

## Taleghan Dam Break Numerical Modeling

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**Abstract :** While there are many benefits to using reservoir dams, their break leads to destructive effects. From the viewpoint of International Committee of Large Dams (ICOLD), dam break means the collapse of whole or some parts of a dam; thereby the dam will be unable to hold water. Therefore, studying dam break phenomenon and prediction of its behavior and effects reduces losses and damages of the mentioned phenomenon. One of the most common types of reservoir dams is embankment dam. Overtopping in embankment dams occurs because of flood discharge system inability in release inflows to reservoir. One of the most important issues among managers and engineers to evaluate the performance of the reservoir dam rim when sliding into the storage, creating waves is large and long. In this study, the effects of floods which caused the overtopping of the dam have been investigated. It was assumed that spillway is unable to release the inflow. To determine outflow hydrograph resulting from dam break, numerical model using Flow-3D software and empirical equations was used. Results of numerical models and their comparison with empirical equations show that numerical model and empirical equations can be used to study the flood resulting from dam break.

**Keywords :** embankment dam break, empirical equations, Taleghan dam, Flow-3D numerical model

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