

**Inorganic and organic carbon spatial variability  
in the Congo River  
during high waters (December 2013) and low waters (June 2014)**

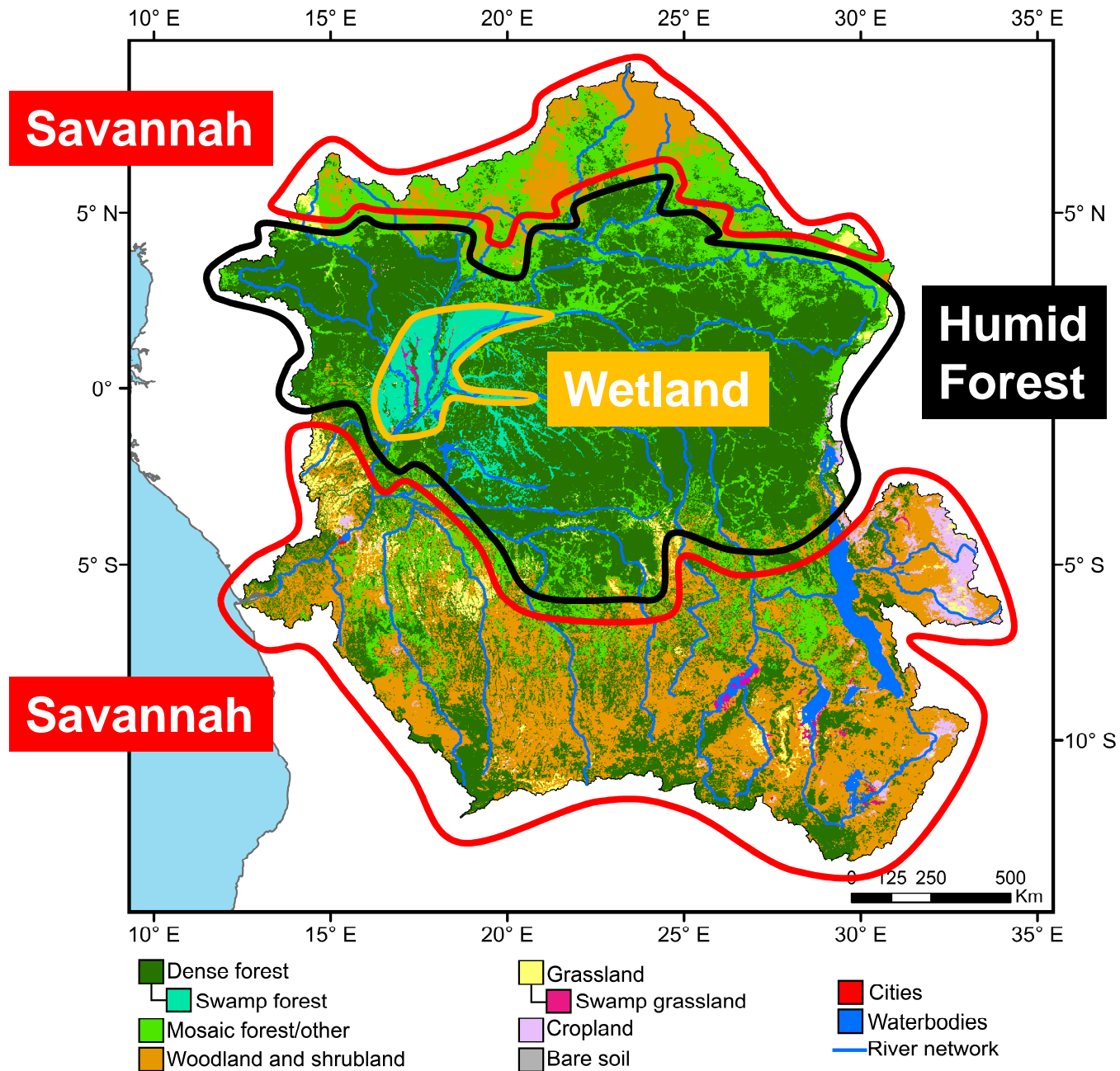
**A.V. Borges<sup>1</sup>, S. Bouillon<sup>2</sup>, C. Teodoru<sup>2</sup>, J.-P. Descy<sup>3</sup>, T. Lambert<sup>1</sup>  
& F. Darchambeau<sup>1</sup>**

**<sup>1</sup>University of Liège, Belgium**

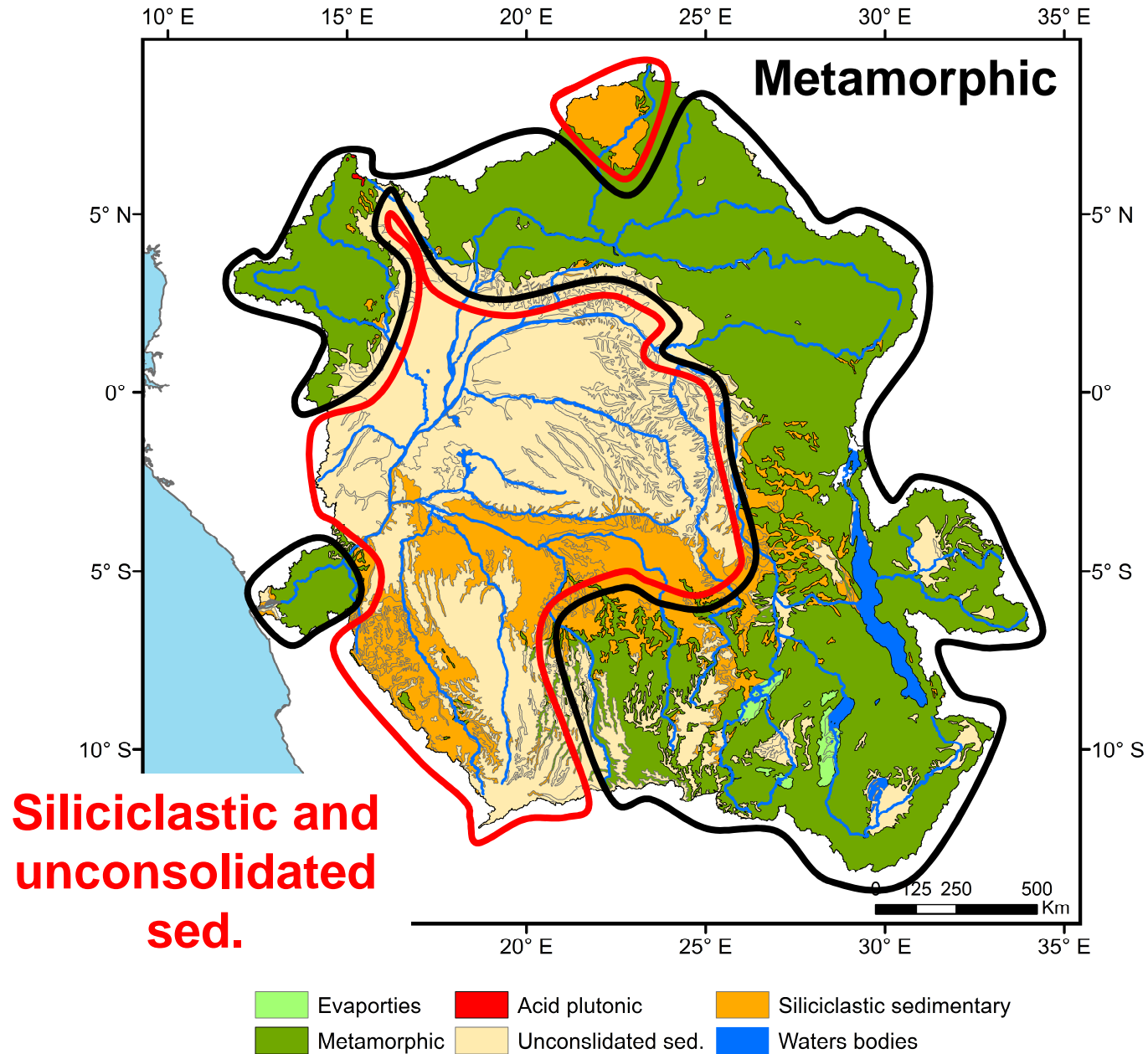
**<sup>2</sup>KULeuven, Belgium**

**<sup>3</sup>University of Namur, Belgium**

# Introduction

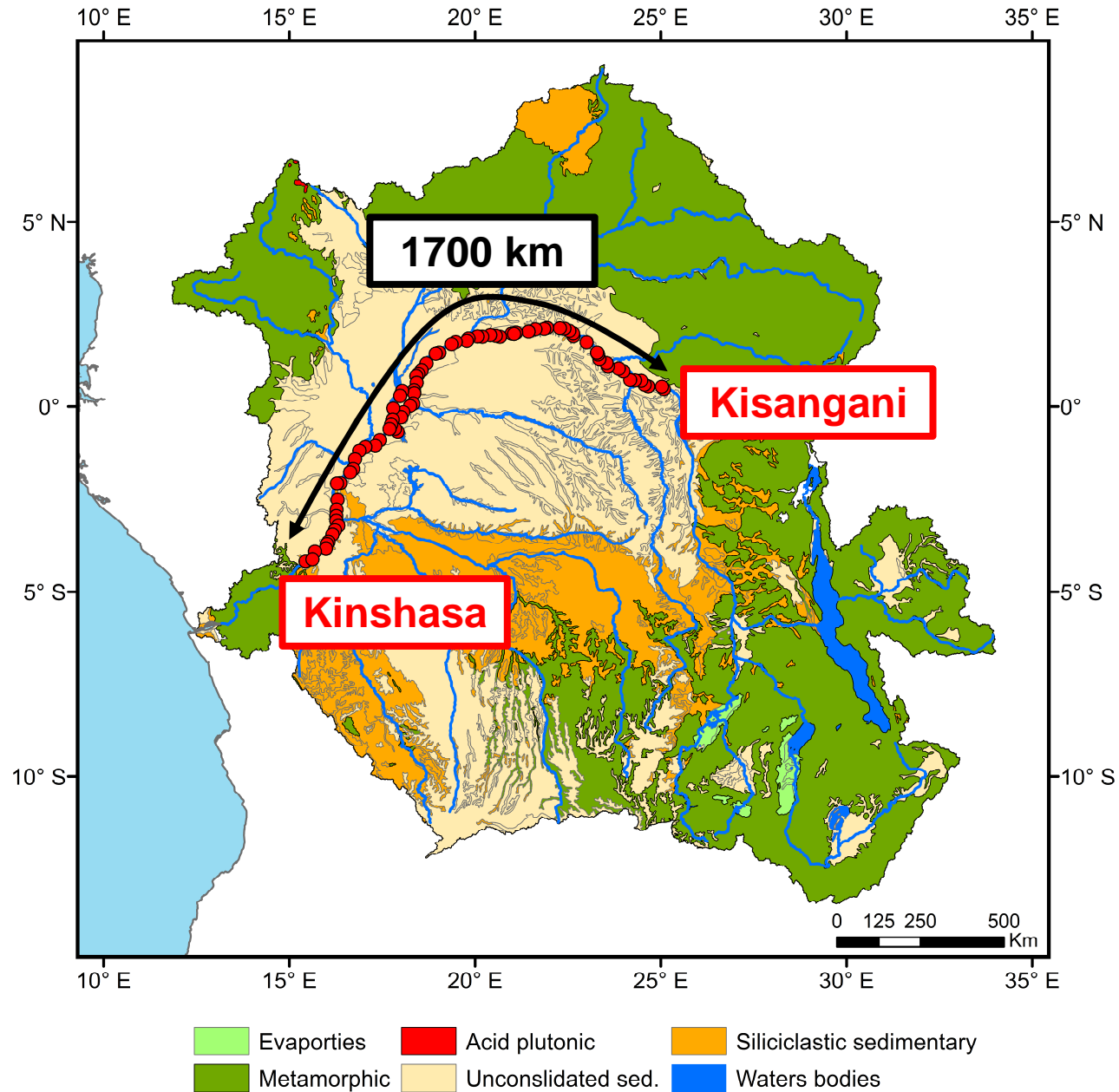


# Introduction



Courtesy of J. Hartmann

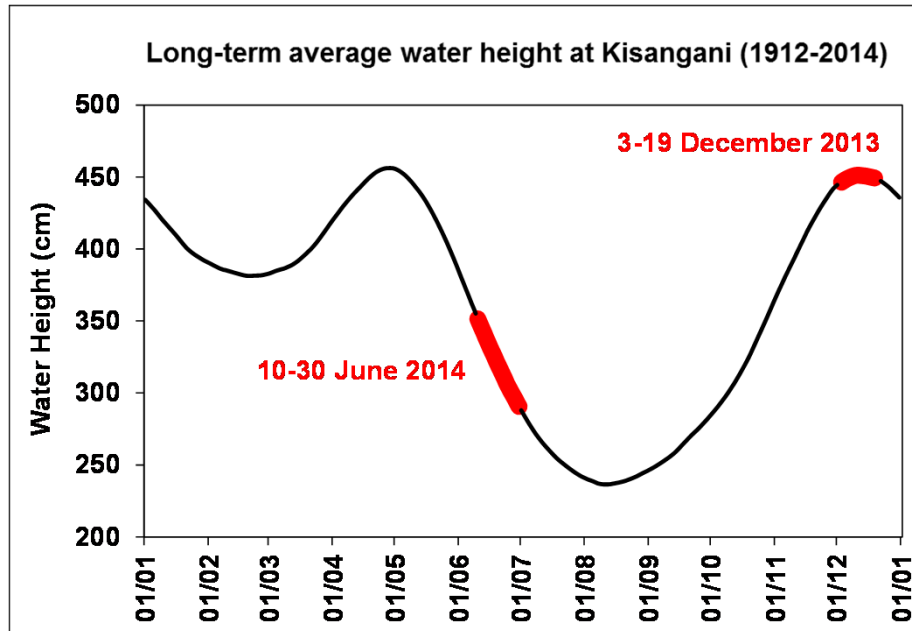
# Introduction



Courtesy of J. Hartmann



# Cruises & Methods



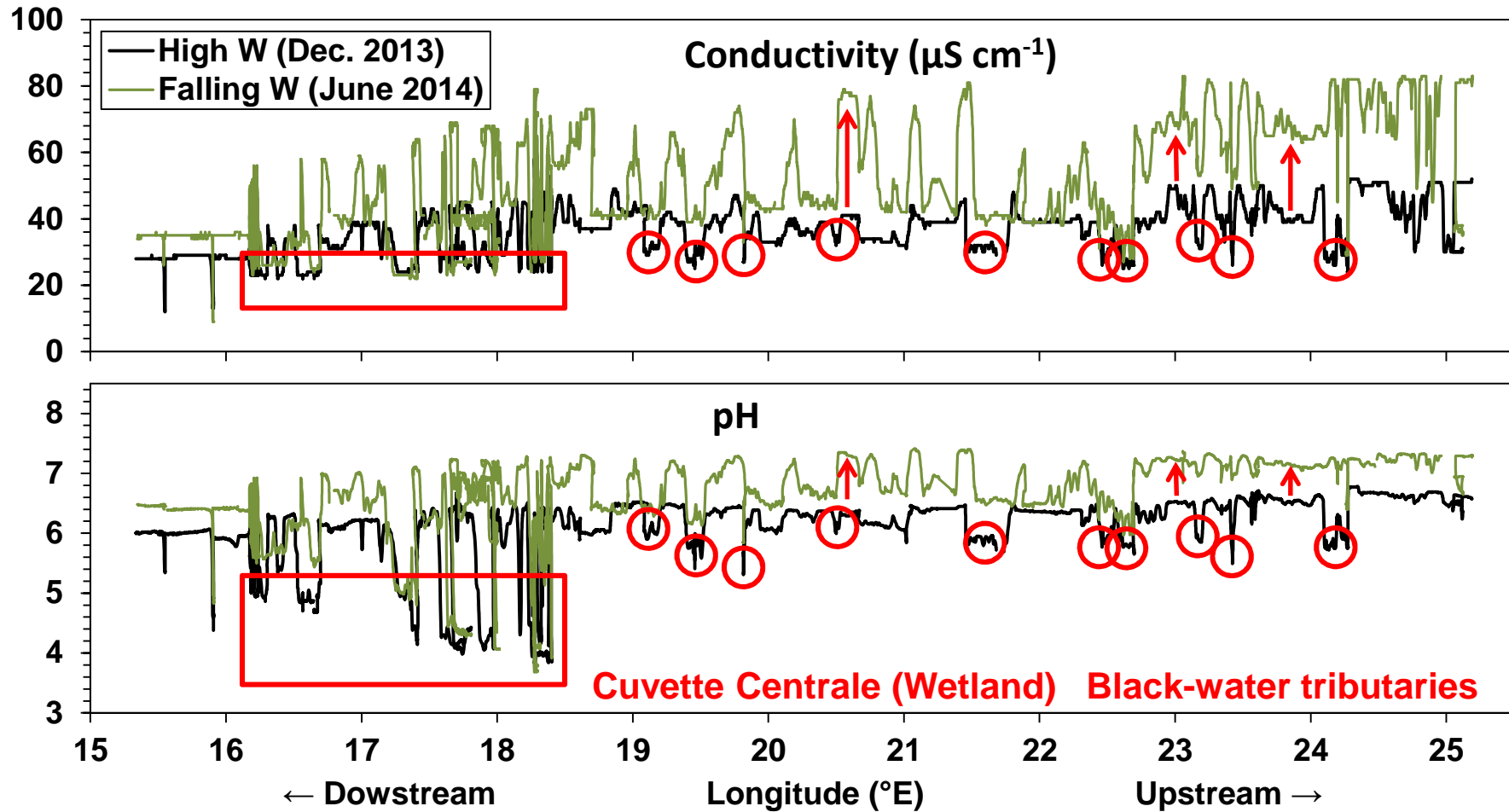
**164 stations**  
**29 variables**



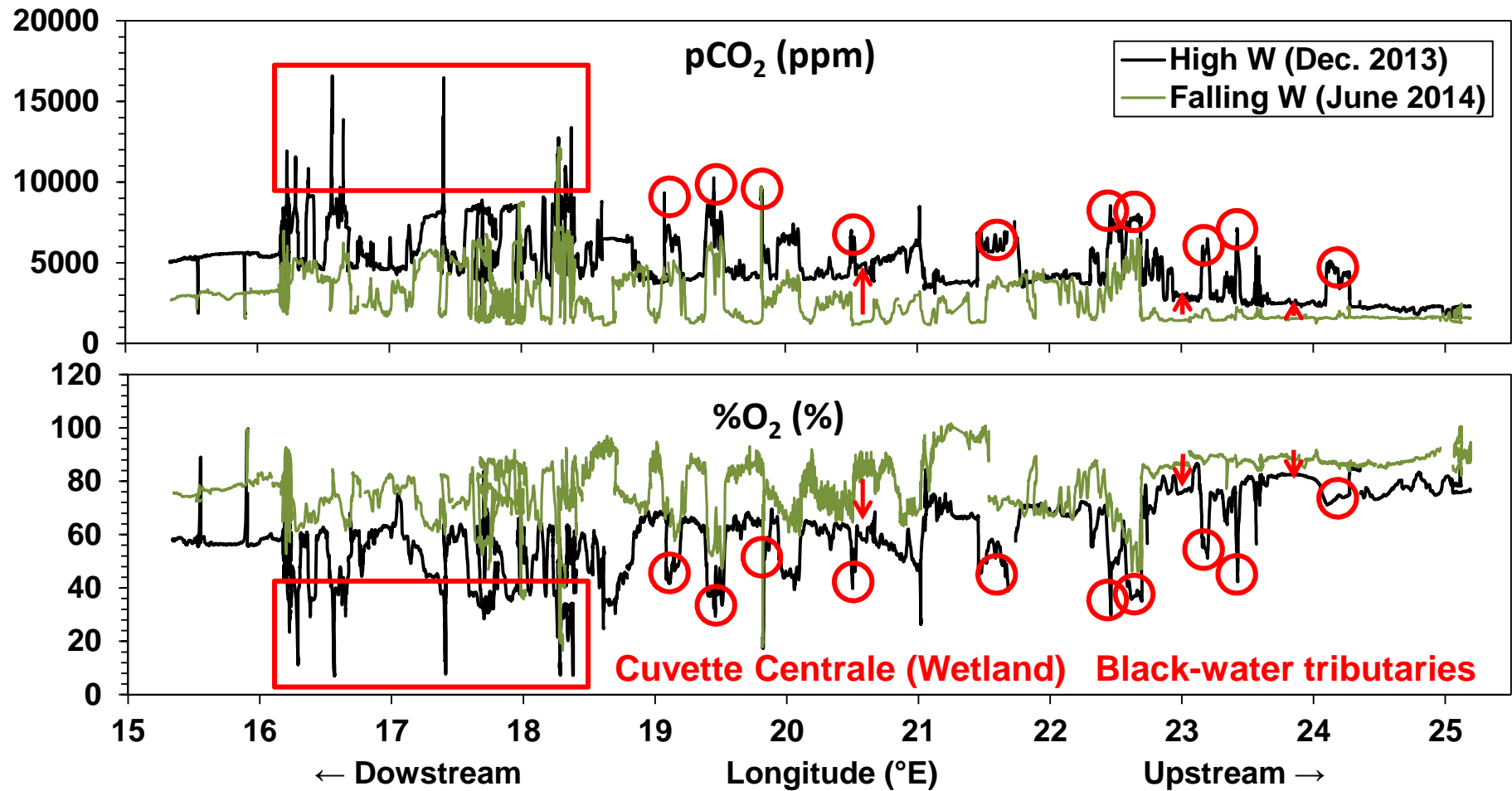
**> 23,000 continuous measurements**  
**pCO<sub>2</sub>, cond, temp, pH, O<sub>2</sub>, TSM, cDOM**



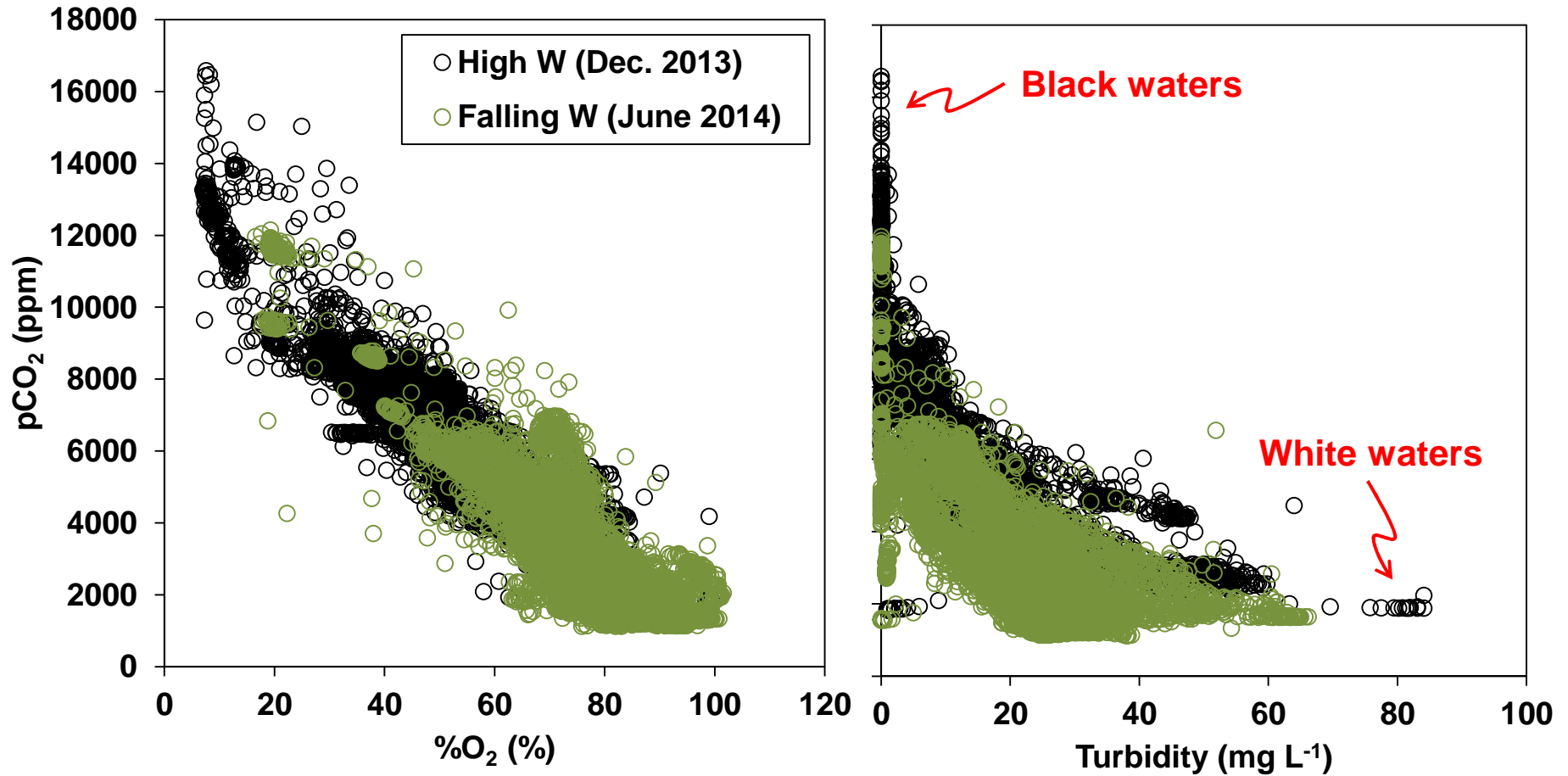
# Results



# Results

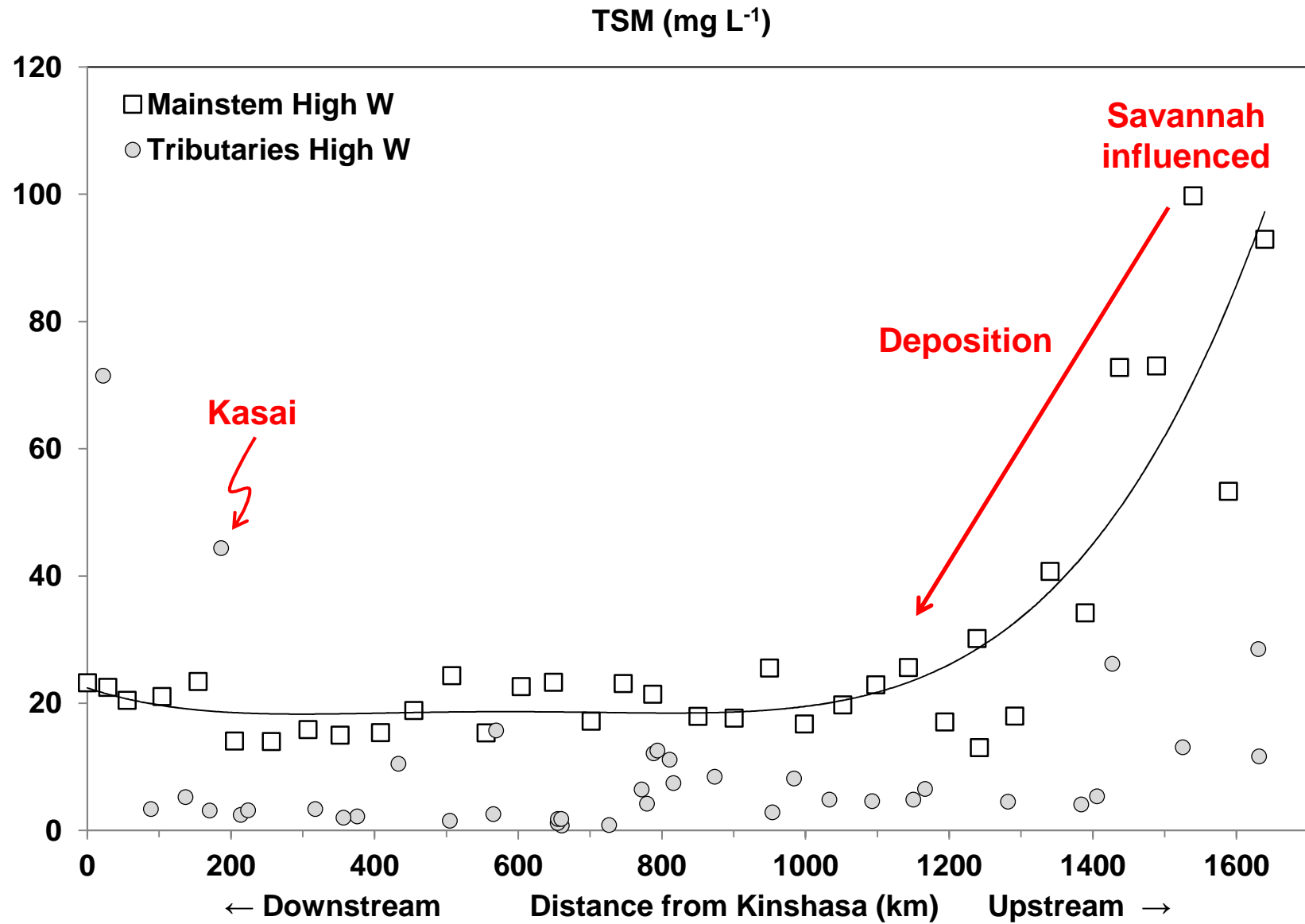


# Results

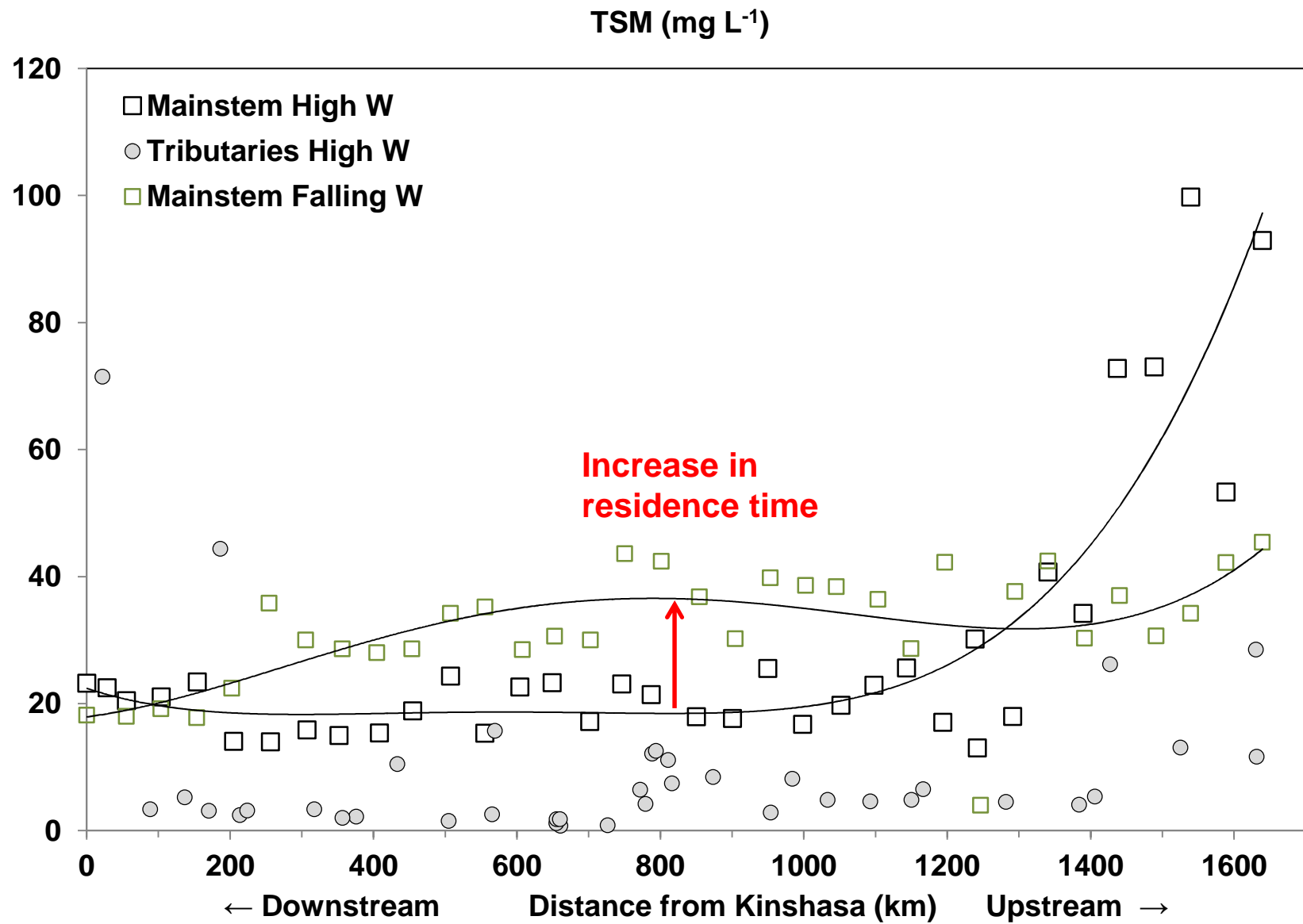




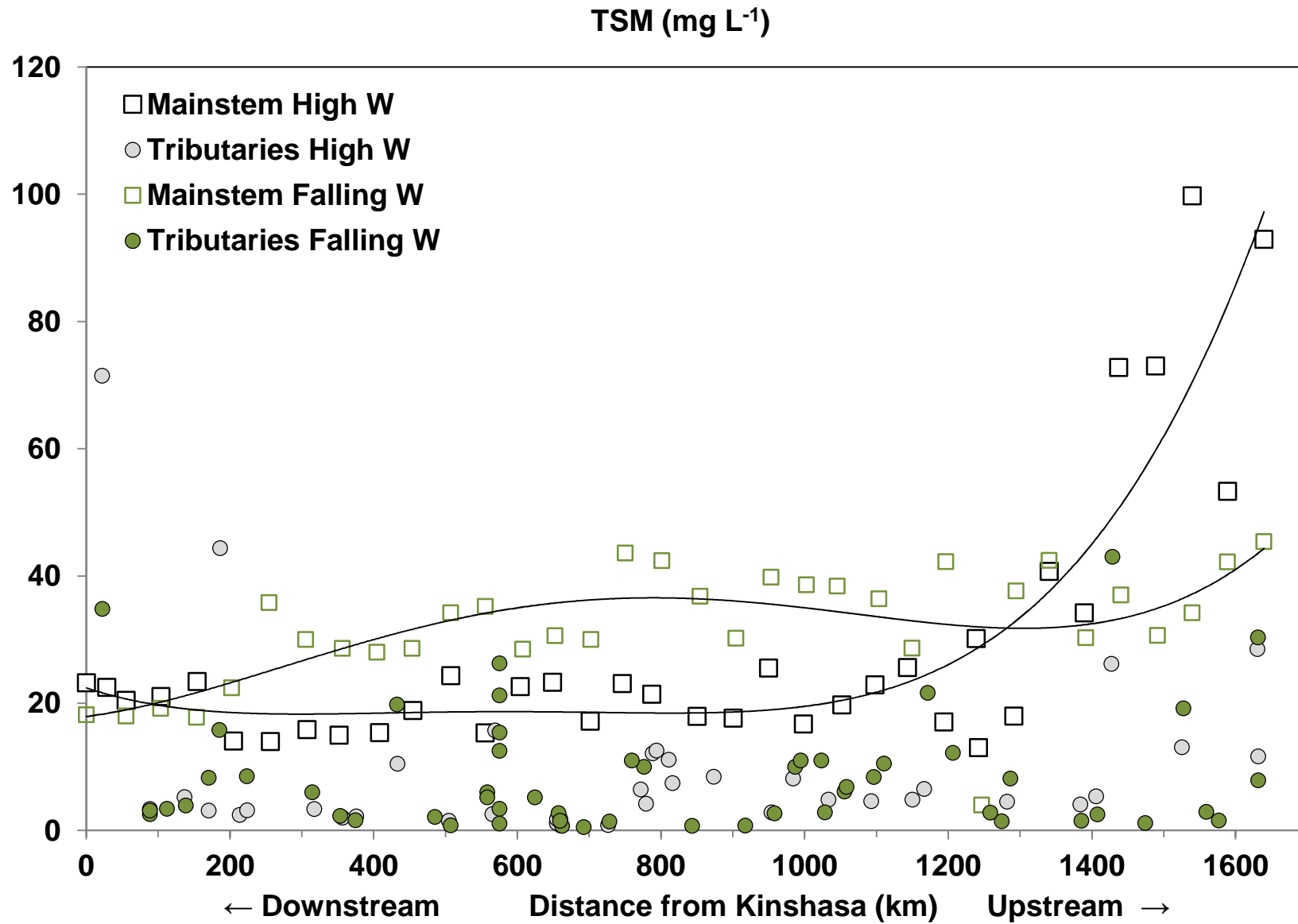
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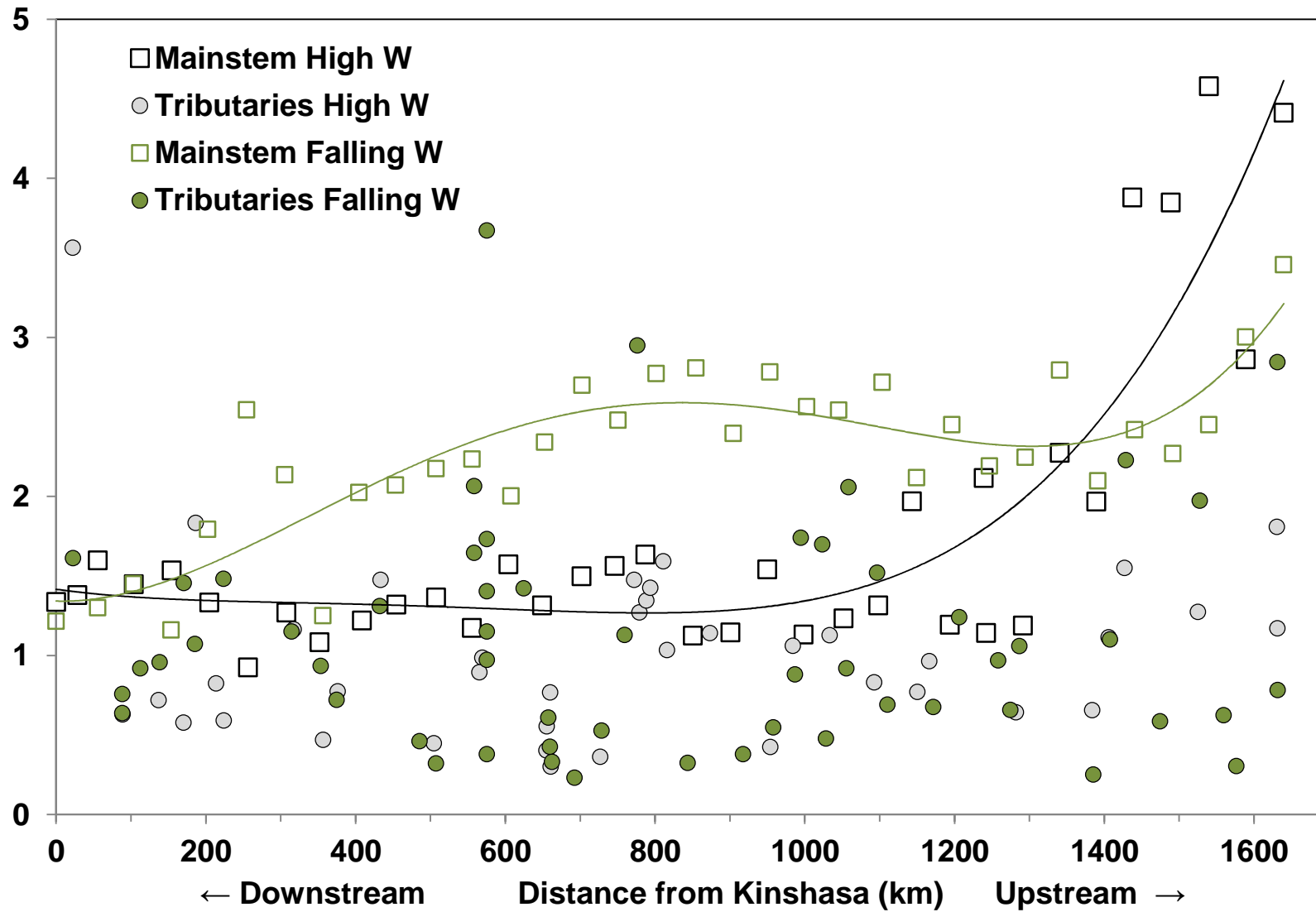


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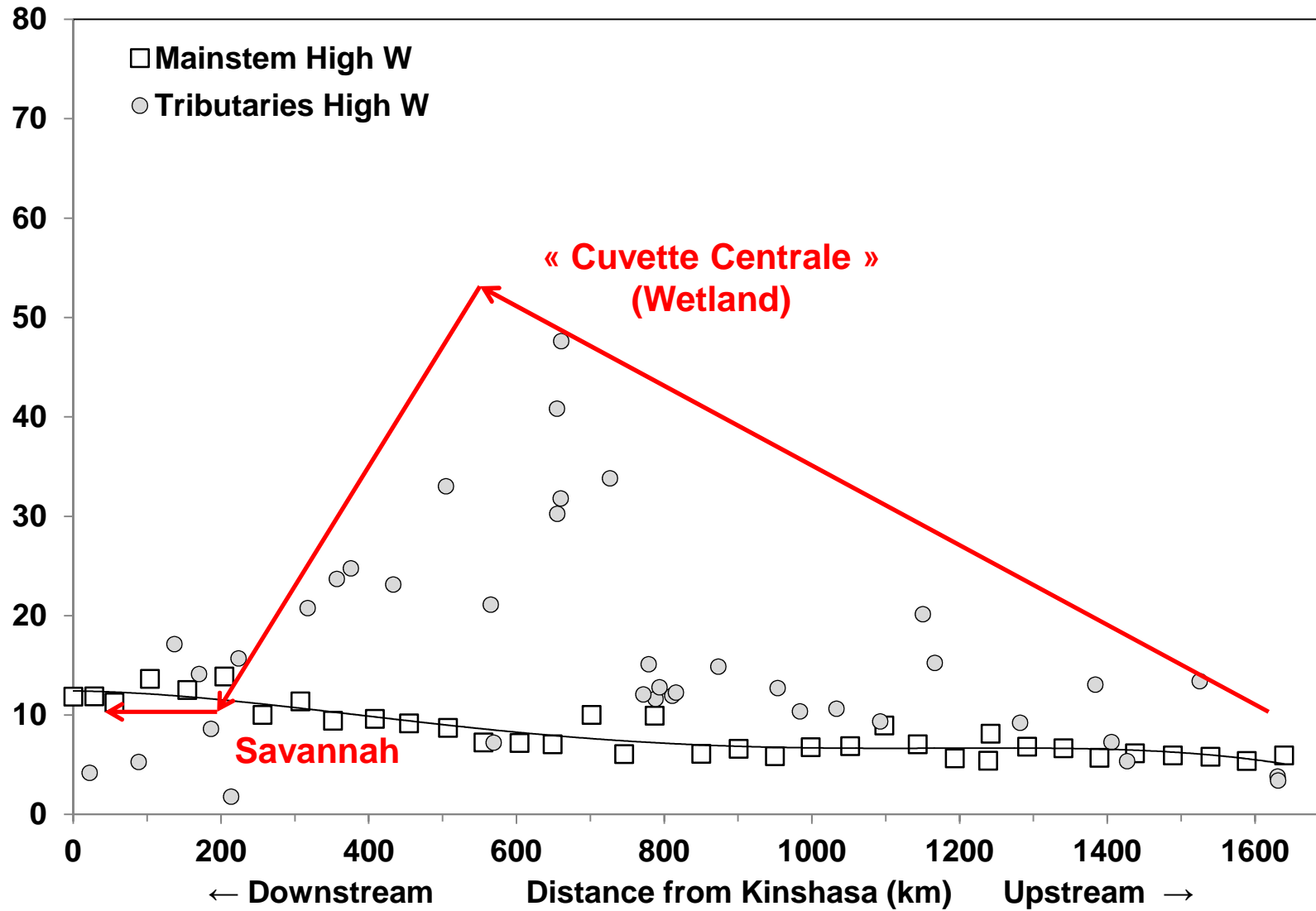
# Results

Particulate organic carbon (POC) ( $\text{mg L}^{-1}$ )



# Results

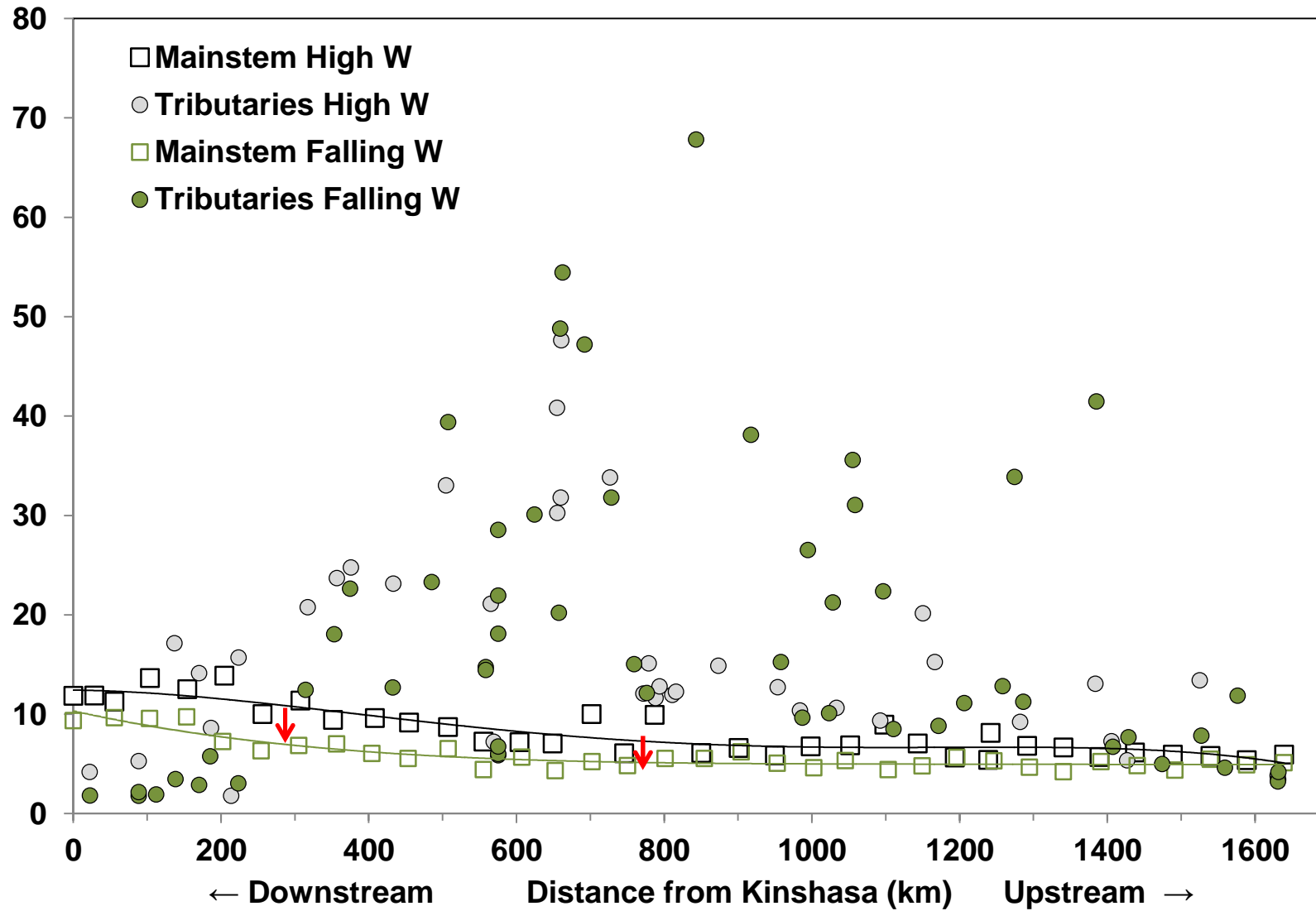
Dissolved organic carbon (DOC) (mg L<sup>-1</sup>)



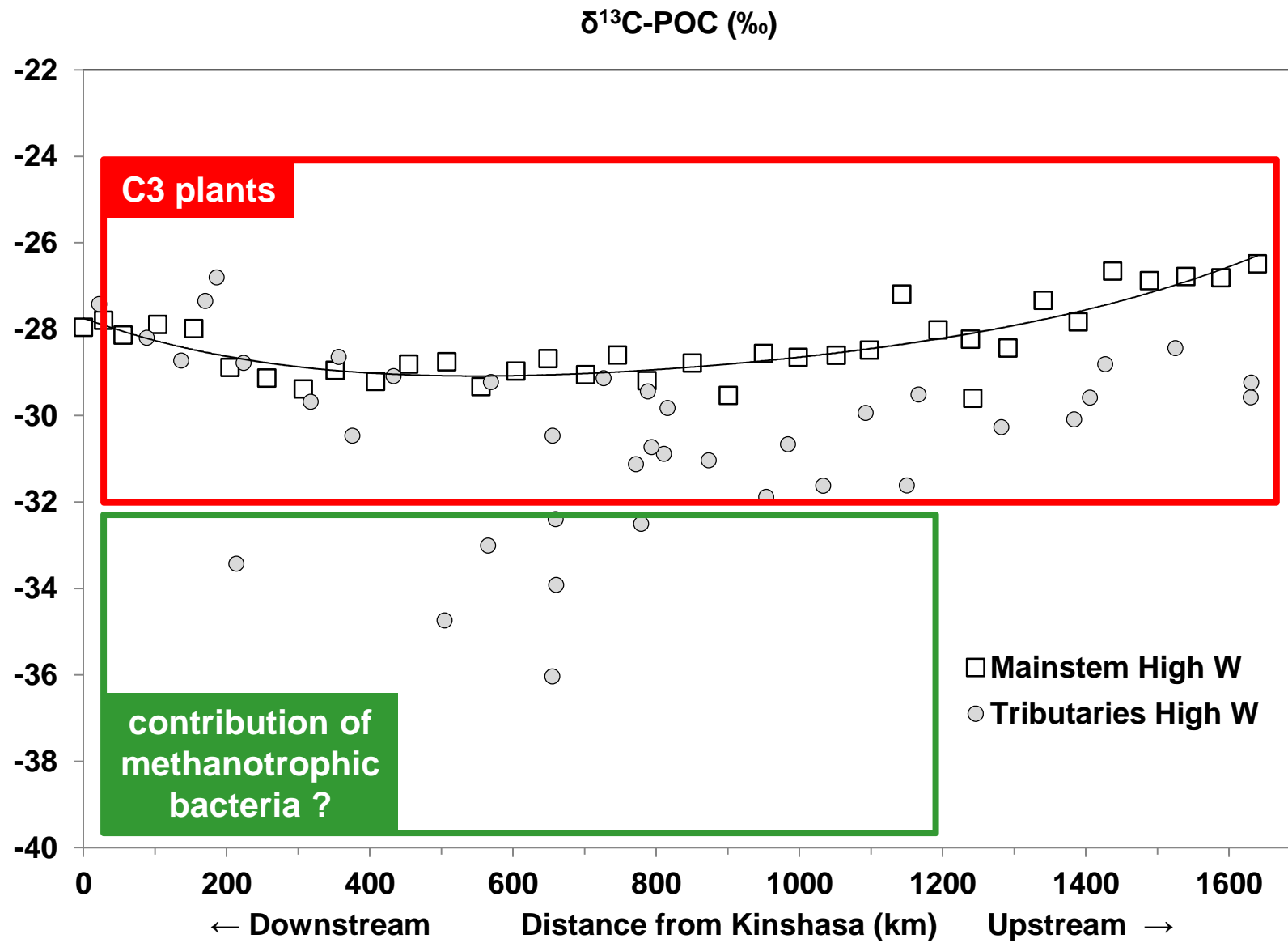


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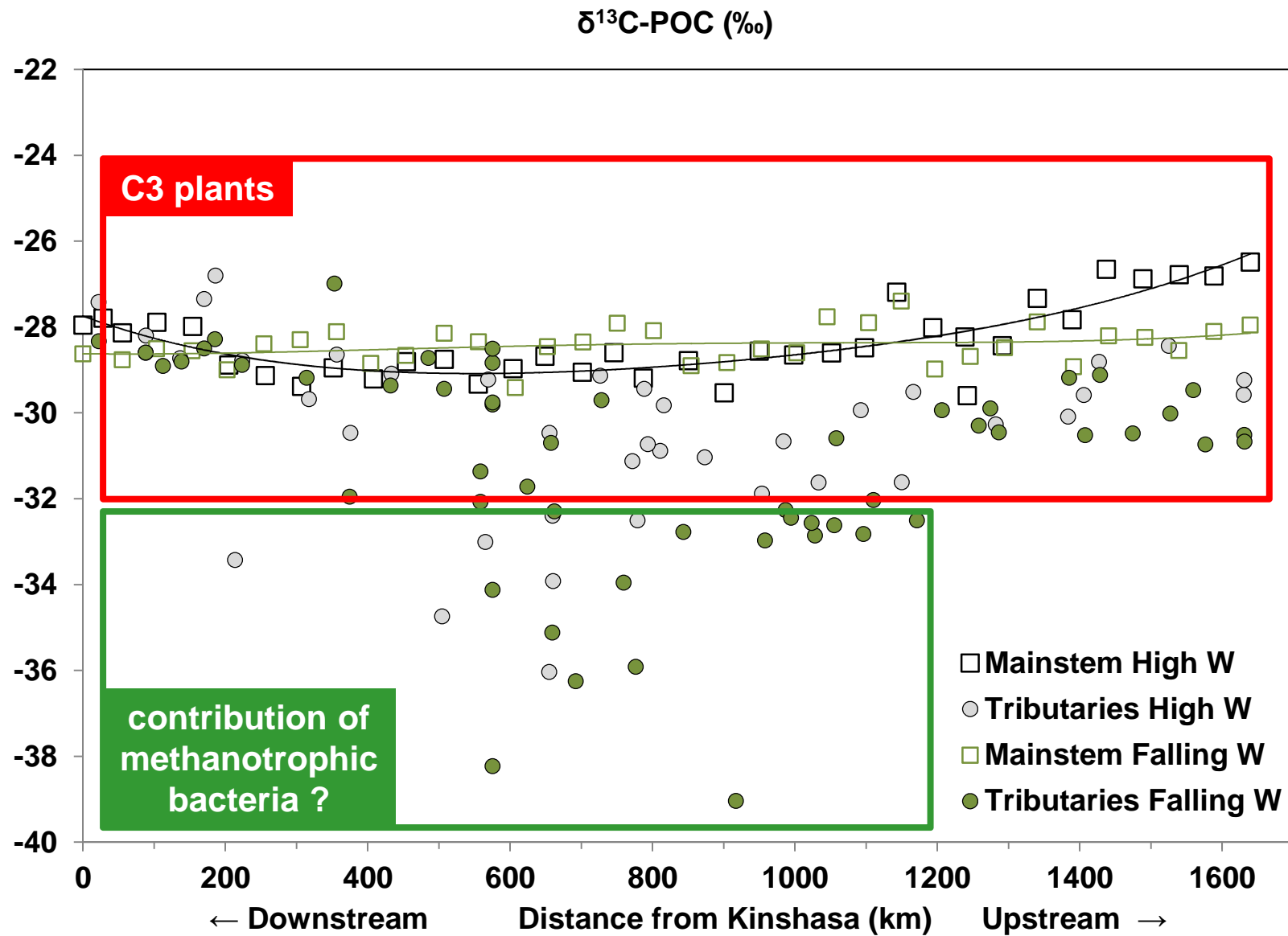
Dissolved organic carbon (DOC) ( $\text{mg L}^{-1}$ )



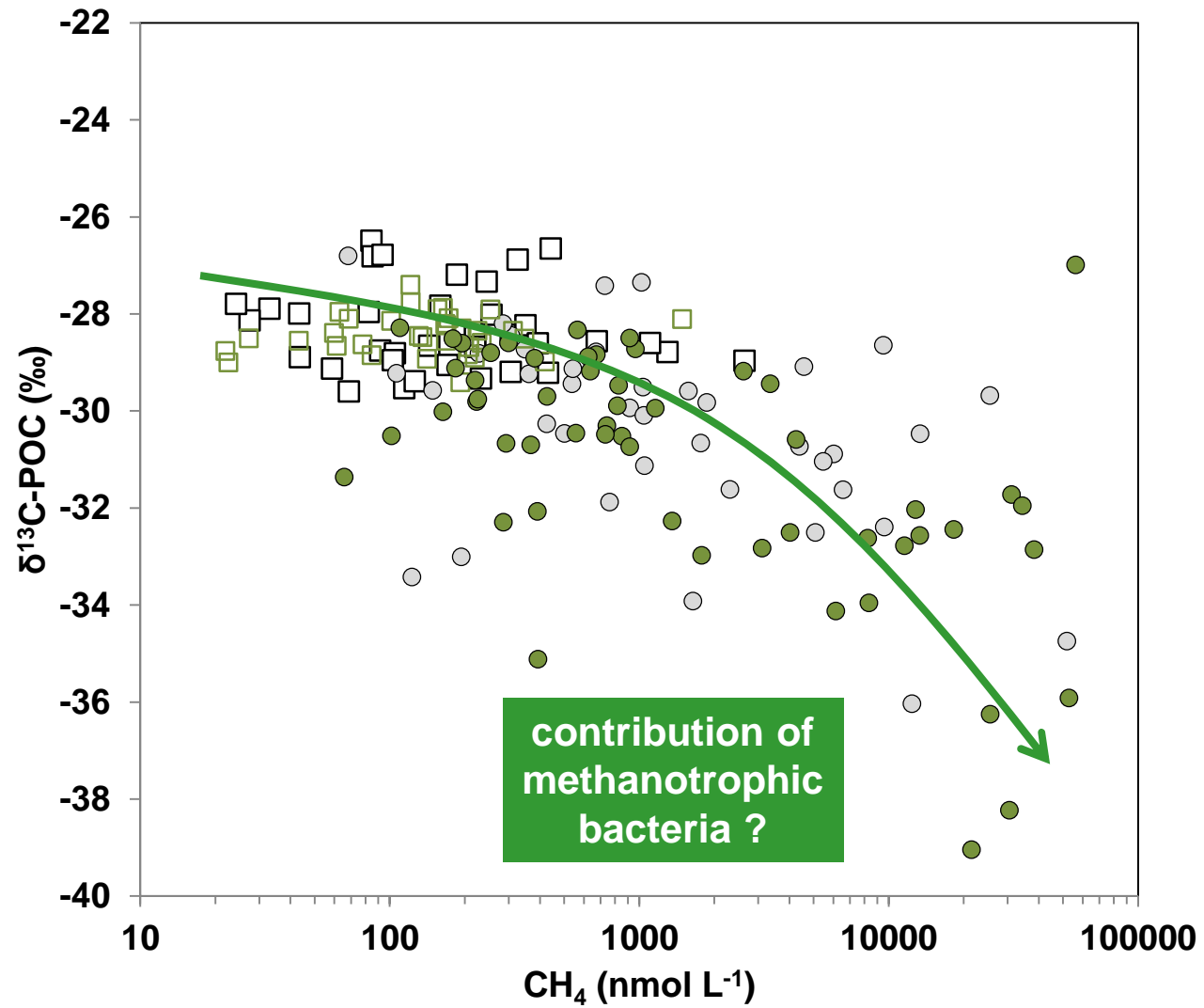
# Results



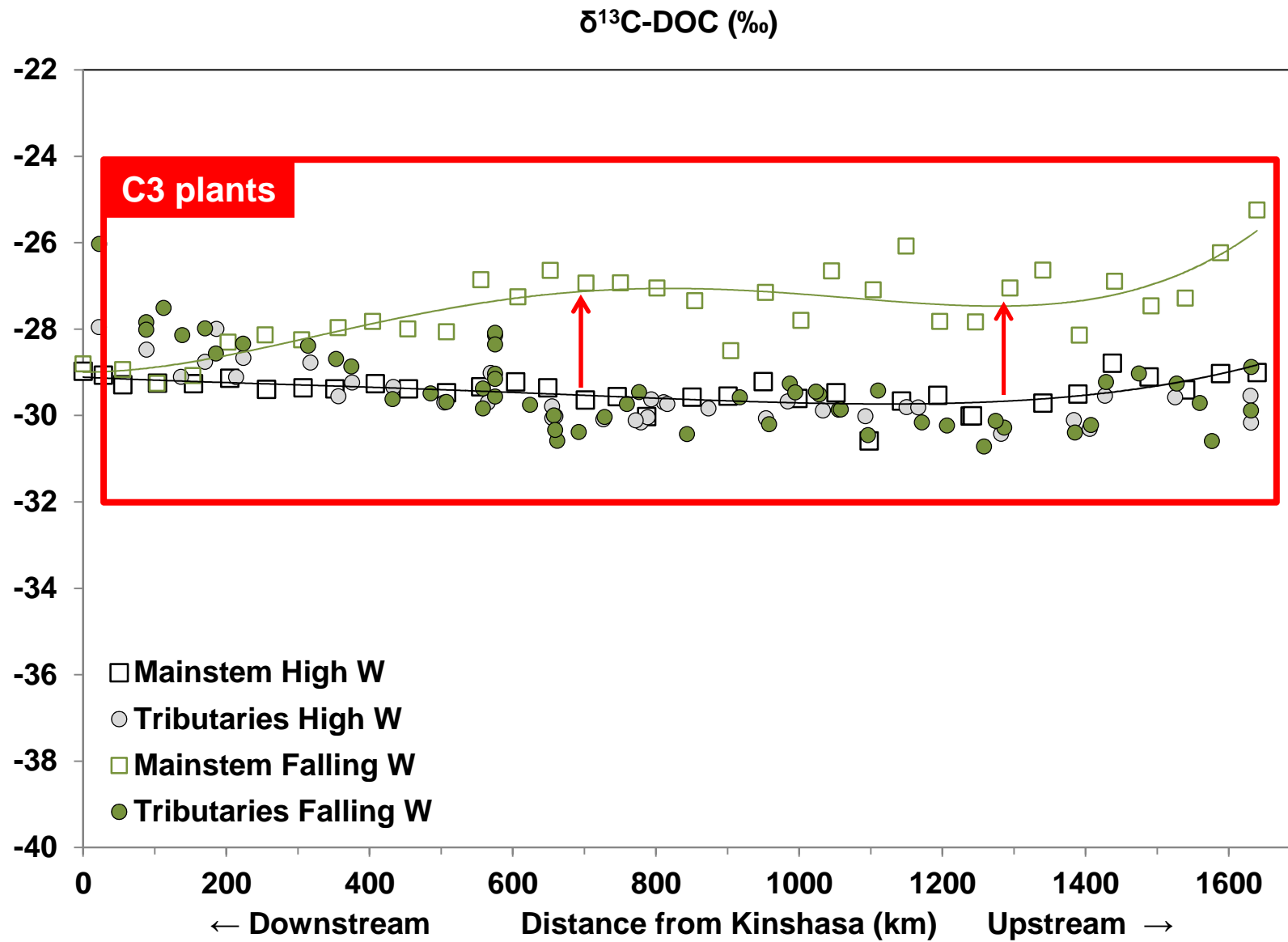
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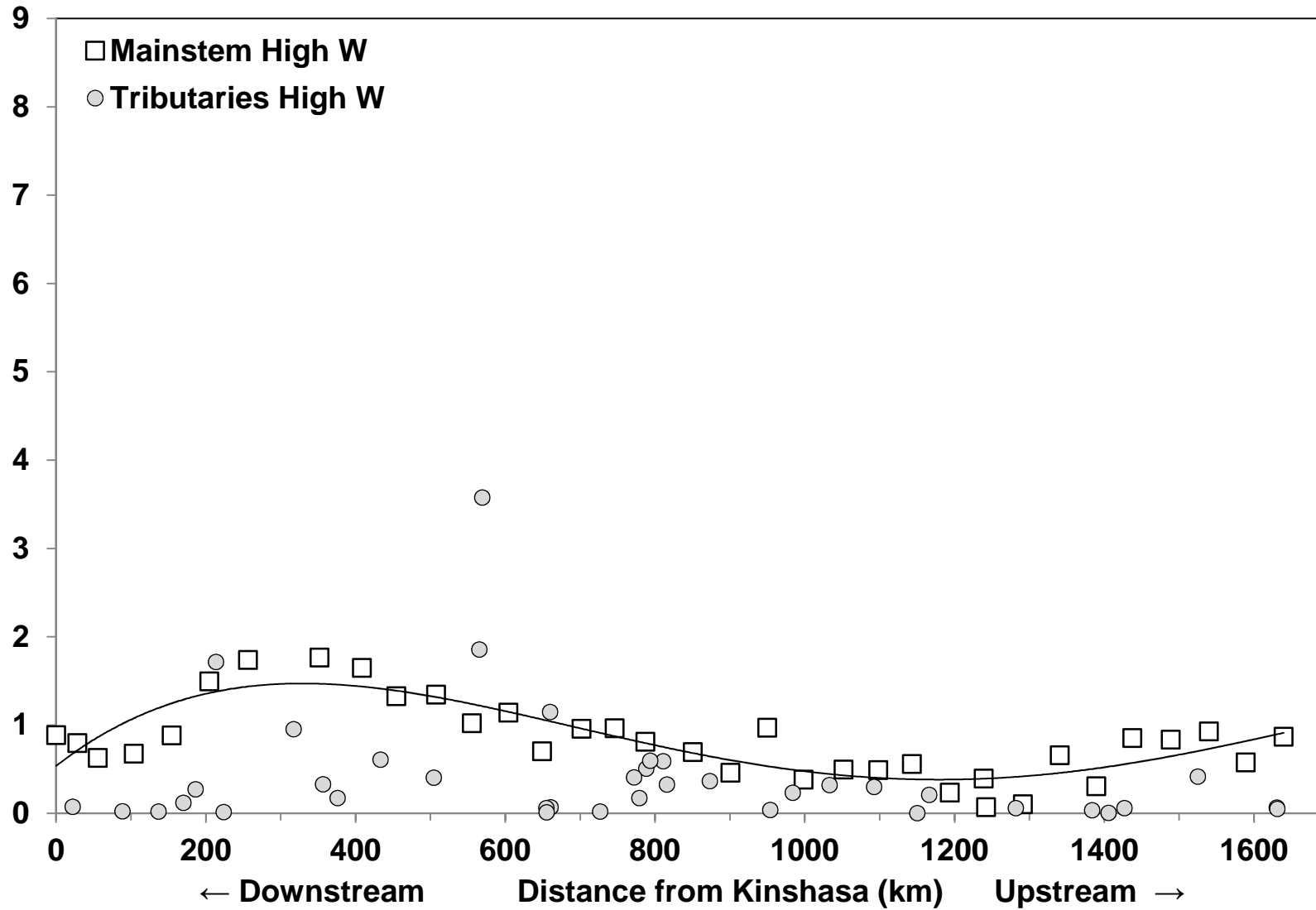
# Results



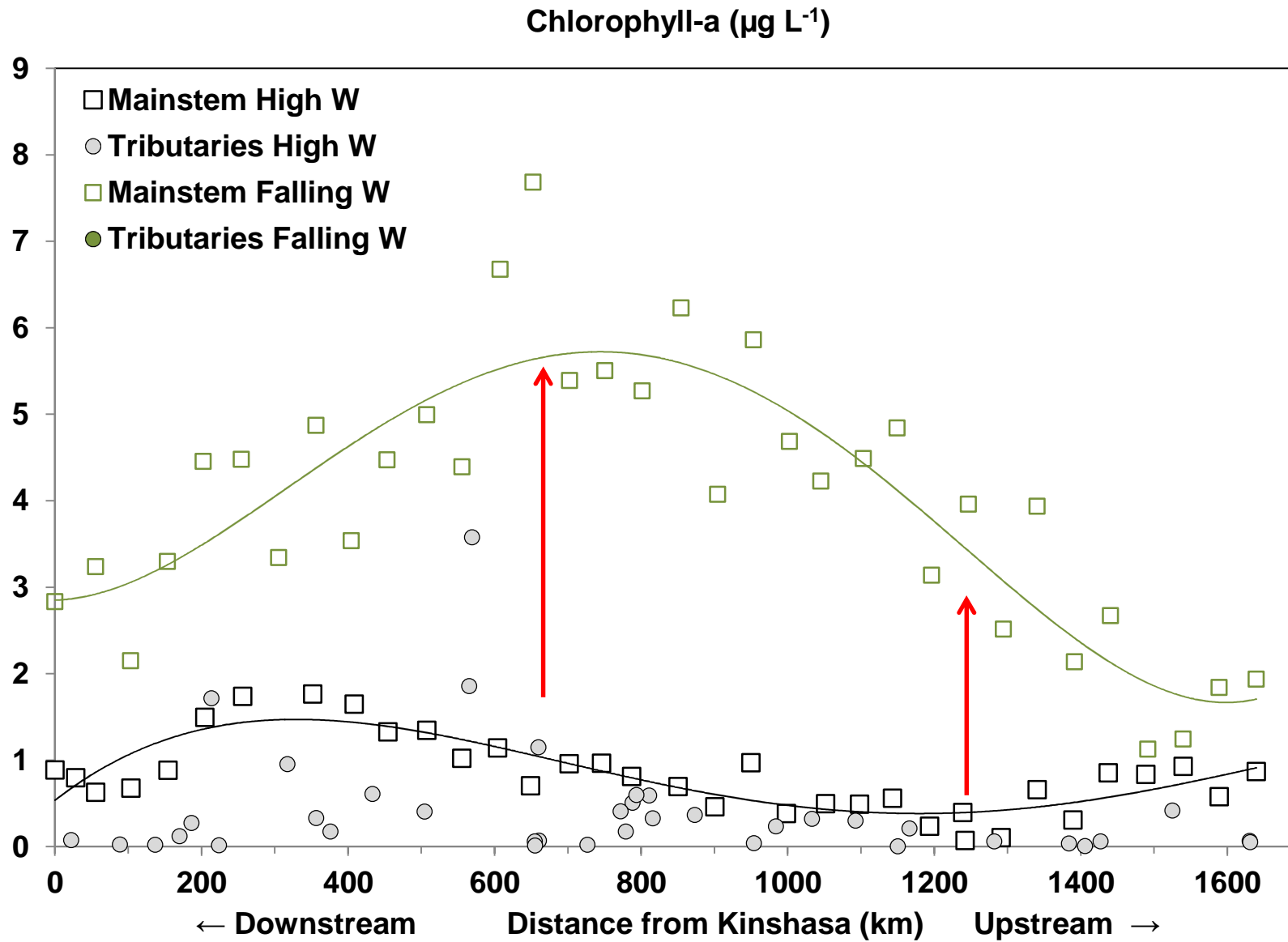


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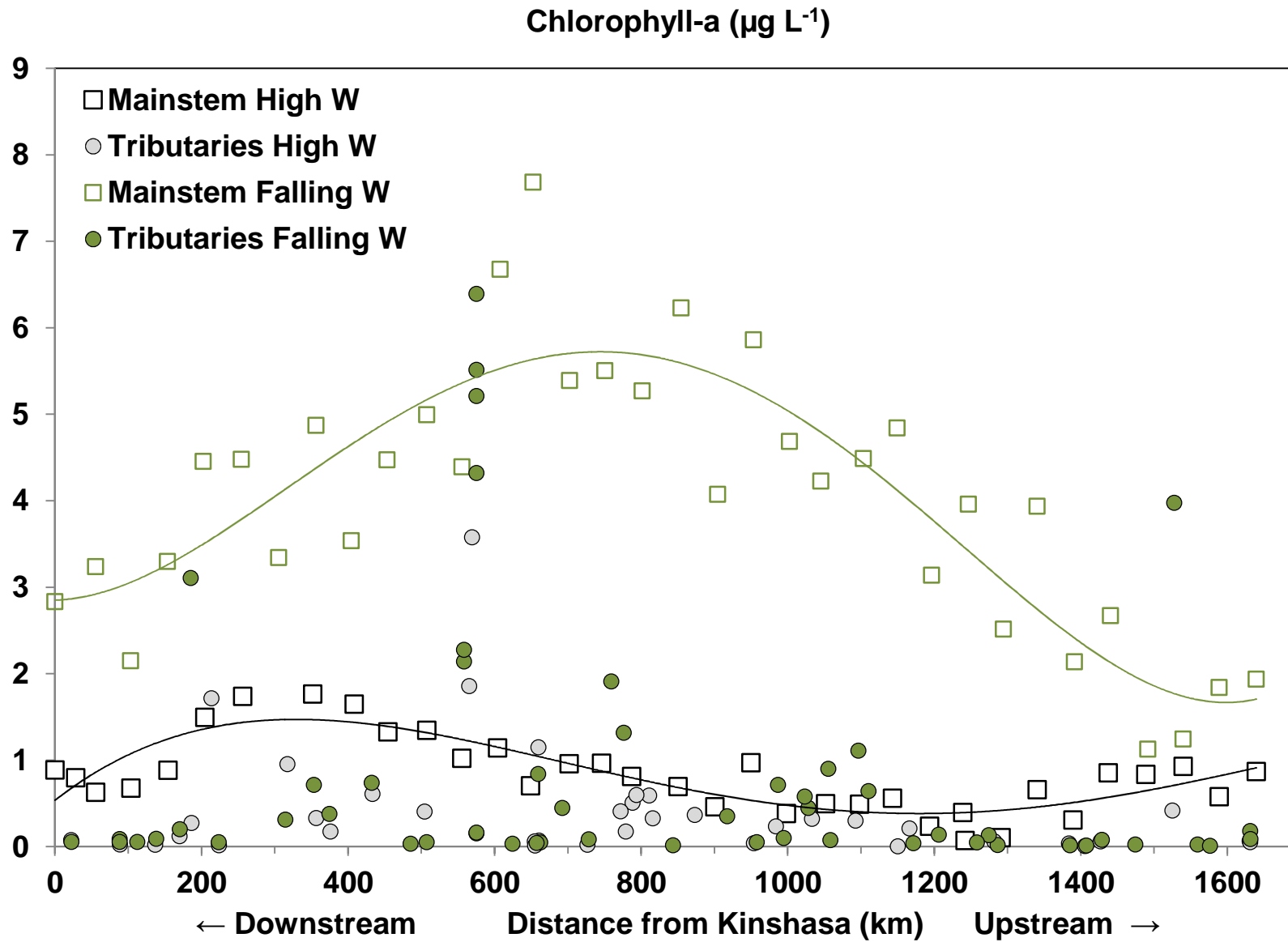
Chlorophyll-a ( $\mu\text{g L}^{-1}$ )



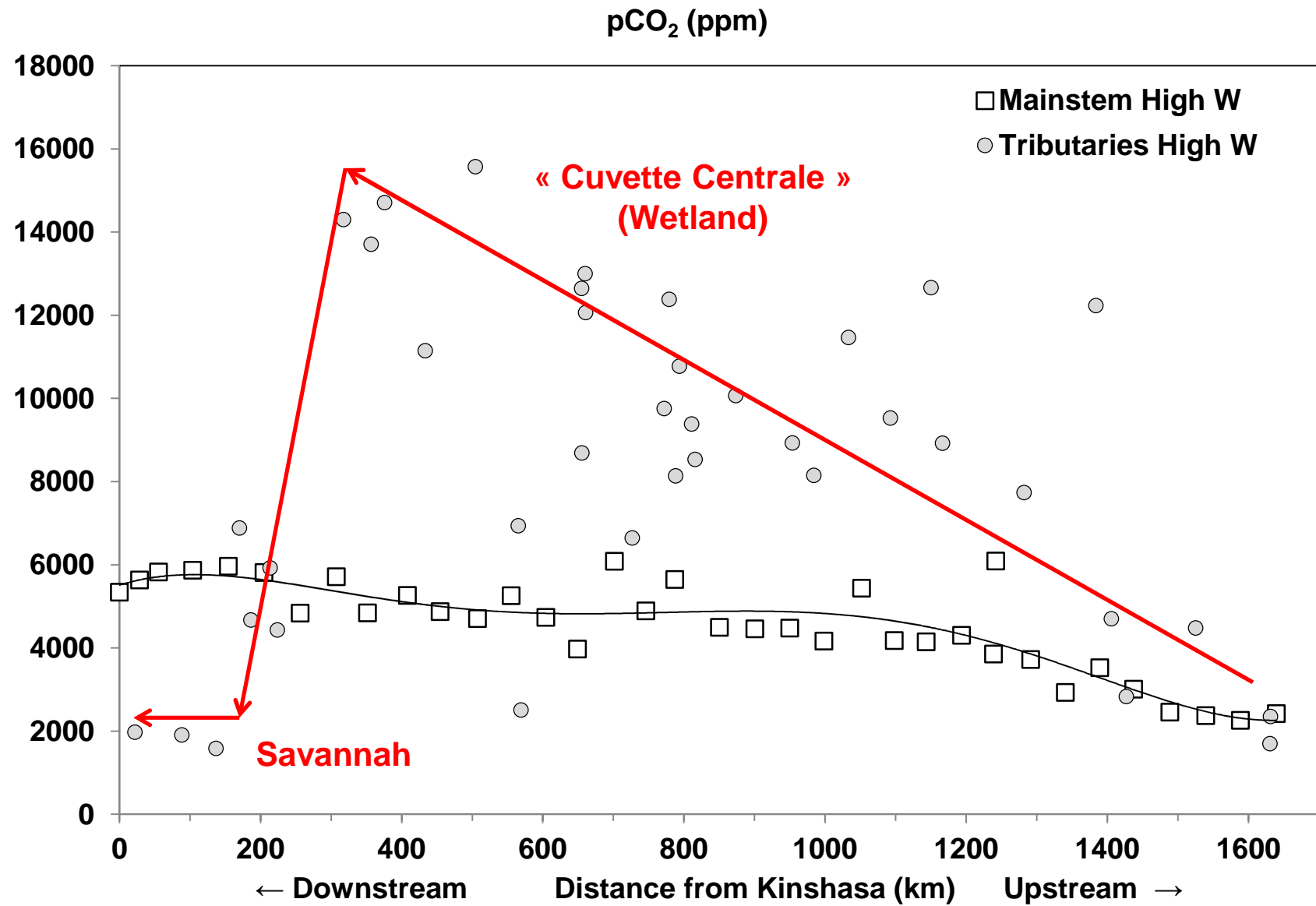
# Results



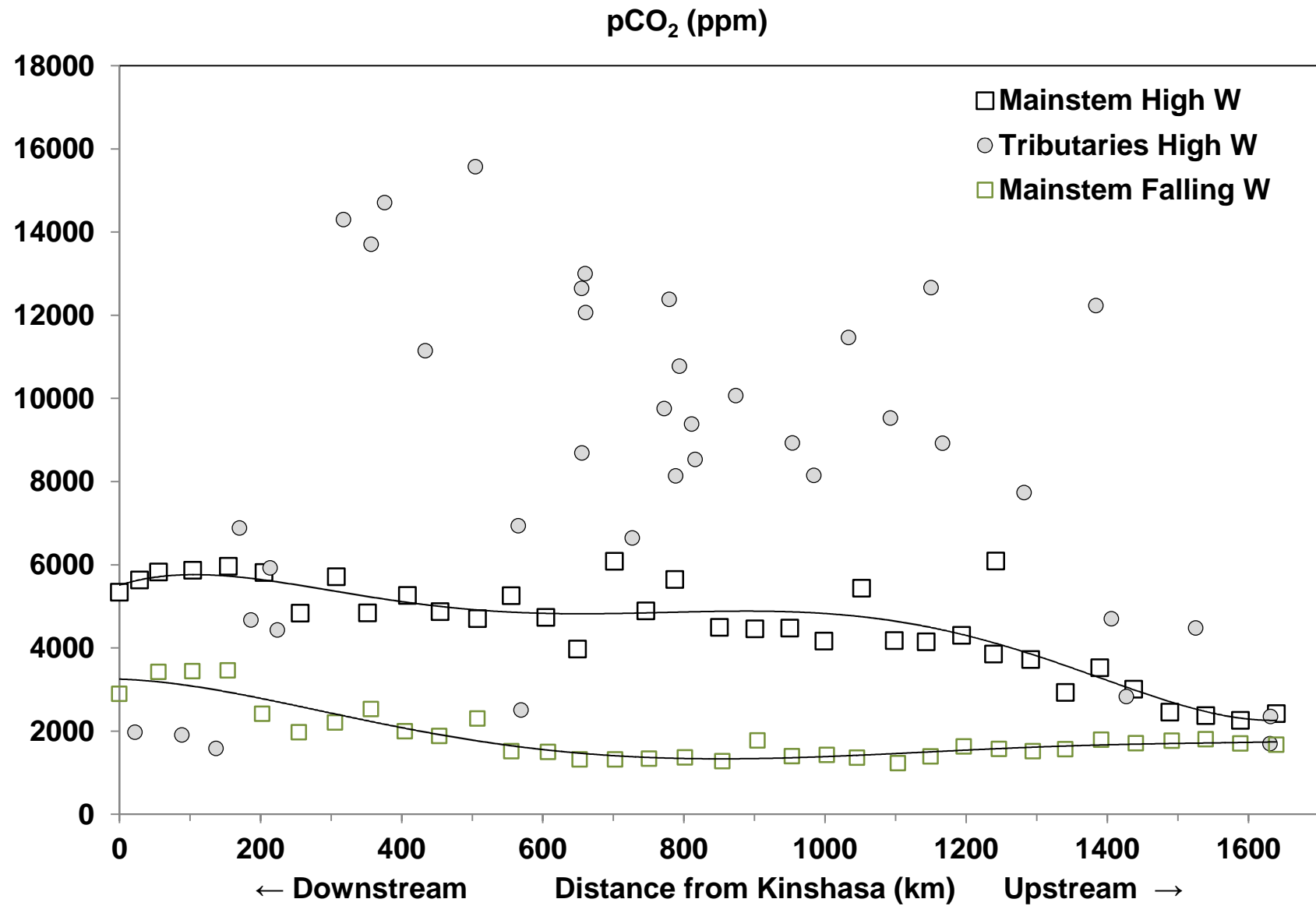
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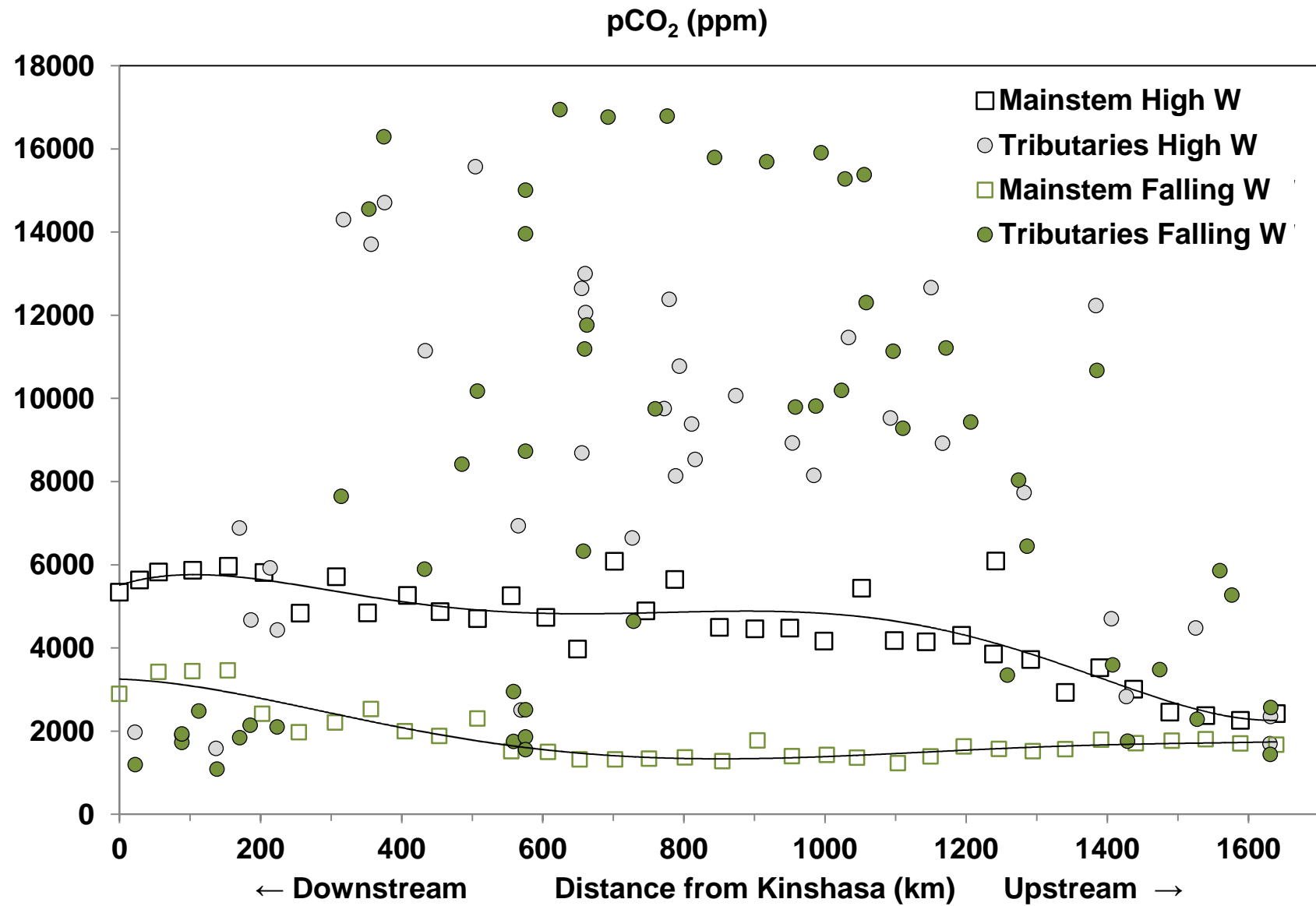


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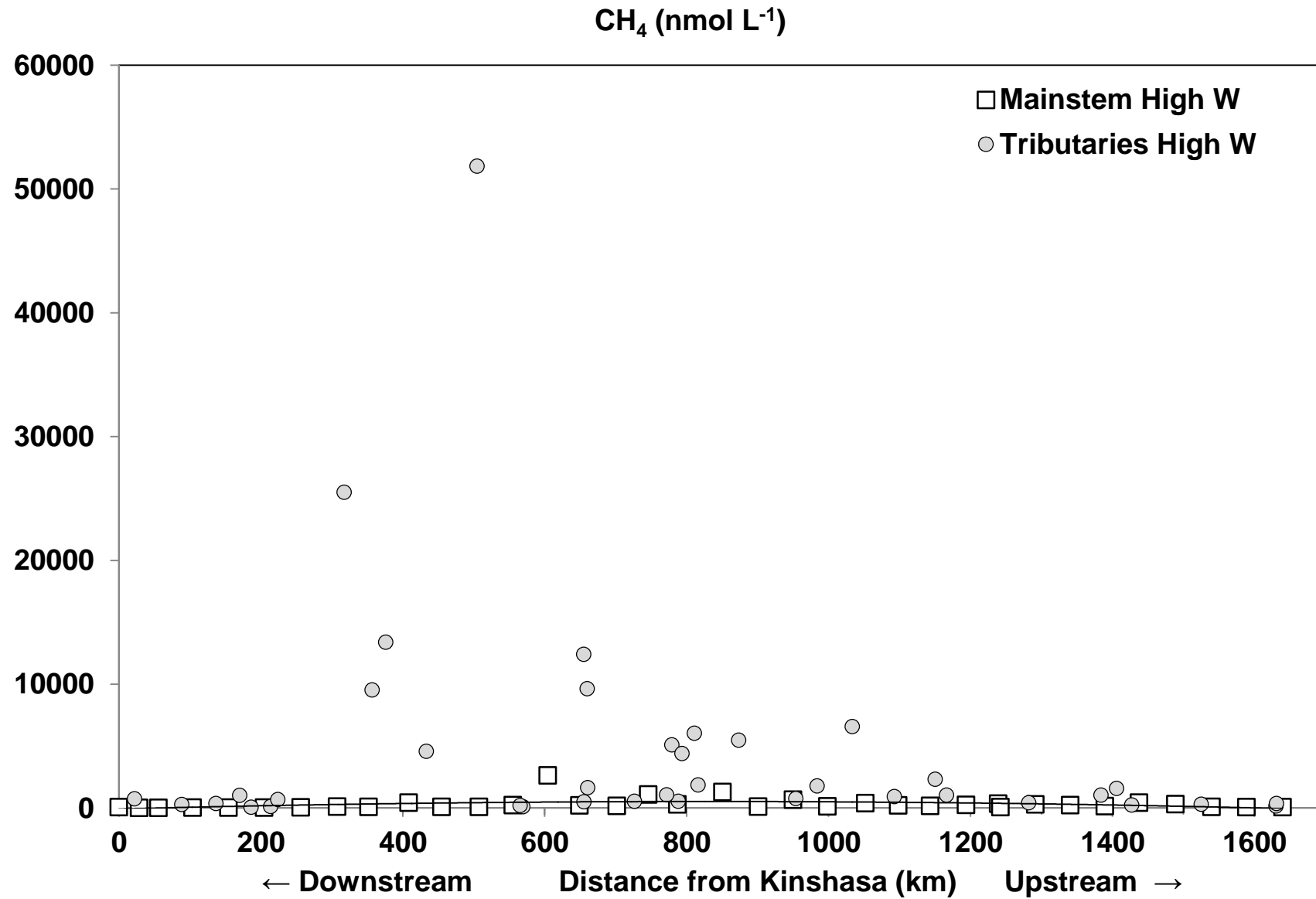




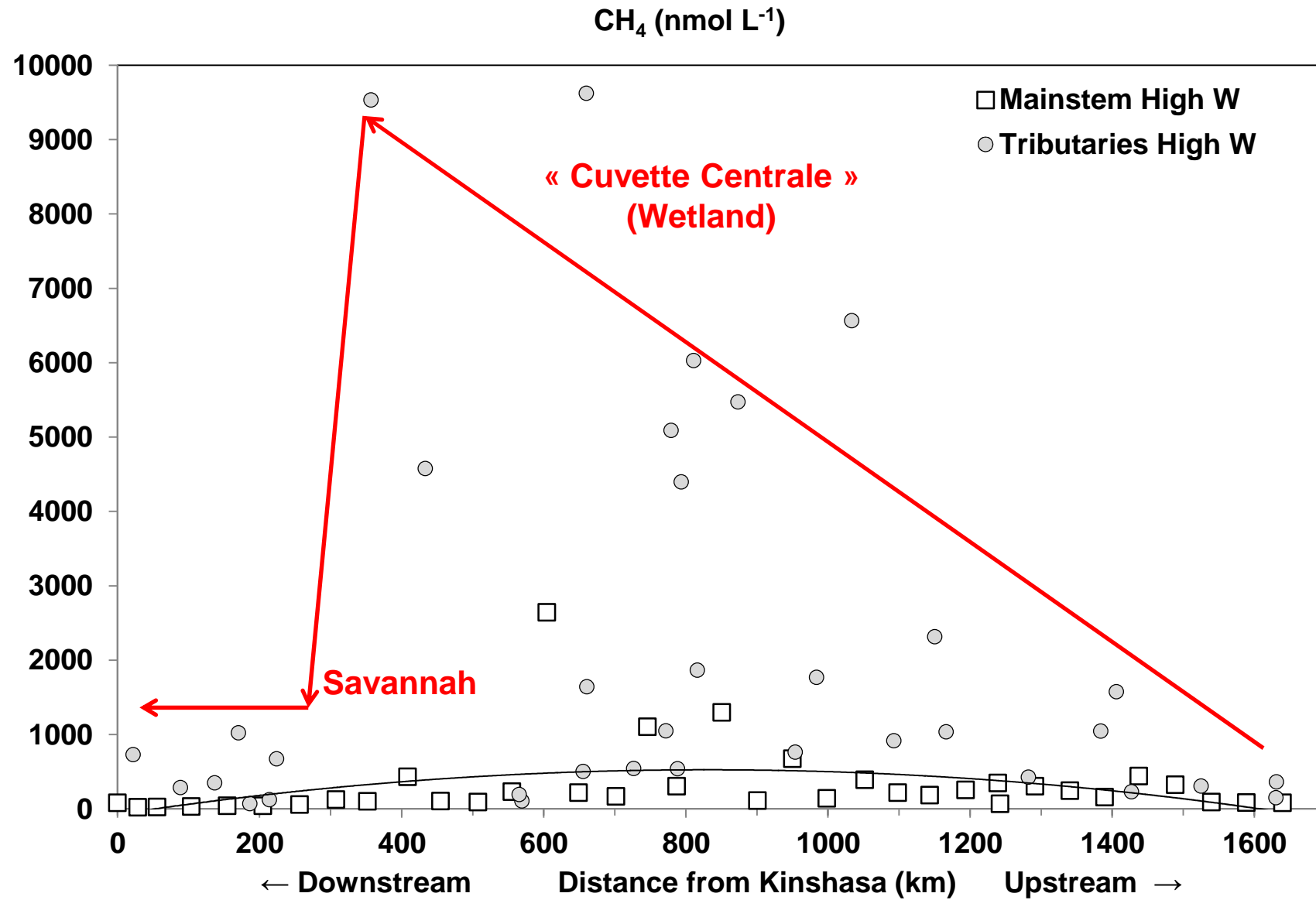
# Results



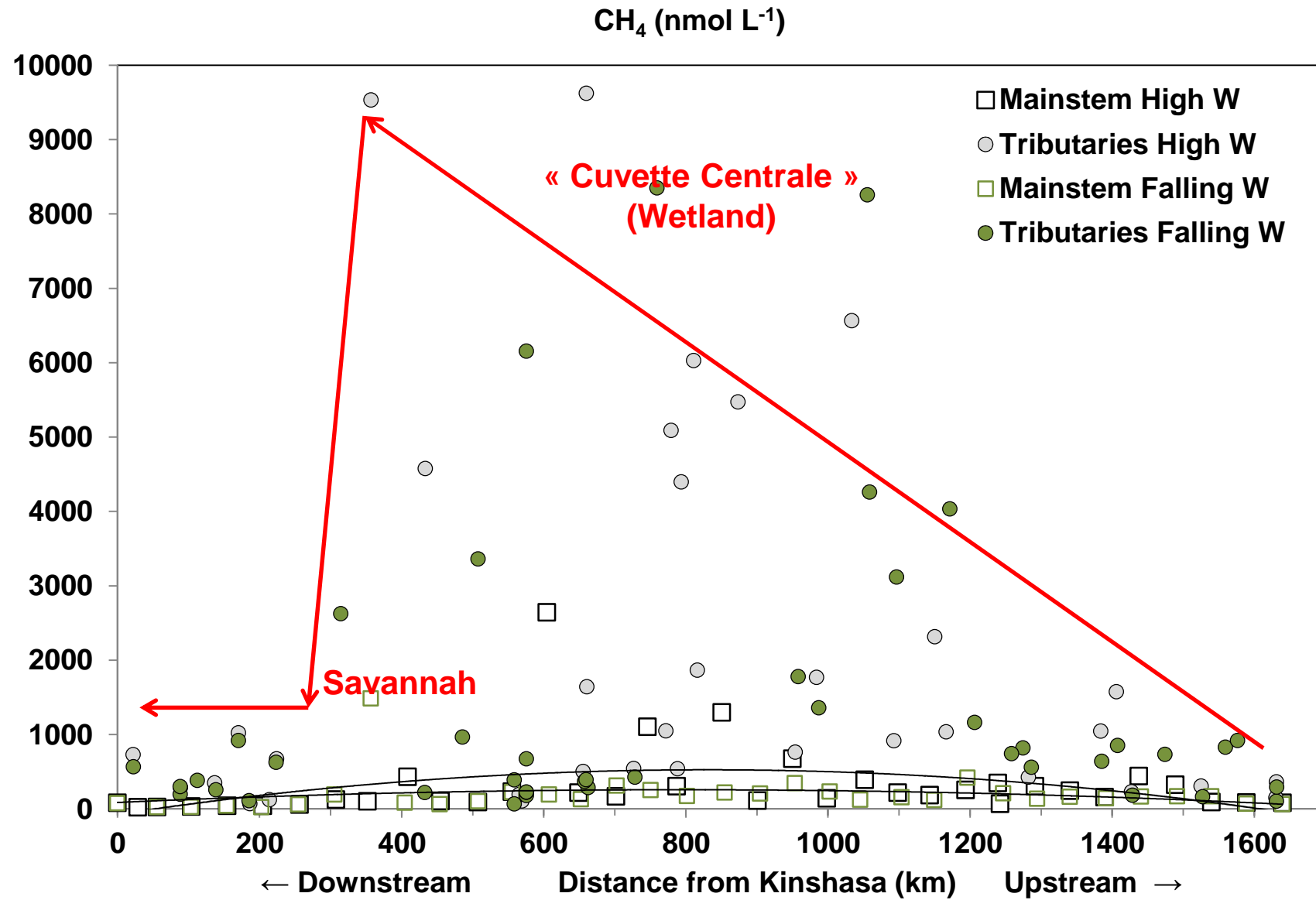
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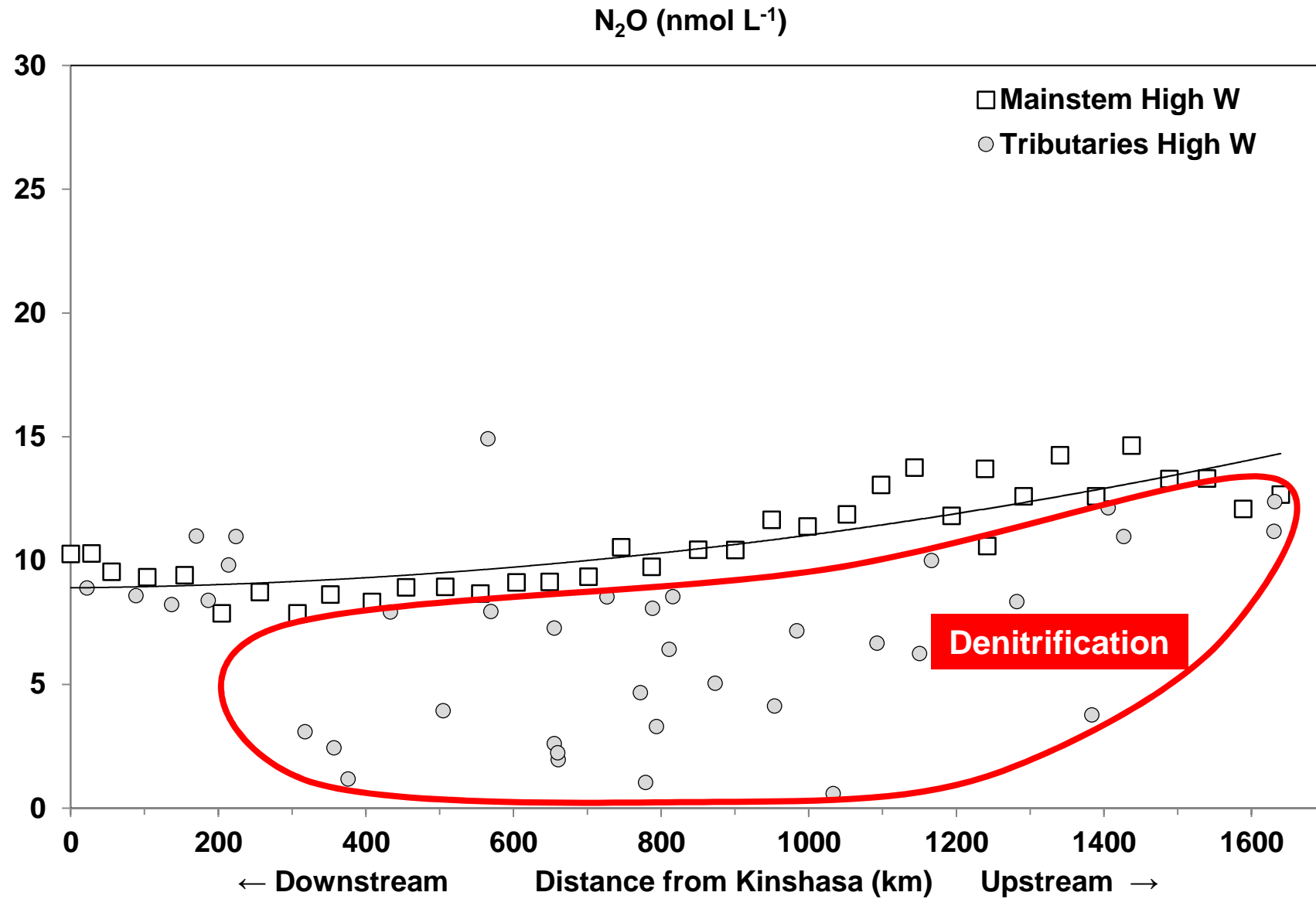
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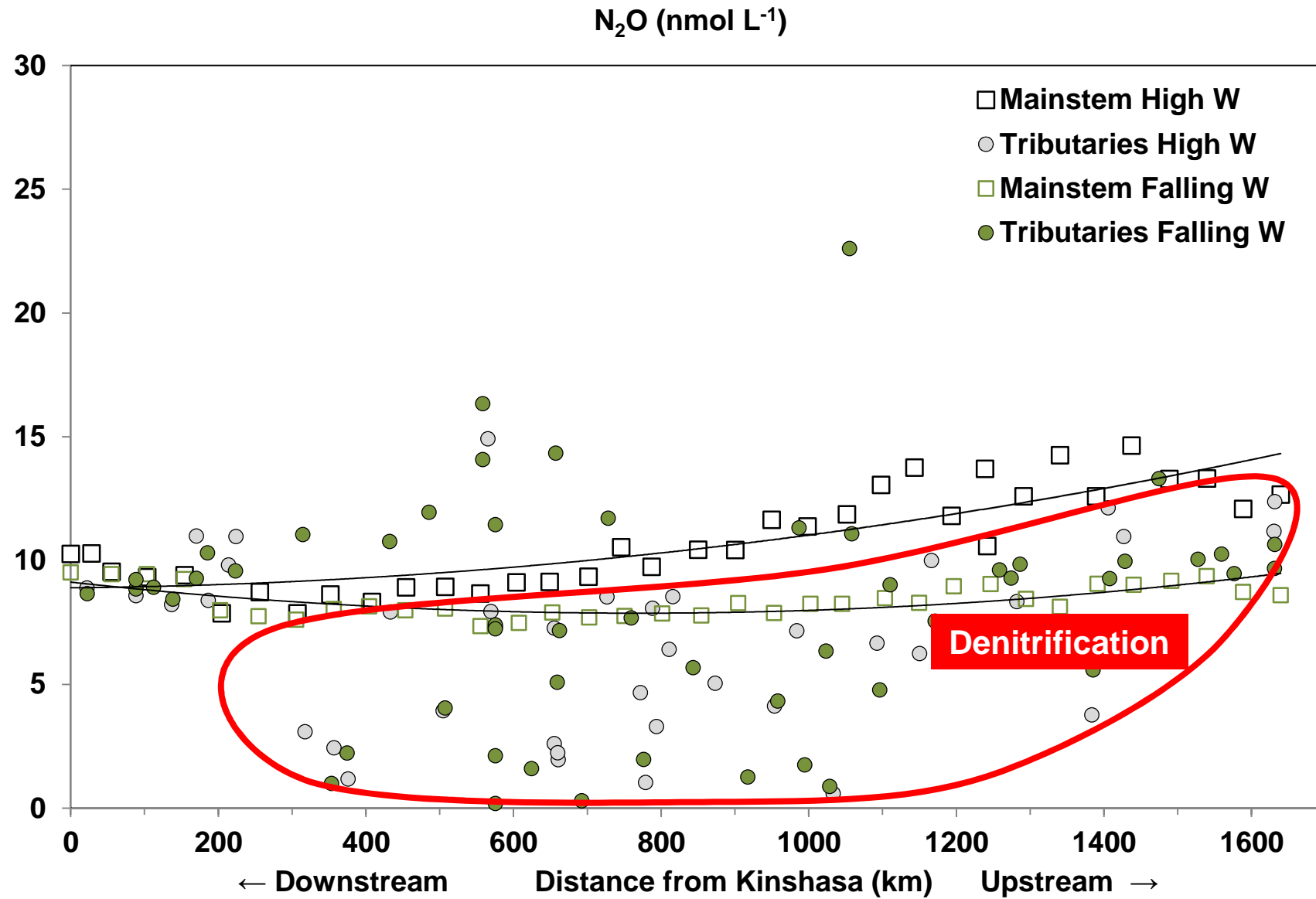


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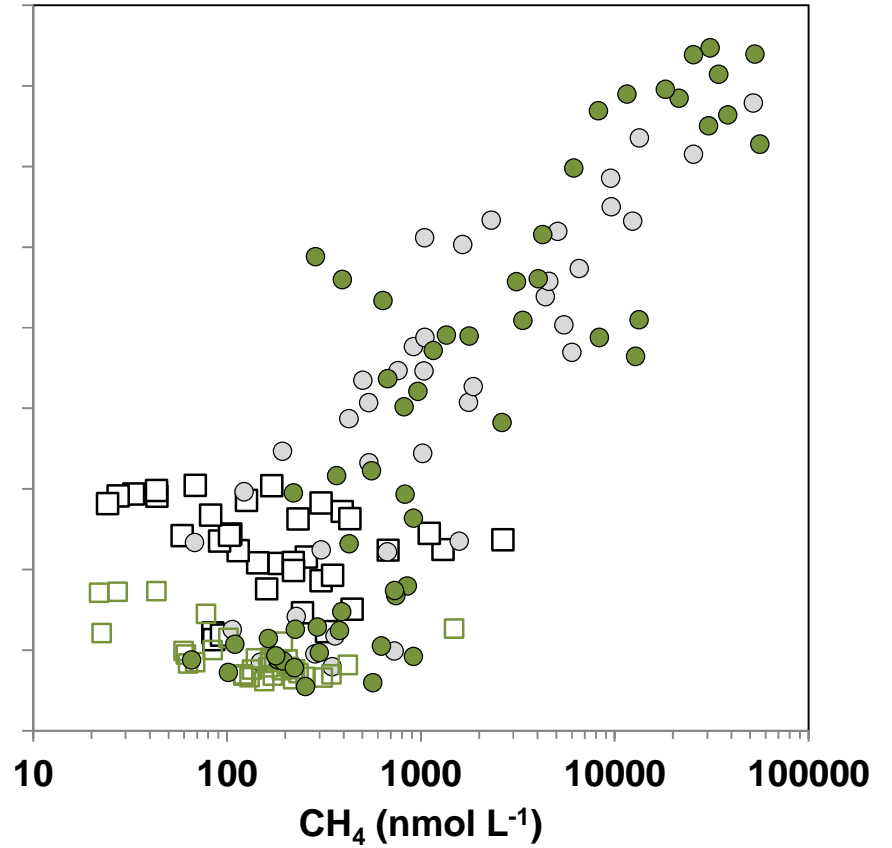
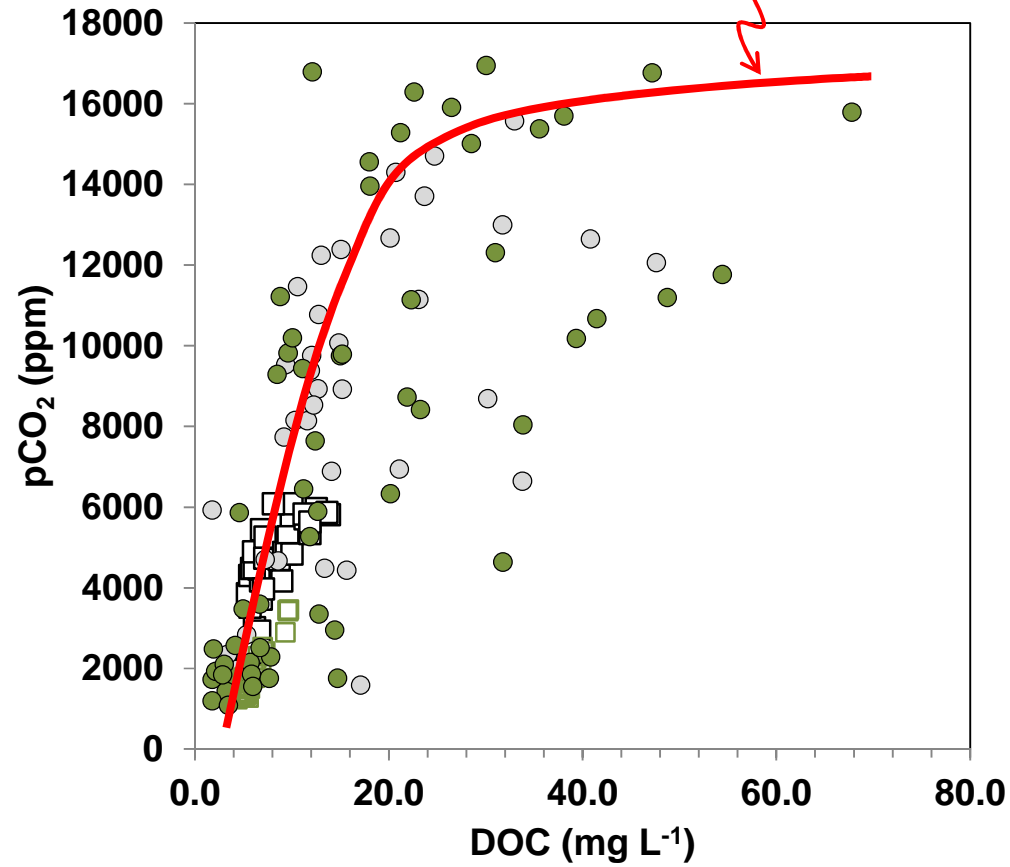
# Results

Limitation of bacterial growth ?

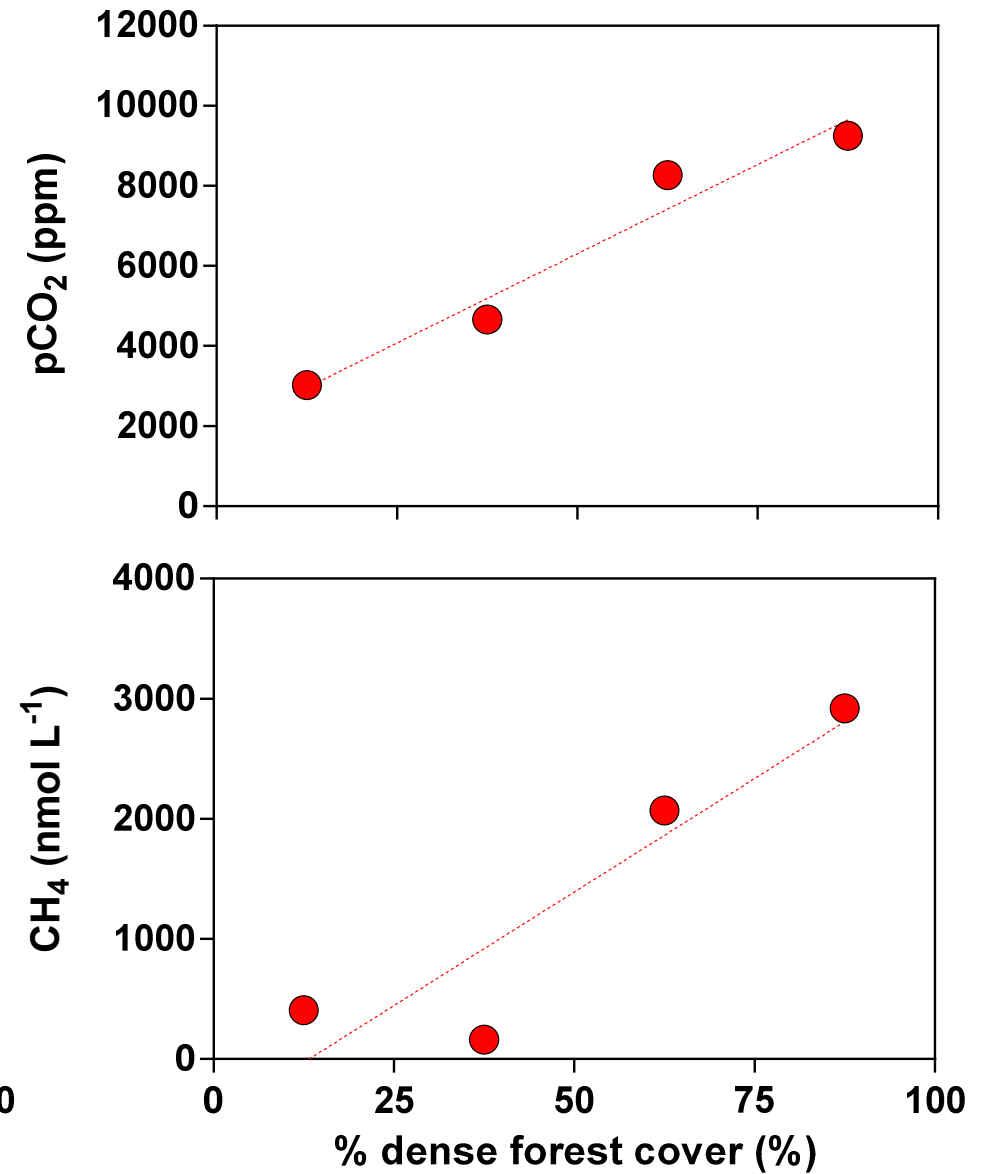
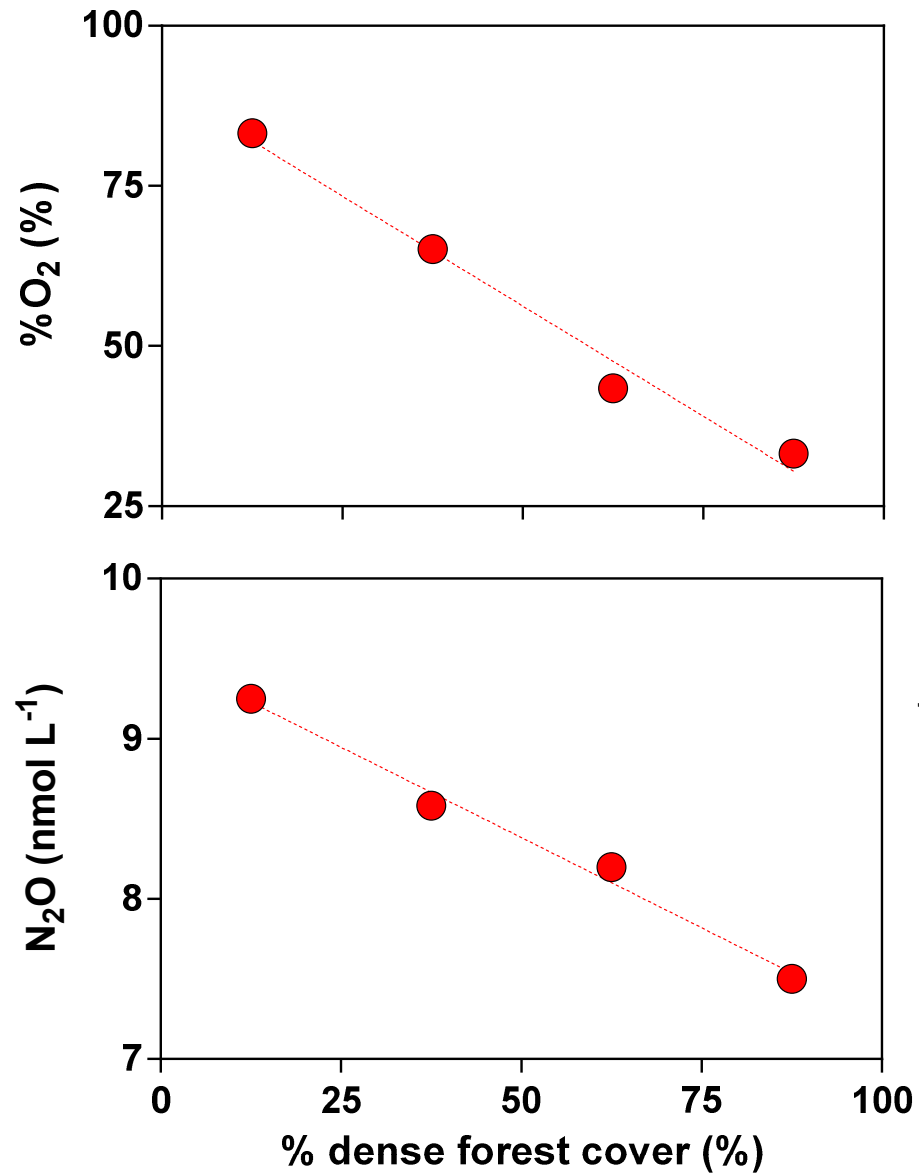
Low pH ?

Low O<sub>2</sub> ?

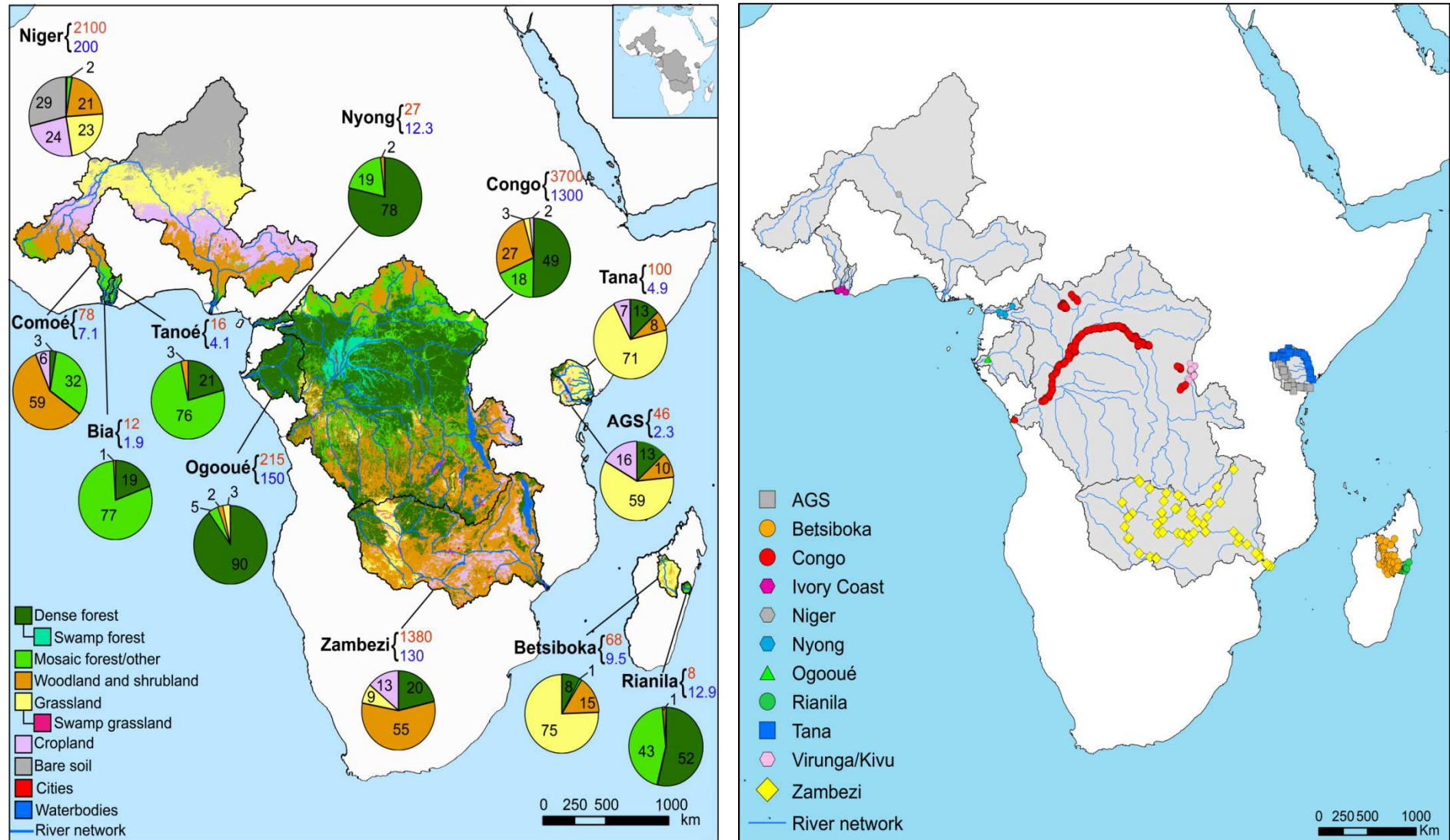
Low P ?



# Results

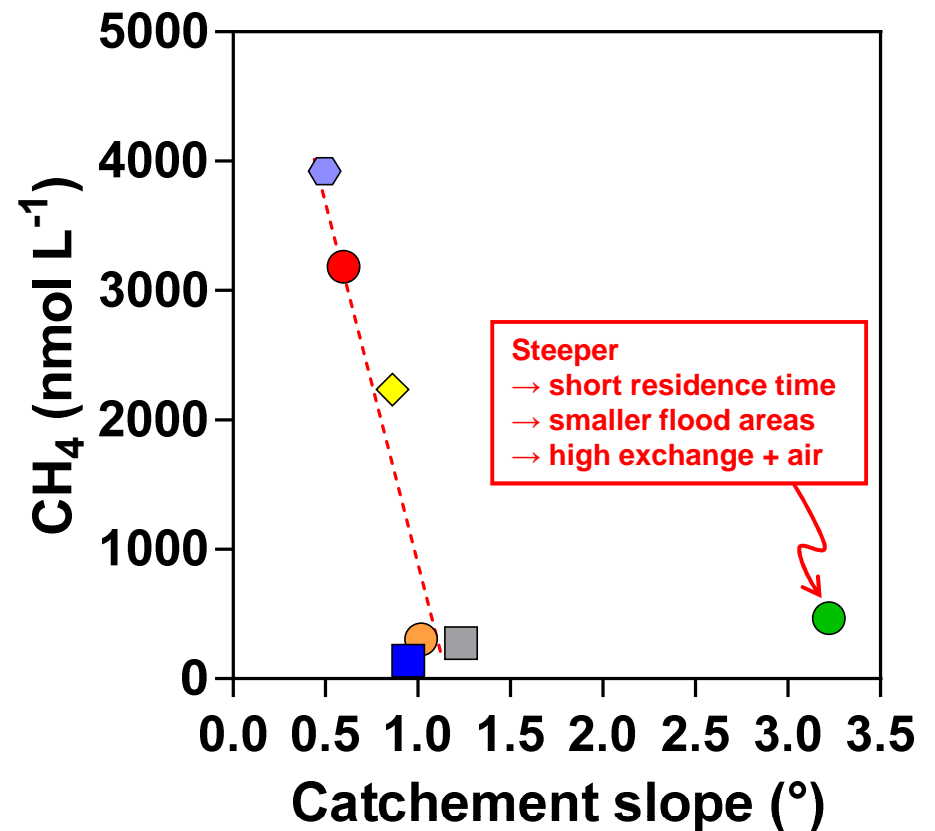
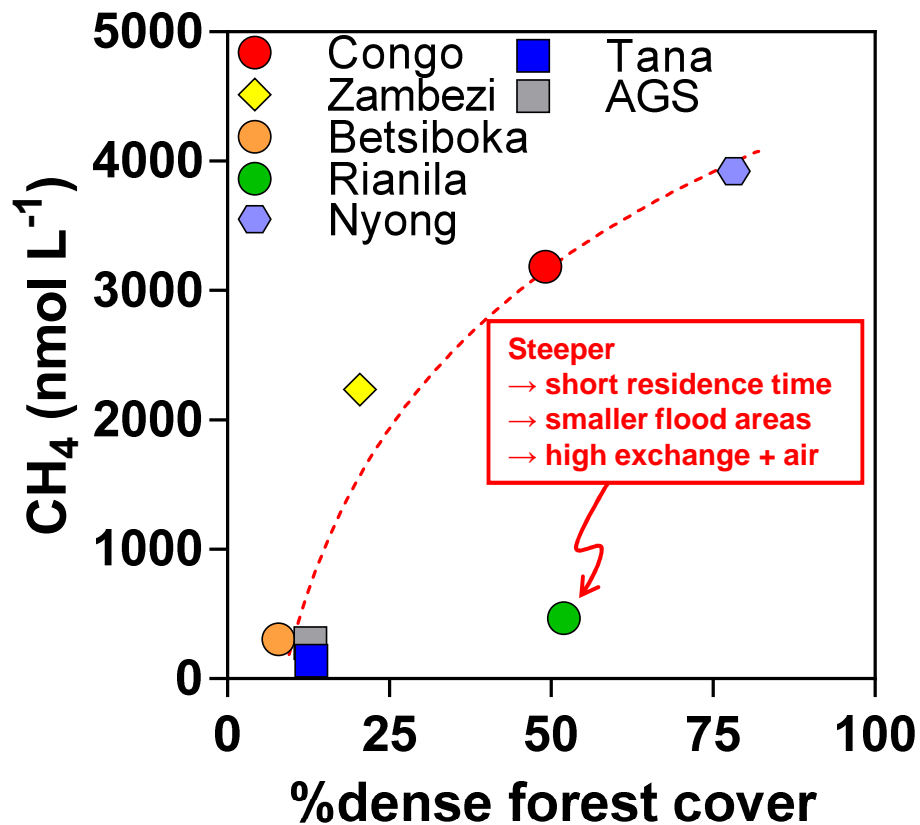


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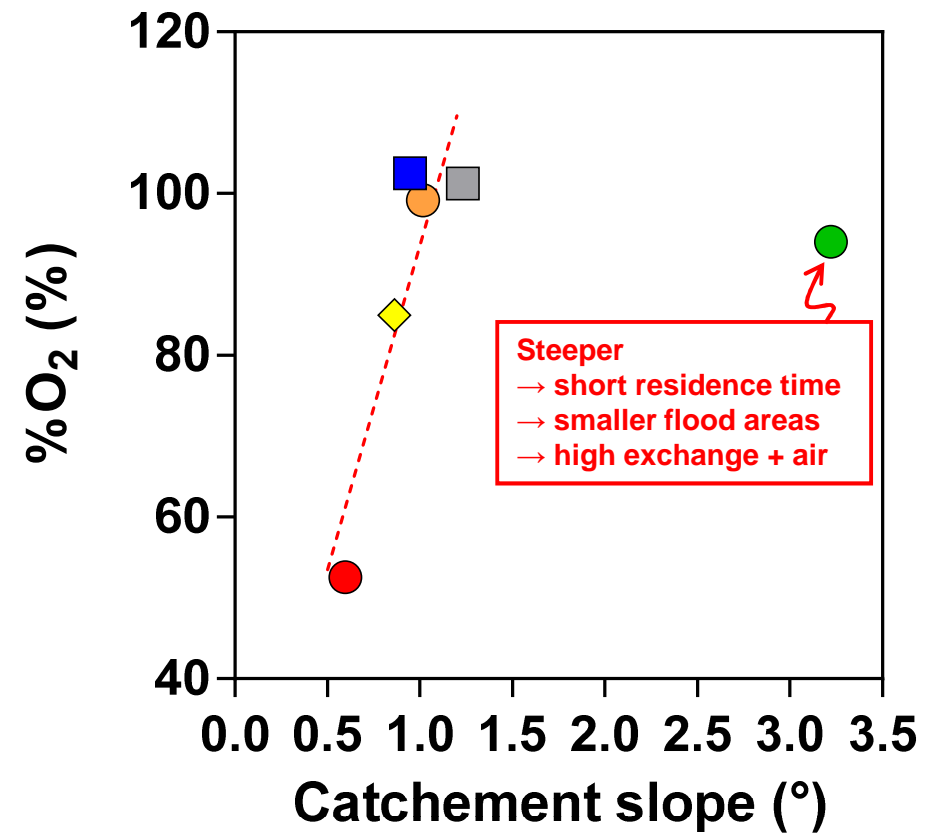
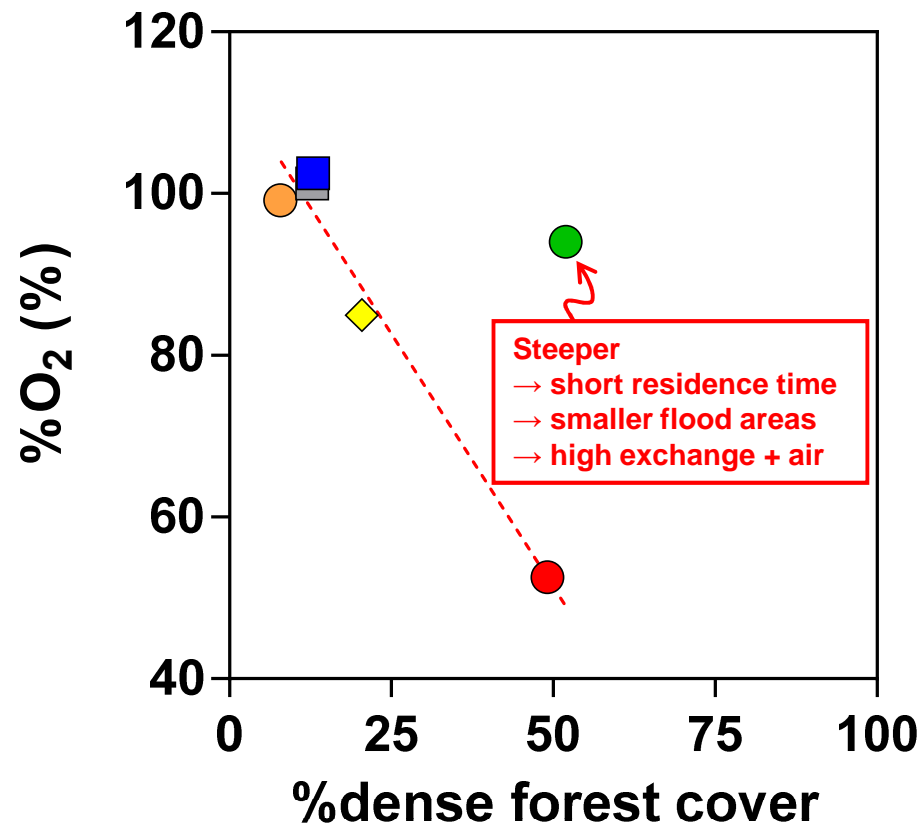


A.V. Borges, F. Darchambeau, C.R. Teodoru, T.R. Marwick, F. Tamoo, N. Geeraert, F.O. Omengo, F. Guérin, T. Lambert, C. Morana, E. Okuku & S. Bouillon, submitted

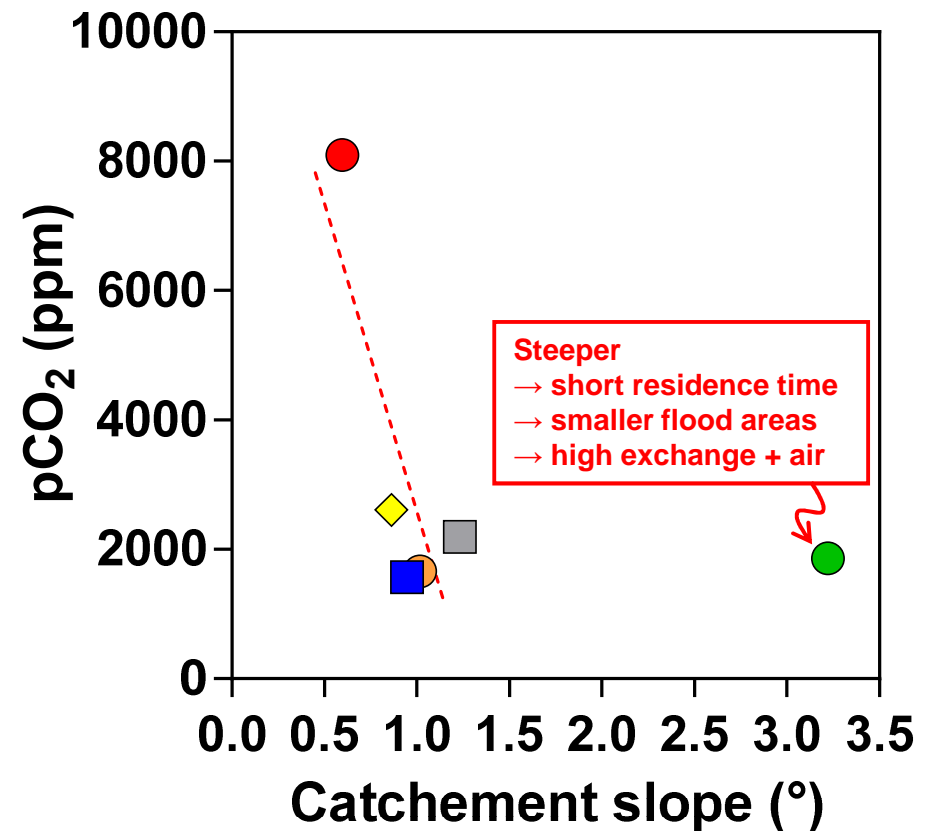
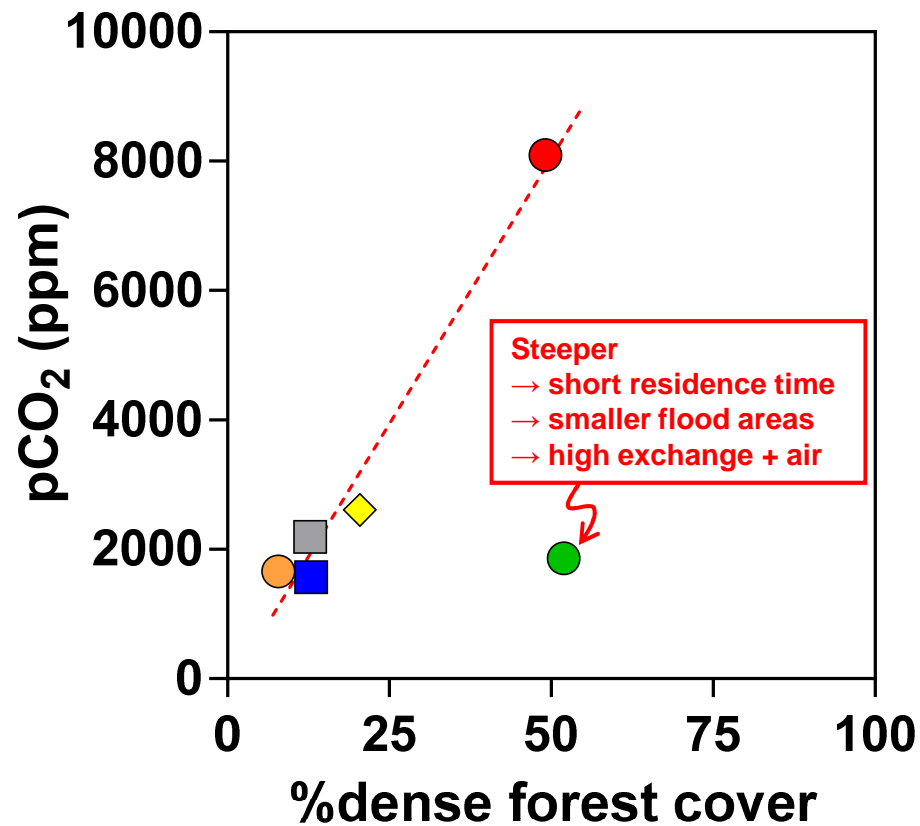
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**023 Biogeochemistry and ecology of African inland waters  
Wednesday 17:00 - Andalucia 2 (Floor 1)**

**Bouillon *et al.* Biogeochemistry of Congo (Abstract ID:27067) O**

**Darchambeau *et al.* Plankton in the Congo (Abstract ID:26104) P**

# Acknowledgments



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