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# Use of ice cave for the storage of water resources

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This study proposes the way to use ice cave for the storage of water resources.
Water freezing is easier in cave then in out of cave. After freezing, water do not leak out from cave and cave become a good reservoir. Cave protects water and ice from sunshine and warm wind. As a result, evaporation is suppressed. Therefore water can be stored for a long time without loss.
To freeze water in cave with a little artificial energy, Two mechanisms are proposed, One is penetrating cold air below zero into water using pan and hose in winter. This is much cheaper than using cold air from refrigerate.
As a second way the positive feedback mechanism of the cold air generation is proposed. Ice sublimates when it meets colder air. With the sublimation, a lot of latent heat is exhausted and colder air generated again. Colder air flows downward, freeze water and sublimated ice again. Sublimated water vapor flow upward and go out of cave. therefore, the ice in cave can be kept unmelted as long as wanted with very small artificial efforts.
To use the water resources in iced cave, only a small water pump and iron wire make it possible. At first when heat added to iron wire, ice thaws and water flows downward, water pump connected to the lower altitude of cave changes the water in cave to the usable water resources out of the cave.