



NIST's stone wall

Standing in the southwest corner of NIST's campus in Gaithersburg, Maryland, is a 70-year-old experiment: studying the effect of weathering on various types of stone. NIST's stone test wall, nearly 12 meters long and 4 meters high, contains 2352 individual stone samples, quarried from 47 states and 16 foreign countries. The stones on the left half are set in high-calcium lime mortar; on the right half, in a mortar made from Portland cement. The arrangement exposes the many stones and the two mortars to the same climatic conditions. As their texture changes, their durability and performance can then be correlated with mineralogical and microstructural properties. The wall also allows

rapid-weathering tests to be validated against real-world observations.

The wall's origins date back to the 1876 Centennial Exposition in Philadelphia and to the 1880 US census, which surveyed the nation's quarries and systematically collected reference specimens. Originally on display at the National Museum (which became the Smithsonian Institution's Arts and Industries Building), the stones were assembled into a wall in 1948 on the grounds of NIST's precursor, the National Bureau of Standards, in Washington, DC. Following the bureau's relocation in the 1960s to Gaithersburg, the wall was moved intact to its present site in 1977. For more on the wall, see <https://stonewall.nist.gov>. (Photo by J. Stoughton/NIST.)

—RJF

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