

Ovda margin tectonic relationships

Systematic geologic mapping of the Ovda region using the Magellan global data has begun at various scales. Initial mapping is focused on 1:5,000,000 scale and is integrating observations of surface characteristics and geophysical inferences drawn from topography and gravity. Ovda and its margins record a complex sequence of events. The formation of Complex Ridged Terrane (CRT) is the earliest decipherable event. Following this intense deformation, the style of tectonics changed drastically from pervasive regional deformation to localized uplift and fracture belt formation. The margins of Ovda were embayed during a huge scale plains forming volcanic episode. Subsequently, the plains and the highlands were displaced relatively, with the plains uplifted relative to the marginal plains. Closely spaced fracture systems formed belts that cut all the regionally extensive earlier materials. The general relations between CRT and plains reveals much of the geologic history of Venus. Venus is not as geologically active as Earth and has had a strikingly different evolutionary history. Venus was tectonically violent during the earliest mappable epoch, of which little is preserved. Following the most recent violent tectonic episode, during which most of the present highlands formed, there was a relatively brief period dominated by volcanism that may have occurred some 3(M) to 500 m years ago. Global volcanism was followed by a relatively quiet period which extended to the present and was marked by sporadic volcanism. Detailed systematic global mapping will tie together the stratigraphic development of the diverse regions of highlands and allow us to address correlation of the events.