Abstract Guidelines for Cascadia GeoSciences Scholarships

As taken from Robert Harris,
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A good title is short and provides as much information as possible on the question being addressed, the type of data used, and the location of the experiment.

Abstract

The first sentence describes the motivation and significance of the project. The next two or three sentences describe the type of data obtained, its location and its range of values. The next few sentences describe the techniques, field methods and mathematical models used in the analysis. Next the results from the analysis are presented numerically with error estimates. One sentence should summarize your preferred interpretation of the analysis. And finally summarize the conclusions of the experiment with regard to the first sentence; presented with a numerical value or estimation.

Example of a published abstract:

A comparison of mechanical thickness estimates from trough and seamount loading in the southeastern Gulf of Alaska

Abstract

The southern portion of the Kodiak-Bowie seamount chain in the northeastern Pacific Ocean presents a unique opportunity to investigate loading on young oceanic lithosphere. Oceanic lithosphere ranges in age from 2 to 25 Ma in the study area and is loaded by both sediments in a deep offshore trough and seamounts 100-200 km offshore. Free air gravity anomaly values associated with the trough range from -90 mGal over the trough to +25 mGal over the offshore flexural high, whereas values associated with the volcanic loading range from +80 mGal over the seamounts to -10 mGal over their associated moats. These anomalies are modeled using elastic beam theory. The gravity anomalies associated with the trough are modeled as the elastic bending of a sediment filled trench. Elastic thicknesses associated with the trough are bimodally distributed having values of 12.5 km and 22.5 km. The seamounts are approximated as a series of stacked finite cylinders. Gravity highs over the seamounts are used to model density while gravity patterns associated with the moat and peripheral bulge are used to model the elastic thickness along the seamount chain. Elastic thicknesses along the seamount chain range from 2.5 km to 5.0 km. To reconcile this bimodal distribution we incorporate the effects of finite yield strength. Curvatures implied by the elastic beam models are used to calculate mechanical bending stresses. When the effects of finite yield strength and thermoelastic accumulation of stress are incorporated mechanical thickness estimates are best described by the 600 °C isotherm.

Harris, R.N., and D.S. Chapman, J. Geophys. Res., 99, 9297-9317, 1994.