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Upper Columbia Wetland Vulnerability Assessment

By
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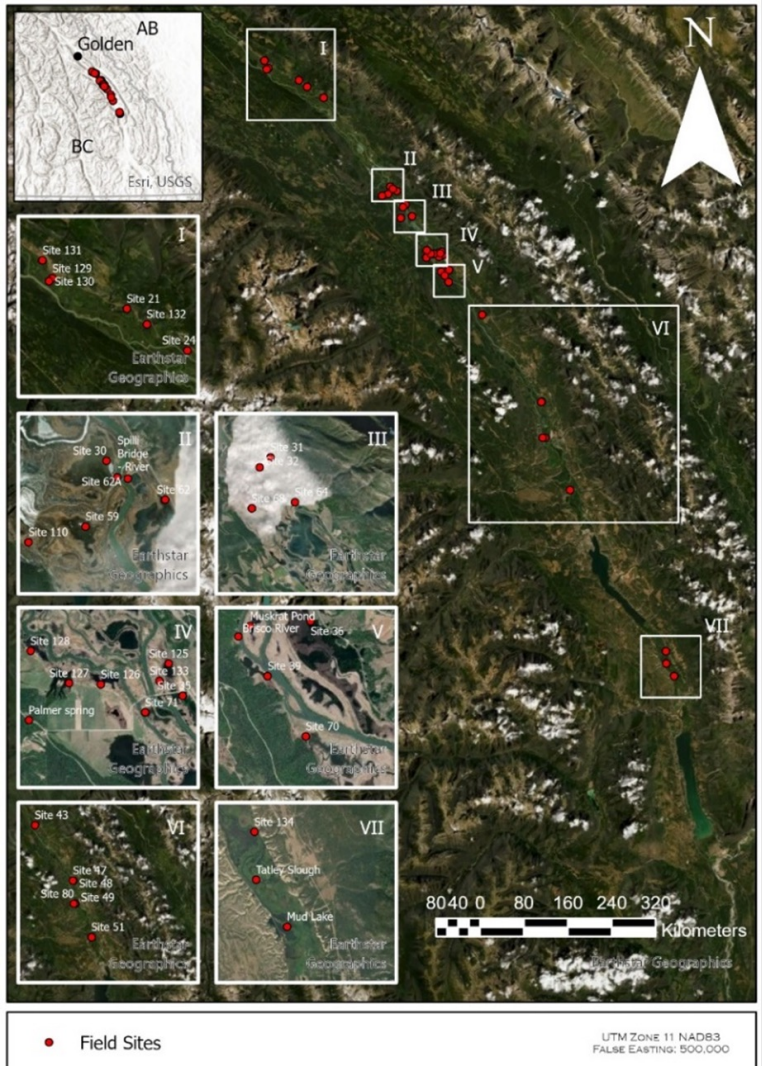
Study area

- 38 wetlands
- Focused on a range of wetland types
- Monitored continuous water level over 2 summers
- Modelled streamflow and potential effects of climate change on the region



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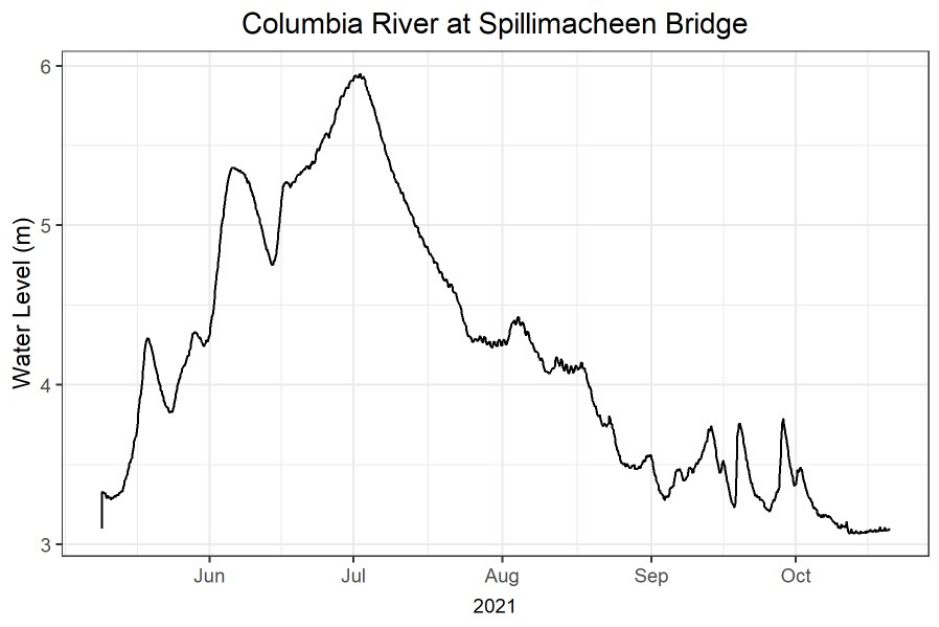
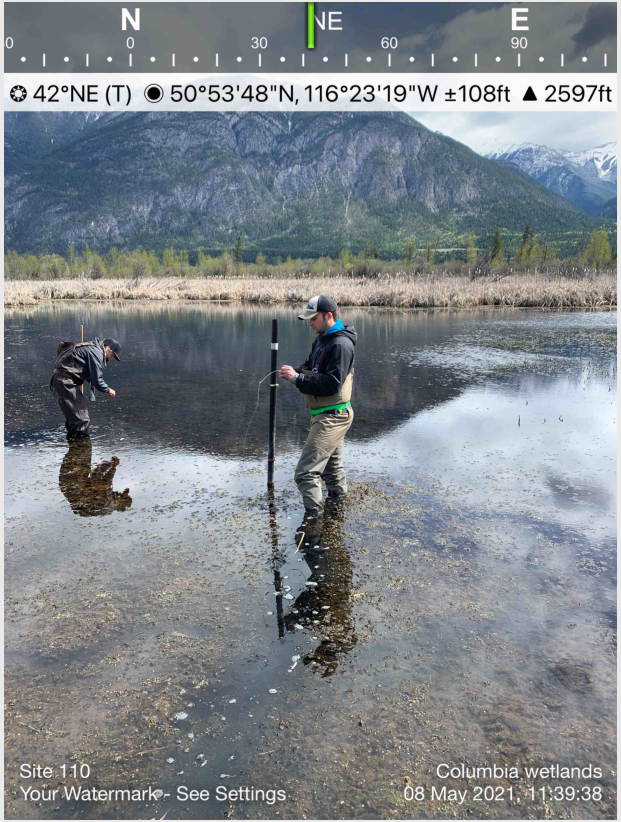
Water level monitoring





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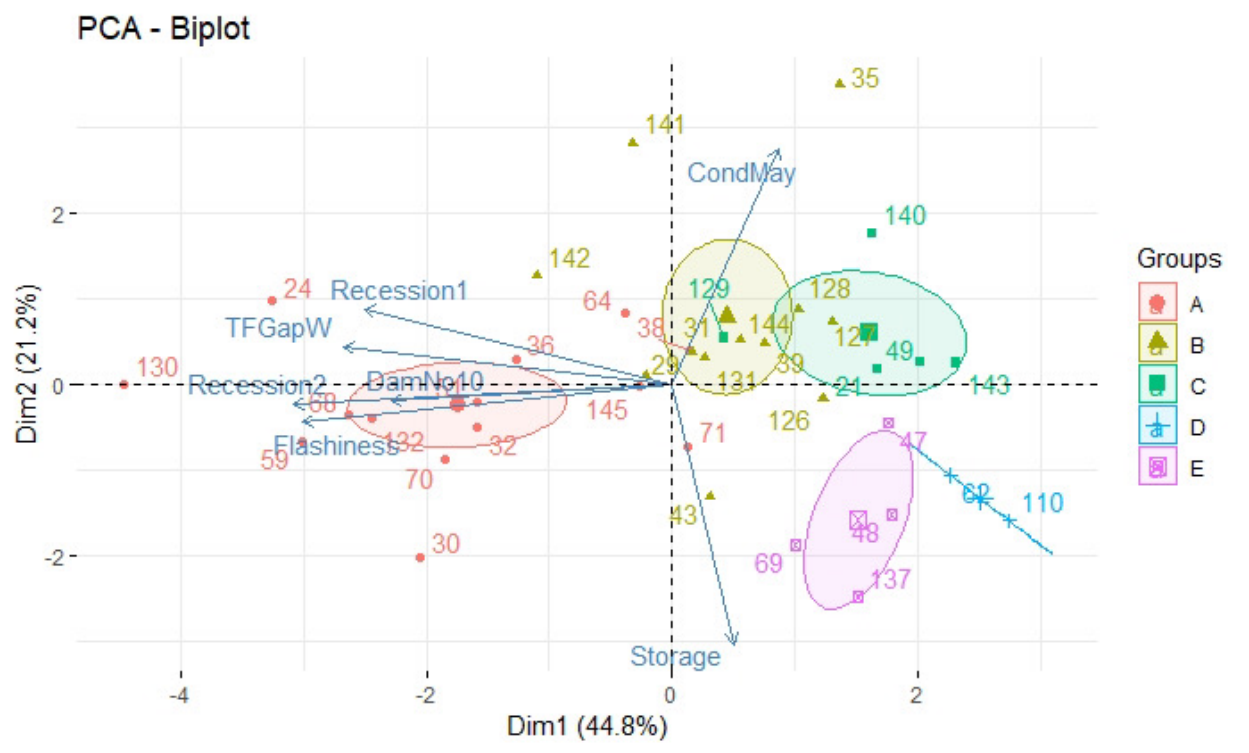
Statistical analysis to determine the types of wetlands



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Types of wetlands in CW

Criteria for categorizing wetlands

- Topology-degree of hydrologic connectivity with the steam network
- Typology-amount of residence time of water held within wetlands
- Topography- geomorphic setting based on landforms

Types of wetlands

- Fully connected to CR
- Partially connected
    - Slower draining out
    - Faster draining out
- Not connected
    - Ground water dominated – slow drainage out
    - Ground water dominated- faster draining out

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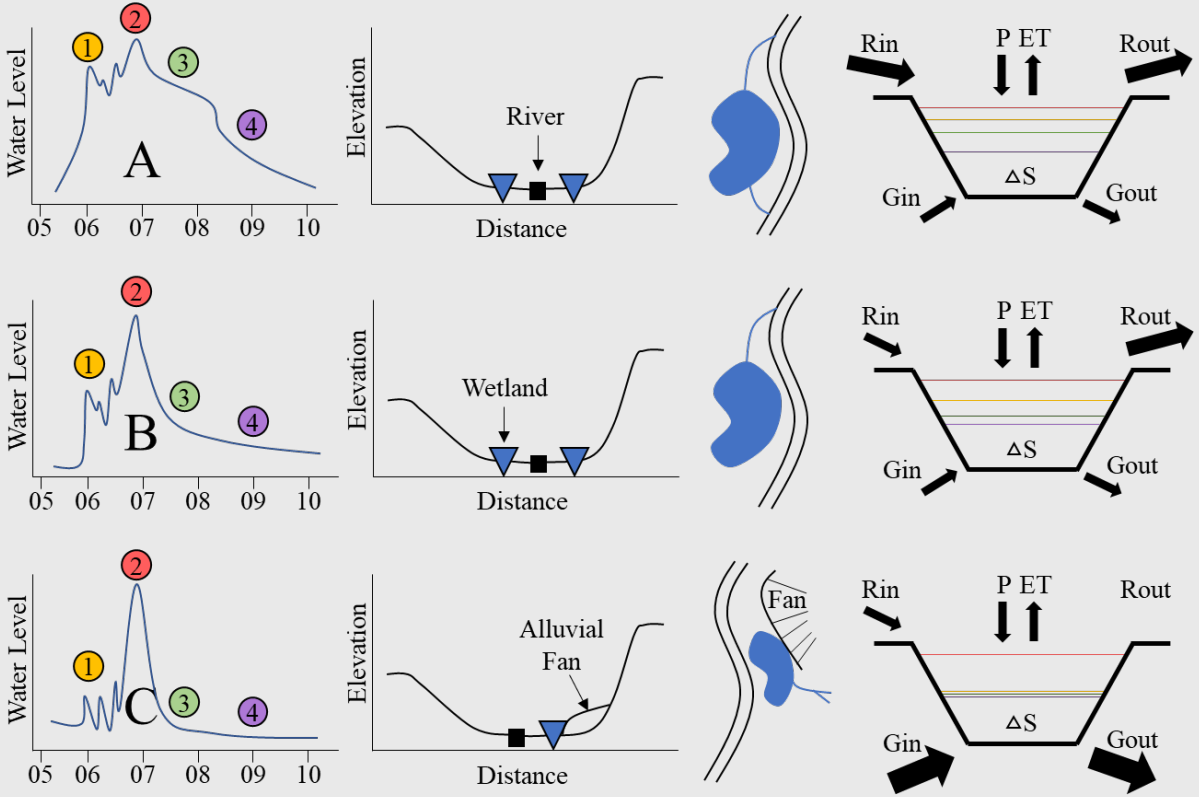
Conceptual wetland types



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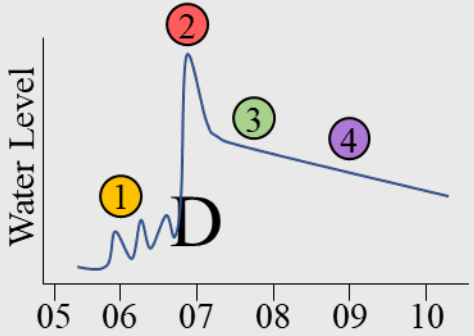

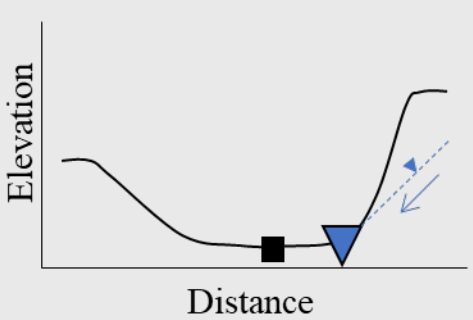

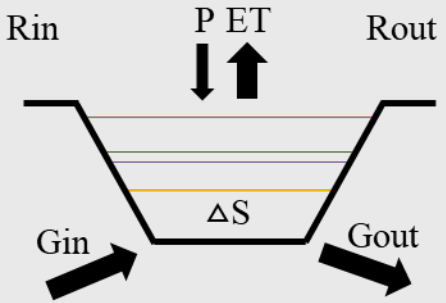

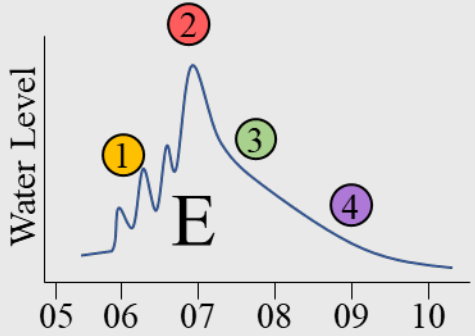

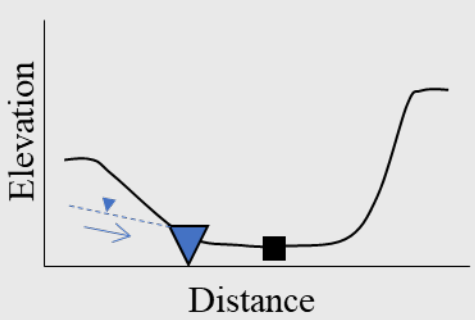

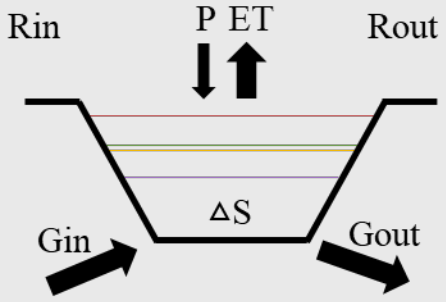

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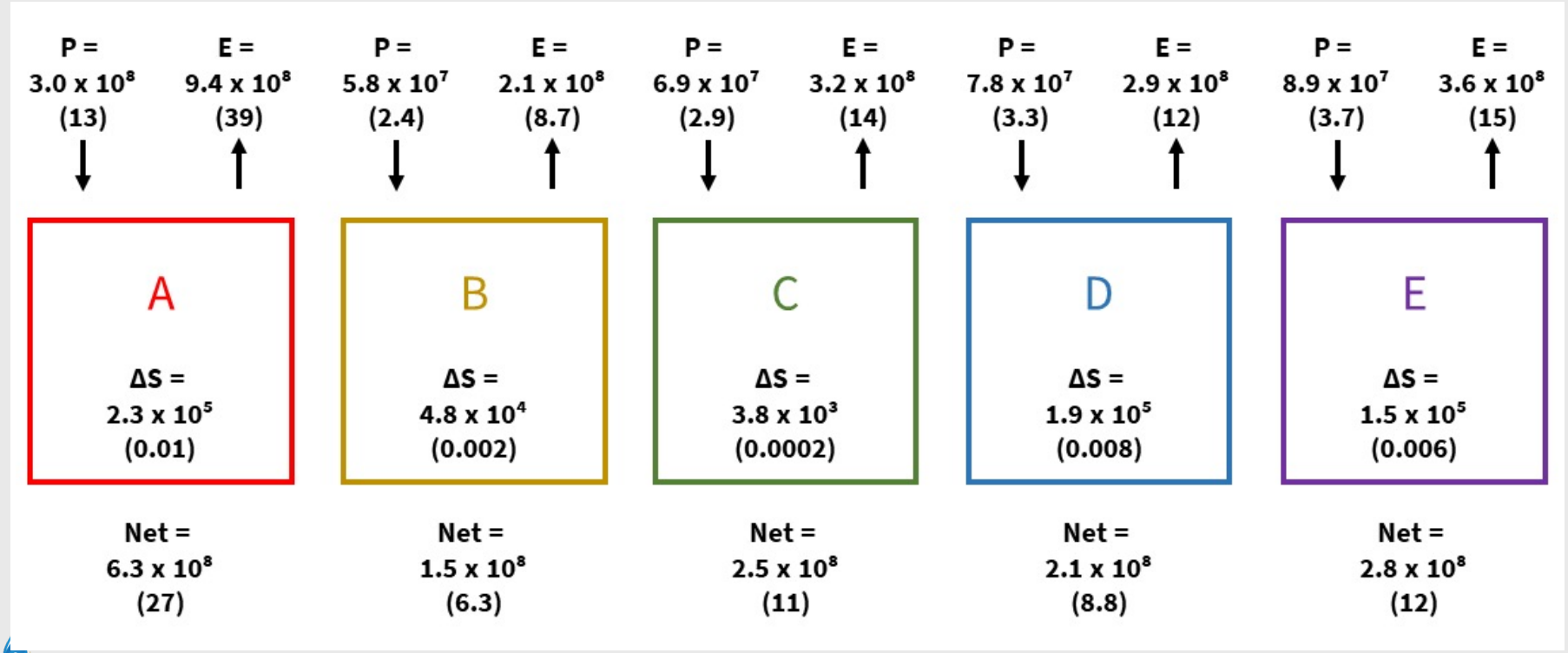
Water balances of the 5 different types of floodplain wetlands



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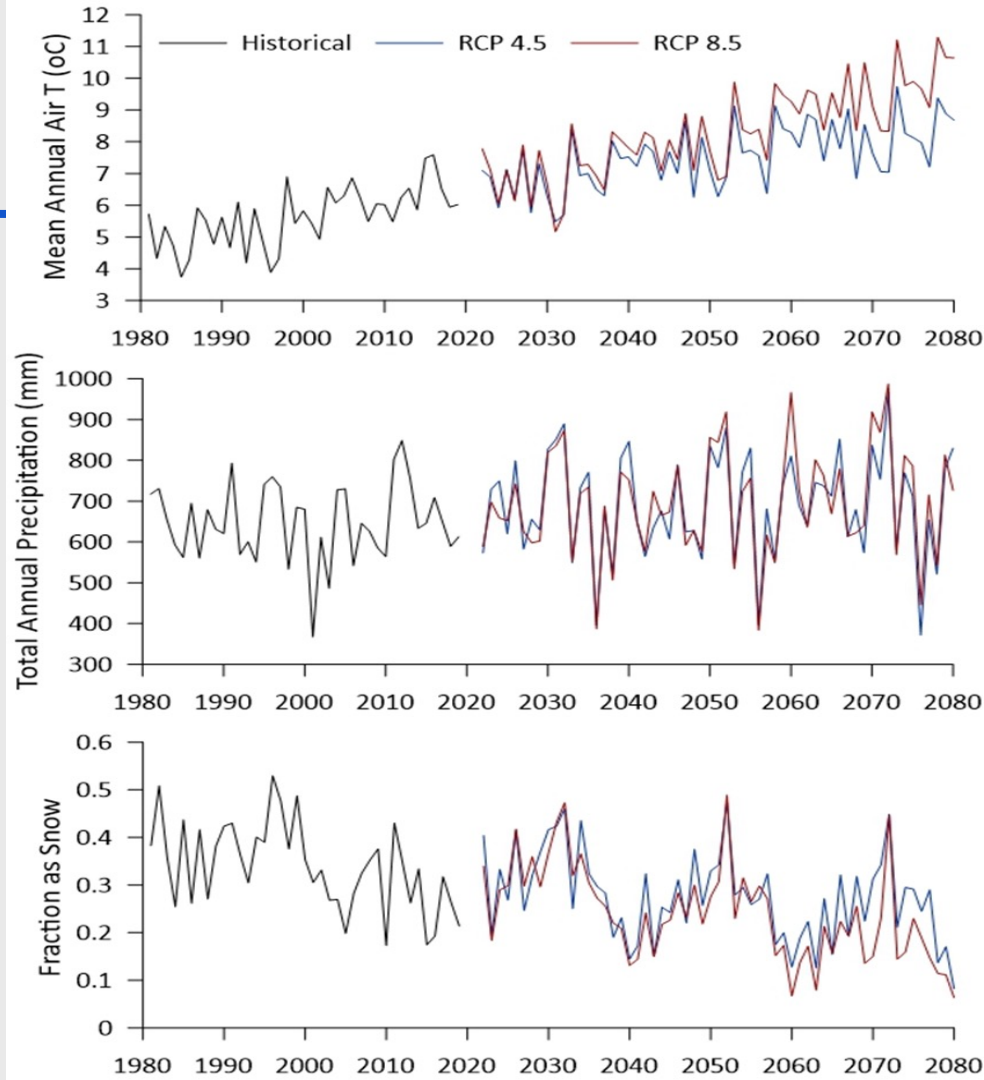
Climate change?

- Warmer
- Slightly wetter
- More rain than snow

Ryan's predictions about the wetlands

- We expect that all wetlands in the upper Columbia will be vulnerable to climate change based on connectivity to the system
- Isolated wetlands may flood less and have higher evaporation and may be most vulnerable



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Thank You!

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