

Analysis and visualization of the evolution of mineral discoveries, their distribution and naming process

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Abstract. The paper presents the proceedings of the data analysis of Nickel-Strunz classes, name origins of minerals, country, and time of their discovery to enrich our knowledge of the evolution of mineral discoveries, their spatial distribution, and naming tendencies during different periods. The data on the mineral name origins were classified into several categories and arranged in decreasing order of mineral counts as follows: “Person” (33% of minerals), “Chemistry” (29%), “Locality” (19%), “Language” (>9%), and “Others” (>9%). Based on the dynamic of mineral discovery, three principal periods were identified: 1) Ancient period (up to 1800) of irregular mineral records, 2) Sustainable development period (1800-1950) with regular records and a moderate increase in the total number of minerals, 3) Modern period (1950-present) of rapid development. It is pointed out that the timeline of mineral discoveries exhibits local anomalies. The positive anomalies were linked to the publications of mineralogical encyclopedias and classifications, while the negative ones were caused mainly by historical events, suppressing the scientific activity. A comparison of Nickel-Strunz class counts throughout mineral history revealed