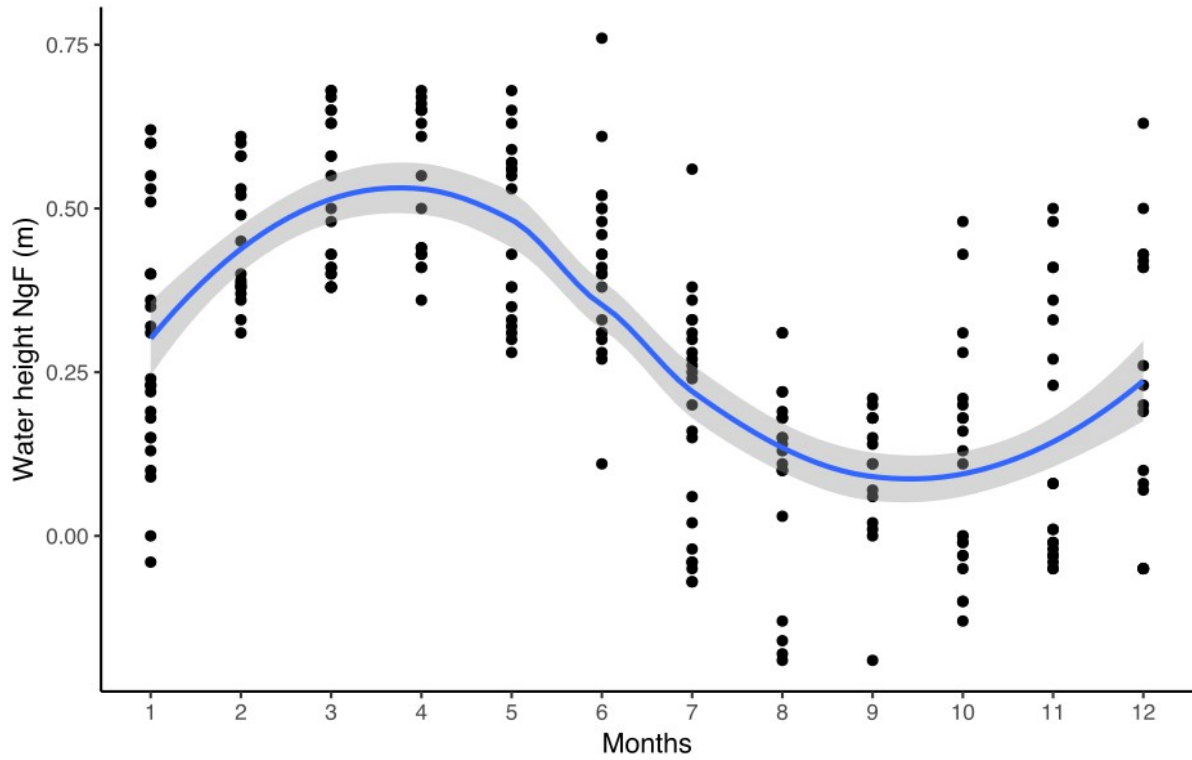


1 Appendices

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4 Appendix 1. Hydrological survey

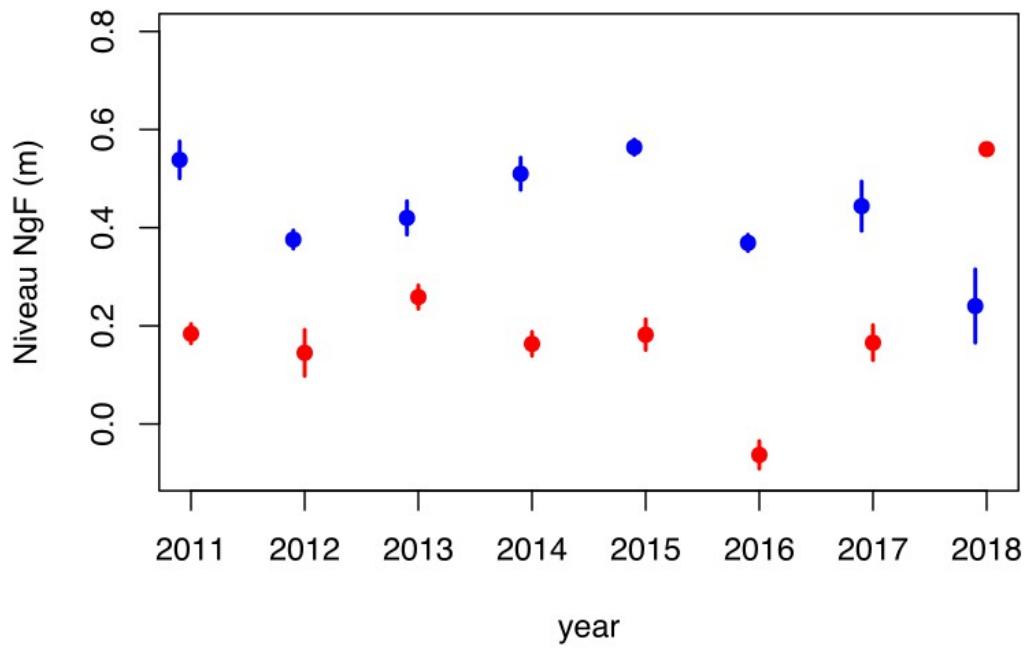


5 Figure 1a. Yearly variations of water level in the Bagnas lagoon. The analysis is based on a
6 bimonthly survey realized between 2011 and 2018.

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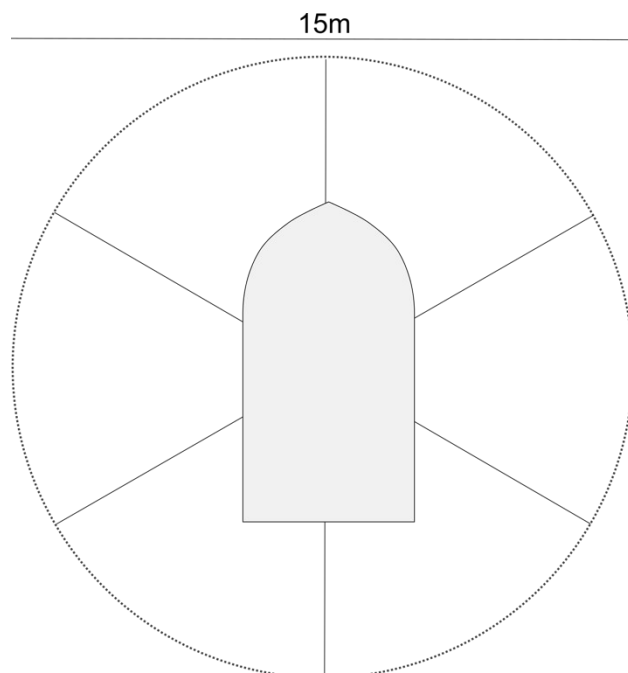
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11 Figure 1b. Yearly water level in winter (blue) and summer (red) in the Bagnas lagoon. Dots
12 represents the mean value (calculated on all measures realized during the two periods, from
13 January to March and July to September, respectively), bars represent the standard error.
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Appendix 2. Field sampling



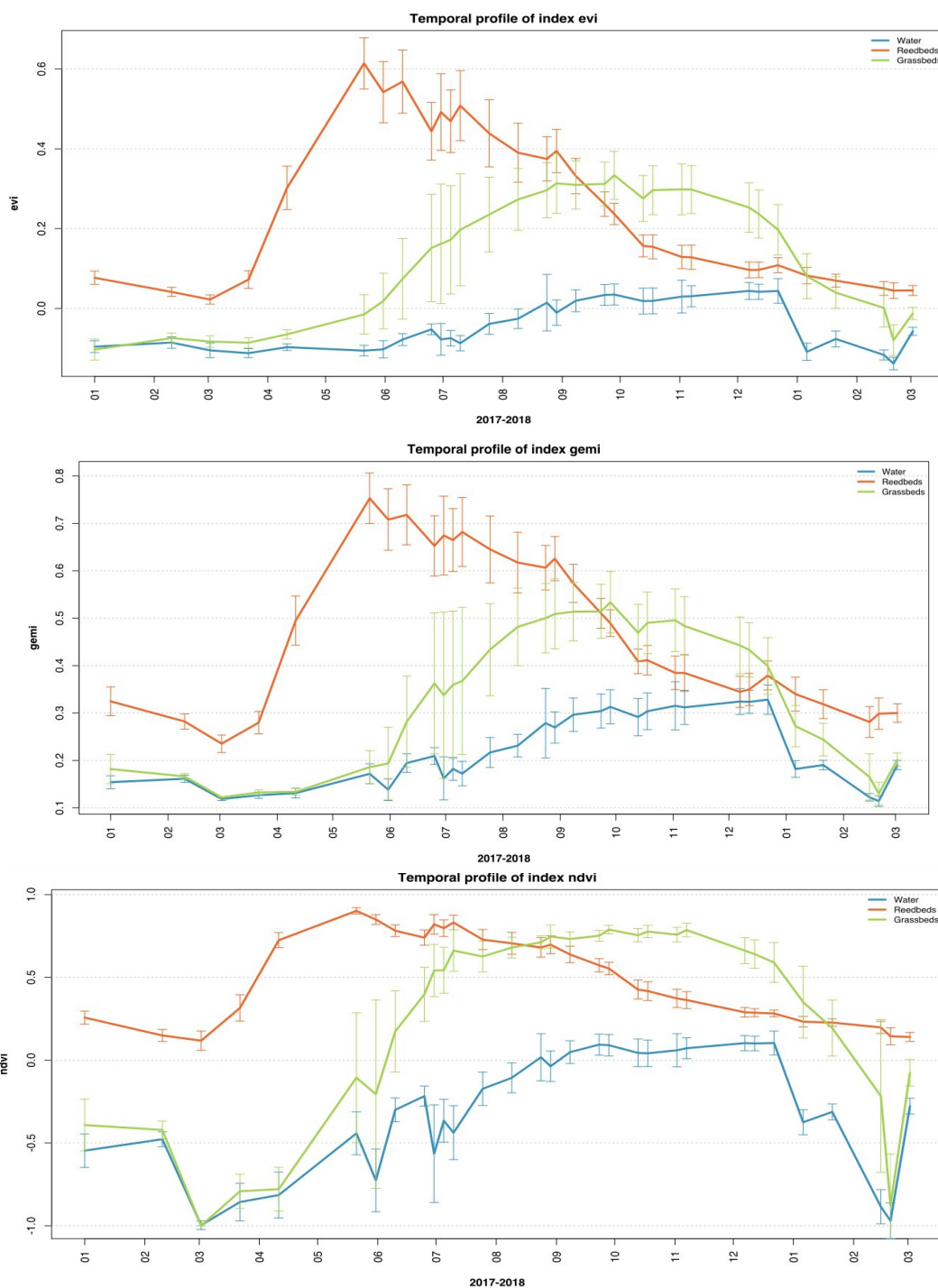
22 Figure 2. Field sampling. The boat is represented in grey, and 6 sectors are defined around it
23 within a circle of ~15m diameter.

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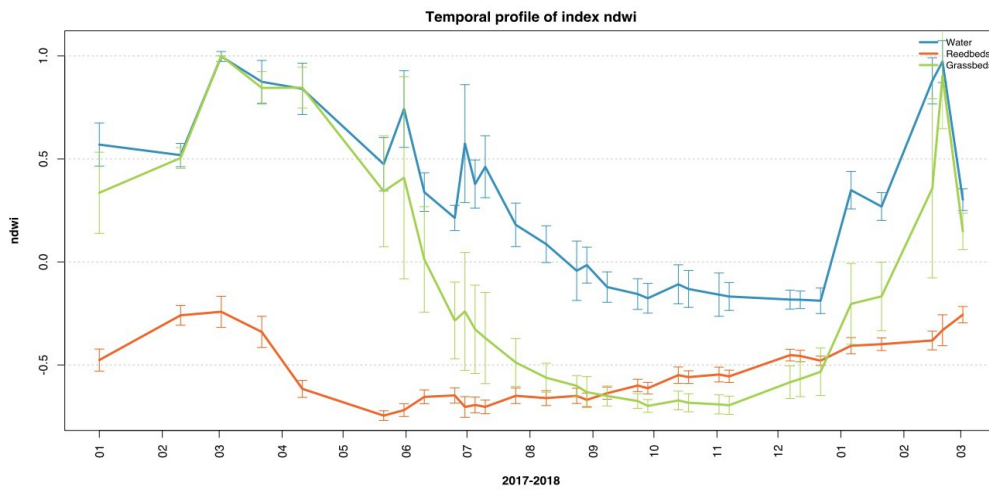
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Appendix 3. Index choice:

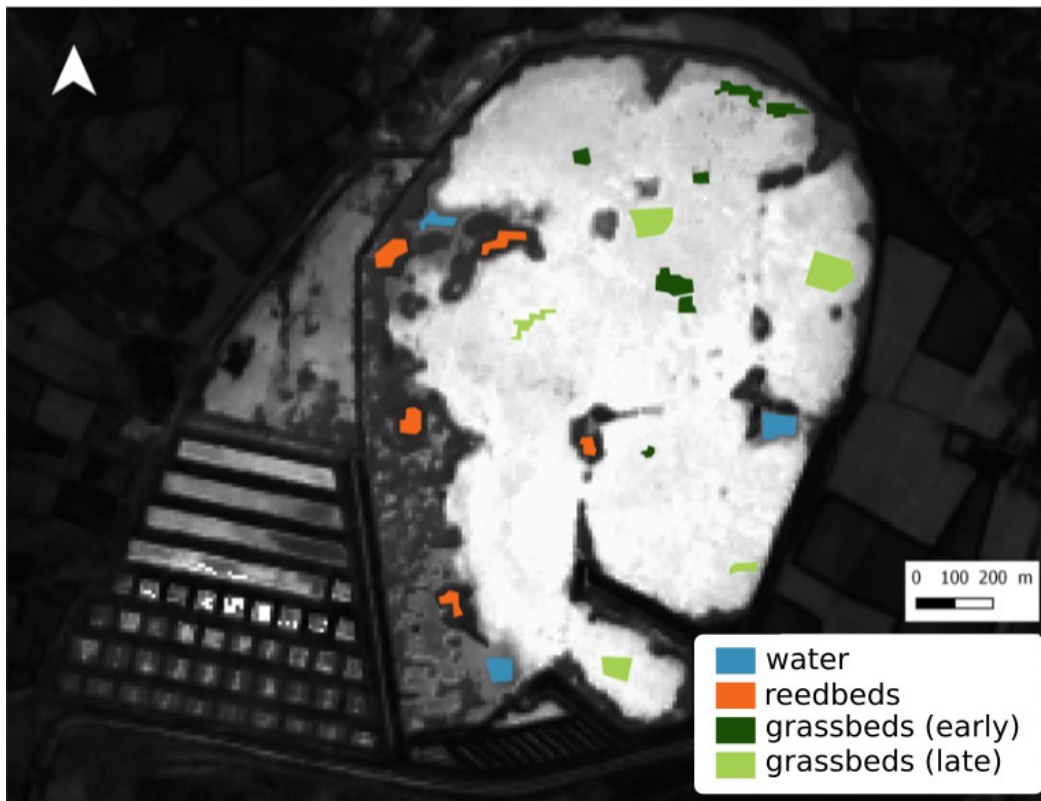
Although the MSAVI2 has received much attention for aquatic vegetation classification, and is our index of choice for this study, we have compared several indices to check which ones allow for a significant difference between classes, others don't. As an illustration below, one can see that the EVI and GEMI indices would be relevant indices as well, whereas NDVI and NDWI would not.



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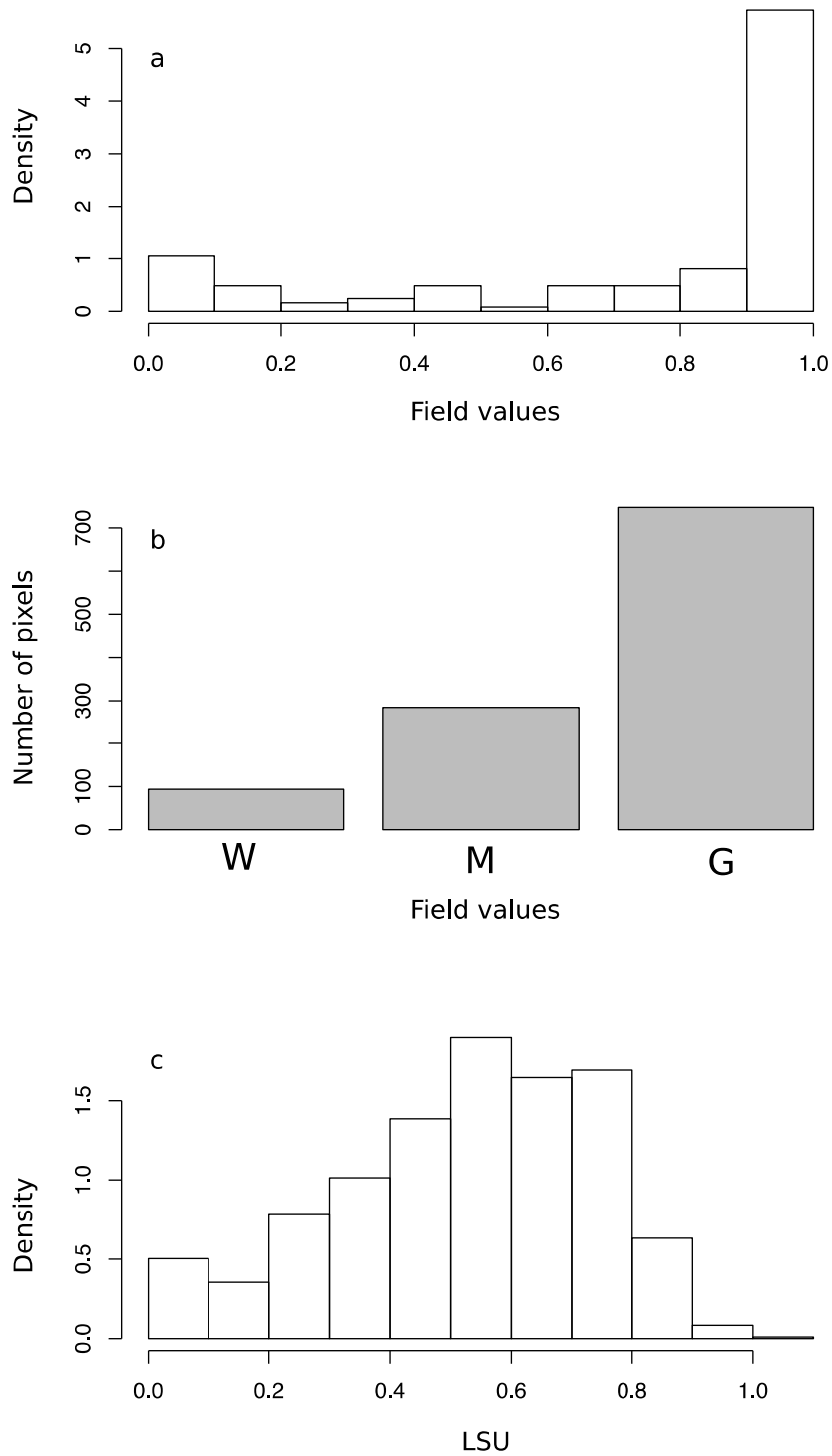


Appendix 4. Photointerpretation



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135 Figure 4. The NDVI variance map calculated between March 2017 and April 2018 allows to
136 distinguish the variable surface due to grassbed growth (white) from the permanent surfaces
137 (water, reedbeds in grey). Hence black regions (zero NDVI variance over time) represent
138 permanent patches, while white regions represent variable patches over time, hence some
139 vegetation with seasonal changes. The grassbeds regions are more variable than the reedbeds,
140 themselves more variable than water. The grey scale is linear, from 0 (black) to 0.04 (white)
141 in this figure .Polygons have been photointerpreted to calculate the index temporal profiles
142 according to the vegetation occupation: reedbeds in red (144 pixels), water in blue (111
143 pixels), early growing grassbeds in dark green (149 pixels), late growing grassbeds in light
144 green (242 pixels).



148 Figure 5. Histograms presenting the distribution of three different indicators of grass bed
 149 development at its peak in late July 2017. Plot a. is for field values of grass bed cover (in %);
 150 plot b. represents the proportion of each pixel attributed to the three categories (W : water, M :
 151 mixed, G : grass bed); plot c. shows the distribution of LSU values across the water body.