

INTRODUCTION TO LITHOSPHERIC GEODYNAMIC MODELLING

PROJECT OVERVIEW

Lars Kaislaniemi and David Whipp

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COURSE PROJECT

WHAT IS THE IDEA?

We'd like to see you take your new skills as geodynamic modellers and apply them to learning something about a problem of your choosing.

Example problems could include:

- Rifting of a continent
- Continent-continent collision
- Intrusion of igneous bodies in 1D or 2D
- Sinking of tectonic plates in the mantle

WHAT DO YOU NEED TO DO?

For the project you should design a model, run 1-3 numerical experiments with your model, and write a short paper describing the model and your results in the format of a scientific journal article

THE PAPER

FORMAT

The paper should be formatted as follows

- 12 pt Times New Roman (or similar) font
- Single spacing between lines
- Text and figures should not exceed 8 pages
 - References and the appendix can be on additional pages as needed

The paper should include the sections described on the following slides

ABSTRACT

- A one-paragraph summary of the exercise and your results

INTRODUCTION

- Clearly describe the problem you are addressing (or hypothesis being tested) and its significance
- Provide background information on the topic (e.g., from lecture notes and other sources)
- Provide 1 short paragraph about how your models relate to understanding your stated problem.
- 2-4 paragraphs in length

METHODS

- Clearly state the equations being solved and the different methods used in solving the equations
- List the main variables or free parameters in the equations
- This should be more than 1 paragraph in length

RESULTS

- This part describes the results from your experiments
- Include selected figures from the output of your model with figure captions describing the results
- You should have at least 1 paragraph of text that describes each figure

Note: The results section should only contain observations that resulted from your experiment. No interpretations of the results should be included in this section.

DISCUSSION

- This part of the report discusses your results. It can have multiple subsections if you desire. Any interpretation you make from your plots/calculations should be presented here.
- An example discussion section topics (at least one paragraph each) could include:
 - What are the main geological or geophysical implications of your results?
 - Was there any result that was unexpected or counterintuitive?
 - What are the limitations of the modeling approach and how do they affect the results?
 - What are the implications of your results for the problem/hypothesis you stated in the introduction? Have you sufficiently tested your hypothesis or are more experiments needed?
 - Any other topics you feel should be discussed about the implications of the model results

CONCLUSIONS/SUMMARY

- This should summarize the main findings of your research paper
- 1-2 paragraphs in length

REFERENCES

- Include a list of cited references from your paper
 - This should include at least 6 primary sources

APPENDICES

- Include a link to a webpage containing the code you have used to generate your results
 - If you have made any significant changes to the code, describe them here

DUE DATE AND CREDIT POINTS

PROJECT DUE DATE

- We suggest a tentative due date for the final project of the end of the day on 24.2.2017
- Completion of the course project will provide an additional 2 CP

ANY QUESTIONS?