

**Contribution of Geostatistics to the Validation of Prastchim's Method in the Study Groundwater Vulnerability (Case of High SEBAOU Alluvial Waters)**

**Dahbia DJOUDAR/HALLAL<sup>\*</sup>, Mohamed El Amine KHELFI<sup>\*</sup>**

**Abdelkrim KHALDI<sup>\*\*</sup> et Idir LOUDA<sup>\*</sup>**

<sup>\*</sup> Ecole Nationale Supérieure de l'Hydraulique, Blida, Algérie.

d.djouidar@ensh.dz; khalfi.amine@yahoo.fr; i.louda@ensh.dz

<sup>\*\*</sup> Laboratoire de Rhéologie, de Transport et Traitement des Fluides Complexes, Université des Sciences et Technologie Mohamed Boudiaf, Oran Algérie.

abdelkrim.khalidi@univusto.dz; khaldiakz@yahoo.fr

**Abstract:**

The PRASTCHIM method proposed by Djoudar and Toubal (2014) is a new technique used for the indexation of water pollution sensitivity. It combines data issued from both water chemistry and results obtained by applying the PRAST model to the zone under study. The present work deals with the application of this method to the alluvial waters of 'Haut SEBAOU'.

The sensitivity index is calculated using the product of both the vulnerability PRAST index ( $I_{vp}$ ) and the chemical water quality index collected through the ANRH 2015 campaign (during the low waters period).

The  $I_Q$  index is calculated based on the classification proposed by Tolga Pusalti (2007) for irrigation waters and on those proposed by Neubert et al (2008), for drinking waters.

Sensitivity mapping obtained by probability methods (krigeage) show zones which perfectly agree with of high anthropic activities.

**Keywords:** sensitivity, vulnerability, water pollution, Haut SEBAOU, IGS, krigeage, Algeria.