GEO111 – NUMERICAL SKILLS IN GEOSCIENCE

week #06a: Basic geochemical box modelling and reservoir dynamics

Friday 6th May 2016

The purpose of this week is to learn how to build simple numerical models.

Work plan

For the first ~half hour, we'll have Q&A on the midterm paper assignment.

Then: make sure you have worked through the analytical steady state solution of the Great Lakes box model (pages 75-77).

   THEN, work through (and complete) the time-stepping numerical solution to the time-dependent evolution of the Great Lakes box model – pages 77-82.

Learning goals (aka: 'what specifically should I have got to grips with?')

Topics and methodologies you should be familiar with:

- time-stepping in models
- basic numerical integration schemes, concept of numerical stability
- basic matrix maths and the use of the inverse matrix