

Tuenchai Walaisri 2008: Water Accounting Model Development: Upper Ping River Basin.
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Associate Professor Kobkiat Phongphut, Ph.D. 161 pages.

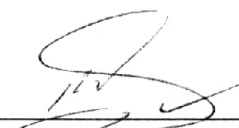
This research is performed an analysis of water accounting on the Upper Ping River Basin. The monthly water accounting is created by developing a hydrological model based on hydrological data in 2000 by using Macro Excel. Then the whole components of river basin are revealed. The resulting information could be used to create a water resource management plan in order to gain the highest benefit.

In 2000, Upper Ping River Basin has 23,891 million cubic meters of rainfall. The deplete water equals to 19,910.18 million cubic meters. The stored water equals to -6,932.93 million cubic meters. Surface runoff equals to 5,533.43 million cubic meters. Subsurface runoff equals to 4741.09 million cubic meters. Available water is about 21,568.62 million cubic meters. Four indexes are used to evaluate the condition of river basin. Depleted Fraction of Gross Inflow, DF_{GI} , is 0.59 for rainy season. For dry season, DF_{GI} equals to 2.43, which means the water consumption is higher than inflow. The stored water will be used within this period. Depleted Fraction of Available Water, DF_{AW} , equals to 0.92, which means water consumption is almost equal to available water. Process Fraction of Available Water, PF_{AW} , equals to 0.19 is less than DF_{AW} about 73 percent, which means the high usage of non-process depletion water because in the area having densely forest. The last index is BU equals to 0.91. It means water usage within domain area is very effective.

The hydrological condition of river basin, which is reproduced by developing model, can be used to make better understanding in harmony of natural process and human activity. It would be used to analyze water accounting for other river basin and utilized for integrated water resource management

ตีพิมพ์ วลัยศรี

Student's signature


Thesis Advisor's signature

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