

The Mineral Susceptibility Database: a new tool for communicating research outputs with the heritage sector and beyond

KATHRYN ROYCE

University of Oxford

Presenting Author: kathryn.royce@ouce.ox.ac.uk

Minerals are often overlooked in the context of heritage conservation due to their assumed stability. While many may be stable under ambient conditions, at least 10% of known mineral species are susceptible to temperature, moisture, light, and pollutant levels common in museum stores and displays. These susceptible minerals are widely represented in museums, not only as natural history specimens, but also as components of many other objects, including paintings, sculpture, jewelry, and objects d'art. However, there is a significant lack of scientific research within the heritage literature regarding mineral instability within a museum context.

A considerable quantity of research performed within geosciences and adjacent fields investigates mineral reactions under Earth surface conditions, and is thus applicable to indoor environments, including museums. Unfortunately, findings from these fields rarely enter heritage conservation literature, as relevant research outputs are not easily accessible to heritage professionals, both physically and verbally. As a response to this, a new online resource, the Mineral Susceptibility Database, has been created to provide scientific information relevant for the preservation of minerals under ambient conditions in a single, openly accessible location. Data are collated and synthesized from various fields, and adapts key findings into an easily digestible and usable format tailored for non-scientific audiences. By being a repository of interdisciplinary research, the Database:

1. encourages informed decision making within the heritage sector,
2. increases awareness of which disciplines and institutions are performing relevant research,
3. exposes additional research applications, and
4. advocates cross-disciplinary research and communication.

The author hopes that the Mineral Stability Database becomes a lasting, effective, and valuable tool for connecting geosciences with the heritage sector.