Deformation associated with the northern migration of the Mendocino Triple Junction: The Mendocino Deformation Zone

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Introduction

This study is a compilation of selected regional research aimed at describing the structure and evolution of Quaternary deformation associated with the Mendocino Triple Junction Region. The use of the term Mendocino Deformation Zone (MDZ) is intended to describe the transition zone between the Pacific, Juan de Fuca, and North America. The Northern California region is composed of many recognizable tectonic blocks, microplates, or domains which commonly the single plate configuration model. The term MDZ is used briefly to describe domains which are interpreted as comprising the transition zone between the Pacific, Juan de Fuca, and North America. The term MDZ is used briefly to describe domains which are interpreted as comprising the transition zone between the Pacific, Juan de Fuca, and North America.

Discussion and Conclusions

We reevaluate the generalized configuration of the Mendocino Triple Junction (MTJ) and present a block model which breaks out the tectonic domains which we interpret as comprising the transition zone between the Pacific, Juan de Fuca, and North America. Along with the adjacent Pacific and Gorda plates, collectively termed the Mendocino Deformation Zone (MDZ), we recognize that the Pacific plate is the only plate behaving as a single plate.

Key Elements of Model

- Mendocino Deformation Zone (MDZ).
- Tectonic Setting
- Regional Deformation
- Residual Velocities.
- Forearc Ttranslation
- KNEE
- N. American Plate
- GPS station velocities with effects of the model subduction zone removed.

Models of plate geometry and coupling in Cascadia subduction zone

Geology and Quaternary Fault Mapping

Focal mechanism of the 1966 Salton Sea earthquake

Fault bound blocks partially coupled with Pacific Plate.

References Cited