (3) What is a mechanism of geochemical precursors? Or how can we develop the ' crack model ' ?
- (4) Can we suggest information of pore pressure and permeability in the seismic region? And how can we?
- (5) How should we design a long-term stable geochemical observation?
- (6) How can we manage a condition of high temperature, high pore pressure and high water or steam content?
- (7) What is relationship among GPS data, groundwater level data and (borehole) strain data?

They still remain important.

In this presentation, I would like to check how our research has been developed in the view of above seven points. It will enable us to review and evaluate the recent three-year development of our cooperative research objectively and effectively.