

An Assessment on the Geographical Boundary of Hydrometeorologic Changes due to Dam Construction

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Researches on the dam construction effect on the surrounding hydrological and meteorological environment have reported two different results. One is the negative aspects of dam construction including meteorological changes such as increases in fog days and decreases in sunshine hours. The other is the positive aspects including improvement of water supply and flood prevention. However, these results are said to be very dependent on the research characteristics.

The purpose of the present study is to evaluate the hydrometeorologic changes after a dam construction, and develops a model related to estimating the geographical boundary how far hydrometeorologic changes could happen due to a dam construction.

The model is applied to several dams in Korea, namely Seomjin Dam, Soyang Dam, Andong Dam, and Chungju Dam. Throughout estimating the correlation between albedo and recycling coefficients, the result in fig. 1 confirms that the land use changes by dam construction are the critical factor on the recycling of the water in the air. It is also shown that the geographical boundary is highly related to the surface area of a dam. Finally, this model is expected to be applied to estimate its boundary of hydrometeorologic changes by a new dam construction.

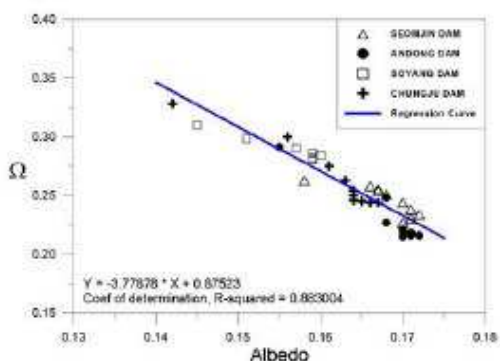


Figure 1: Correlation between albedo and Ω (recycling coefficient)