

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/317659596>

# Assessment of concentration physicochemical parameters and heavy metals in Kızılırmak River, Turkey

Article in Desalination and water treatment · January 2017

DOI: 10.5004/dwt.2017.20437

CITATION

1

READS

92

4 authors, including:



Seval Aras

Nevşehir Hacı Bektaş Veli University

12 PUBLICATIONS 35 CITATIONS

SEE PROFILE



Özlem Fındık

Nevşehir Hacı Bektaş Veli University

23 PUBLICATIONS 375 CITATIONS

SEE PROFILE

Some of the authors of this publication are also working on these related projects:



Nevşehir İli Sınırları Arasında Kızılırmak Nehrinin Su Kalitesi ve Limnofaunasının Belirlenmesi [View project](#)



Damsa Baraj Gölü Limnoekolojik Özellikleri [View project](#)

## Assessment of concentration physicochemical parameters and heavy metals in Kızılırmak River, Turkey

Seval Aras<sup>a,\*</sup>, Ozlem Findik<sup>b</sup>, Erkan Kalipci<sup>a</sup>, Serkan Sahinkaya<sup>a</sup>

<sup>a</sup>Department of Environmental Engineering, Faculty of Engineering and Architecture, NevsehirHacıBektasVeli University, Nevsehir, Turkey, Tel./Fax +90 384 2281000 (15061), email: sevalkokmen@gmail.com

<sup>b</sup>Department of Molecular Biology, Faculty of Arts and Sciences, NevsehirHacıBektasVeli University, Nevsehir, Turkey

Received 15 November 2016; Accepted 13 December 2016

---

### ABSTRACT

Kızılırmak is the longest river of Turkey and the most important one as a resource for various water uses. Therefore Kızılırmak river basin is under pressure from a diverse range of human activities. Six stations were sampled along the Kızılırmak river located in Nevsehir city during 2013–2014 seasonally. The physico-chemical parameters (water temperature, biological oxygen demand (BOD), chemical oxygen demand (COD), pH, dissolved oxygen (DO), conductivity, nitrite (NO<sub>2</sub>), ammonium (NH<sub>4</sub>), ammonia (NH<sub>3</sub>), phosphate (PO<sub>4</sub>), sulfate (SO<sub>4</sub>) and some metal concentrations (Zn, Cu, B, Cr, Ni, Pb, Hg, As, Se, Sb, Mn, Cd and Al) were measured in the water samples to determine the water quality of the Kızılırmak river. When the water quality classes were examined in terms of the measured physico-chemical parameters, it was detected that the river is IV. class for nitrite, III. class for BOD, phosphate and pH, II. class for NH<sub>4</sub>-N. The results showed that the heavy metal concentrations in water of the Kızılırmak river were within the quality class I. limits of the EPA and WPCR.

*Keywords:* Heavy metals; Physico-chemical parameters; Kızılırmak river; Water quality

---

\*Corresponding author.