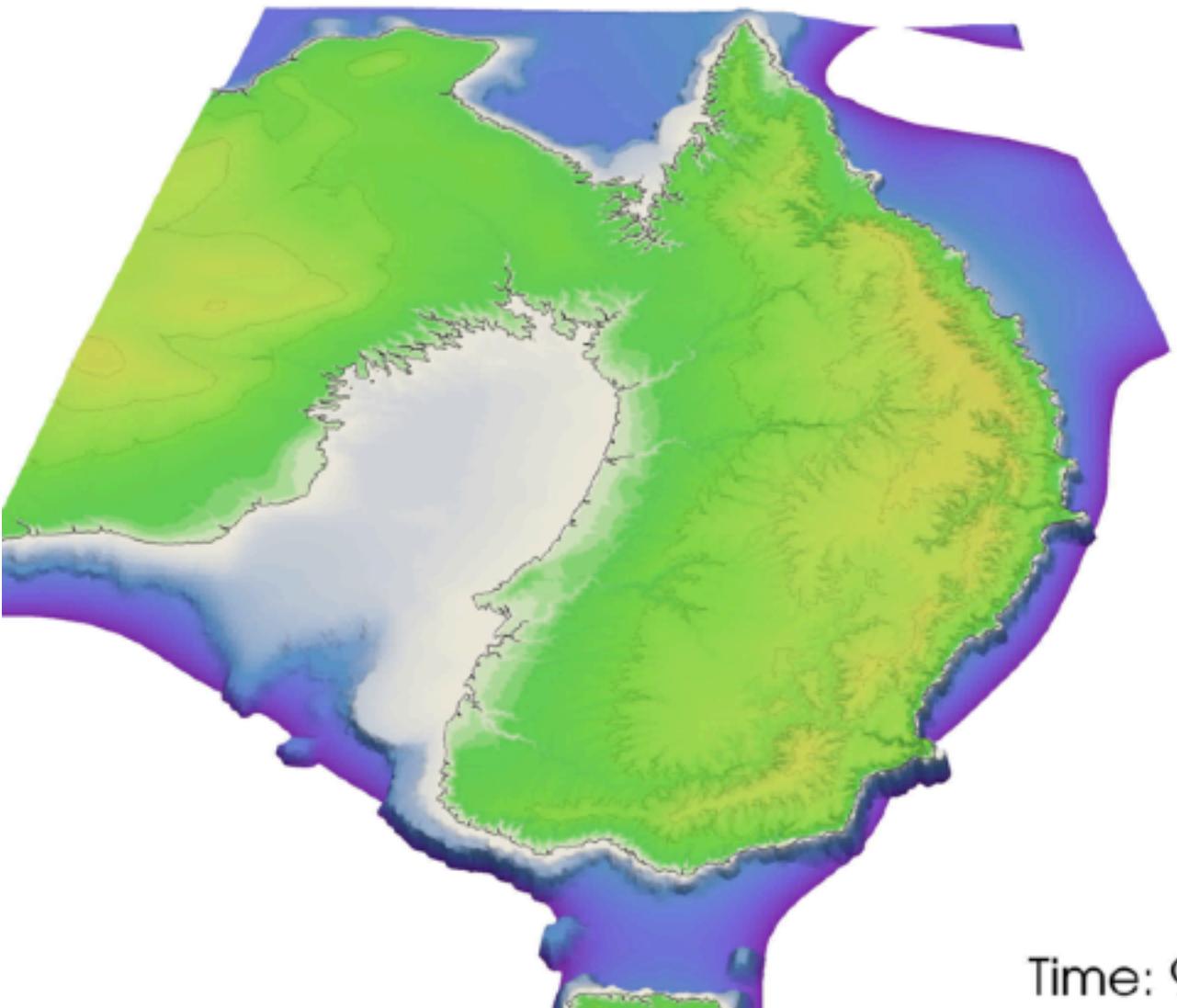




# Influence of mantle flow on the drainage of eastern Australia since the Jurassic Period

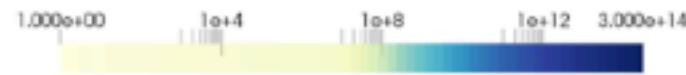


elevation (m)



Time: 99.00 Ma

flow discharge (m<sup>3</sup>/yr)



- Reproduce many distinctive landscape features of today's Australian Great Dividing Range basins (Murray-Darling basin catchment, river profiles)
- Models agrees with uplift and exhumation history
- Provides insights into transient catchment response and shows that most of the southern part of the divide is under active reorganisation since 150 Ma
- Useful for understanding basin evolution and source-2-sink concept (sediments provenance)
- Can be applied anywhere

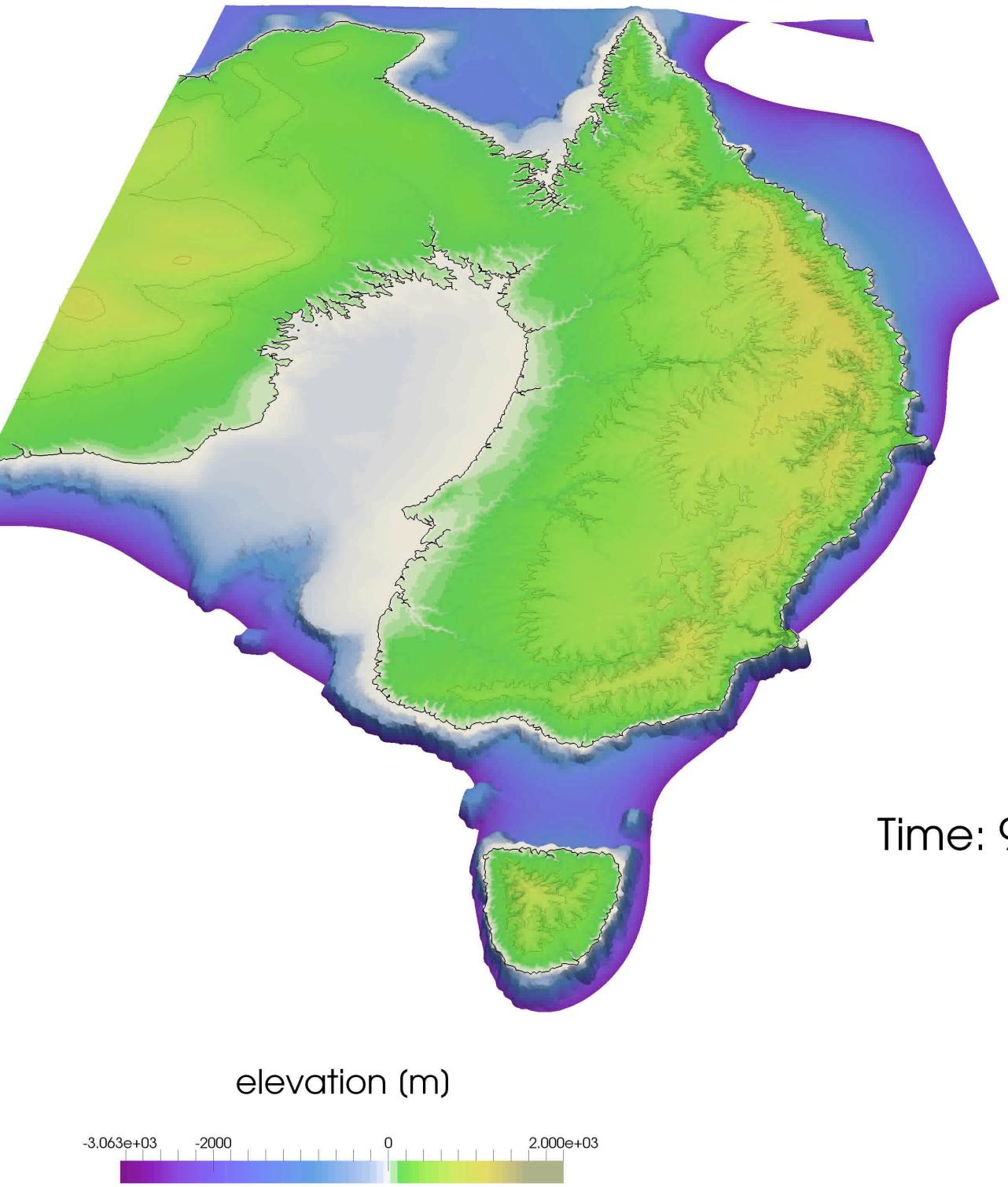
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These models for the first time put us in a position to couple over geological time:

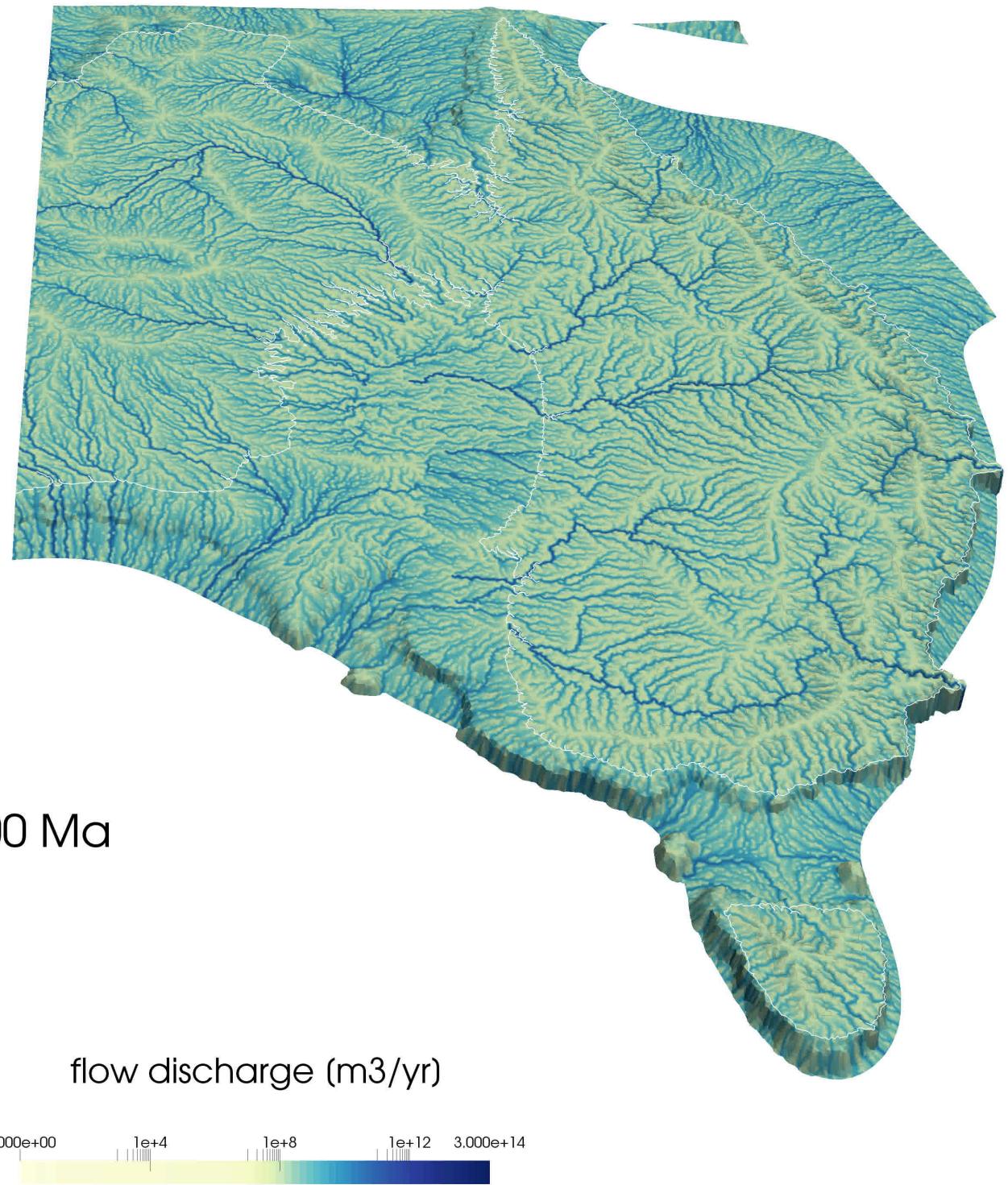
- ▶ plate tectonic reconstruction,
- ▶ deep Earth dynamics &
- ▶ surface processes



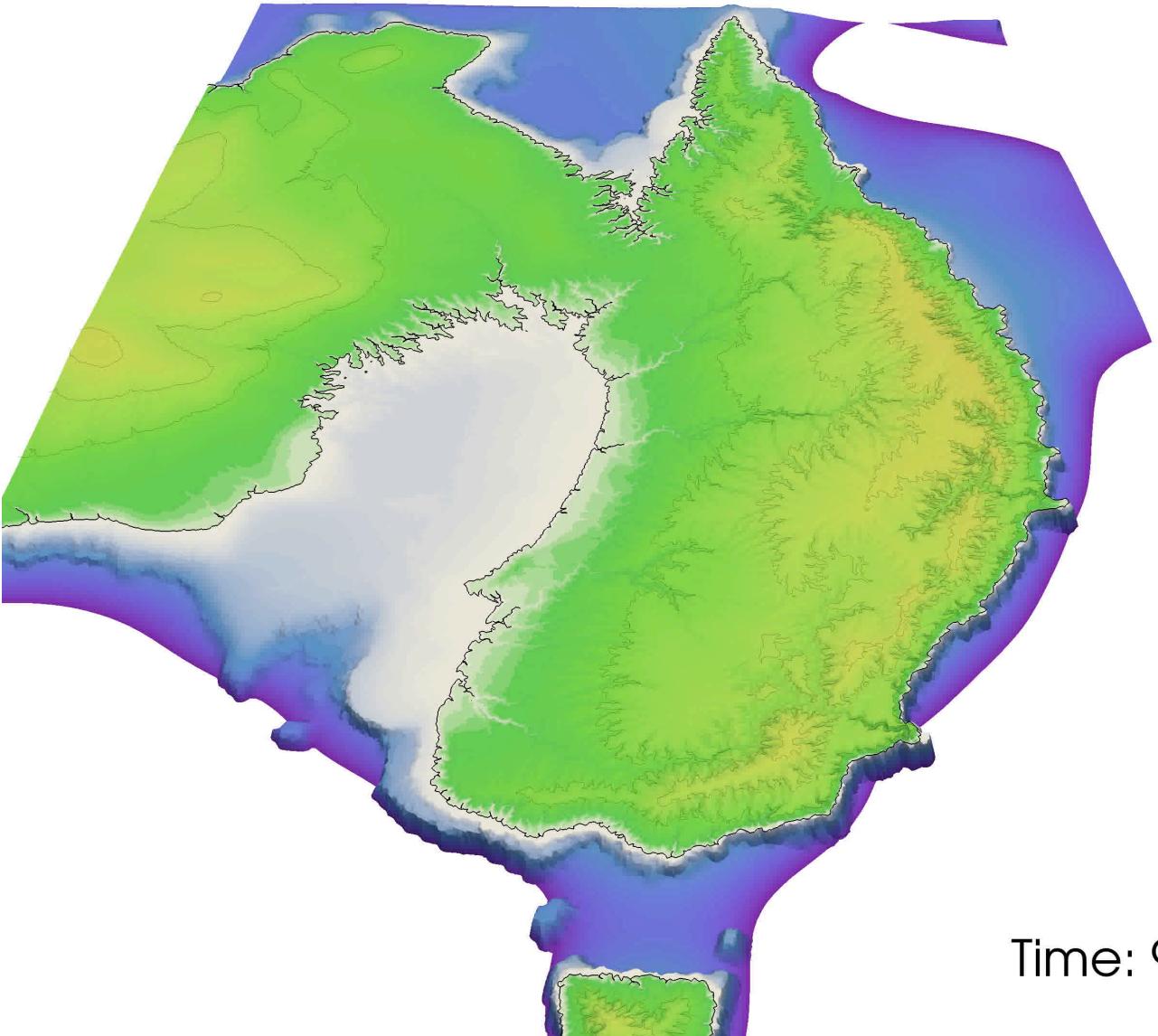
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Time: 99.00 Ma



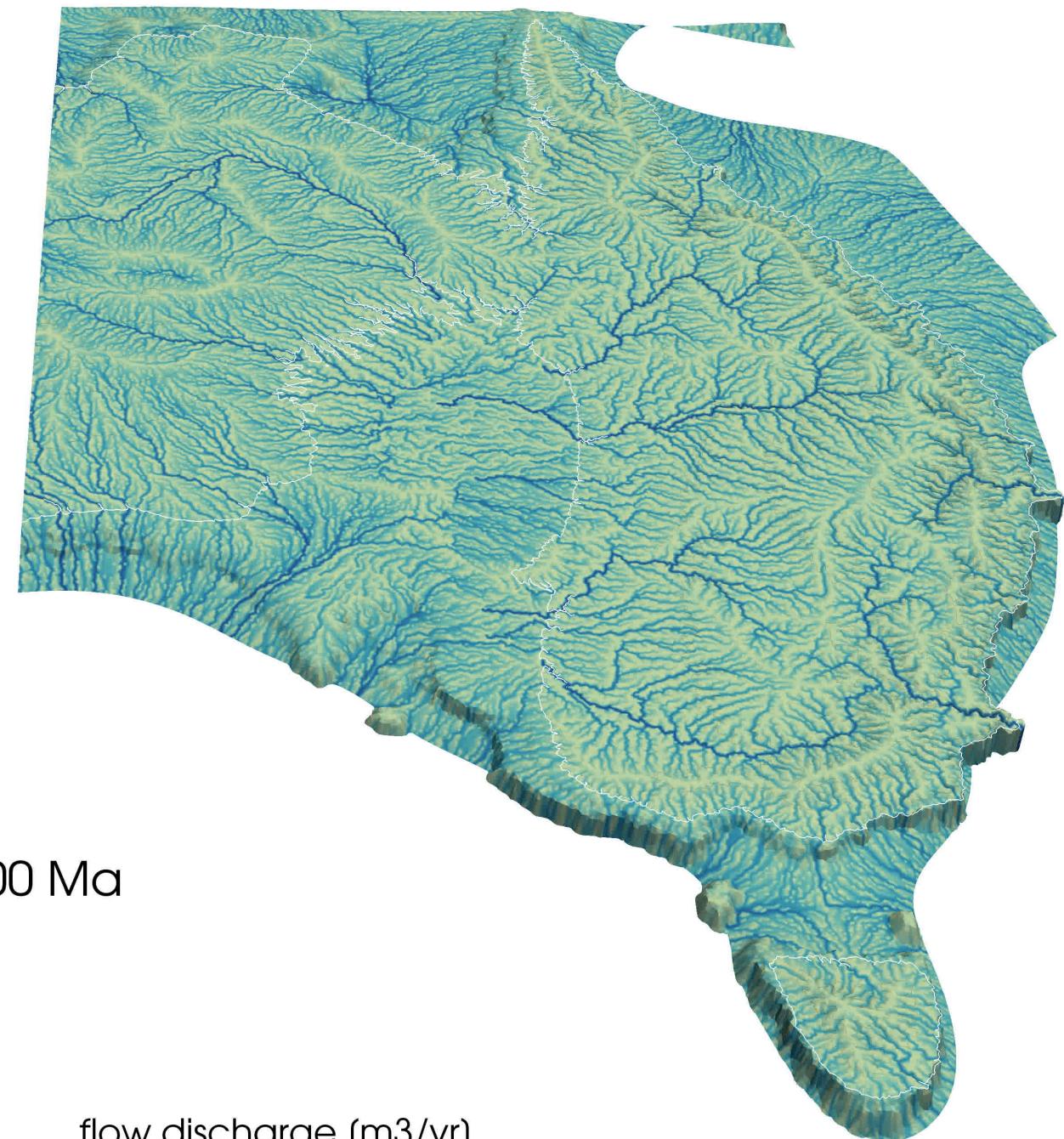
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elevation (m)



Time: 99.00 Ma

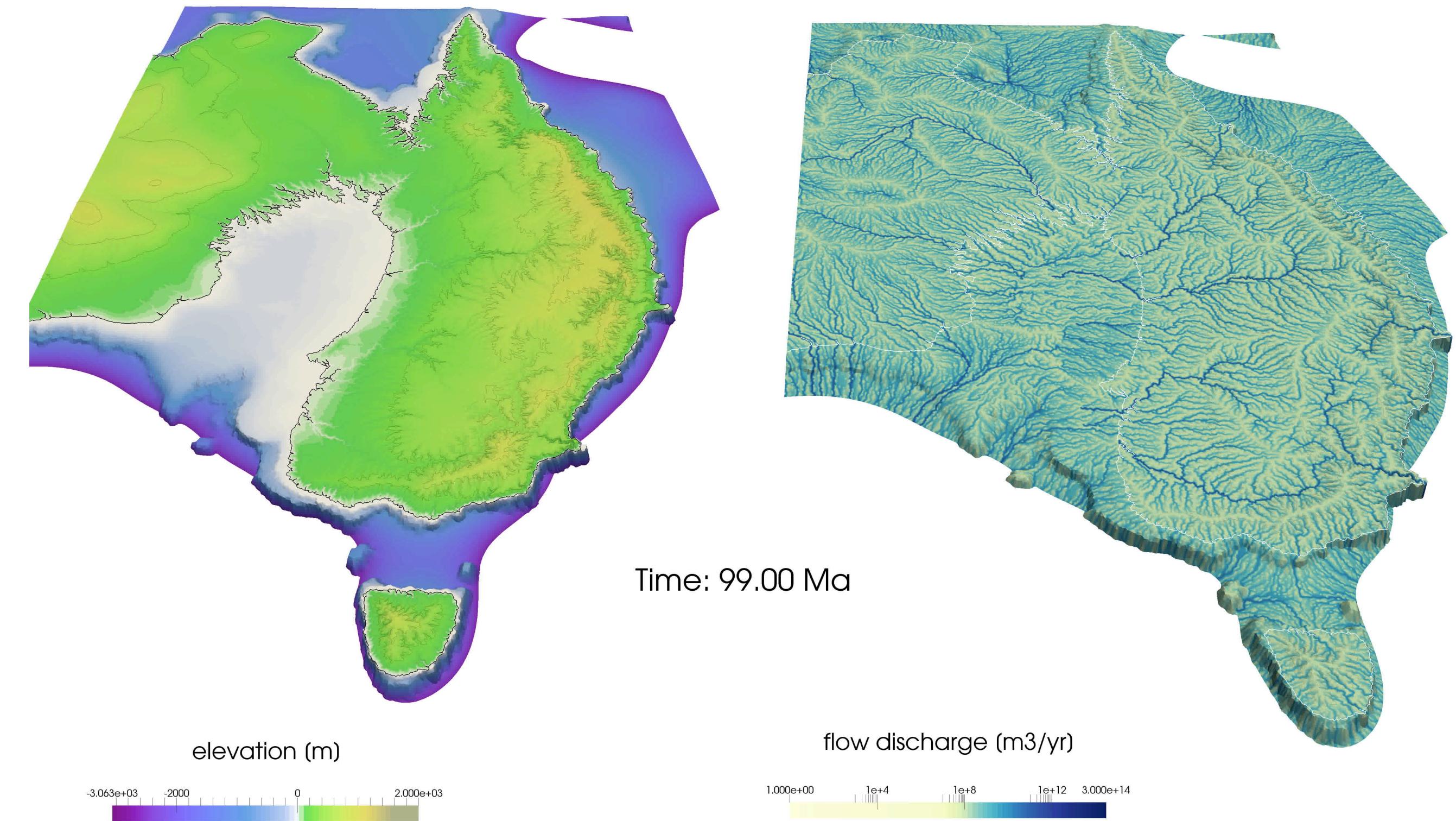


flow discharge (m<sup>3</sup>/yr)



# Conclusions & future outlook

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