



Magnetic fabric teases out the source vent of ash-flow tuffs

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The anisotropy of magnetic susceptibility (AMS) and anisotropy of anhysteretic remanent magnetization (AARM) were carried out on 68-72 Ma ash-flow tuffs in southeastern part of Korea. Magnetic susceptibilities range from 55 to 7000 micro SI, with the maximum degree of anisotropy of 1.101. Values of magnetic susceptibility and the degree of anisotropy are inversely related. We found that AMS, softer fraction of partial AARM, and harder fraction of partial AARM yielded consistent magnetic fabrics. Azimuthal directional trend inferred from magnetic fabrics help to identify the nearby intrusive welded tuff plug as a potential vent source of ash-flow tuffs. While ash flow tuffs are dominated by oblate fabrics, a prolate fabric was prominent for the intrusive plug. Such a prolate fabric in the intrusive plug is produced by a rheomorphic flow, as eutaxitic textures are formed along the contacts of conduit.