Floating solar interactions with water bodies under climate warming

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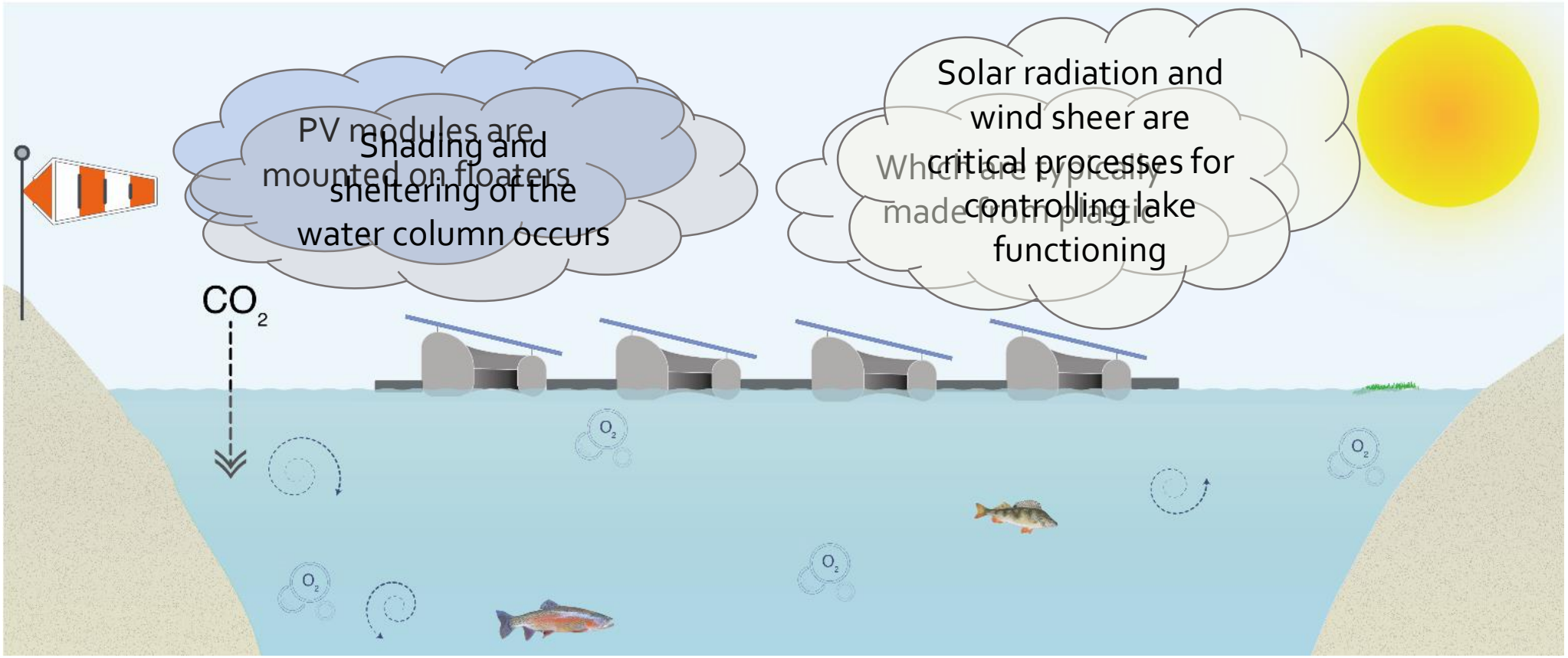
What is floating solar?



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Modelling study

MyLake model

- Lake simulation model
- Modified to simulate floating solar coverage and multiple algae species

Future climate *cases*

- Two mid-century and two late-century RCP2.6 and RCP8.5 cases
- Simulated a baseline (present day) and compared to future outcomes with varying floating solar coverage

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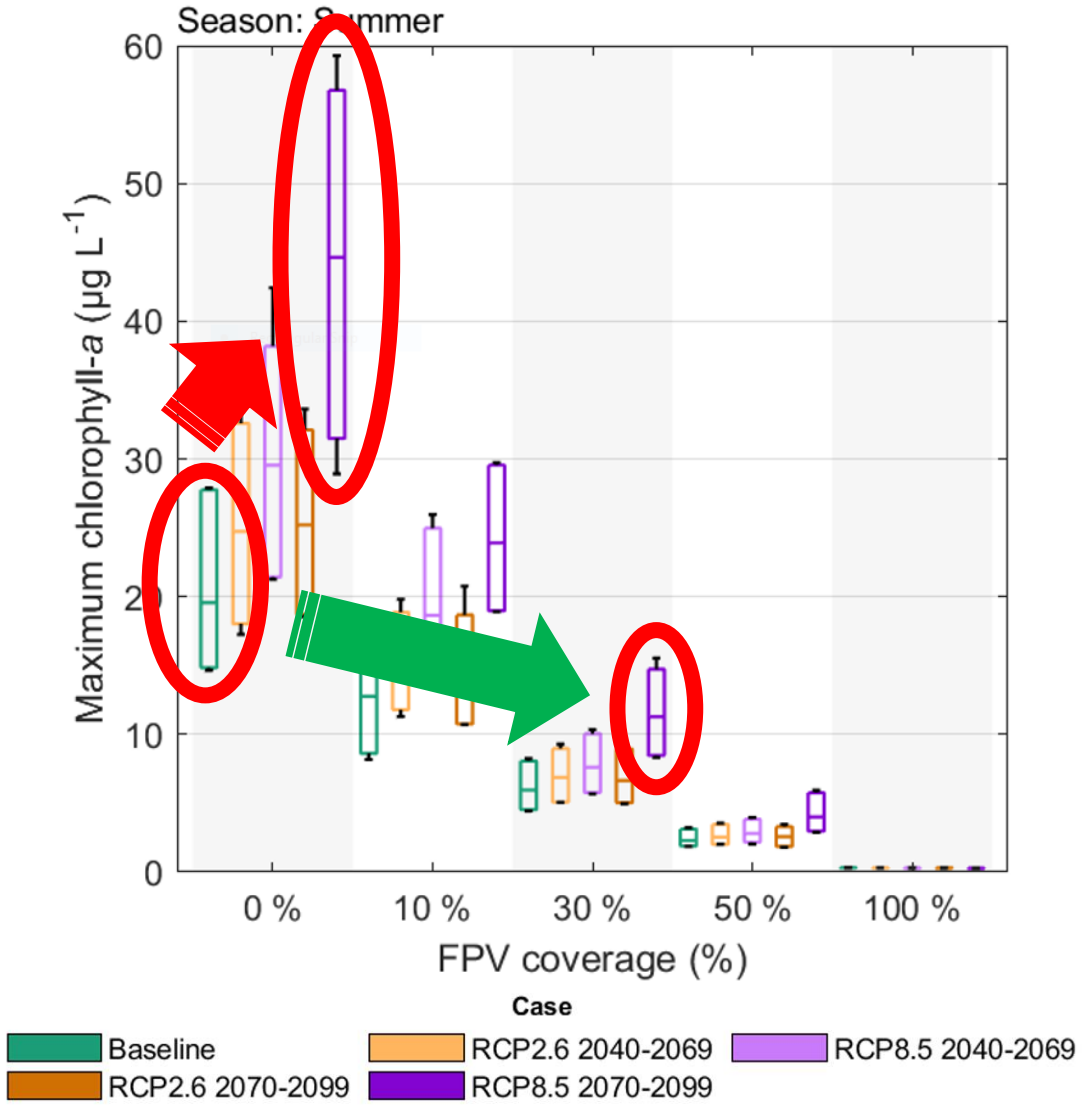
Key findings



Floating solar reduces…

- Water temperatures
- Phytoplankton biomass
- Stratification duration

Floating solar has the **potential to mitigate climate warming impacts** on the host water body

Conclusions

- Floating solar has the potential to mitigate the effects of climate warming on the host water body
- Expanded MyLake model to inform best practices and design decisions
- Opportunity to use floating solar as a management tool – targeting specific management goals with specific coverages

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Thanks for listening

Exley, G., Armstrong, A., Page, T. and Jones, I. D. (2021) 'Floating photovoltaics could mitigate climate change impacts on water body temperature and stratification', *Solar Energy*.

Exley, G., Hernandez, R. R., Page, T., Chipps, M., Gambro, S., Hersey, M., Lake, R., Zoannou, K. S. and Armstrong, A. (2021) 'Scientific and stakeholder evidence-based assessment: Ecosystem response to floating solar photovoltaics and implications for sustainability', *Renewable and Sustainable Energy Reviews*

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