Comment 1
"Regarding the response to Comment 4:

The addition of explanations to the Results section is good. In addition, it would be beneficial to discuss in the Discussion section why the properties of these features were able to explain FCO2 and FCH4 well. It might also be helpful to include ecological or geoscientific reasoning, for example by referring to the specific characteristics of the Sacramento Delta.

This could help address potential concerns from readers about how such a small number of features (only two or three) could result in high predictive accuracy. Note that this comment is not a request for complete proof.

In addition to representing water conditions, is NDGI also related to the amount of vegetation? If so, could this have contributed to its importance in explaining FCH4?"

Response:

We agree and the discussion section was expanded to highlight the mechanistic relevance of the predictors for both targets, as well as including more information relating to the relevance of NDGI on methane, which is indeed important since substrate is supplied from the vegetation, which promotes methanogenesis.

Manuscript changes.

- We added a paragraph to expand the discussion section, which highlights the features selected. See 'The feed-forward selection converges…'

Comment 2
"Figure 5: I believe the figure has been improved. However, FCH4 has been removed. Why is that?"

Response.
This was a stylistic choice as Figure 5 became busy with the updated zoom-in panels, and FCH4's contribution is contained within FCO2e.

Comment 3
""… zoom-in subplots highlighting areas with more data. 10 models were trained and mean and standard deviation was calculated for each spatial point."

This part feels abrupt and lacks a smooth connection between sentences. Also, what do the ten models refer to? I was unable to understand it.”

Response.
Fair point, the current sentence is ambiguous, and I made this clearer. To clarify, we run N separate machine models on the same data (there is stochasticity in the training), then N separate upscalings were calculated from each of the models, and the ensemble mean is reported.

Manuscript changes.

- Updated Section 3.2 to make this clearer. See ‘Upscaling was repeated…’

Comment 4
“Regarding the change to LANDSAT
The revised model now seems to select features that offer more reasonable explanations of the phenomena in wetlands. Therefore, I agree with this change.”

Response.
Great!