

## Keuruselkä, Finland

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Name	Keuruselkä
Latitude	N 62° 8′
Longitude	E 24° 36′
Size	10–30 km
Age	1140 ± 6 Ma

The Keuruselkä structure is located in the Paleoproterozoic (Svecofennian) granite terrain in central Finland, and the first indication of its nature was the discovery of in situ shatter cones in metavolcanic and granitic rocks within an area that represents the central uplift with a diameter of 5–10 km (Raiskila et al. 2011; Hietala and Moilanen 2007).

PDFs were found in a variety of minerals including quartz, plagioclase and also apatite; it also presents heavily

fractured basement rocks, but large impact breccia deposits or impact melt, however, were not found, which indicates that Keuruselkä is indeed deeply eroded, and possibly much older compared with the other Finnish impact structures (Ferriere et al. 2010a, b; Poutiainen and Heikkila 2013; Hietala et al. 2004).

Ukonselkä, a roughly circular lake immediately west from Keuruselkä, is listed in impact crater databases as probable impact crater.

The crater structure is largely altered by erosive glacial factors. The crater morphologies are barely visible both in optical and X-band radar images.

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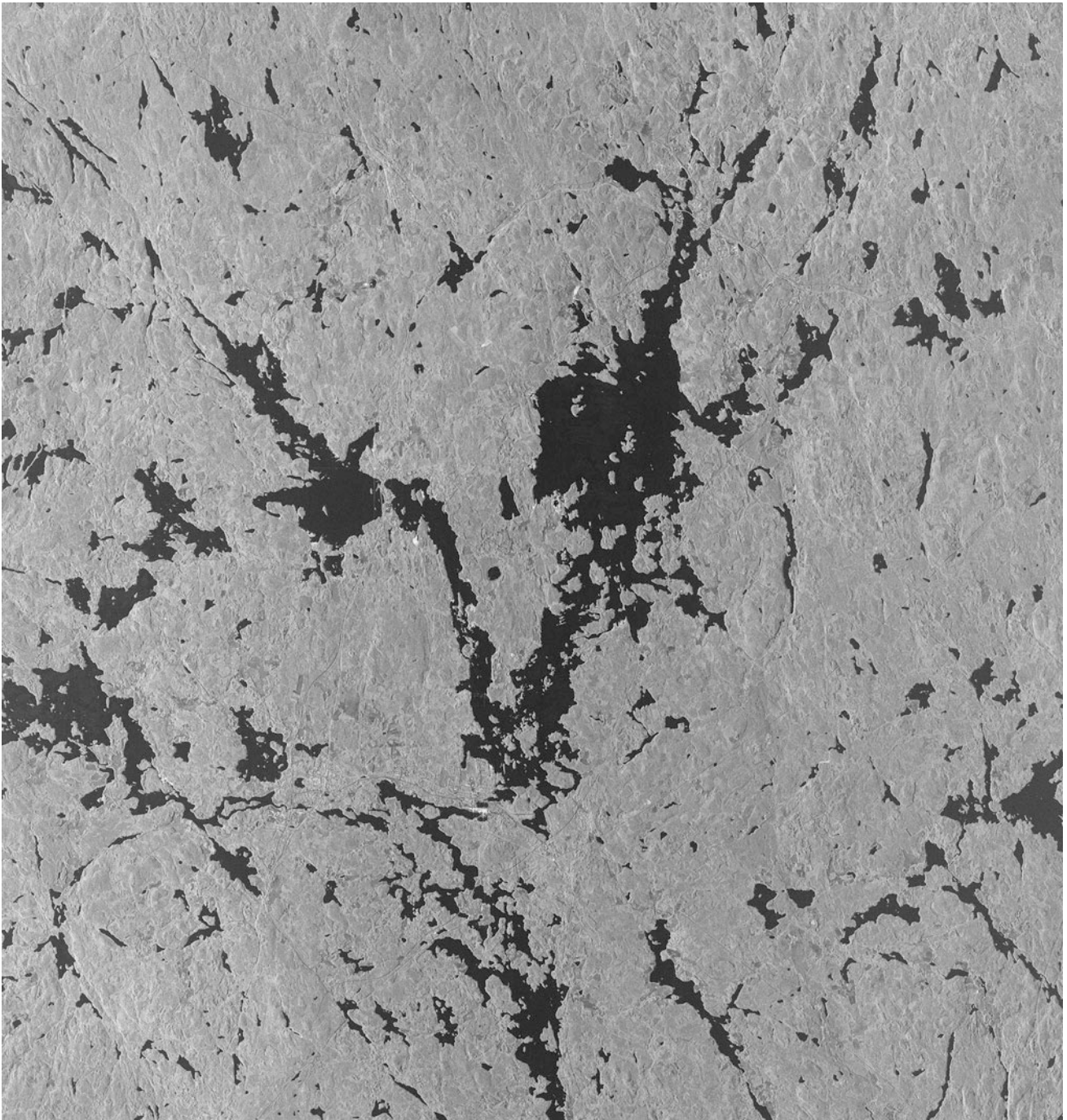
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COSMO-SkyMed image: strip image acquired 06 June 2013 with CSK2 geometry: ascending, right, HH polarimetry

## References

- Ferriere, L., Raiskila, S., Osiniski, G. R., Pesonen, L. J. & Lehtinen, M. (2010a). The Keurusselkä structure (Finland)—impact origin confirmed by universal-stage characterization of planar deformation features in quartz grains. *Lunar and Planetary Science XXXXI*, (1072.pdf).
- Ferriere, L., Raiskila, S., Osiniski, G. R., Pesonen, L. J., & Lehtinen, M. (2010b). The Keurusselkä structure, Finland—Impact origin confirmed by characterization of planar deformation features in quartz grains. *Meteoritics & Planetary Science*. <https://doi.org/10.1111/j.1945-5100.2010.01032.x>.
- Hietala, S., Moilanen, J. (2007). Keurusselka—Distribution of shatter cones. *Lunar and Planetary Science XXXVIII*, (1762.pdf).

- Hietala, S., Moilanen, J., & Kivelantie, B. (2004). Keuruselkä—A new impact structure in central Finland. *Lunar and Planetary Science Conference, XXXV*, Abstract 1619.
- Poutiainen, M., & Heikkilä, P. (2013). Fluid inclusions in microstructures of shocked quartz from the Keuruselka impact site, central Finland. *Meteoritics & Planetary Science, 48*, 1043.
- Raiskila, S., Salminen, J., Elbra, T., & Pesonen, L. J. (2011). Rock magnetic and paleomagnetic study of the Keuruselkä impact structure, central Finland. *Meteoritics & Planetary Science, 46*, 1670–1687.