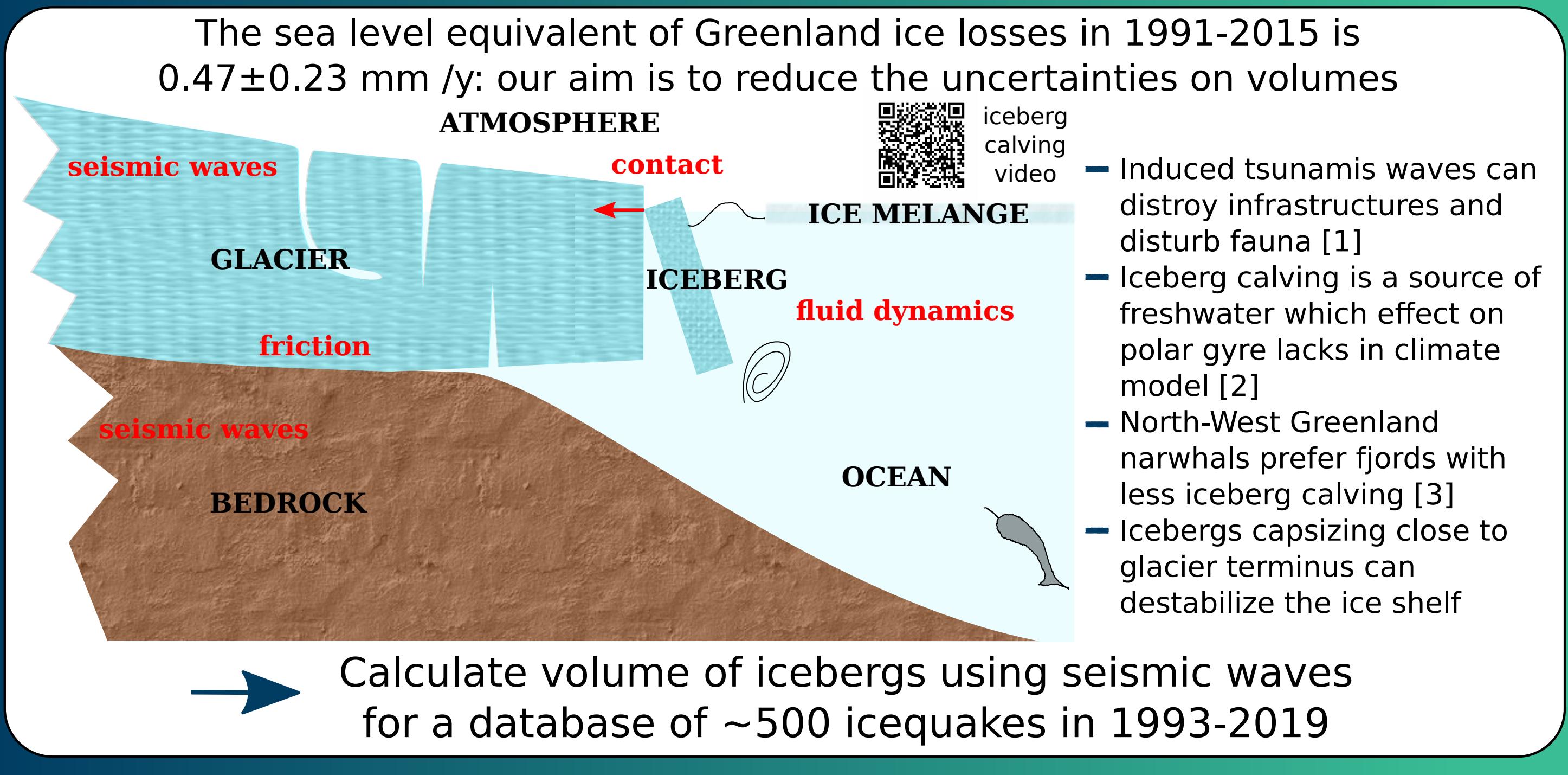


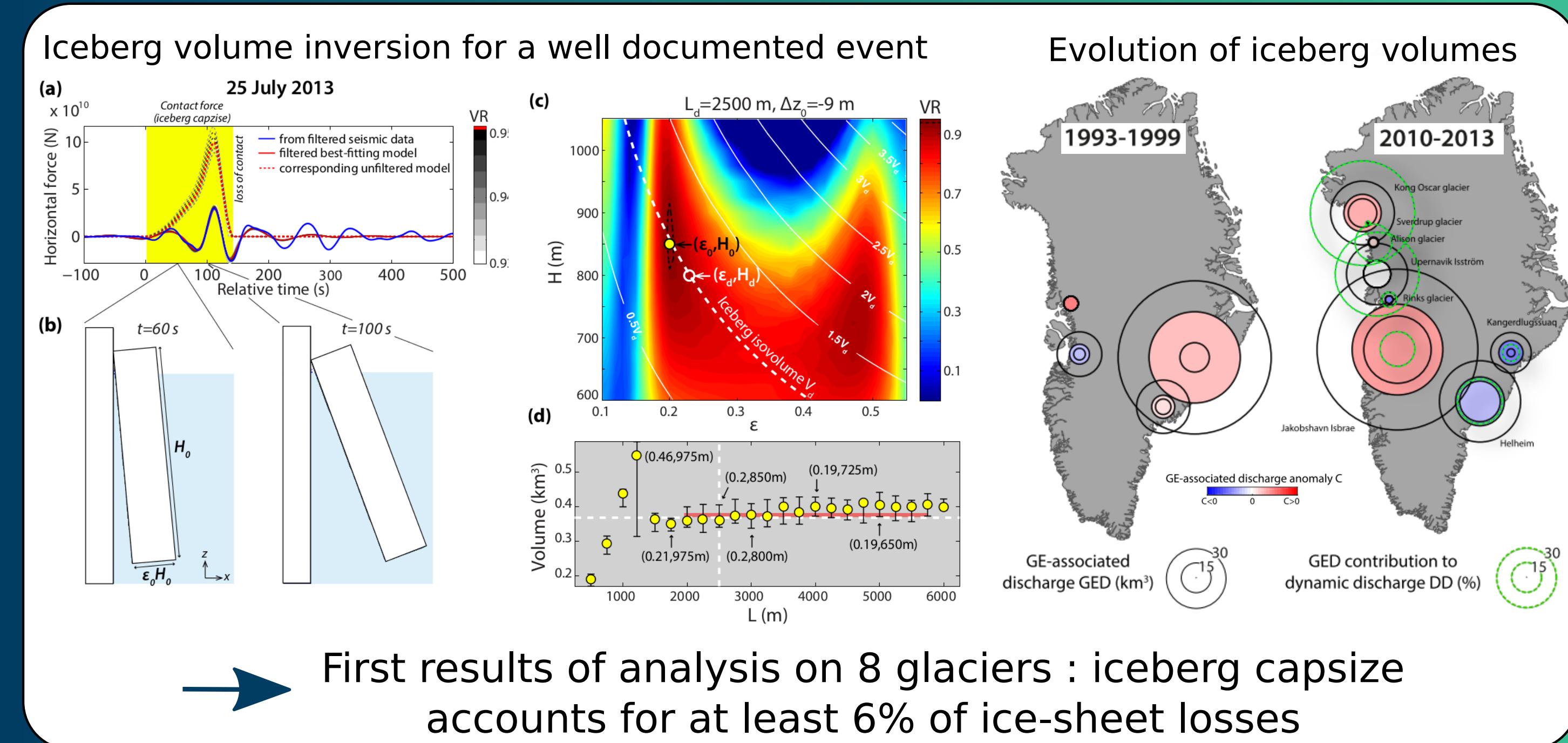
Modelling the source of glacial earthquakes for a better understanding of the impact of iceberg capsizing on glacier stability

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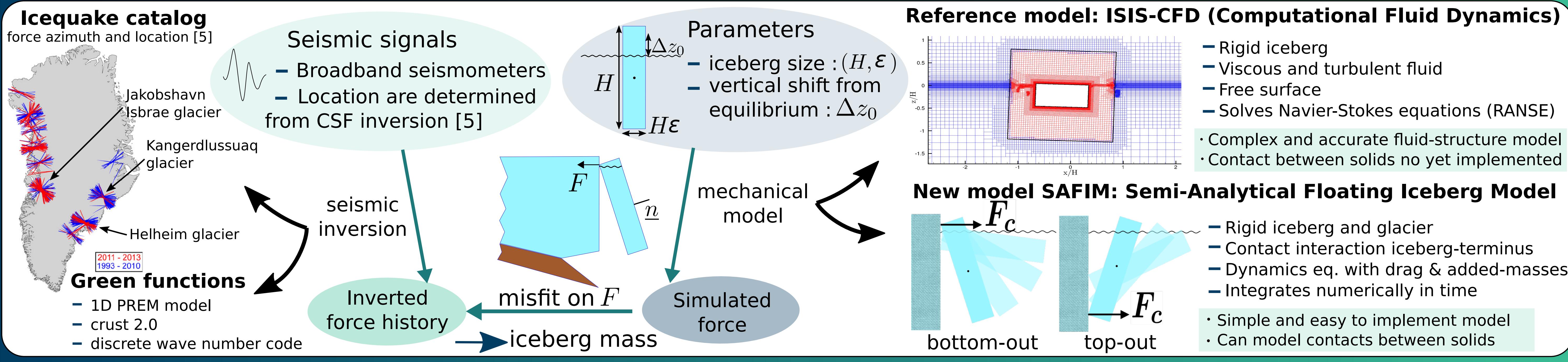
Motivation: ice mass loss through calving



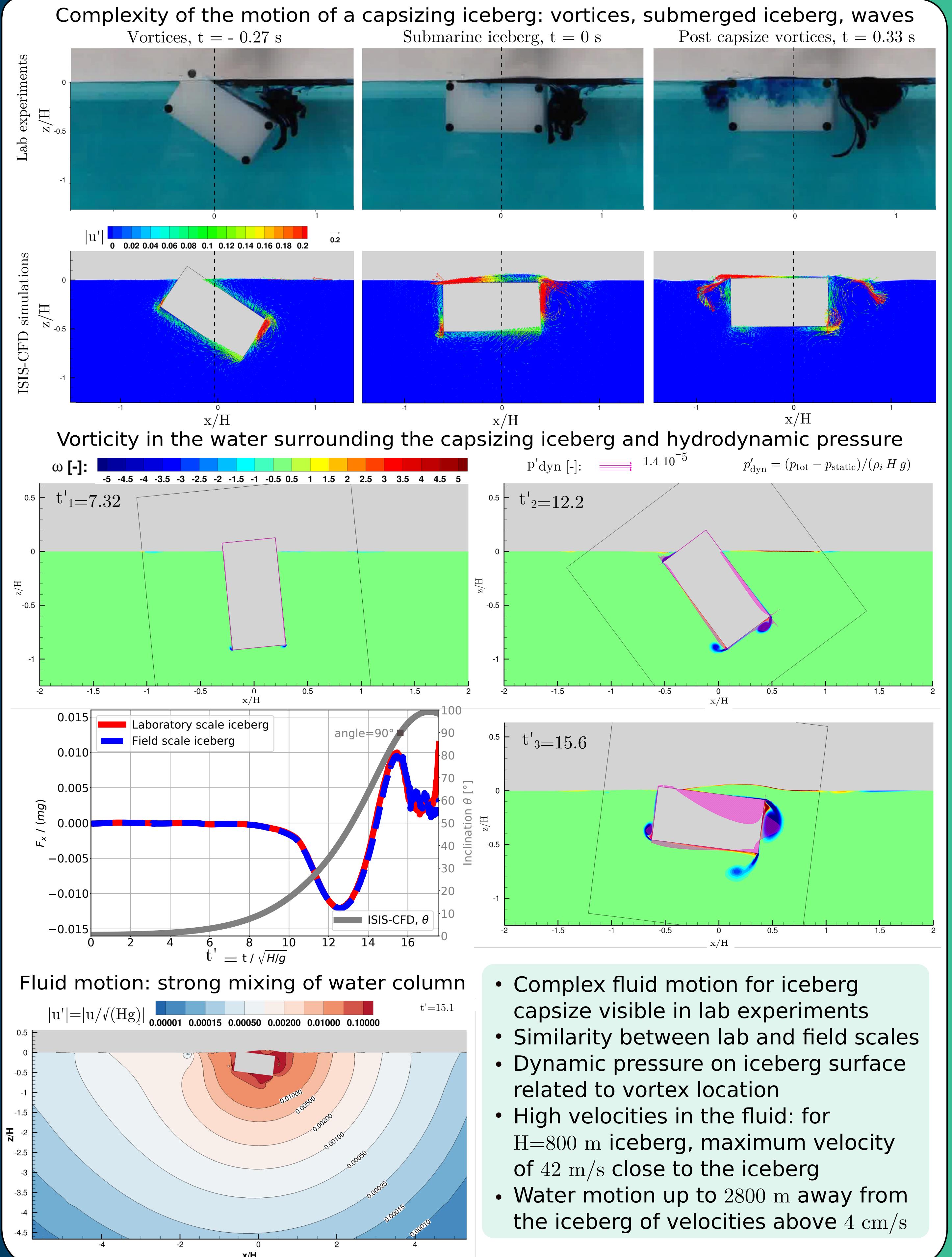
First estimations of iceberg volumes [4]



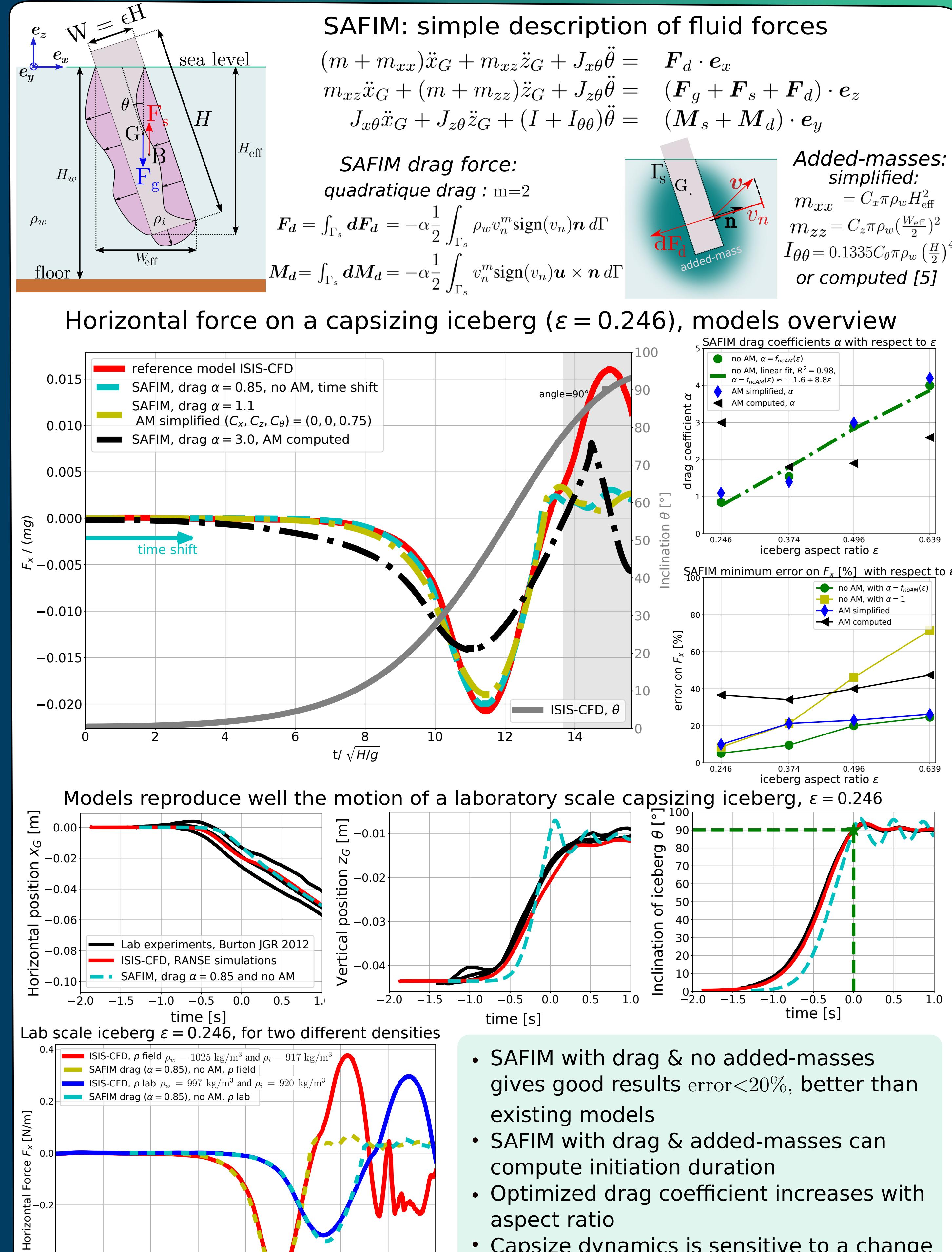
Strategy: iceberg size calculated with mechanical model constrained by seismic signals



Understanding the capsizing complexity [7]



Simple model for iceberg capsizing [7]



Conclusions

- Better understanding of iceberg capsizing with ISIS-CFD
- Complex and strong water motion around iceberg
- Accurate fit of ISIS-CFD results with experimental data
- Good agreement between ISIS-CFD and SAFIM results
- Error estimation on SAFIM
- Linear increase of SAFIM drag coefficient with aspect ratio

Perspectives

- Finite element modelling of a full bedrock-glacier-iceberg-water
- Seismic signature of glacier sliding, glacier vertical oscillations and water pressure on seafloor
- Study and inversion of seismic data for capsizing iceberg volume estimation

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