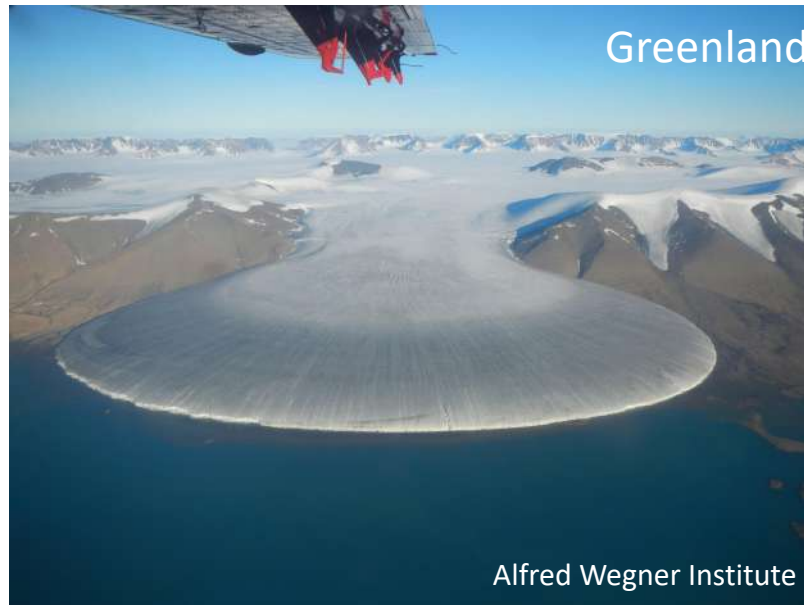
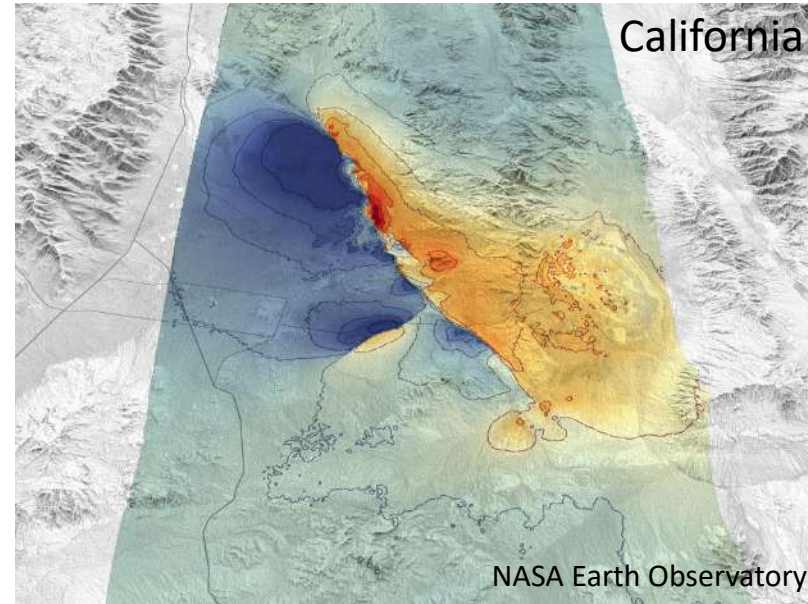


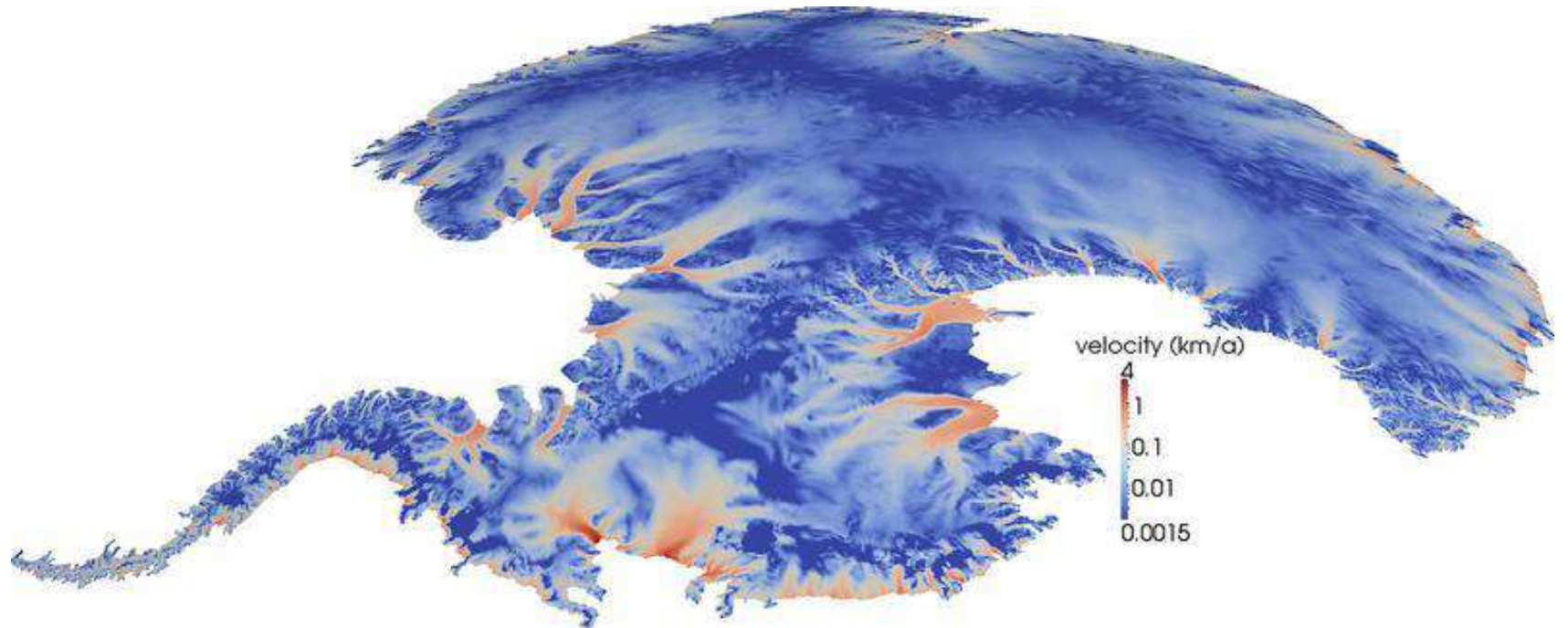
GEO 371T/391 Continuum Mechanics



Why take this class?

This class provides the foundation for the modeling of all dynamical processes in the Earth Sciences. It is excellent preparation for higher division classes in geodynamics, seismology, geomechanics, atmospheric and ocean modeling.

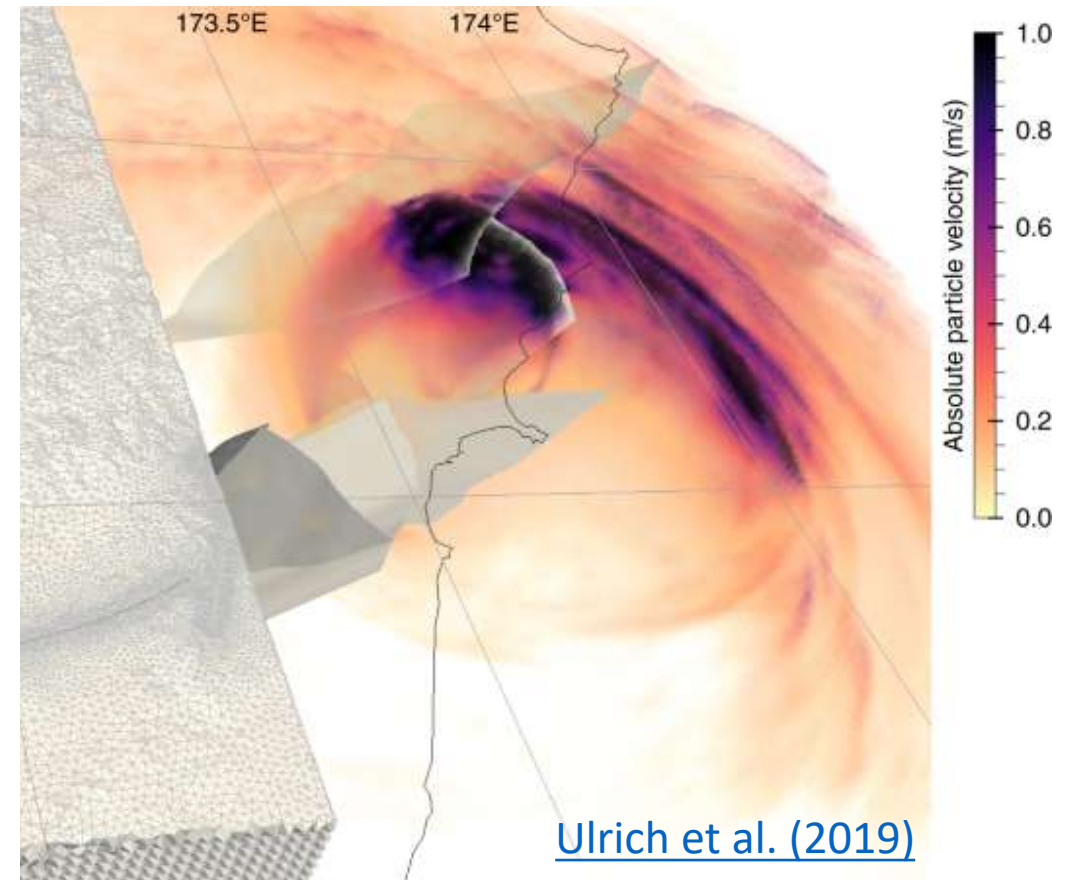
Numerical model of the Antarctic ice sheet by former UT graduate student Tobin Isaac, taken from the [website of the ODEN Institute](#).



What you will learn:

In this course we will take concepts such as mass, force and deformation that are familiar from point systems or simple springs and dash-pots and extend them to continuum bodies such as fluid and solids.

This will allow you to understand the governing equations of modern computational models and enable you to use them correctly.



What you will be doing:

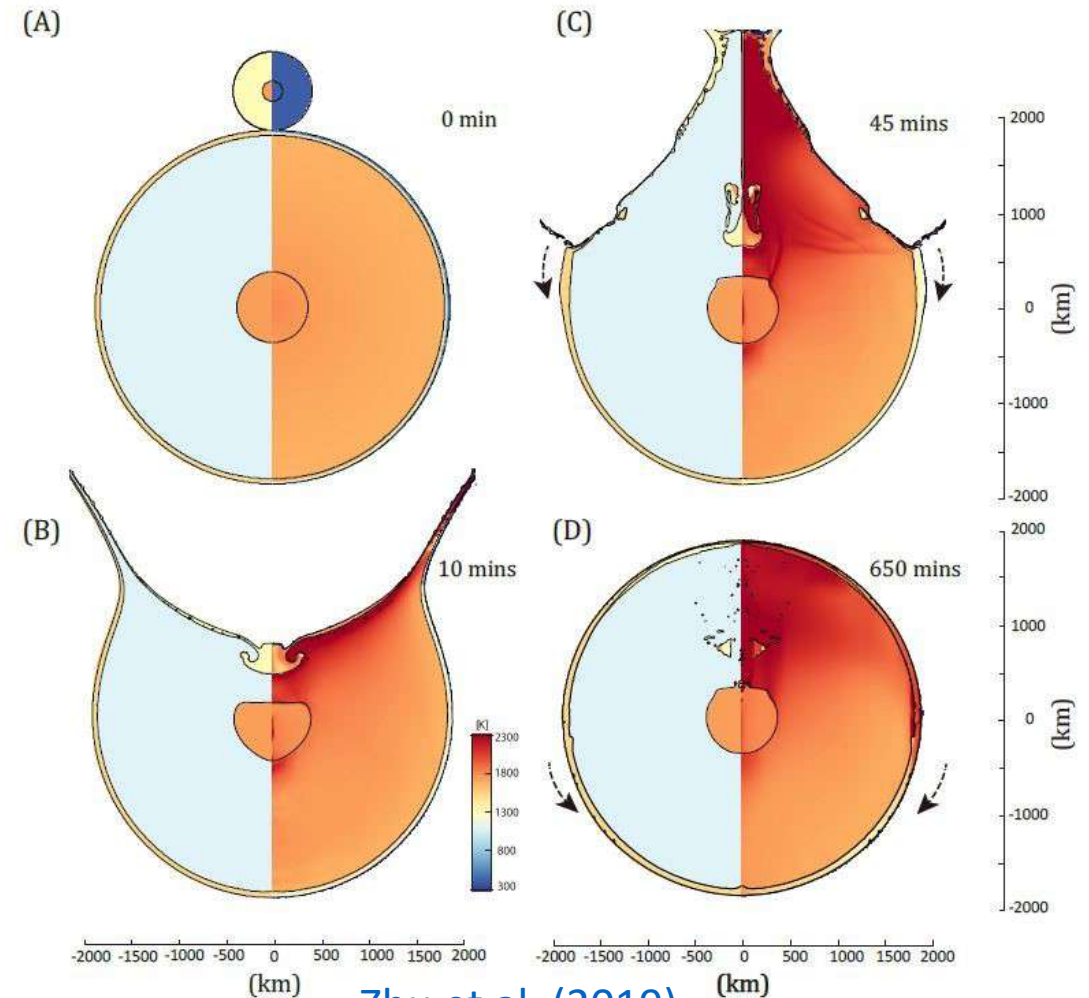
Topics:

- Tensor algebra and calculus: 3 weeks
- Deformation & strain: 3 weeks
- Forces and stress: 2 weeks
- Balance laws: 3 weeks
- Fluid mechanics: 1.5 weeks
- Solid mechanics: 1.5 weeks

Assessment:

Weekly homework.

No exams.



[Zhu et al. \(2019\)](#)