

Preliminary Analysis of Tidal Hydrodynamics of Lake Pontchartrain

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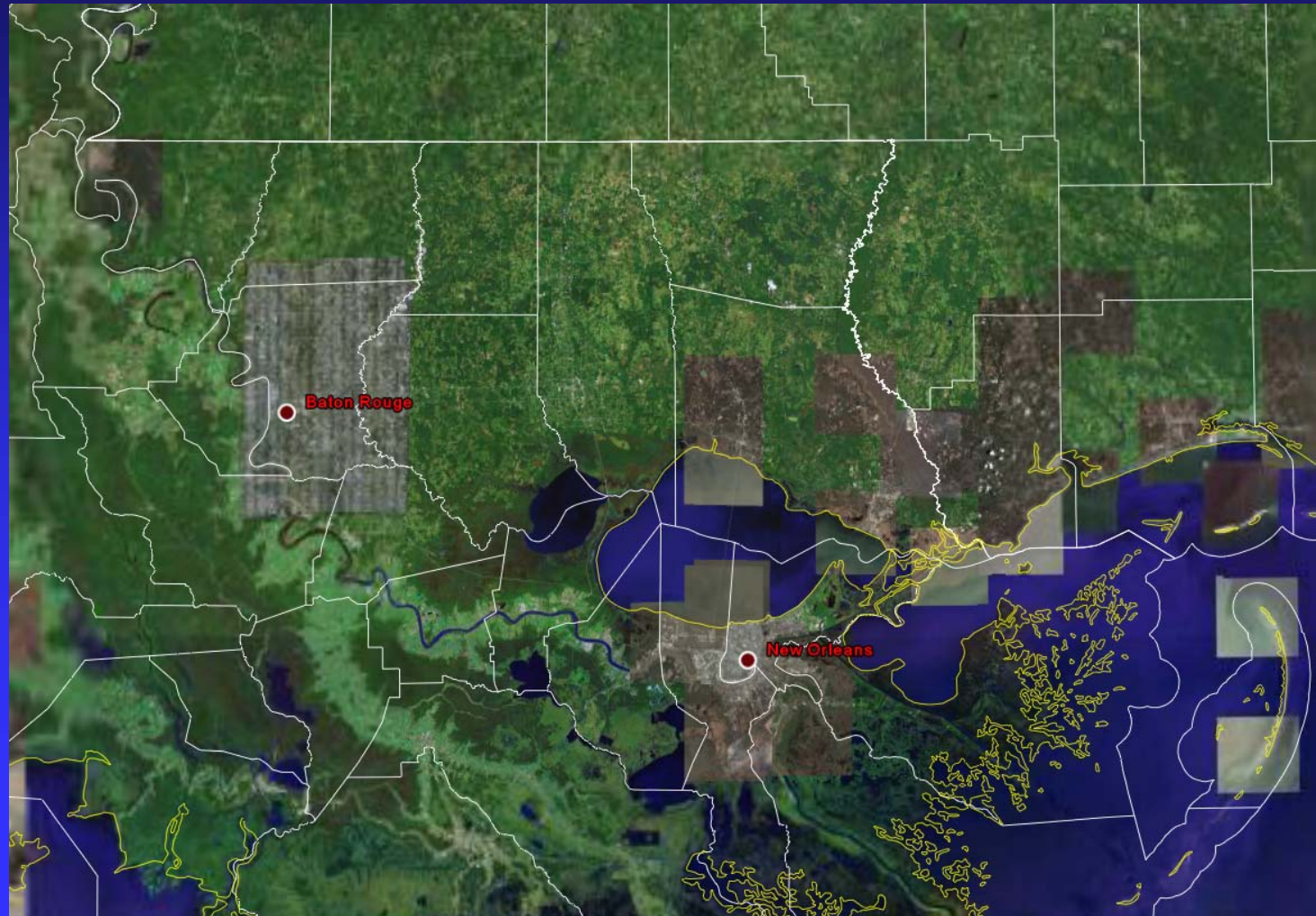


Lake Pontchartrain

- One of the largest estuarine system on the Gulf coast
- Already suffering from several environmental damages
- Hurricane Katrina causes a significant environmental effect again



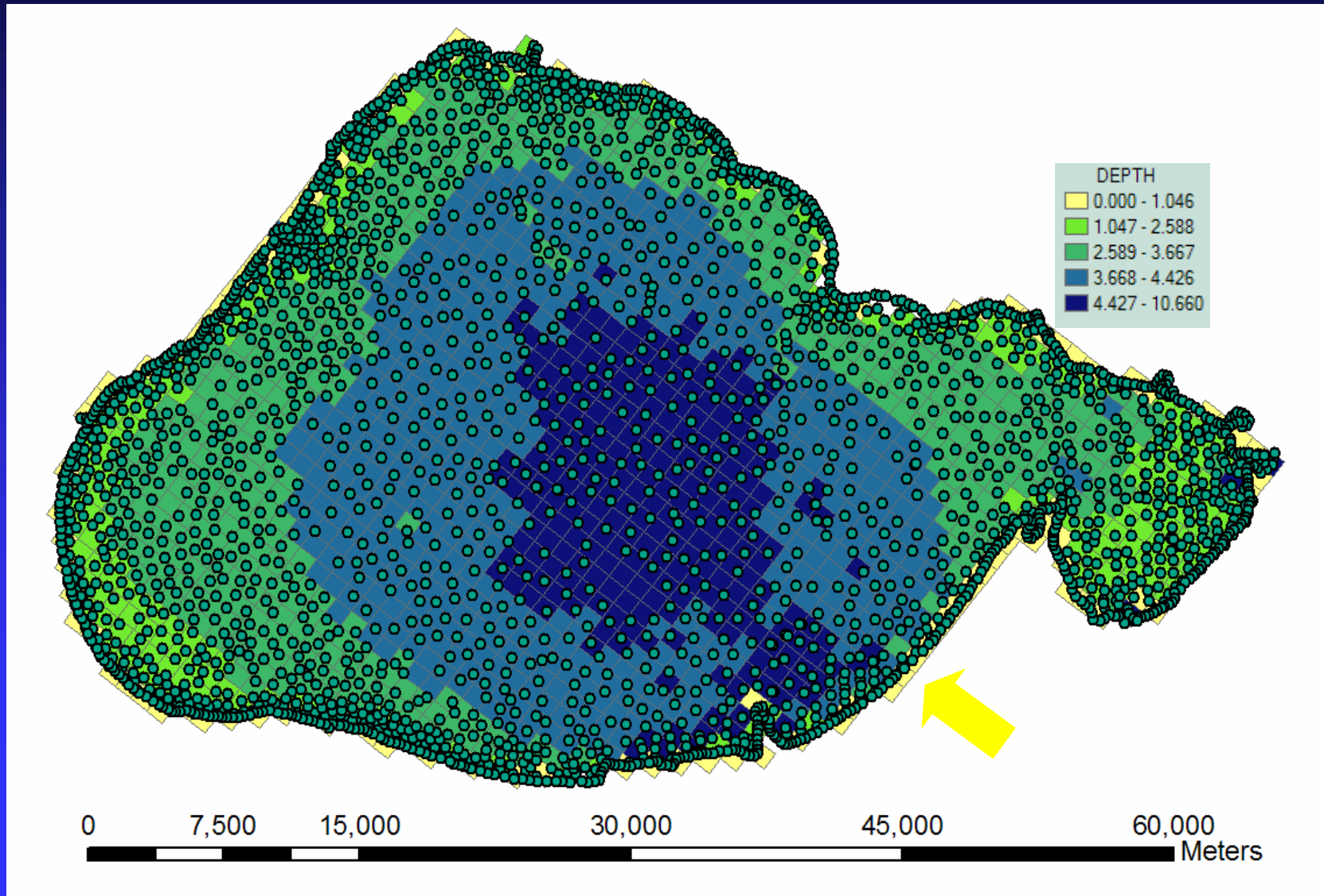
Satellite image of the area



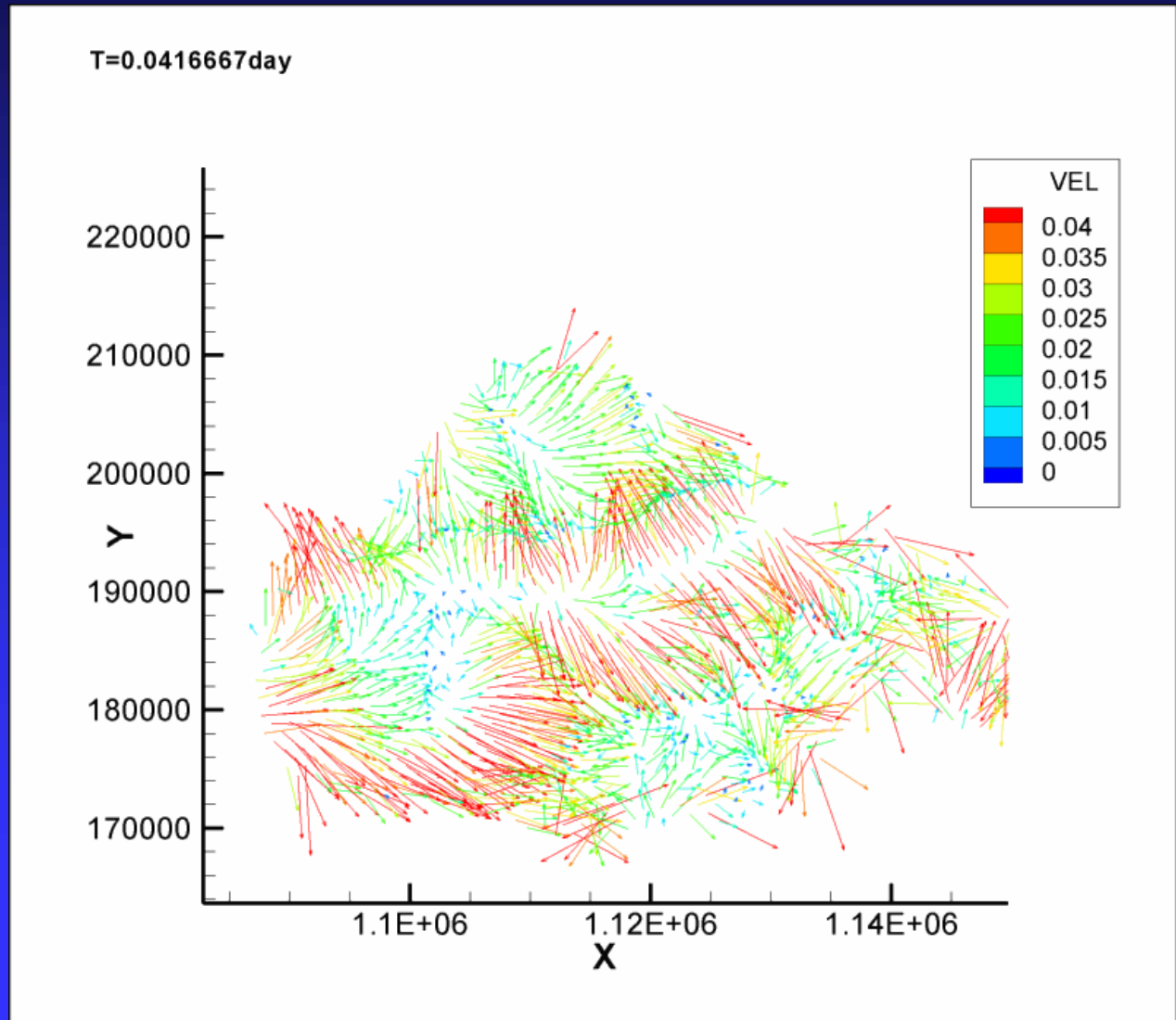
Satellite image of the area



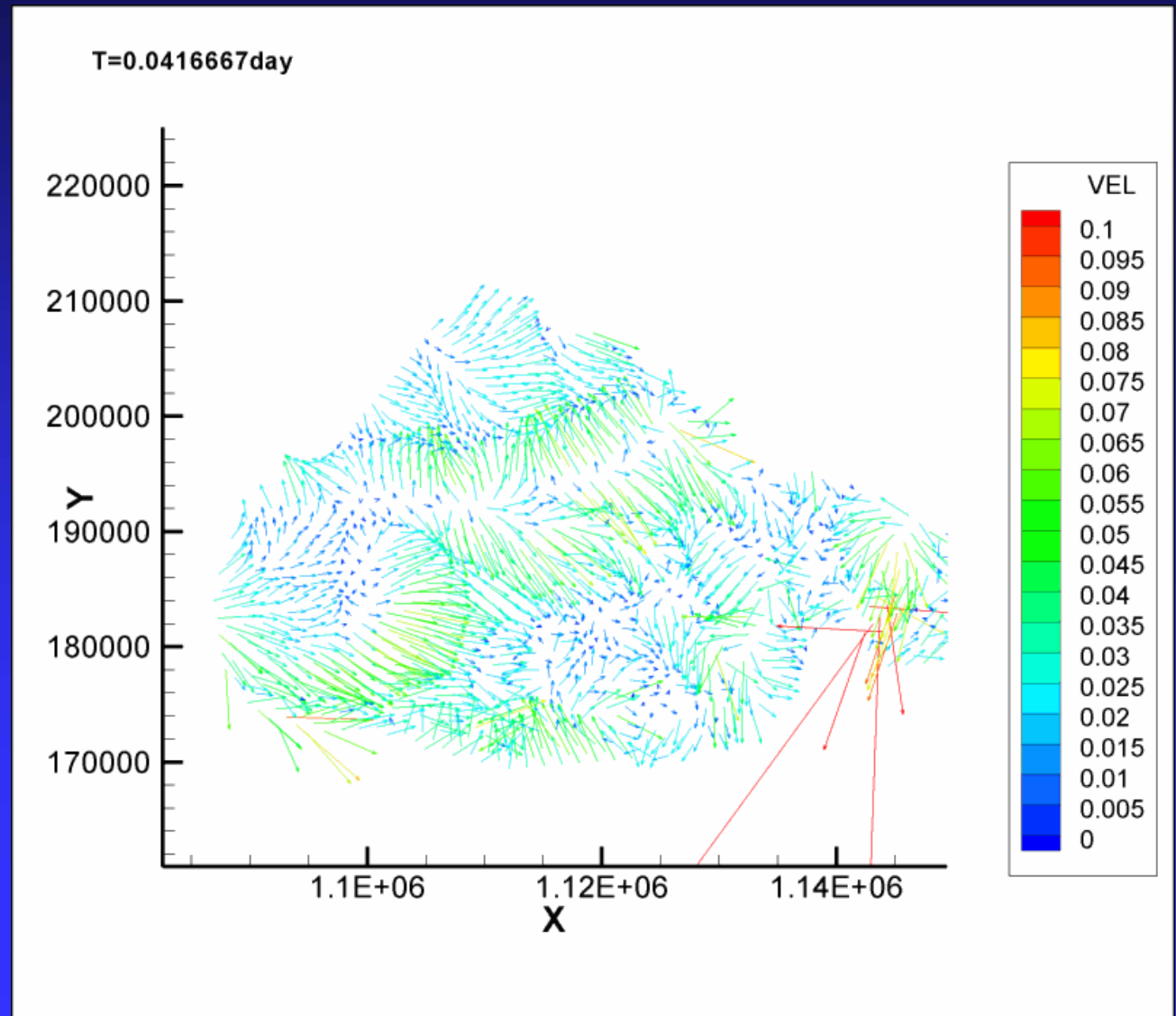
Grid and DEM data



Typical velocity pattern without tidal force



Typical velocity pattern with tidal forcing



Conclusion

- Wind over the lake generates a flow according to the direction of the wind.
- Tidal forcing seems to play an important role but it does not affect the conditions to the center and west of the lake.



Future work

- Calibrate and improve results.
- Superimpose contaminant fate and transport such as a fugacity analysis.
- Sediment transport.



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