

**PERVASIVE EW TO ENE STRIKE OF PALEOZOIC-EARLY CENOZOIC VOLCANIC-
SEDIMENTARY ROCKS IN THE COASTAL BELT OF SOUTHERN PERU AND
ACCOMPANYING NS TO NNW STRIKE-SLIP OFFSETS**

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ABSTRACT

Detailed aeromagnetic surveys of the coastal belt of southern Peru from Chala to Tacna and from the sea coast up to the crest of the western Cordillera, show multiple anomalies of pervasive EW to ENE strike. These anomalies apparently result from EW to ENE faulting/folding of the mainly Mesozoic volcanic-sedimentary sequence and also of the Precambrian metamorphic rocks underlying the region. The pervasive regional nature of the EW-ENE structural grain has not previously been recognized, but has been mapped in isolated areas in the survey area and also in the Marcona iron ore district, NW of the survey area.

Volcán Ampato



Aerial view, looking southwest (by N. Banks, USGS, 1988, from Wikipedia)

Figure 1. Ampato and subsidiary volcanoes lie along a nearly north-south fault that has 35-40 km of rightslip movement. This fault has offset the Peruvian coastline and all geological formations on east & west, terminating the outcrops of the Precambrian basement complex that extends from at least Pisco south to the vicinity of Punta Bombon.

Also of interest are right angle NS to NNW cross-cutting structures that show as disruptions or terminations of the pervasive EW to ENE structural anomalies. Three of these structures pass under volcanoes Pichu-Pichu, Yucamane, and Coropuna, which all consist of multiple volcanic centers elongated along the NS or NNW trends. Another notable NNW trend passes through the Ampato volcano, and right lateral movement along the southward extension of this structure may be responsible for the Ilo-Punta Coles projection of the Peruvian coastline.

Of interest is that both of the pervasive trend directions discussed here are strikingly diagonal to the N55EW trend of the Andes in southern Peru. They are therefore presumed to have resulted from a tectonic episode earlier than that which raised the Andes.