

## **Assessment model of absolute water security**

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**Abstract** A fuzzy mathematics based evaluation model for absolute water security assessment is introduced for the estimation of regional water security. The model uses five aspects and, in total, 22 indexes to describe the water security. Weights of indexes are determined by the analytical hierarchy process. For each index, five degrees are used to represent the level of water security. A triangle membership function is employed to calculate the membership between the adjacent degrees. The model is tested in Shandong Province, a coastal province of North China, and matches the reality of the water state of the Province well.

**Key words** water security; assessment model; absolute assessment

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