

National Park Service
U.S. Department of the Interior



Evaluation of the Structural, Fluvial, and Biological Functions of Logjams in the East Branch of the Little Calumet River within the Indiana Dunes National Lakeshore

Jana C. Cram¹, Erin P. Argyilan², Laurie S. Eberhardt³, and Charles C. Morris¹

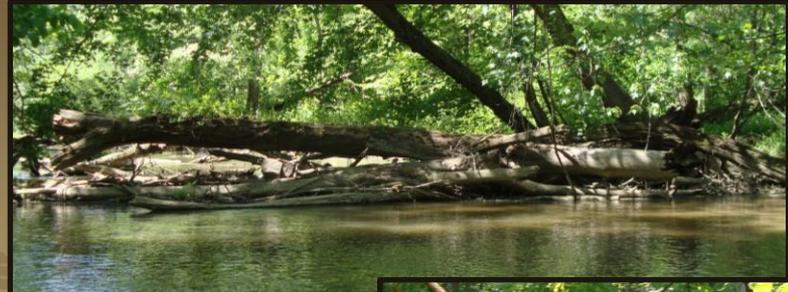
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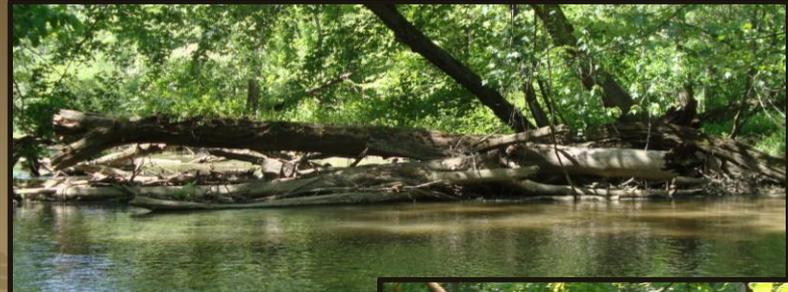
Outline

- Introduction
 - Background
 - Study Area
- Methods
 - Structural Functions
 - Fluvial Functions
 - Biological Functions
- Results
- Modification
- Conclusion



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Background



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Background



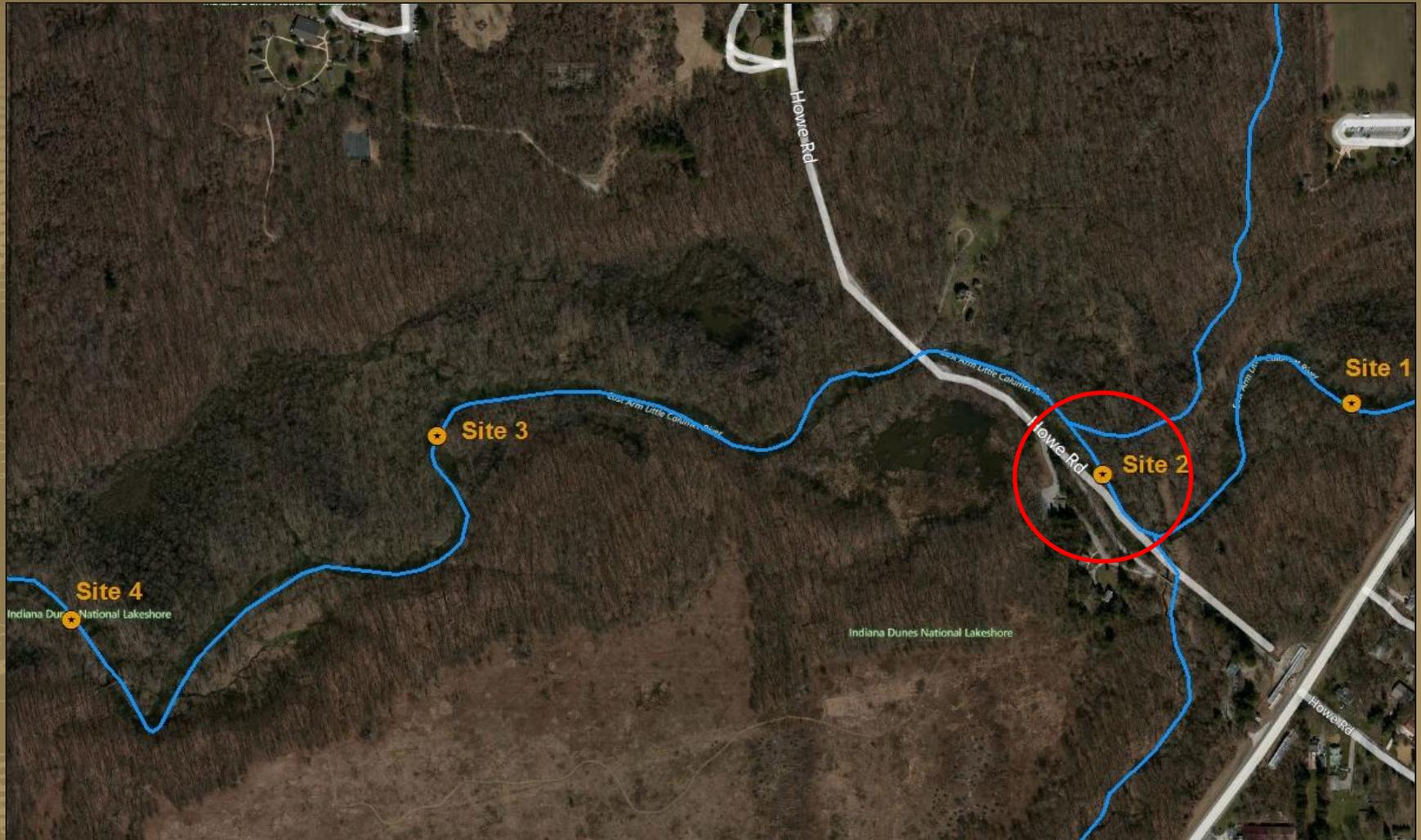
09/21/2012

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Study Area



Study Area



Study Area

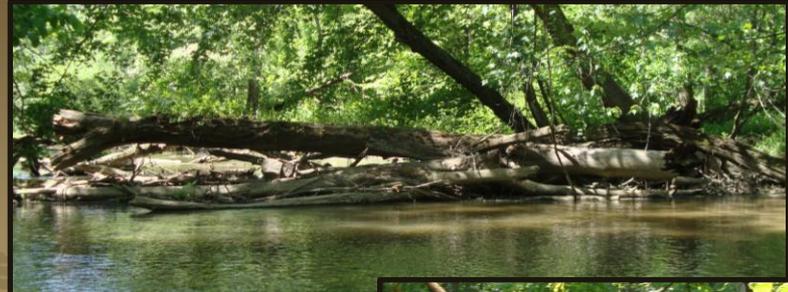
Logjam Site 2



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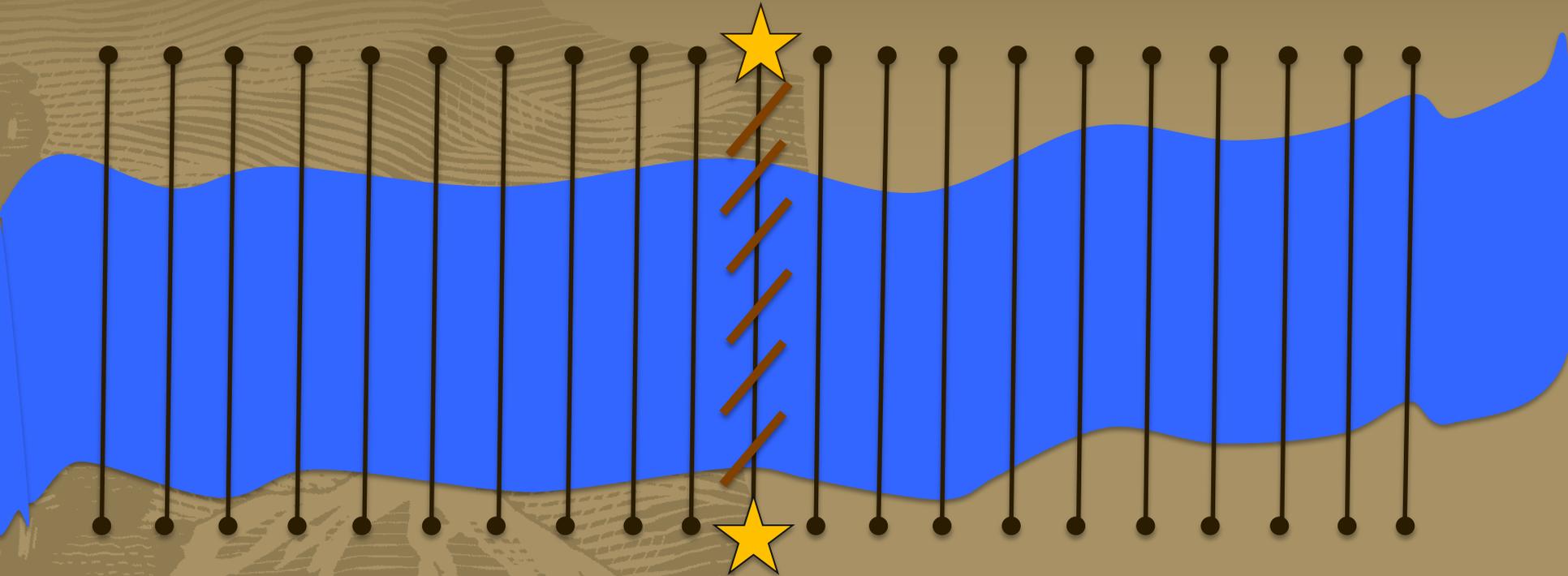
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Methods

1 x 1 m² grid overlay



Methods

1 x 1 m² grid overlay



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Methods

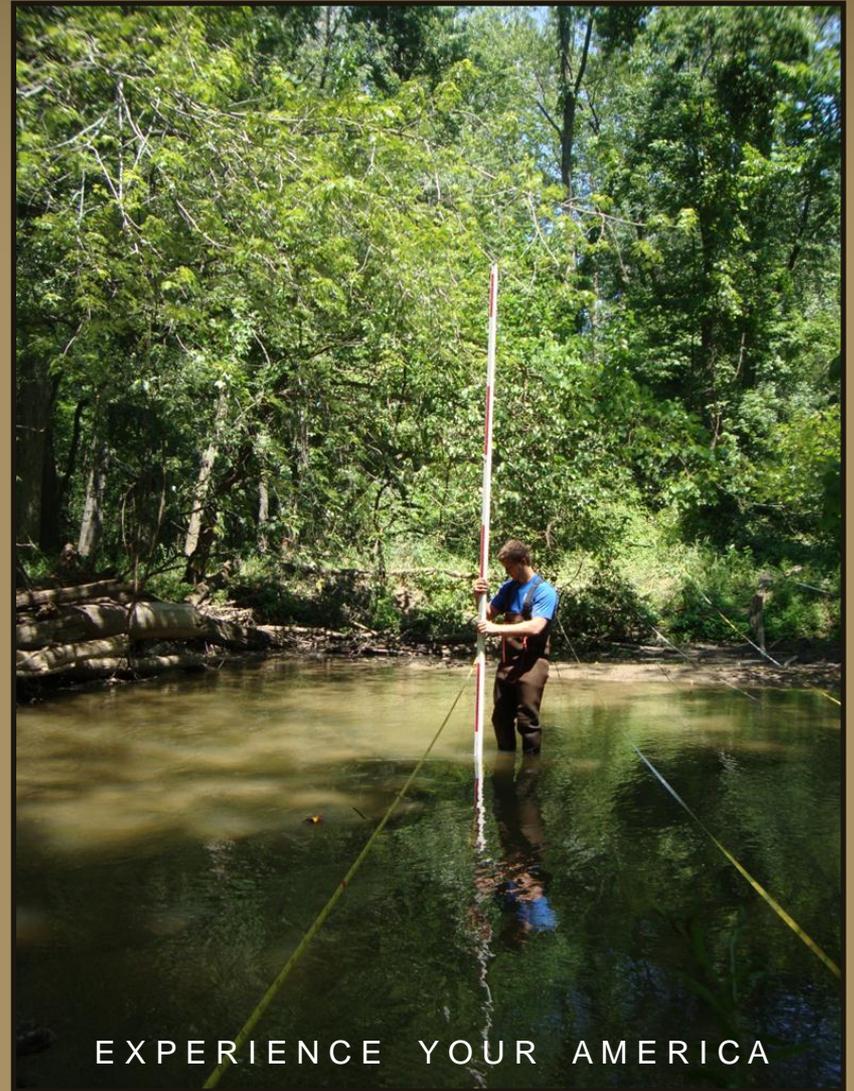
Structural Functions



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Methods

Fluvial Functions



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Methods

Biological Functions



Rock bass (*Ambloplites rupestris*)



Pirate perch (*Aphredoderus sayanus*)



White sucker (*Catostomus commersonii*)



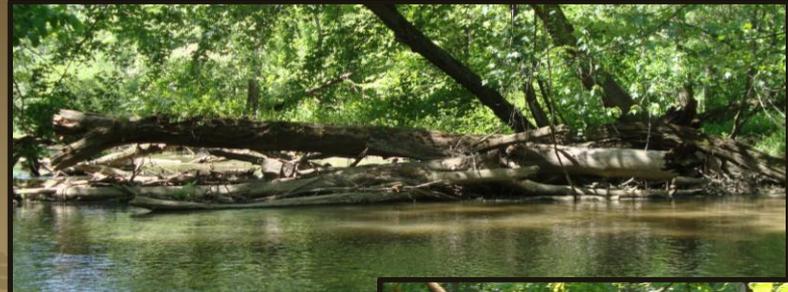
Hester-Dendy plate: pre-deployment (left) and after 6 weeks in the substrate (right)



Scraping plates and collecting benthic macro invertebrates

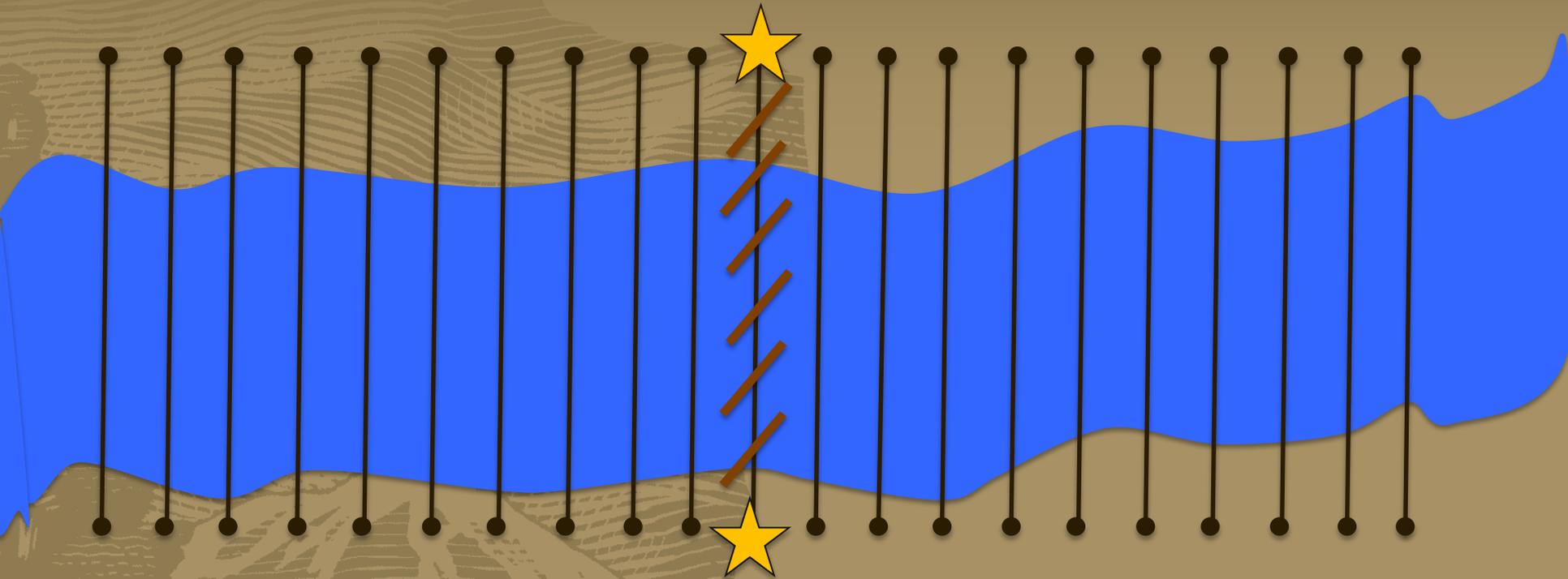
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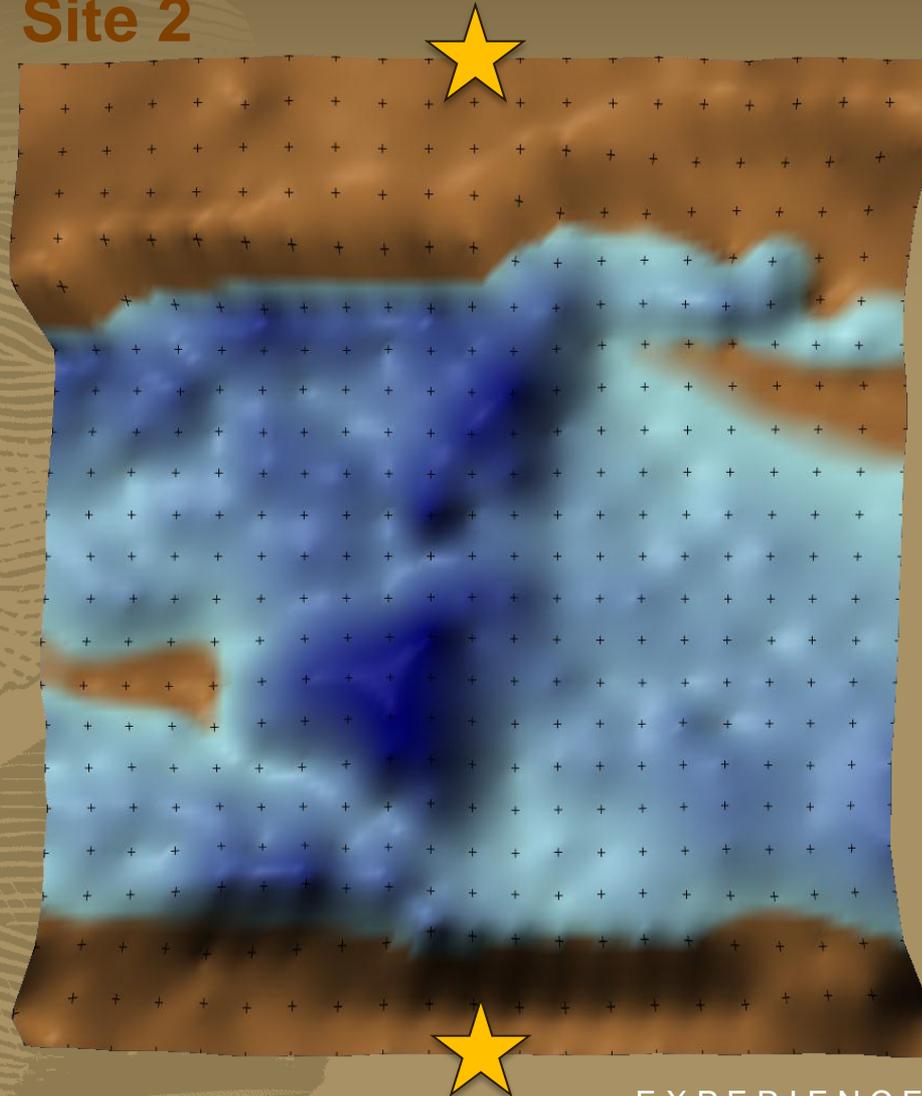
Results

Modeling: Site 2



Results

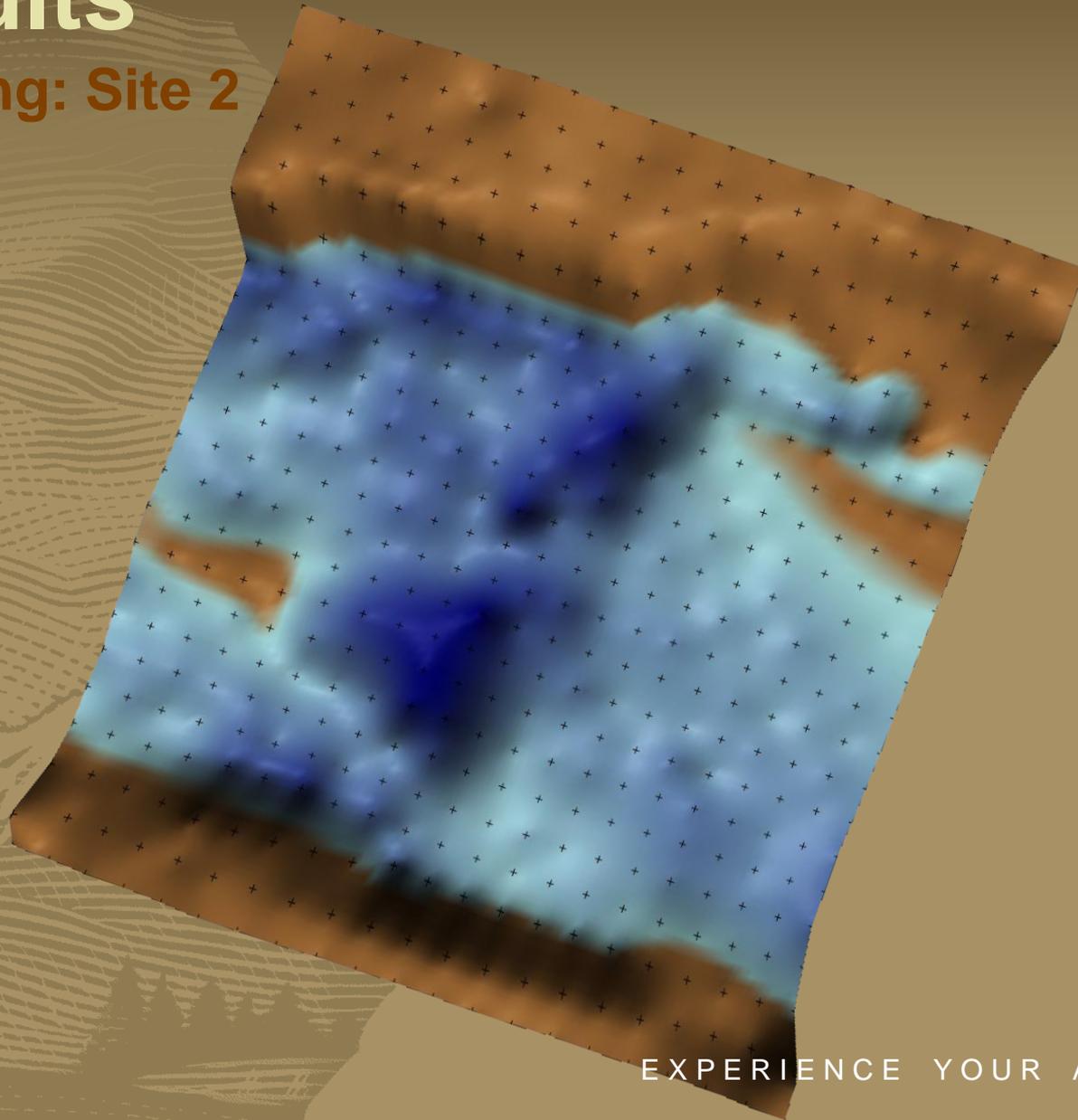
Modeling: Site 2



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Results

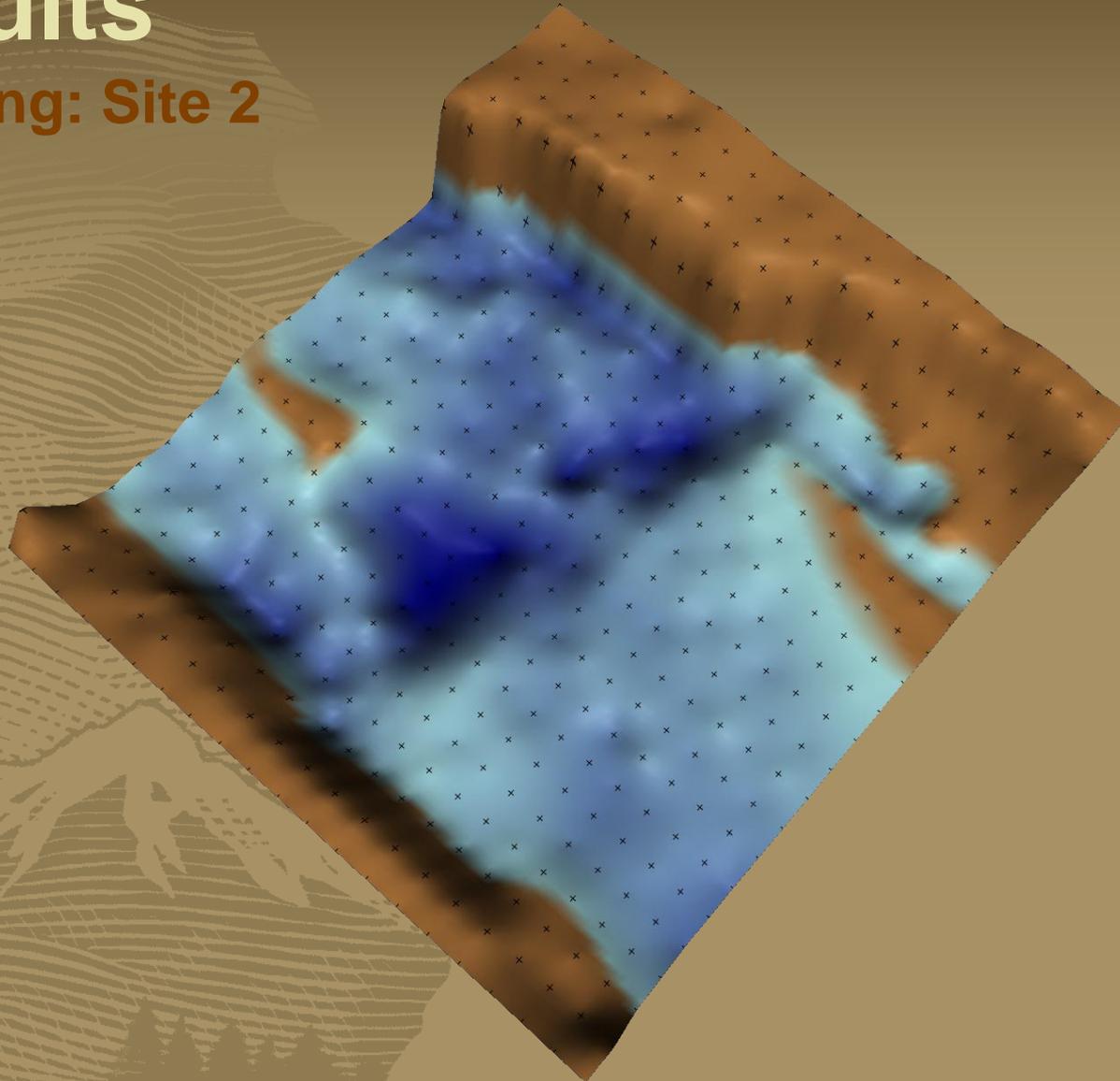
Modeling: Site 2



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Results

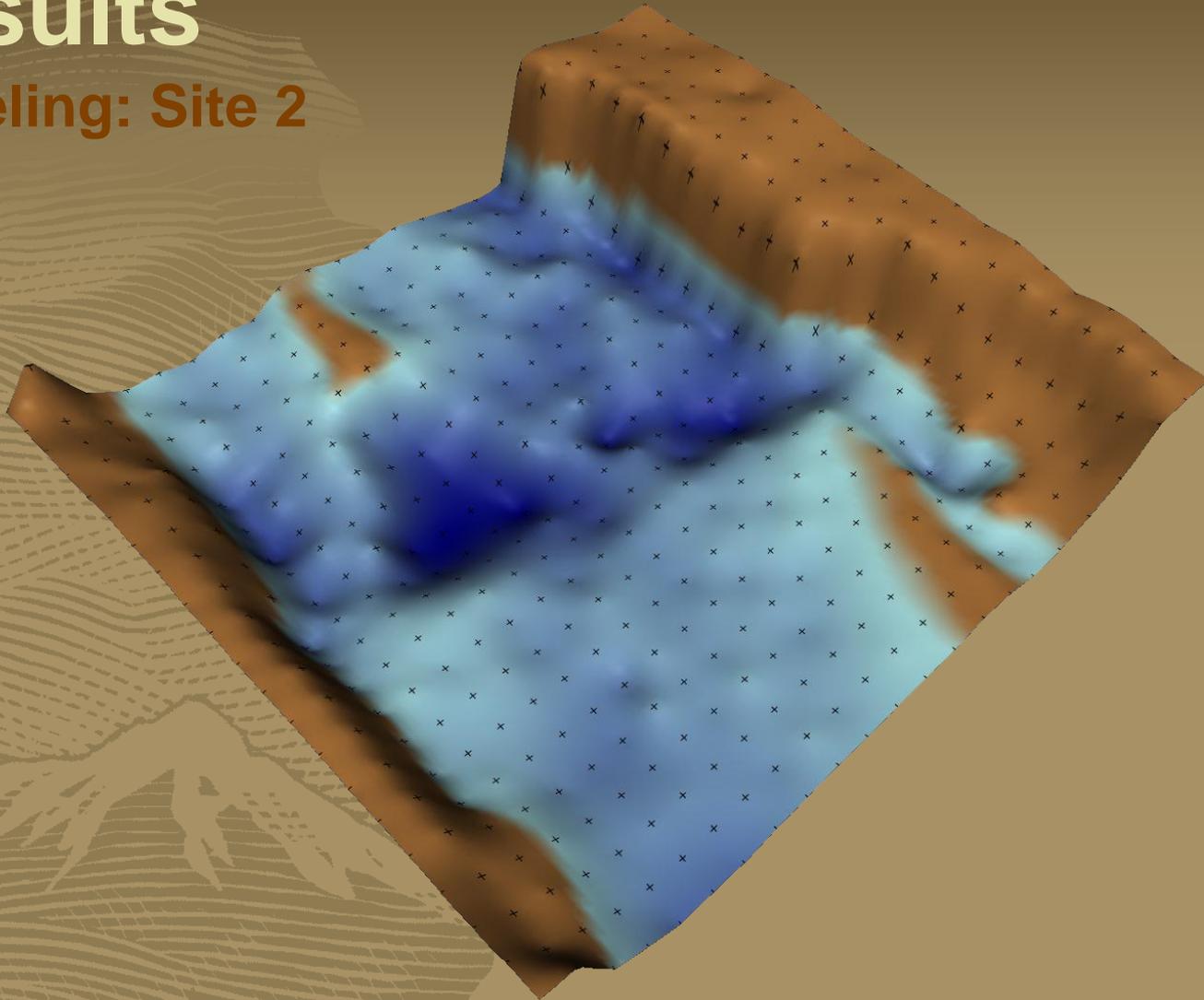
Modeling: Site 2



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Results

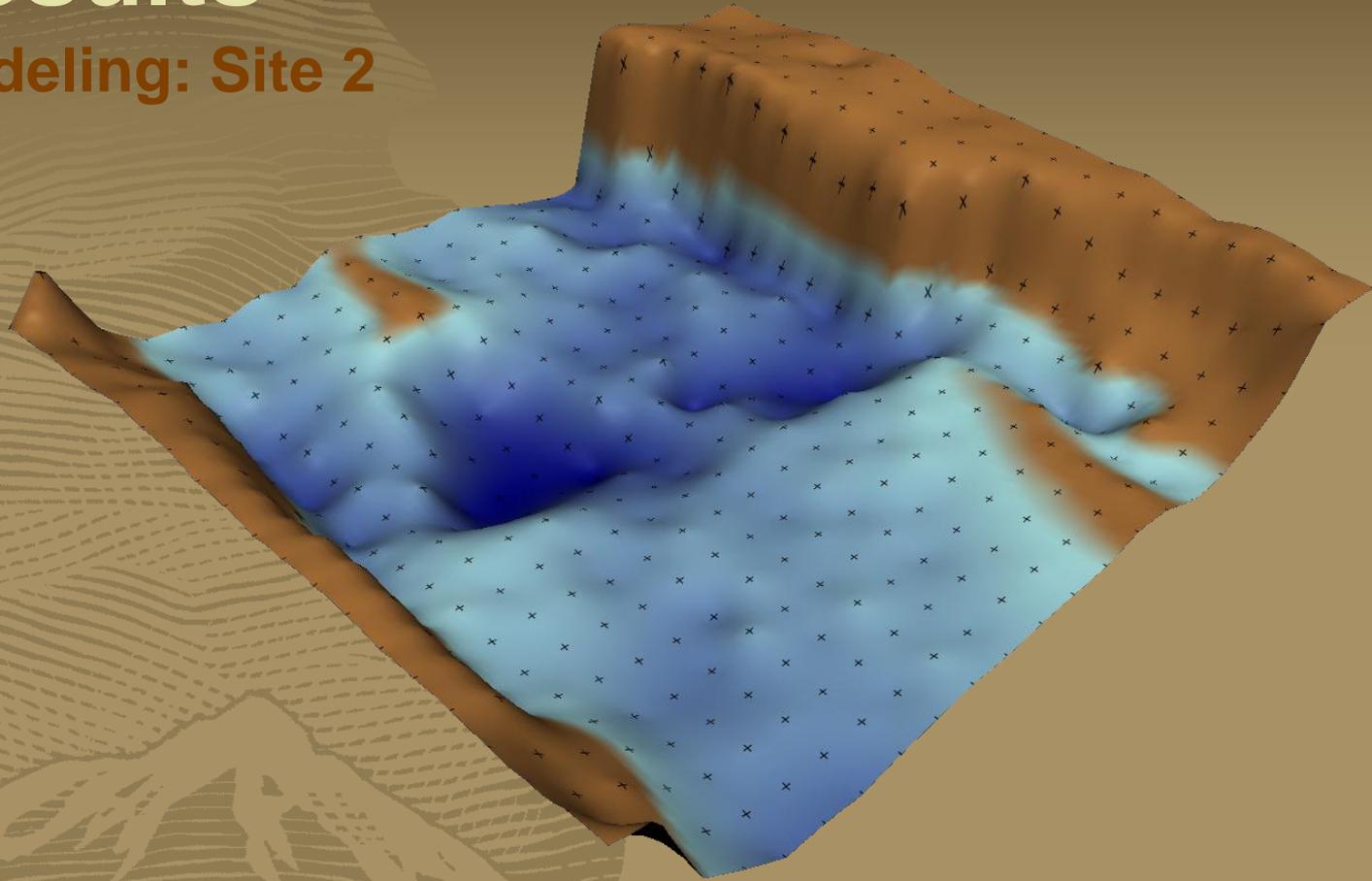
Modeling: Site 2



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Results

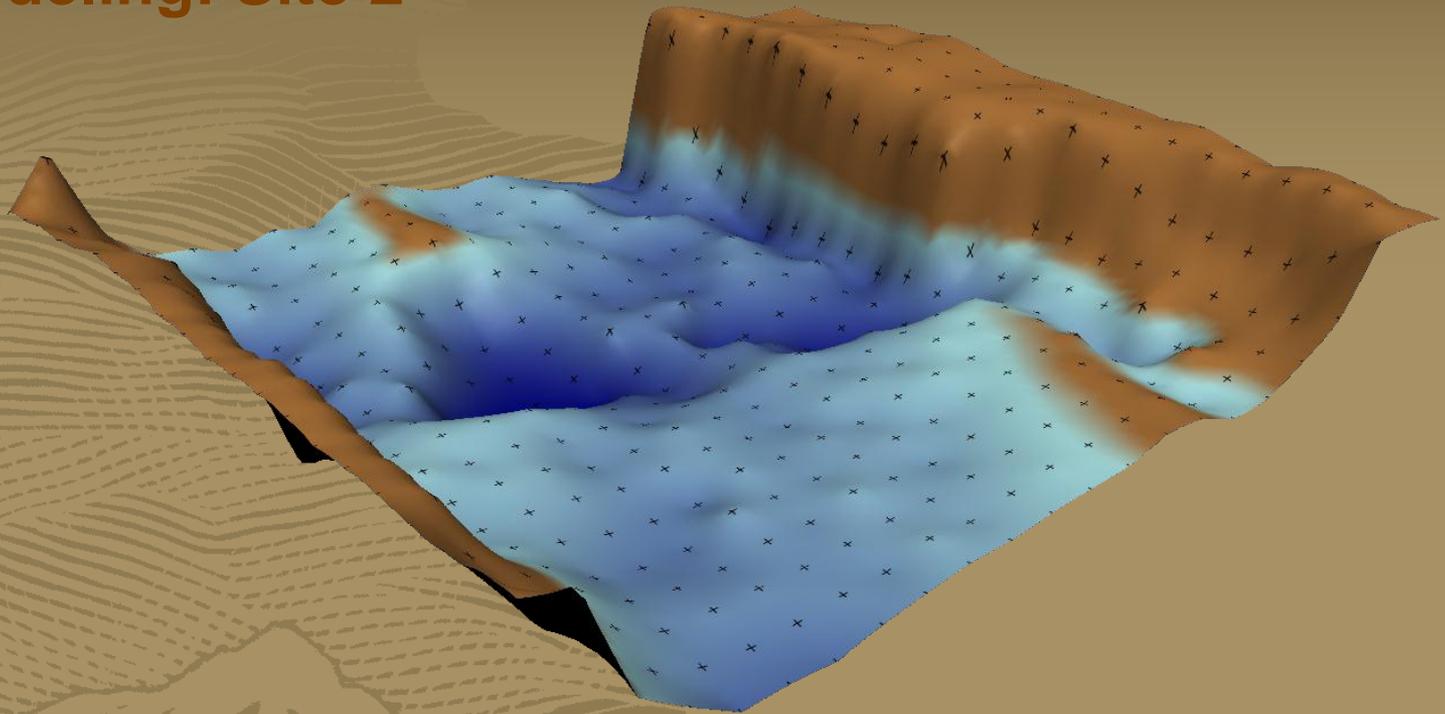
Modeling: Site 2



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Results

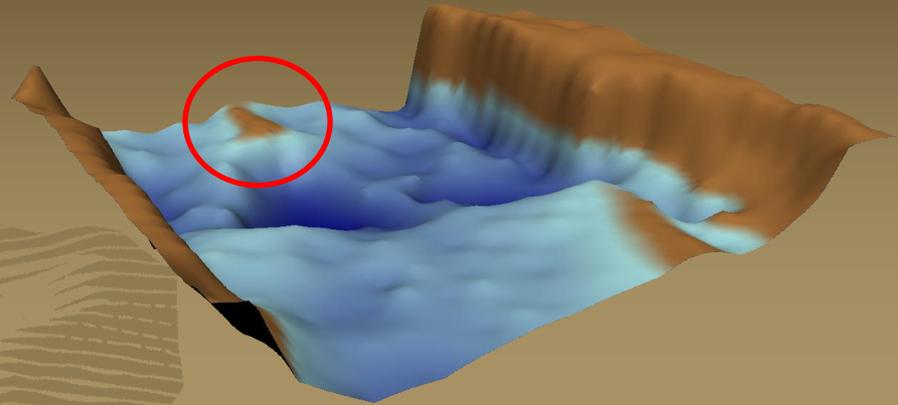
Modeling: Site 2



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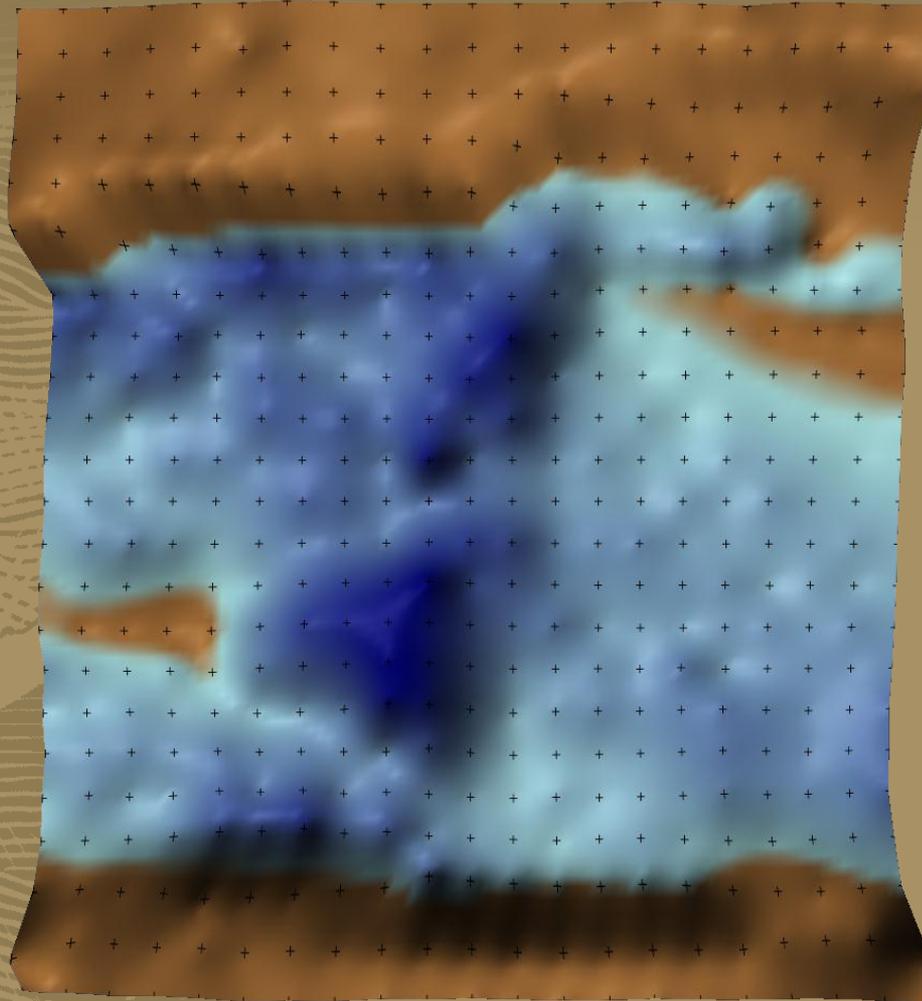
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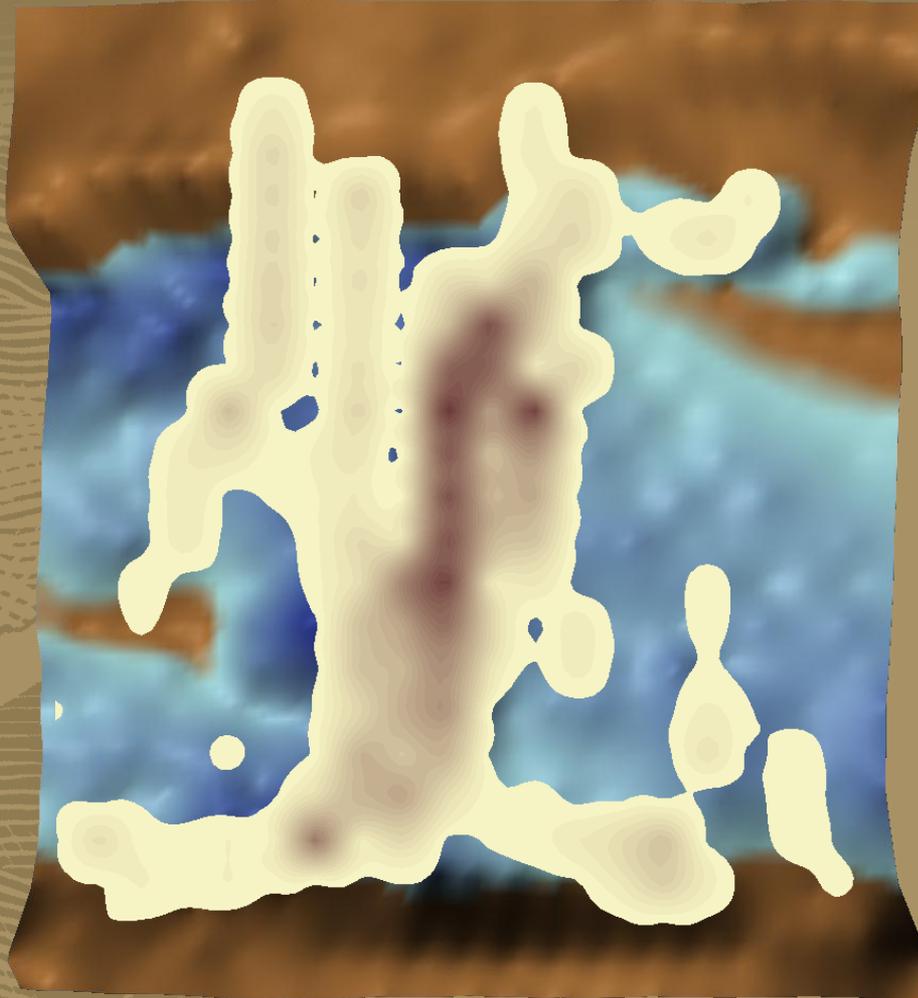
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Results

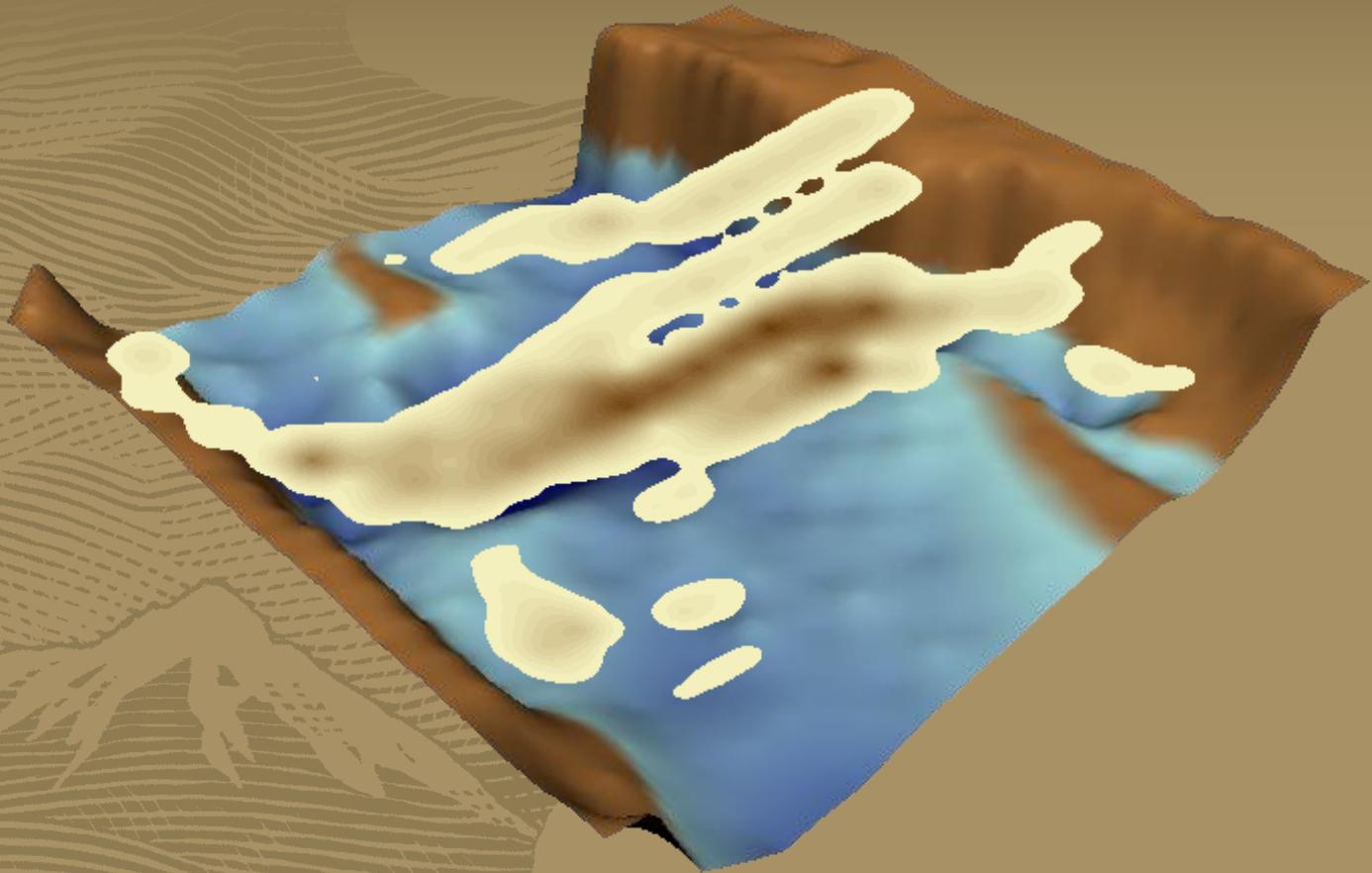
Modeling: Site 2



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Results

Modeling: Site 2



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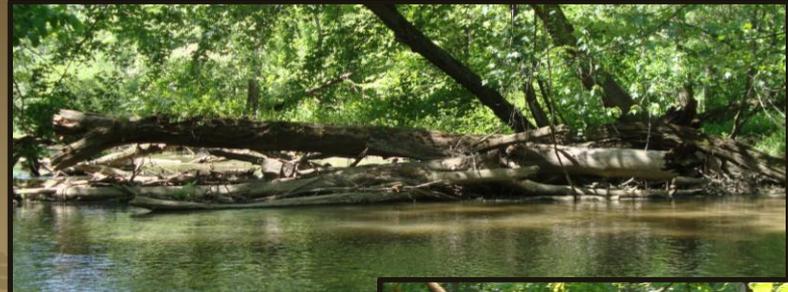
Modeling: Site 2



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Modification

Site 2



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Modification

Site 2



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Site 2



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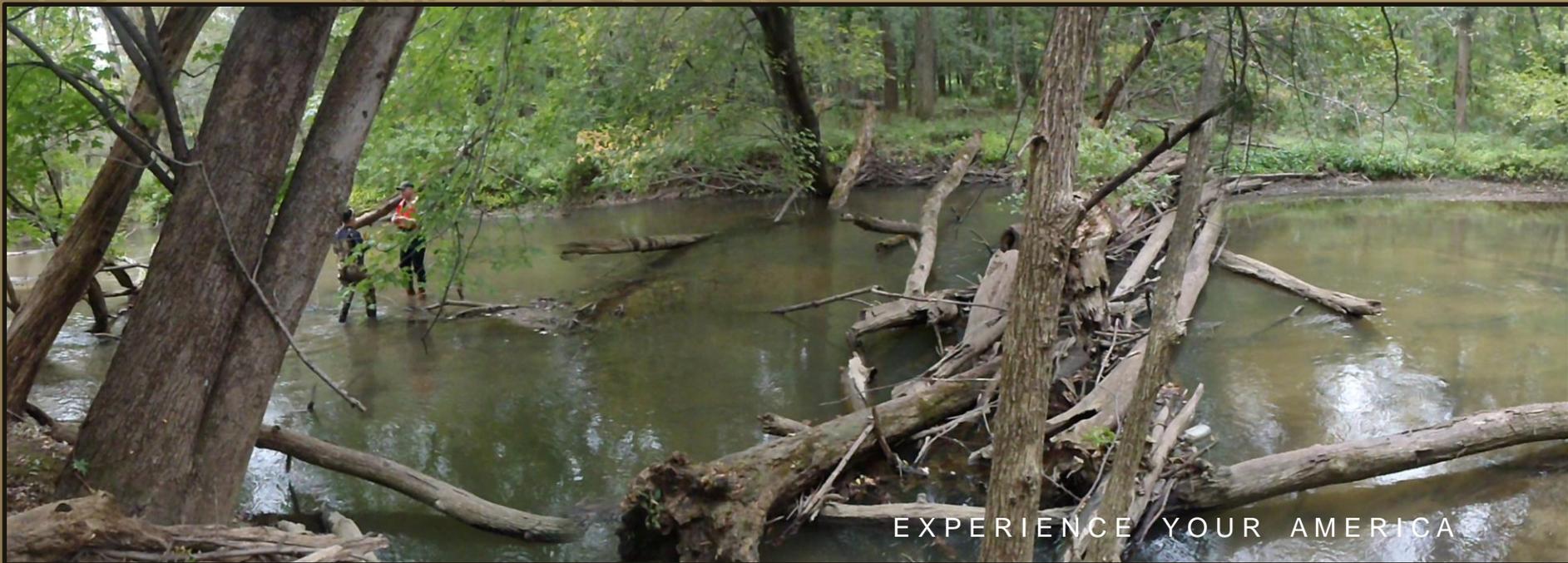


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Conclusion

What's Next?

- Winter 2012-13: continue modeling and analysis of pre-modification jams
- Summer 2013: repeat study to obtain post-modification data



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Indiana Dunes National Lakeshore Acknowledgements

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