

# ***Interactive comment on “Applicability of Landsat 8 Thermal Infrared Sensor to Identify Submarine Groundwater Discharge Springs in the Mediterranean Sea Basin” by Sònia Jou-Claus et al.***

## **Anonymous Referee #2**

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The manuscript presents an interesting approach to use satellite TIR images to identify SGD springs at different spatial and temporal scales. The manuscript gives a good overview of existing literature and addresses a the need for this method. In addition the study defines a conceptual framework, identifying and discussing the principal limitations of the approach, which is useful for further applications.

Generally the manuscript is well written. However sections 3.2.1 and 3.2.2 need a check on language. In my opinion the figures can be much improved to show better the data and results of the study.

Comments on the figures:

1. Figure 1 presents the 54 SGD springs. The springs have different properties as mentioned in the text. It would be helpful for the reader to vary shape, colour and/or symbol of the wells in the figure to have different attributes visualised in a clear way. The info in lines 153-160 can then be presented in the figure.
2. Figure 2 shows the SST images. Negative values represent clouds. Wouldn't it be better to have masked the clouds and use similar temperature ranges for all images for a better comparison?
3. The legends in Figure 6 are lacking units.

Comments on the text:

- In lines 42-44 you describe three different occurrences of SGD springs. This needs more explanation, instead of only references, because it is important to understand later better what we can distinguish with the presented method.
- Line 94: replace "For those satellite suitable" with "For those sensors suitable" or "For those images suitable"
- Line 97 needs a full stop at the end of the sentence.
- Line 148: Here it is referred to Supplementary material 1 as the springs, but it contains the table with the used Landsat scenes
- Line 164: replace "a thermal imager two" with "a thermal imager with"
- In section 2.2 the reference to Supplementary material 1 is missing
- Line 187: correct m-2 unit typography
- Line 205: "The applied water emissivity in band 10 was 0.9904". Is this representative for sea water with mixing of SGDs? Is this depending on temperature, turbidity and/or minerals?

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