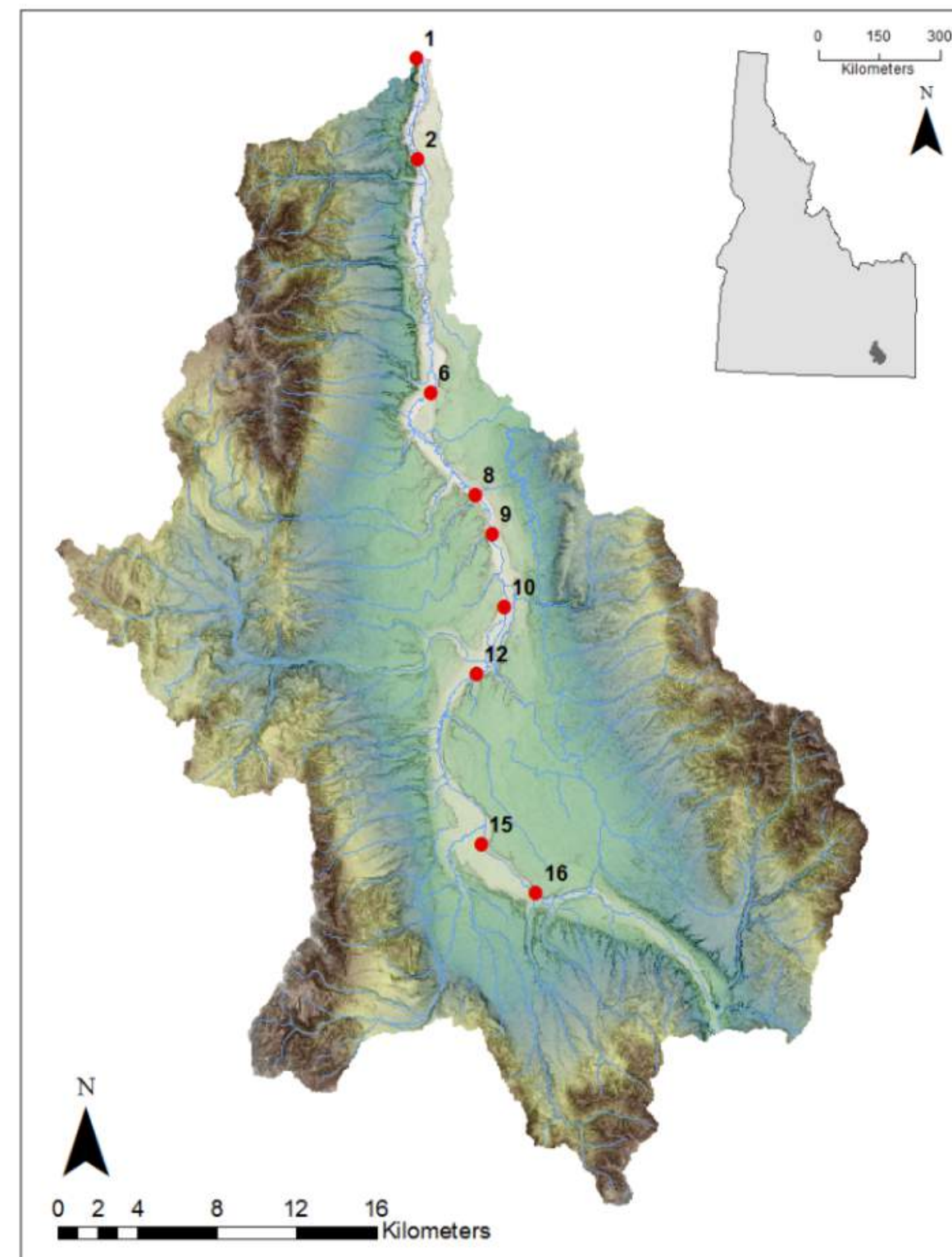


Characterizing the drivers of stream metabolism in an agricultural semi-arid stream

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Marsh Creek: A Murky Problem



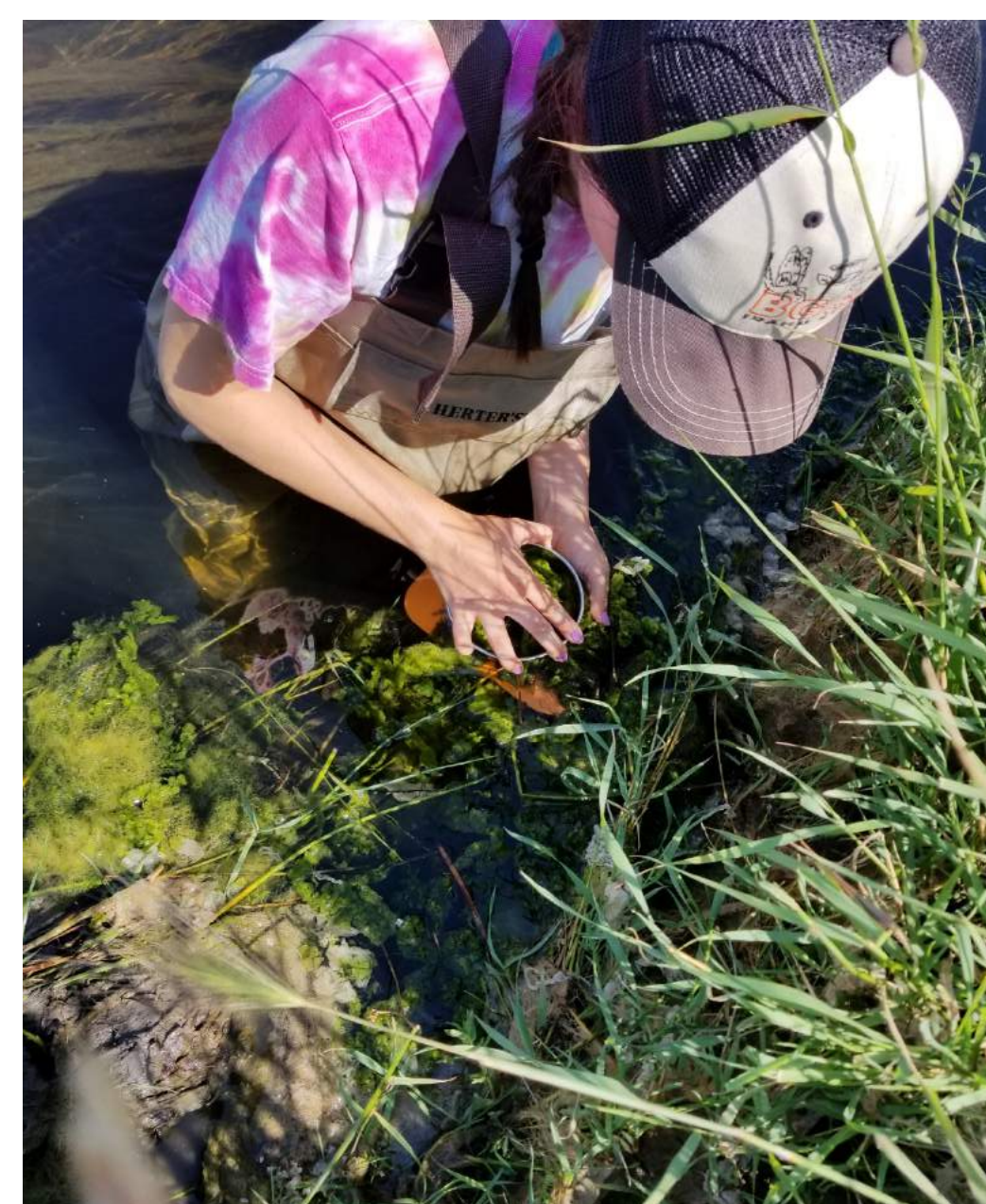
Marsh Creek is a large source of sediment to the Portneuf River which has downstream consequences for Pocatello. Metabolism is a functional indicator of ecosystem degradation. By understanding the controls of metabolism we can make informed decisions on management practices.

Confluence with the Portneuf River – A LARGE source of sediment

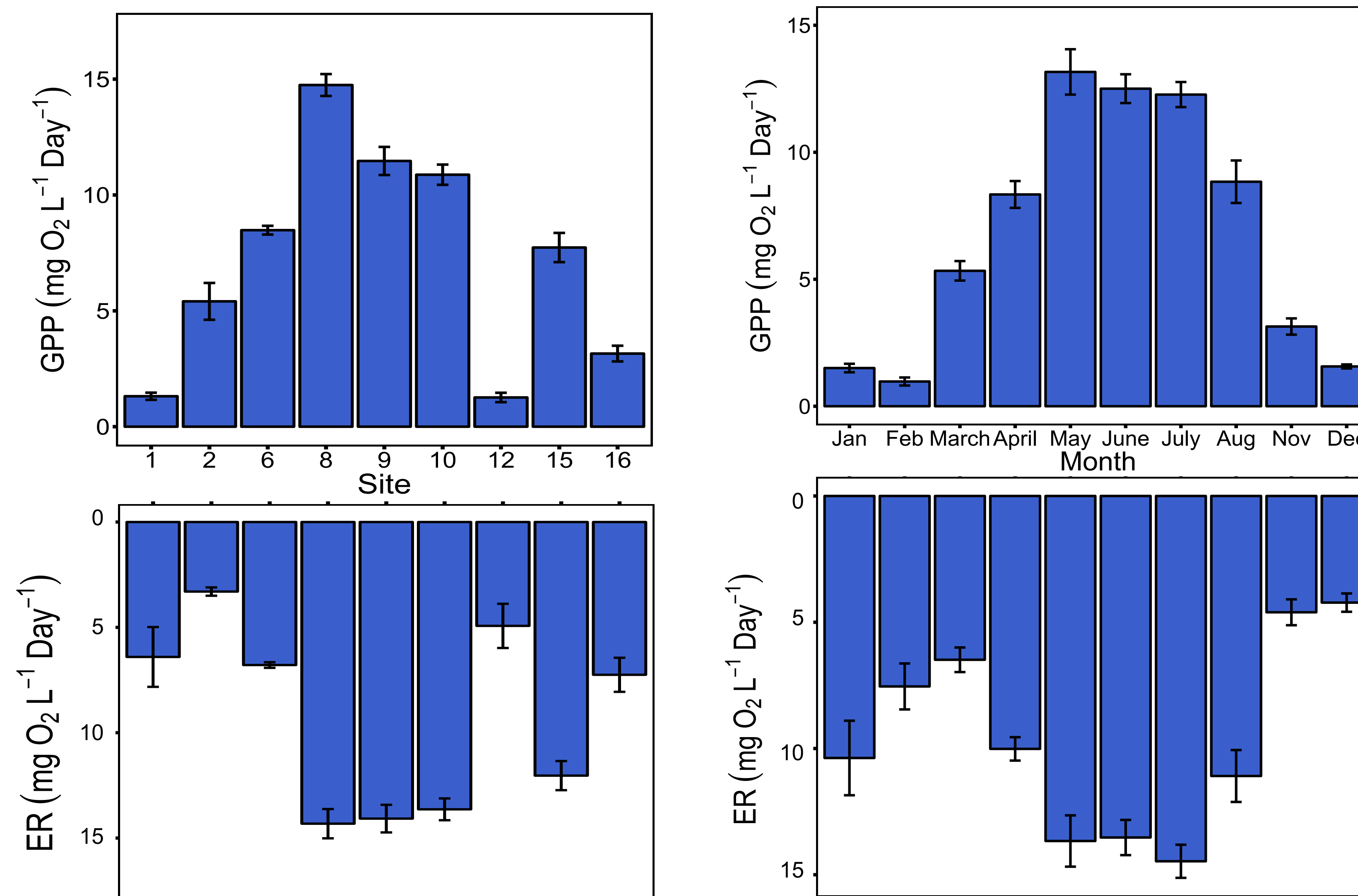


Methods for Monitoring

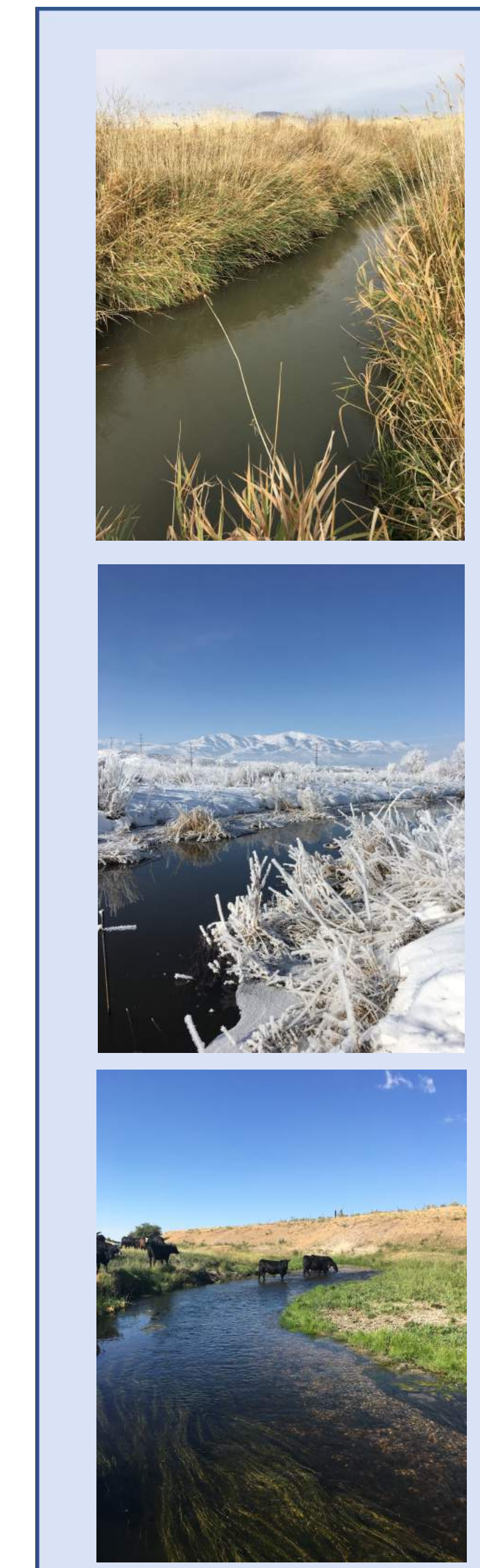
Measure dissolved oxygen, turbidity, temperature, light, and discharge every 15 minutes
 Monthly water chemistry
 Growing season monthly in-stream vegetation surveys and chlorophyll a sampling



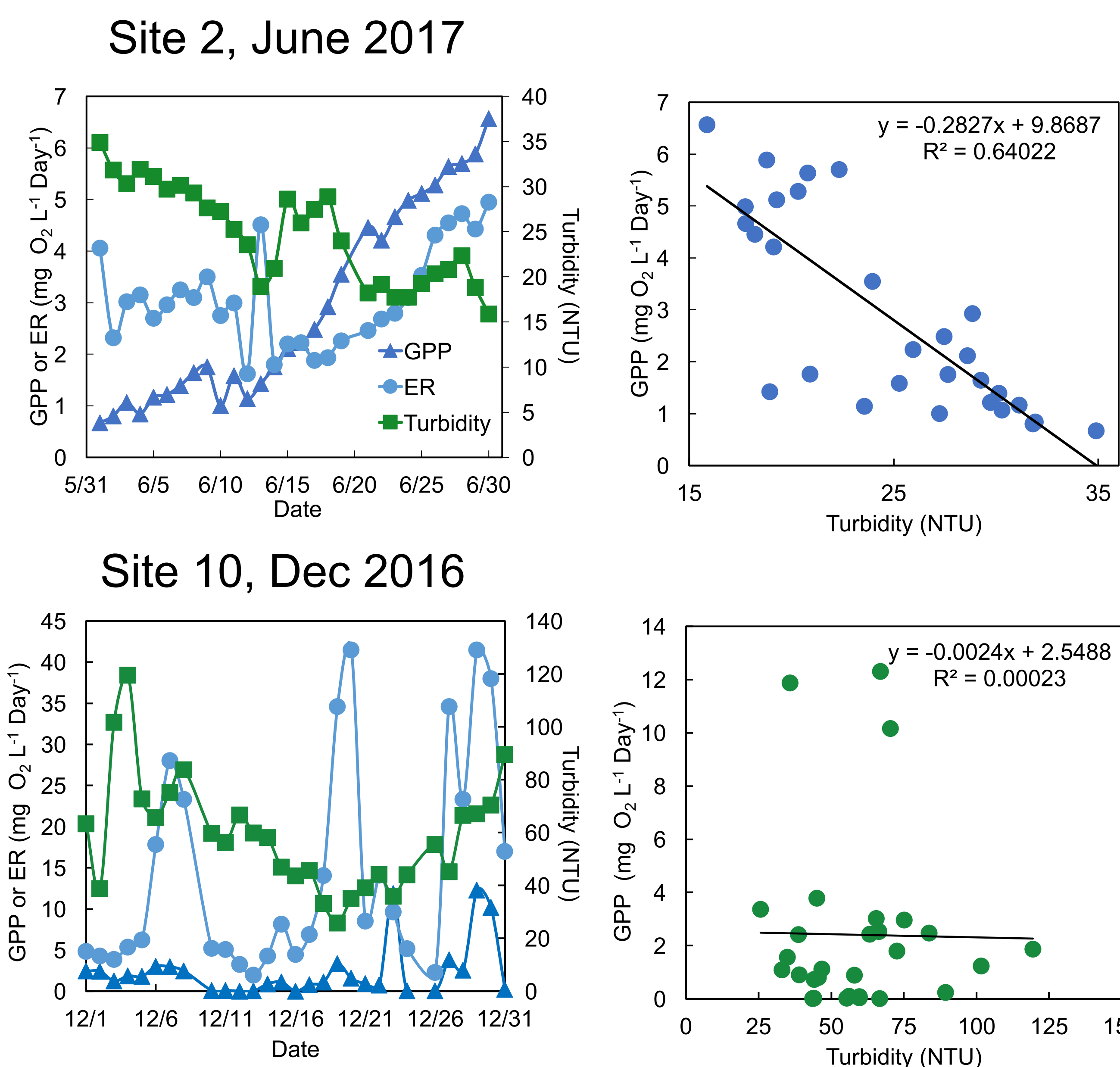
Metabolism varies longitudinally and seasonally



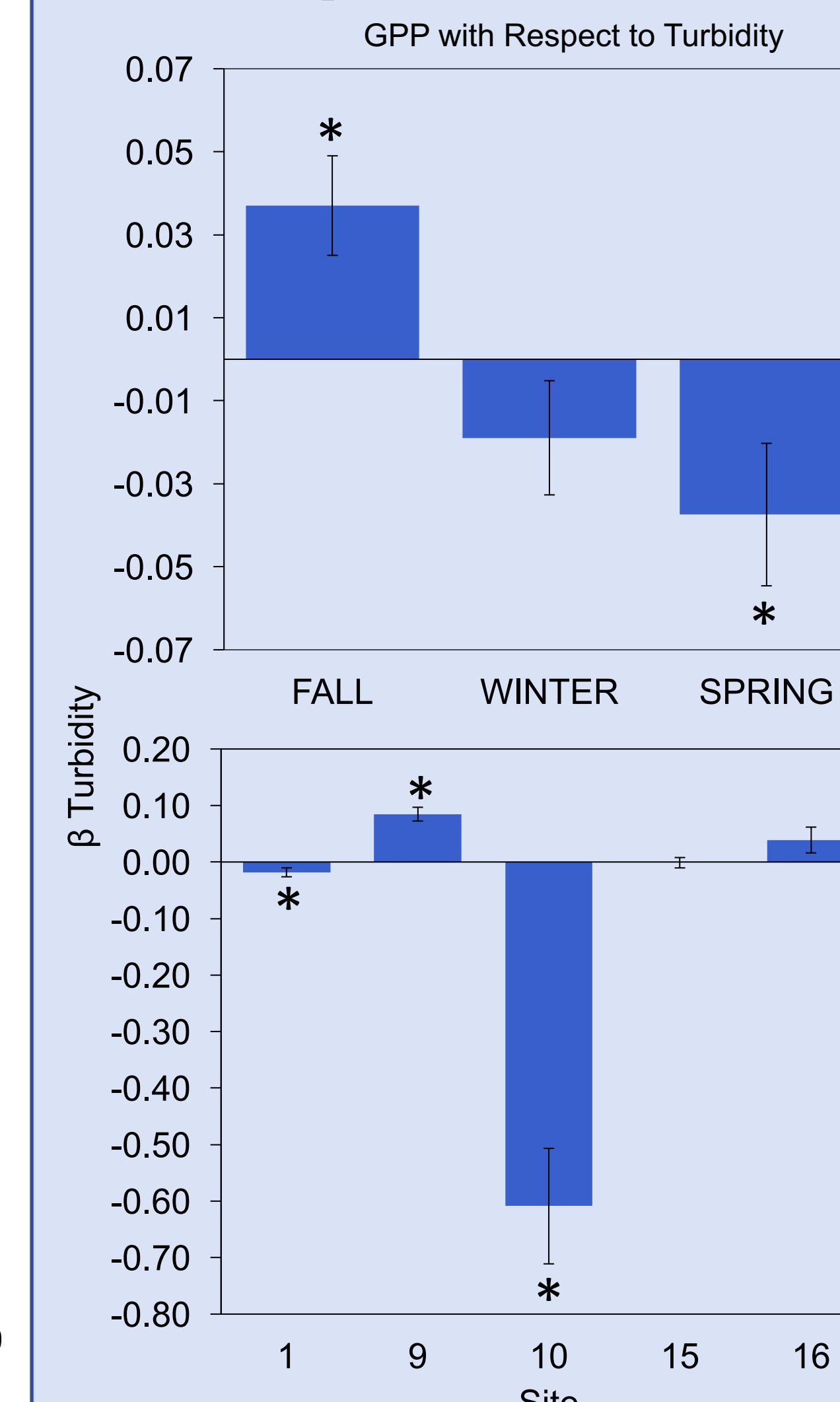
Important to note that sites 1 & 12 have data from the fall/winter 2016, and sites 2, 6, & 8 only have data from the spring/summer 2017.



Effects of turbidity on GPP are variable



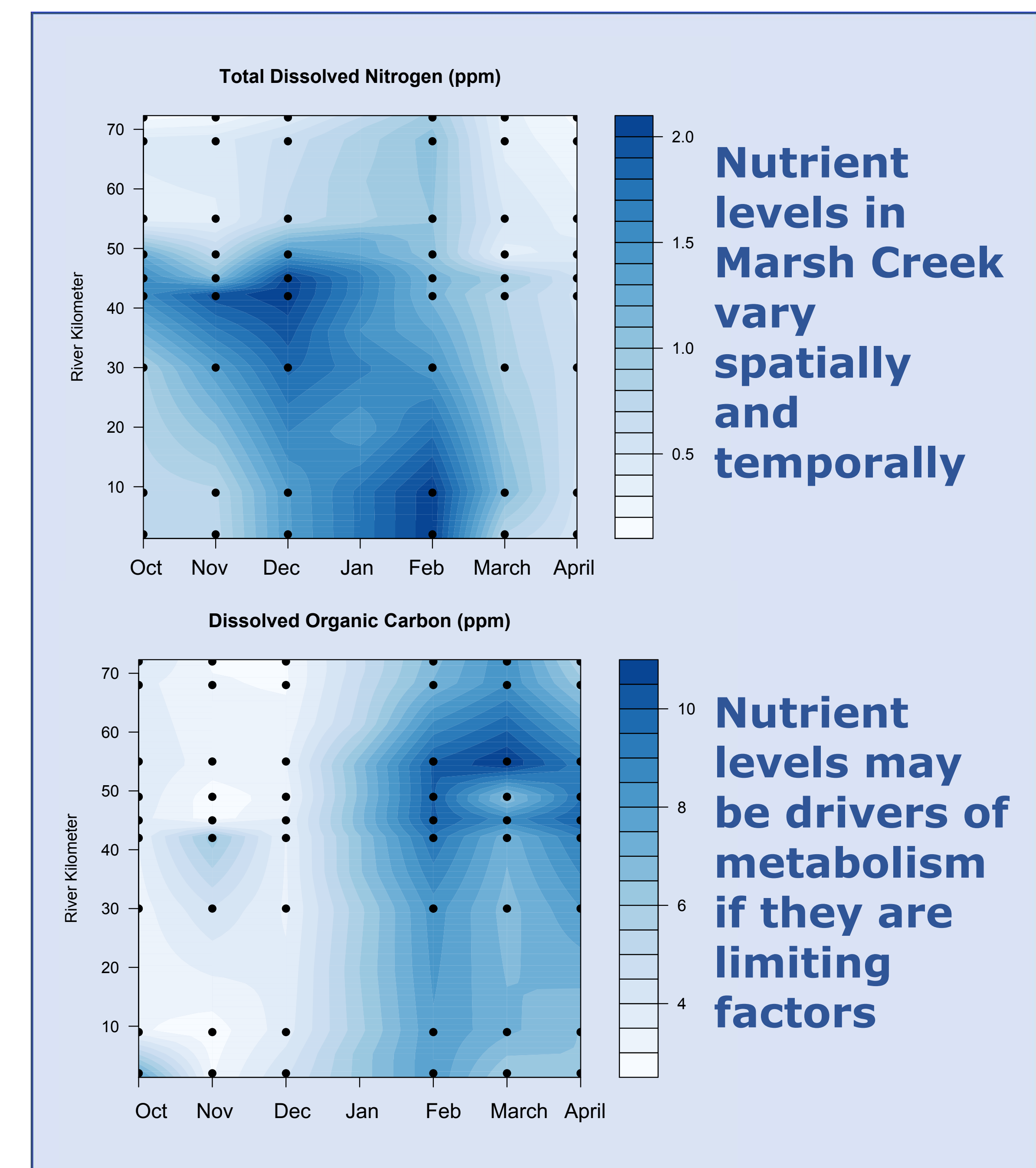
Patterns of Gross Primary Production driven by turbidity



Future Directions

We plan to continue data analysis on this vast data set to:

1. Identify important temporal scales of variability in metabolism using time series analysis
2. Further identify drivers of metabolism at different temporal and spatial scales
3. Relate summer instream vegetation and nutrient levels to metabolism in Marsh Creek



4. Synthesize results with previous and current Marsh Creek studies to see which management practices relate to reach level stream health

Acknowledgements

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