

Erosion and Neotectonics in Rio Grande do Sul State, Brazil

TRAININI, D.R.; GIOVANNINI, C.A.; RAMGRAB, G.E. and VIERO, A.C. Geological Survey of Brazil - CPRM, Porto Alegre, Brazil

Erosion is a main problem in the southernmost part of Brazil, especially in Rio Grande do Sul State where agriculture and cattle raising activities are economically significant. Several studies correlate erosion to intrinsic soil characteristics, landform, declivity and human activities. Few of them, however, pay attention to neotectonics as a significant source of regional erosion problems.

Field work in Coxilha das Lombas hill, a Pleistocene lagoon-barrier depositional system in the NE region of the State, has pointed to a series of EW structural lineaments crossing through the barrier, that concentrates the most intensive erosion damages. This structural feature is associated to a regional NE lineament also affecting the barrier. Around 40 to 50 meters displacement in a Pleistocene NE fault structure affecting the barrier to late tectonic activity. The same author records intensive Tertiary N 30° E faulting in the coastal part of Rio Grande do Sul State.

In the Cacequi – Dilermando Aguiar road, in the central part of the State, along 30 kilometers, intensive erosion effects such as collapse, grooving and creeping can be seen on both sides of the road, along EW and NW trends, causing significant waste of the soil cover. This particular region is covered by sandy Triassic sediments of the Rosário do Sul Formation.