

# Evaluation of Ajichay river pollution at floods by Hec-Ras Software

Siyamak Boudaghpour<sup>1</sup> , saeed rezapour<sup>2</sup>

1. Siyamak boudaghpour -bodaghpour@knt.ac.ir

2. Saeedrezapour-saeedrezapour@yahoo.com

## Abstract

Every year floods of rivers insert un account of outstanding natural and artificial pollutions in to the earth that it causes irretrievable damages to the environment. From the goal of this study it is inventing new methods of counting pollutions that they cause saltiness at around river grounds on flooding times by applying Hec-Ras software. At first it analyzes data about qualifications and quantities of Ajichay River. Then it classifies data by Hec-Ras software at first syllable by return to 2, 5,10,2550 year periods. At advanced step it verifies bases of floods by salt amounts. The results of study indicated because of wide spread floods at left bank of river there are more Sodium and Colure and also the amount of sodium in floods it is the in highest amount at round fields. Thought these floods insert the most pollution at around fields and it is critical.

**Key words:** Evaluation of pollution, Wide of Flood, Ajichay River, Hec-Ras Software.

## 1. Introduction

Every year floods of rivers insert un account of outstanding natural and artificial pollutions in to the earth that it causes irretrievable damages to the environment. From the goal of this study it is inventing new methods of counting pollutions that they cause saltiness at around river grounds on flooding times by applying software. It tries applying the methods of floods prediction. The prediction of impressive areas assist controlling this phenomenon and it makes decrease of inserting pollution to round farming fields. The Ajichay River located at Tabriz and between valleys of west Arasbaran Mountains, Ghoshedagh and from north sabalan, and Bozghosh and Sahand mountains from the south. It is current at south direction. The Geographical Territory of Ajichjay Mountain it is located between 24-47 degree at East direction and 33-37 degree to 30-38 degree north. It was passing the field of chalk and fossil causes carrying melting contents which it affects the quality of river water. At the time of flooding the quality condition of river water affect the salt amount and chalk and fossil amounts. It is probable by applying Hec-Ras software classification of different floods and defining the effects of their destruction of environment.

As implementation of this study it first gathering qualifying and quantity of Ajichay River. Then by processing data applying Hec-Ras software at advanced step it verifies bases of floods by salt amounts. It applies for different floods around the river.

Lots of studies have been done about widespread of floods and qualifications of rivers such Tavakoli's studies.(2001) He adjusted to widespread middle Atrak by danger of flood around five kilometers. He also counted Debi of river via Samada Software. He also designed the edges of vertical and horizontal parts of river for floods and at lost he counted the return period by Hec-Ras software by different return.(1) Also Hosseinzade he analyzed LayinSou