

Hayli Gubbi Eruption – HazardWise Report (Part 3)

Deterministic Uncertainty Bound

Known:

- Satellite-confirmed eruption and plume structure (40–49k ft).
- Red Sea ash drift detected on multi-instrument imagery.
- Elevated SO₂ signatures regionally.
- Aviation reroutes verified across affected corridors.

Unknown / Pending:

- VEI classification (likely VEI-2 or VEI-3).
- Probability of secondary eruptive pulses.
- Rift-zone stress coupling potential.
- Full downwind AQ impacts for Arabian Peninsula & India.

Mitigation Recommendations

- Immediate: Reroute aviation; provide ash masks; limit livestock exposure.
- Medium-Term: Maintain seismic + satellite monitoring; track SO₂; monitor grazing land.
- Long-Term: Track deformation trends; install AQ monitors; maintain drift modeling.
- Coordination: ICAO, Ethiopian Geological Survey, Red Sea maritime authorities.

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