



## **GIS-based Stress Field Modeling of the North Arm of Sulawesi (NAoS) and its application in mineral prospectivity assessment**

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Remotely sensed and digital map data are useful sources for regional structural analysis, including stress calculations. If the type of a given fault is determined and is considered as Andersonian, and rather juvenile instead of a reactivated one, the tectonic stress can be calculated for each of the fault segments (Albert et al. 2016). The North Arm of Sulawesi, a west-east-trending land strip of the irregular shaped Sulawesi Island, is actively deforming and the upper plate tectonic setting is quite complex in this region since it is situated above a triple junction of the Eurasian, Pacific and Australian plates. The stress currently acting in this region not only creates neotectonics but triggers subduction-related volcanism shifting from west to east on the peninsula. The volcanic centers – adjacent to transfer faults and the colliding plates at depth – appear to be the most productive areas for epithermal-porphyry mineralization systems of economic potential (Szentpéteri et al. 2015). In this work we demonstrate how the derived stress field model helps to understand the location and clustering of various mineralization types in the NAOs. We examine if this method is applicable for mineral prospectively assessments.

### References

- Albert, G., Barancsik, Á., and Szentpéteri, K., 2016, Stress field modelling from digital geological map data: Geophysical Research Abstracts, v. 18, EGU2016-14565.
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