

Groundwater quality assessment of Dashtestan using WQI index in 2007

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Research Article

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Groundwater quality assessment of Dashtestan using WQI index in 2007

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Abstract

Water is a major source of economic development, social security and poverty reduction. The value of this resource on the one hand and its limitation on the other hand has led to increased management measures to maintain the quantity and quality of water by different communities. In this research, the water quality index (WQI) for the Dehroud and Tang Eram regions of Dashtestan in 2007 has been investigated. The average WQI in 2007 is 66,798. WQI was better off in the Northeast in 2007 than in the Southeast. The maximum values of PH, TDS and EC in 2007 are 7.9, 5000 and 7500, respectively.

Keywords: WQI, water, groundwater, Dehroud region, Dashtestan

Introduction

Water is a major source of economic development, social security and poverty reduction. The value of this resource on the one hand and its limitation on the other hand has led to increased management measures to maintain the quantity and quality of water by different communities. Environmental changes and human activities affect the quantity and quality of water [1]. Although groundwater is the most abundant available source of fresh water in the world, which accounts for 97% of the world's freshwater resources except polar ice and glaciers, and is sometimes called hidden wealth, its existence and importance are not well understood [2]. As a result, the necessary measures to identify water conservation and management of environmentally sustainable methods are either not done or are done too late [3-5]. Approximately 85% of the area of Iran is covered by areas with the arid and semi-arid climate that are completely dependent on groundwater resources and due to lack

of appropriate spatial-temporal distribution of rainfall water source has no alternative to meet their water needs [3-7].

Eram section is one of the sections of Dashtestan city in Bushehr province in the south of the country to the center of Tang Eram city. Most of the plains of this region are critical. Therefore, it is necessary to study the quality and protection of groundwater. In this research, WQI for the Dehroud and Tang Eram in 2007 has been investigated.

Results

PH, TDS and EC measurements have been studied in this research in 2007. Figure 1 shows the PH, TDS, and EC for 2007. According to the results, the maximum values of PH, TDS and EC in 2007 are 7.9, 5000 and 7500, respectively.

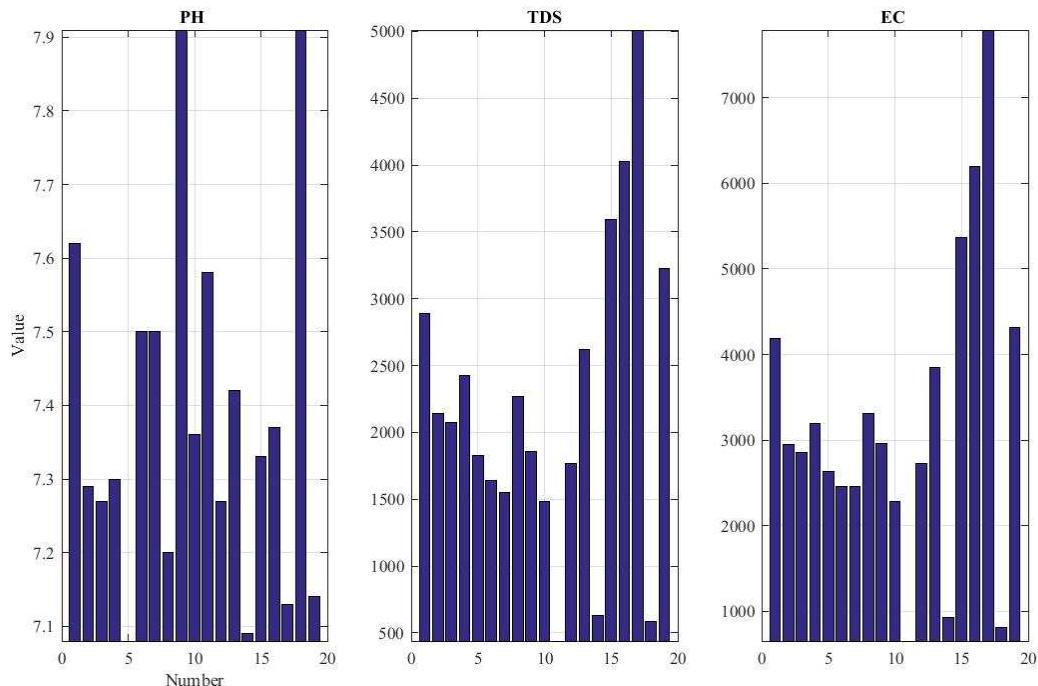


Figure 1 Diagrams of PH, TDS and EC in 2007

Figure 2 shows the WQI in 2007. According to the results, the average WQI in 2007 is 66,798.

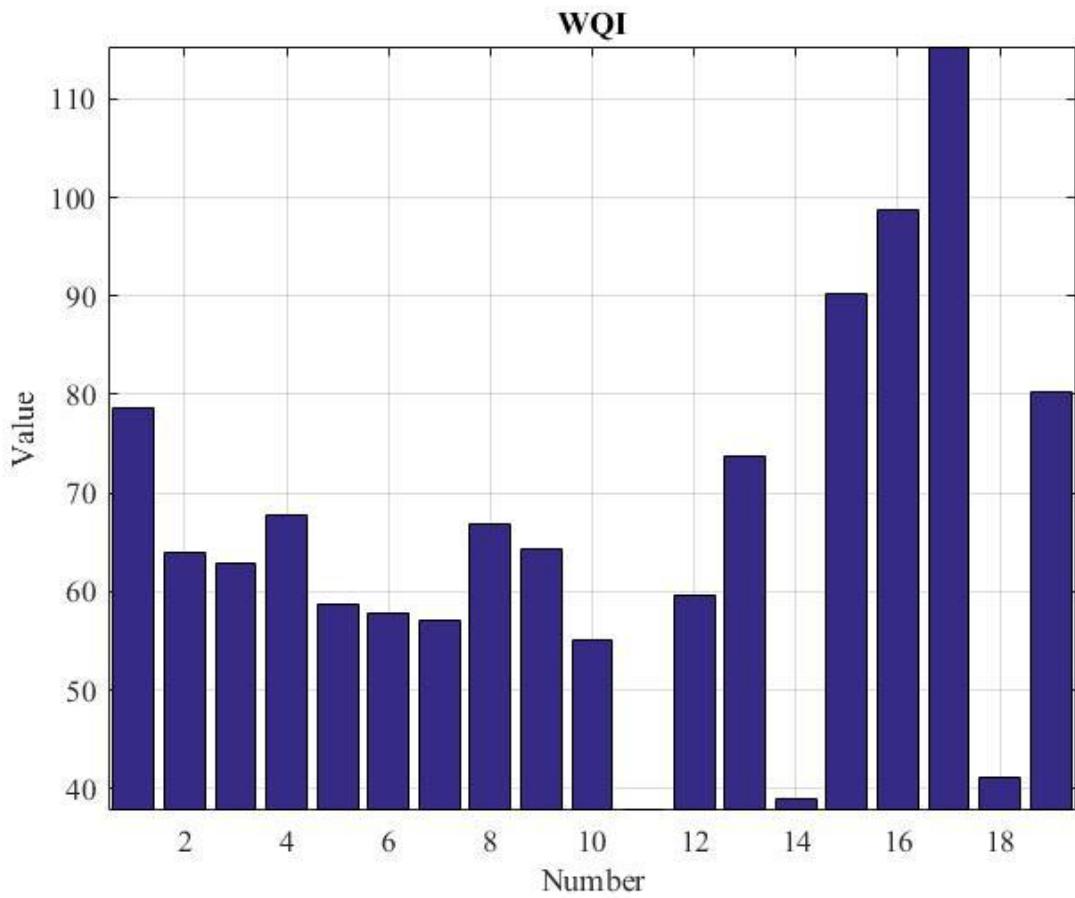


Figure 2 WQI in 2007

Figure 3 shows the WQI in 2007. WQI was better off in the Northeast in 2007 than in the Southeast.

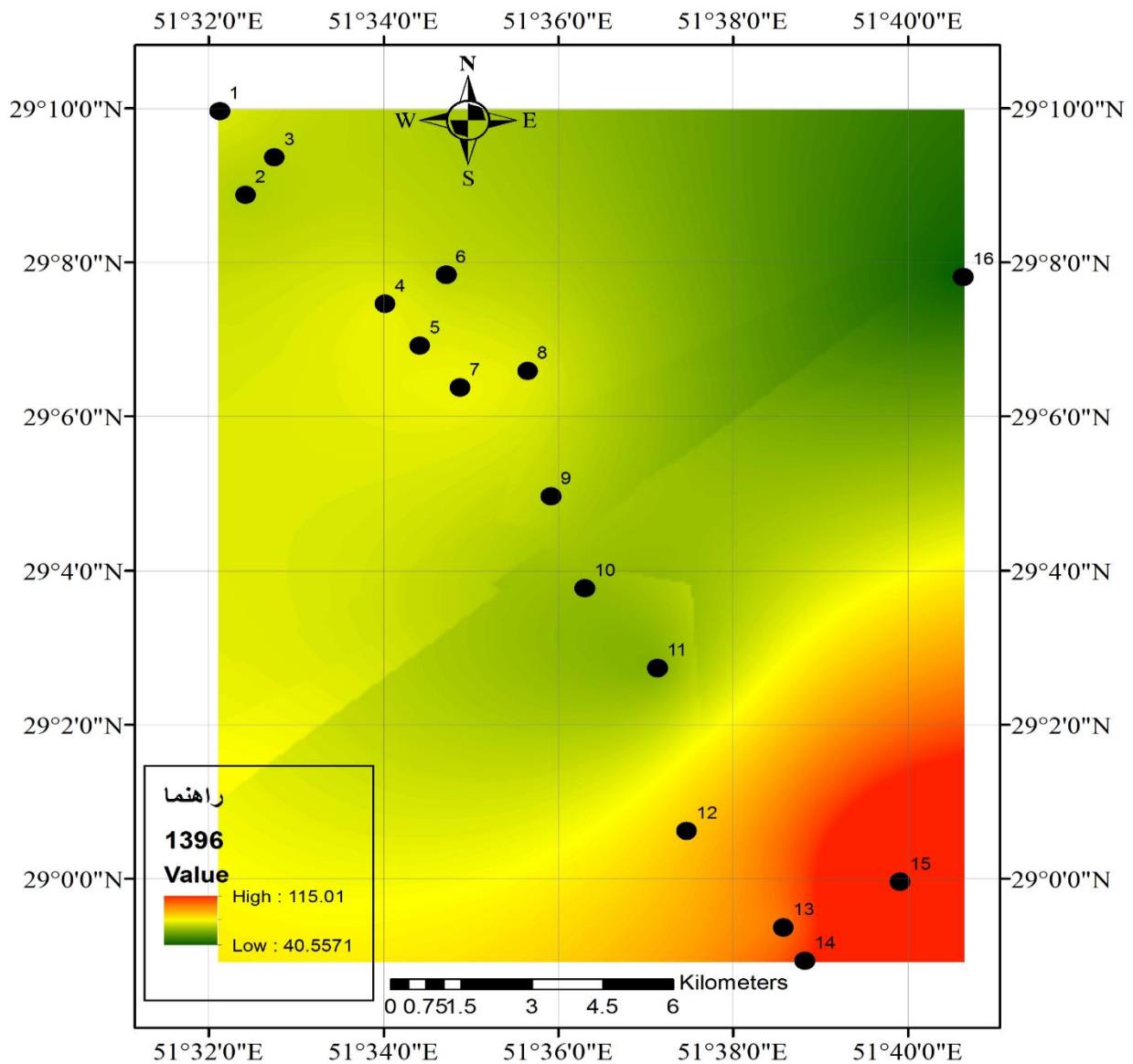


Figure 3 WQI in 2007

Conclusion

In this research, WQI for the Dehroud and Tang Eram in 2007 has been investigated. According to the results, the average WQI in 2007 is 66,798. WQI was better off in the Northeast in 2007 than in the Southeast. The maximum values of PH, TDS and EC in 2007 are 7.9, 5000 and 7500, respectively. For future research, deep learning and satellite measurements can be used to estimate WQI [3,11].

Competing interests:

The authors declare no competing interests.

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Figures

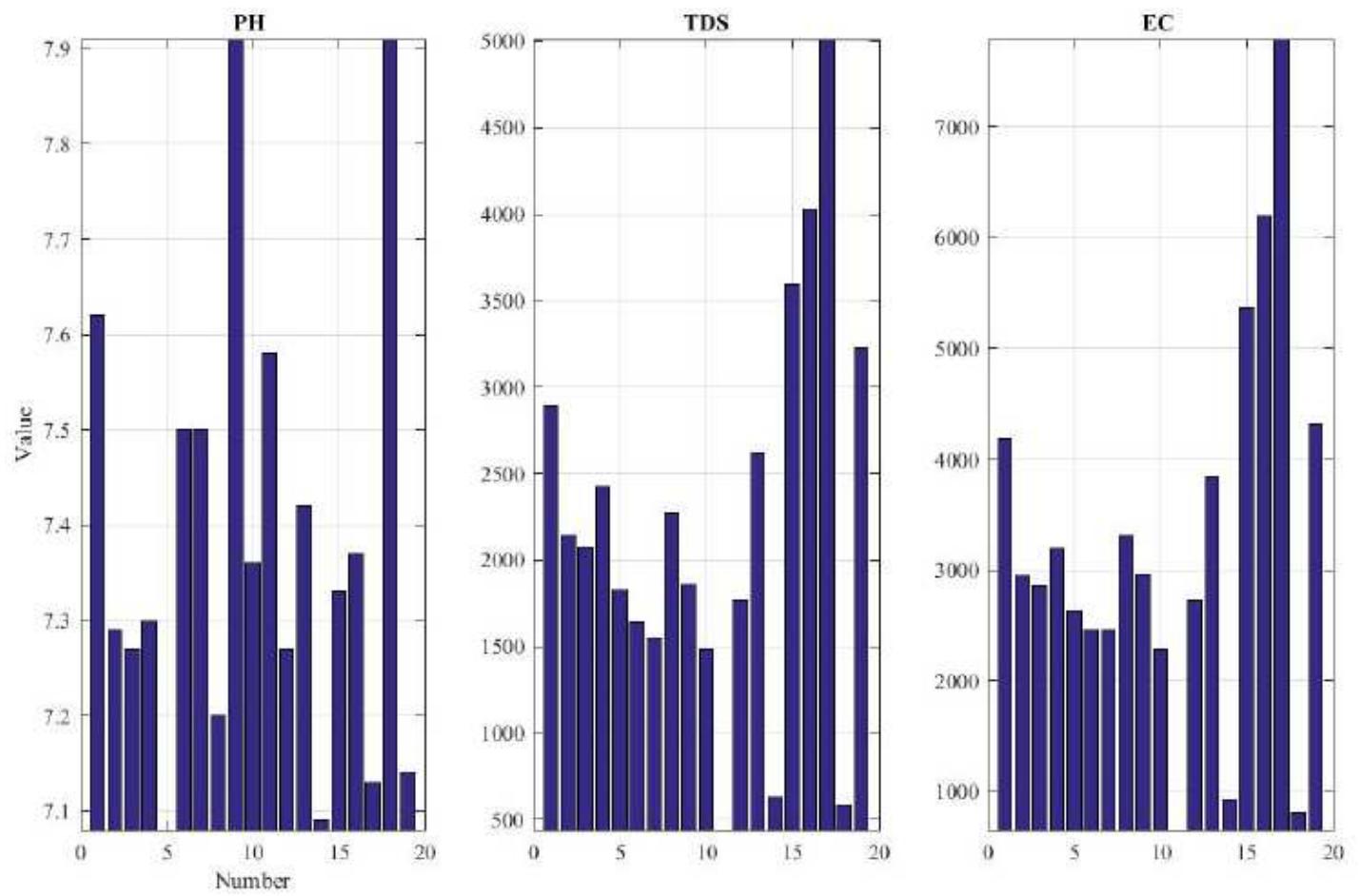


Figure 1

Diagrams of PH, TDS and EC in 2007

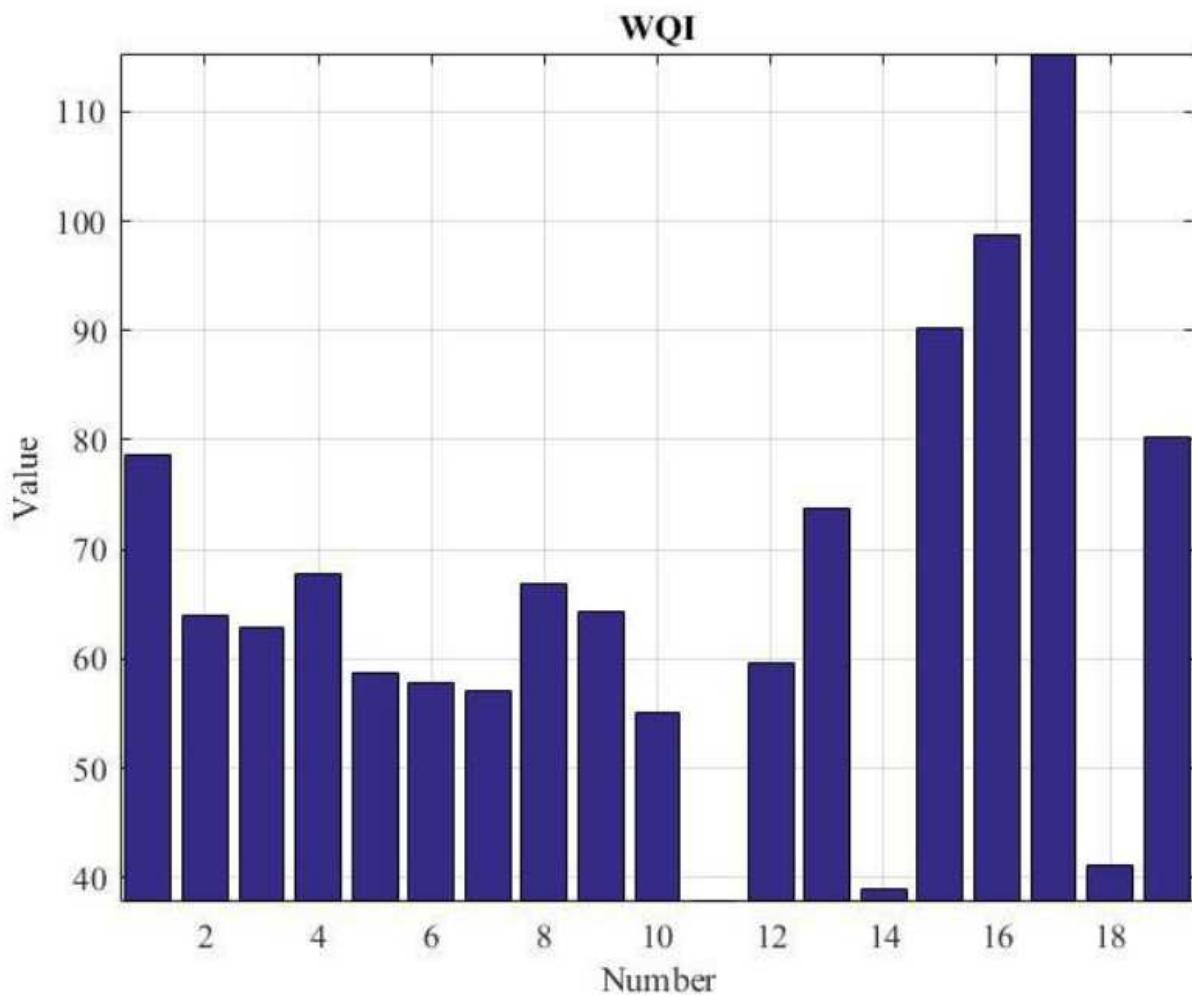


Figure 2

WQI in 2007. According to the results, the average WQI in 2007 is 66,798.

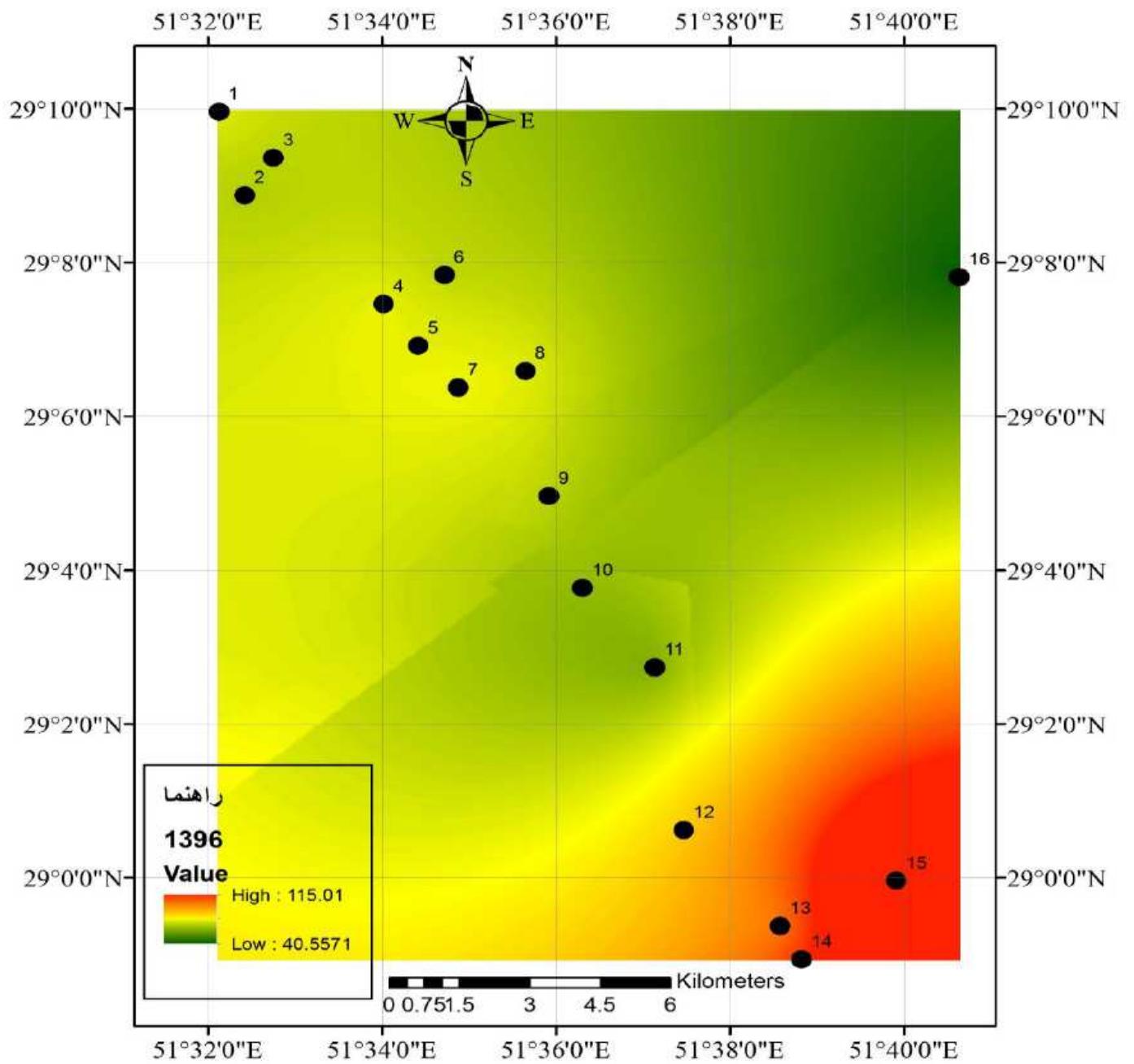


Figure 3

WQI in 2007. WQI was better off in the Northeast in 2007 than in the Southeast.