Chemical weathering in western Dronning Maud Land, Antarctica

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- Intrusives of the Jutulstraumen Group (Mesoproterozoic) and the low grade metamorphosed doleritic sheets of the Ahlmannryggen Range were evaluated for chemical analysis of rock composition at different depths.
- Chemical composition of the input and outputs of chemical weathering were evaluated, as were the chemical weathering processes and forms at different sites. In addition, the type and extent of rock coatings and weathering rinds were identified.
- Methods employed include: **Geochemistry, Petrographic Microscopy, TEM and EDS**

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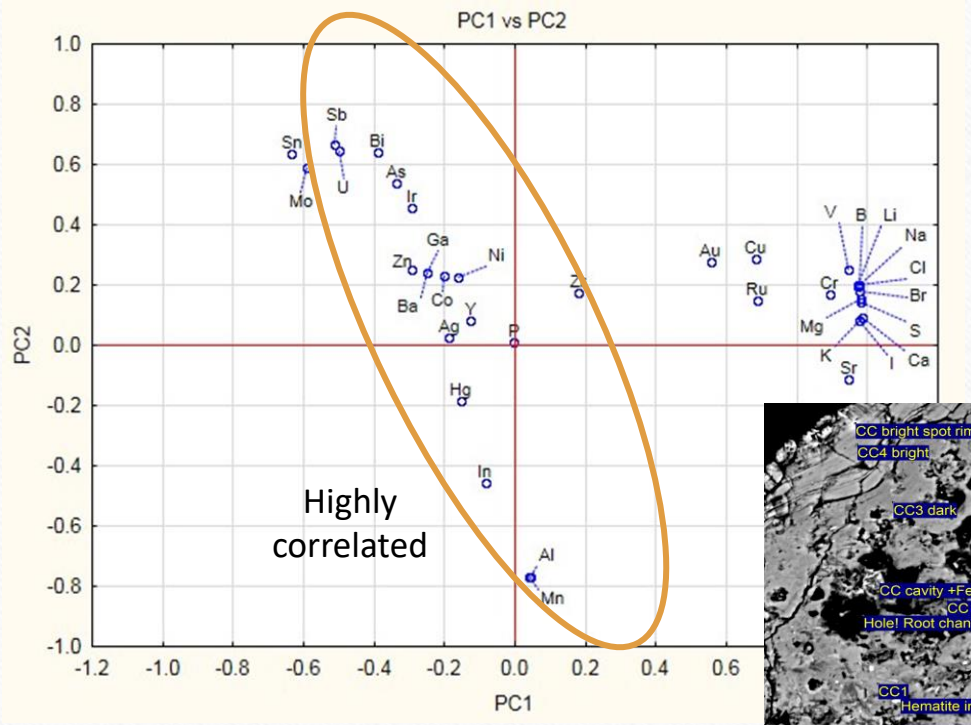

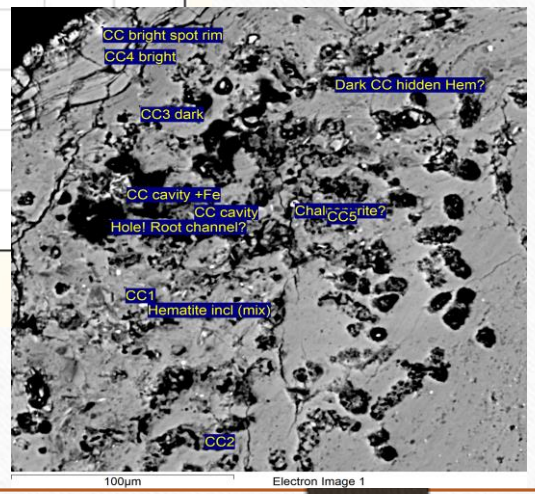

- Solutes analysed attributed to the dissolution of carbonates and salts, whereby weathering of silicate minerals occurs within the hyporheic soil sediments and stream channels.
- Coatings found at the rock interface, or external surface, form distinct layered features, which do not follow the underlying host rock.

Conclusion

- Clear that chemical weathering processes are active in western Dronning Maud Land.
- Significant impacts on meltwater pool, stream and bedrock alterations.
- Weathering rinds and precipitate composition differs between sites (carbonates, silica and iron oxidation).