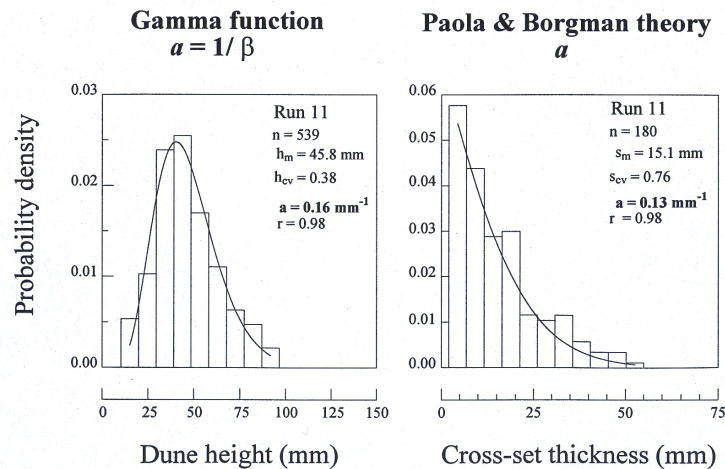


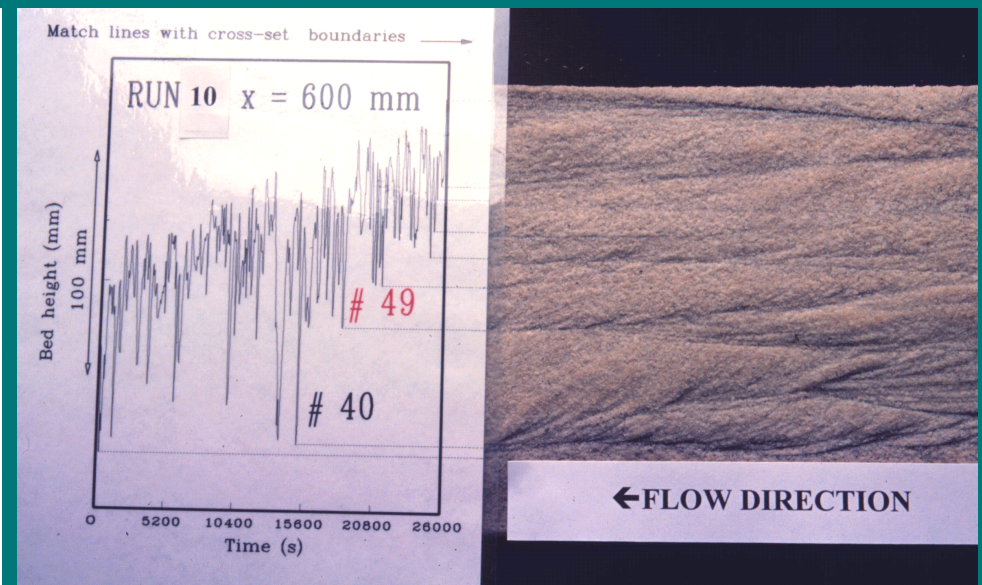
Modeling short-term hydrosedimentary processes and the preservation of river dune deposits

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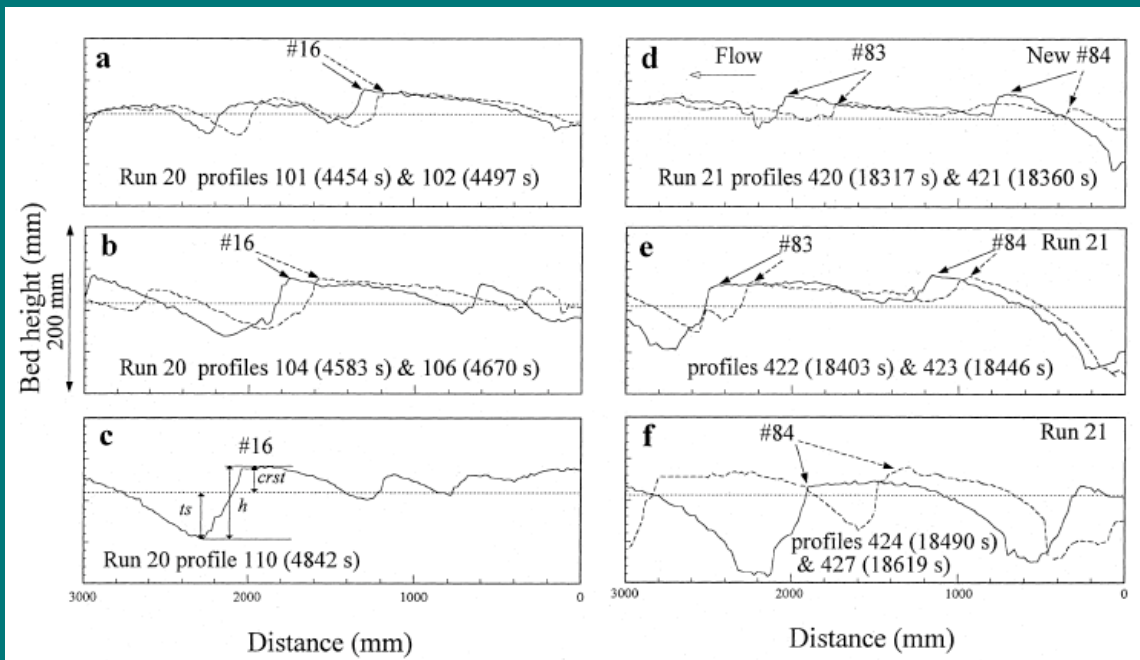
Theory



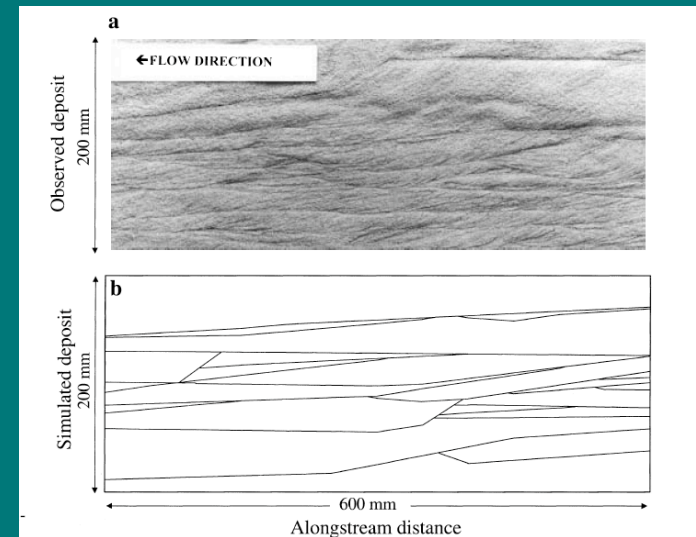
Experiment

Modeled distributions of dune height and trough elevation based on observed dune migrating behaviour (without sediment vertical sorting—and hence no constraint on dune scouring)

Observations

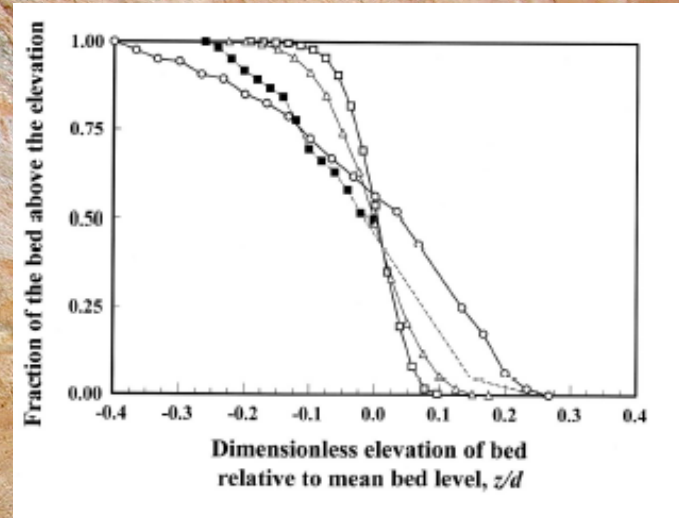


Results vs Simulation model



From Leclair , Sedimentology 2002)

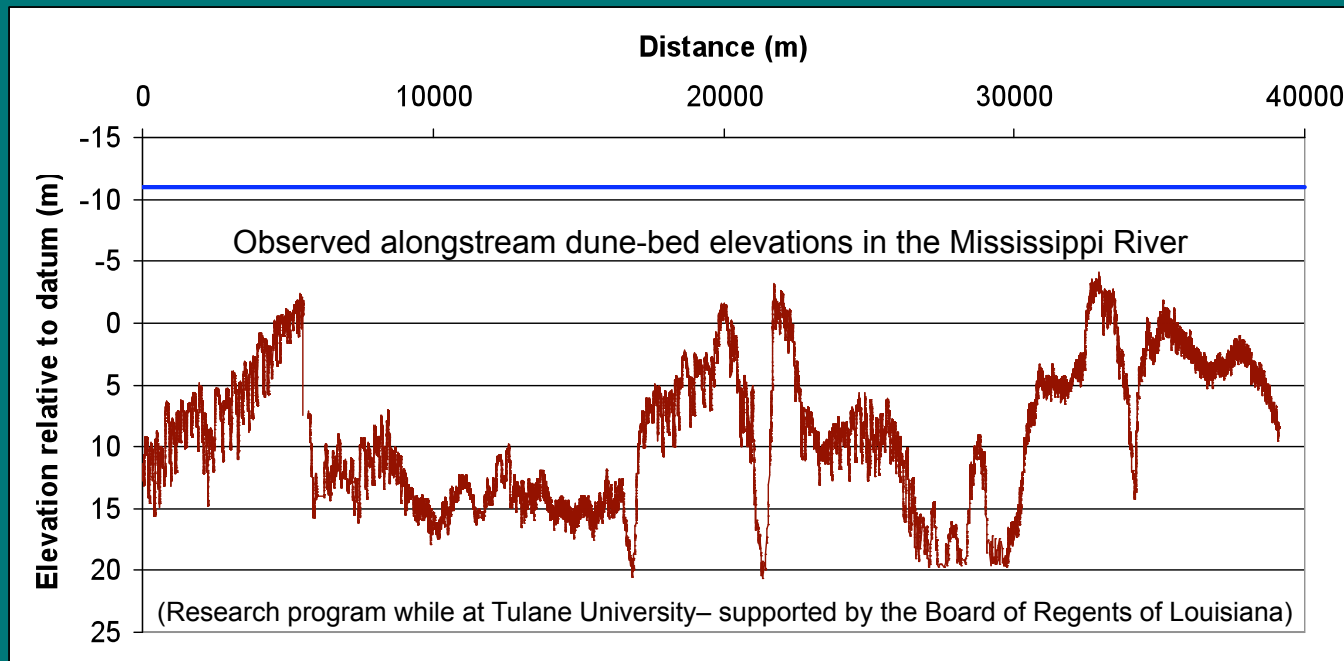
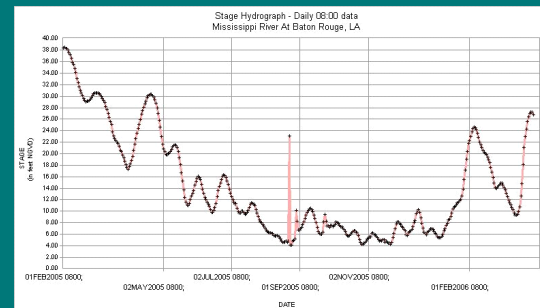
Inverse modeling: Interpretation of sedimentary record

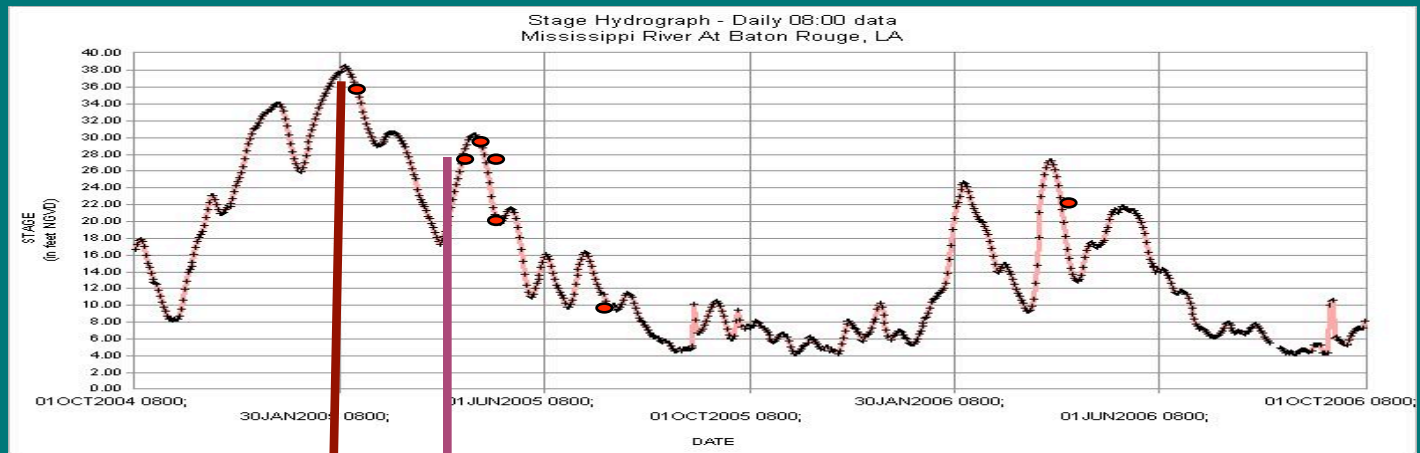


From Leclair, 2006, GEOLOGY

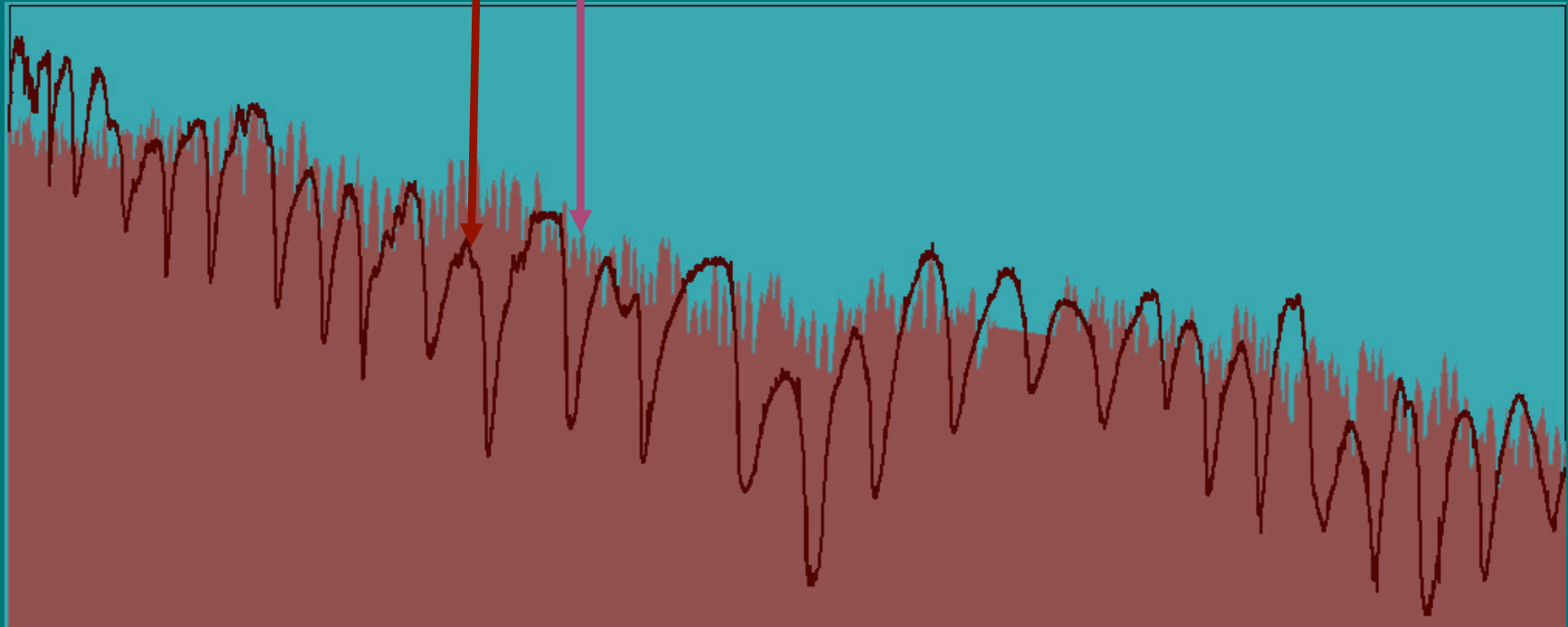


Modeling the thickness of preserved deposit from various hydrographical events at the channel scale



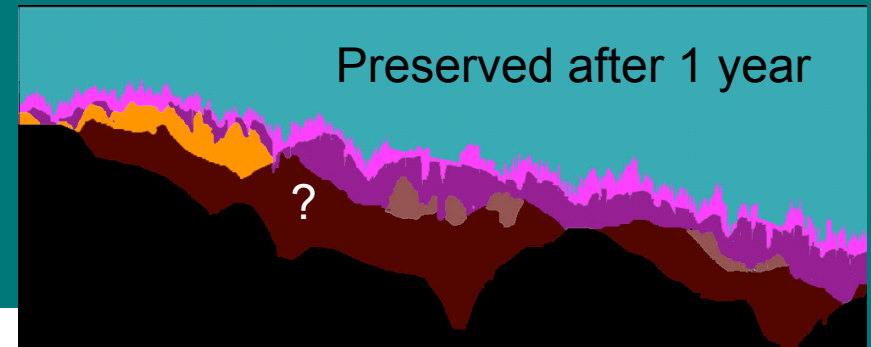


18 m



5 km

Predicting mean thickness of channel deposit --or erosion



1st peak rising

→ 3.1 m

2nd peak

→ (1.3m)

falling

→ 1.5 m

●	●	→	1 m
●	●	→	(0.8 m)
●	●	→	(0.9 m)