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

Stefanie Kagone[1]

1 United States Geological Survey

Potential competing interests:  No potential competing interests to declare.

The authors present a study on using remotely sensed data to identify illegal water use within the Aculeo lagoon basin in Chile. The need for such monitoring tools is described well in the introduction.

The abstract is written well. 2 comments: 1. First sentence, add "The Aculeo lagoon basin in central Chile is…." so people know where it is located easier. 2. Mention which remotely sensed data you are using in the 3rd sentence. 3. Delete "soil" from "soil indices"; not all listed are soil indices.

The instruction is written very comprehensively. I would suggest shortening it by removing the figure and methodology paragraphs (paragraphs 5-8) and moving that to the Method section. This would make the introduction more focused.

The method section - Data collection - would benefit from having references for the indices described, including where to access the data, etc. What made you decide to use those particular indices?

Section 3.1, Precipitation, should be considered under Data Collection since you are describing the method of collecting the data.

Figure 3 - Expand the caption to include more text on what is shown in the figure to make it more accessible to all people, including people with e.g., a reading disability.

Section 3.3. Why did you choose 0.5 for the NDVI threshold and not 0.7, for example? Maybe note the thresholds of all indices, not just in the figure, but also in the text, and give a reason why those thresholds were chosen. Table 1 is very nice and informative.

Section 3.4. - Nice application of machine learning.

Section 3.5. - Is empty on purpose?

Section 3.6. - Nice presentation of the results by using a web application. I was not able to log in to the map, unfortunately. Also, you could keep most of the 1st paragraph for the discussion and instead describe more on how you set up the application and how to use it and what people can learn from it.

Section 4 - The discussion is short and to the point, but doesn't discuss the results much.