Chemical and Isotopic Compositions of Groundwater in the Himi Landslide area,Toyama Prefecture

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Landslide is closely related to the hydrological and hydrogeochemical nature of groundwater involved. Therefore, in order to predict the occurrence of landslide and to consider a useful countermeasure, it is very valuable to investigate the origin of the supplied water into landslide area, the groundwater movement and the hydrogeochemical properties of the groundwater.

To study the weathering mechanism and the origin of groundwater , we collected and analyzed water samples from landslide areas in the Himi City,Toyama Prefecture through 1998 to 2001.

The following facts can be pointed out: (1)water-rock interaction is remarkably active in the landwater areas. (2)water quality is Na2SO4 type in 1972, Na2SO4 type and CaSO4 type in 1982,and NaHCO3 type and CaSO4 type in 2000. (3)The groundwater flow path is stable in 1972 and 1982, but it is unstable in 2000. (4)bicarbonete and sulfate ions concentrations increase and dissolved oxygen concentration decreases with altitude. (5)Ferric ions are high concentration. (6)Major ions concentration in collecting well water are very high in comparison with those in vertical and horizontal bore hole waters, (7)variation in dD and d18O values with time varies independently from point to point.