

Reflections on the definition of analogues and consequences for the EURO-CARES project

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Most astrobiological investigations have been, and will be focused on solid materials, including rocks, soil, and ices. However, natural materials can be very complex in composition and the potential traces of life and/or molecules of astrobiological interest they could contain may be very subtle and challenging to detect. Hence, the importance of prior preparation of the missions using analogues. Analogues are terrestrial sites or samples having properties more or less similar than those expected on a given extraterrestrial body. There is a huge variety of analogues on Earth that can be used for many purposes: to test space craft landing and rover mobility, to test and calibrate instruments and sample preparation systems for *in situ* missions before launch, to help interpretation of data acquired during missions, and to carry out laboratory experiments. Analogue samples include minerals and rocks, as well as chemical, biological and material samples.

Analogue samples will also be crucial to test and calibrate instruments for a future European curation facility under consideration in the framework of the EURO-CARES project (Fig. 1), funded under the European Commission's Horizon2020 research programme. More information about the project can be found on the website: www.euro-cares.eu. The EURO-CARES WP5 lead by Frances Westall and Jutta Zipfel is dedicated to analogues, in particular the different kinds of samples needed in such a facility, including rock, mineral, iceanalogues, analogues for calibration and reference, as well as witness and voucher samples.



Fig. 1. Logo of the EURO-CARES project.

Here, we will present the different types of samples and their use. The relevance of the different types of analogues will also be discussed.