Review of: "New Method to Identify Potential Illegal Water Use Location by Using Remote Sensing and Neural Networks in Laguna de Aculeo, Chile"

S. L. McGuirk[1]

1 University of Sydney

Potential competing interests: No potential competing interests to declare.

This is a useful and legitimate application of remote sensing data and GIS software to support policy development and law enforcement (though it may be unpopular with some citizens who consider that the government is ‘spying’ on them).

It is clear that English is not the first language of the authors; however, they have made a good effort to communicate their ideas and research clearly. Some sentences are awkward, and there are some grammatical improvements that could be made.

“Chile has been facing a complex water scenario related to drought and water scarcity, understanding drought as a meteorological phenomenon and scarcity as a long-term imbalance between supply and demand .” Separate these two concepts; it’s confusing having them in the same sentence.

Suggest that authors include the country (Chile) of the Aculeo Basin in the abstract.

These sentences are confusing: “To address the challenge of detecting illegal water intrusion, one study presented an improved algorithm based on YOLOv3. This algorithm combines residual and dense modules to enhance accuracy in detecting large targets. Our RD_YOLOv3 model achieves higher mean average precision (MAP) values on relevant datasets, indicating improved performance in identifying illegal wells and intrusions in water areas . Specifically, the first sentence talks about ‘illegal water intrusion’. I can’t see how water intrusion (adding water into underground layers) is relevant to this study. The last sentence is also confusing for the same reason.

The tenses used in the materials and methods section paragraph 1 need revising.

Apart from such grammatical corrections,

The introduction clearly presents a problem statement and justifies the need for this research. It would be good to see this research applied, and the outcomes/influences on policy and water scarcity recorded in a future publication.

The methods are detailed and clearly described.

The results are clearly presented and appear robust.

Well done to the authors. I recommend this manuscript for publication following some minor revisions.