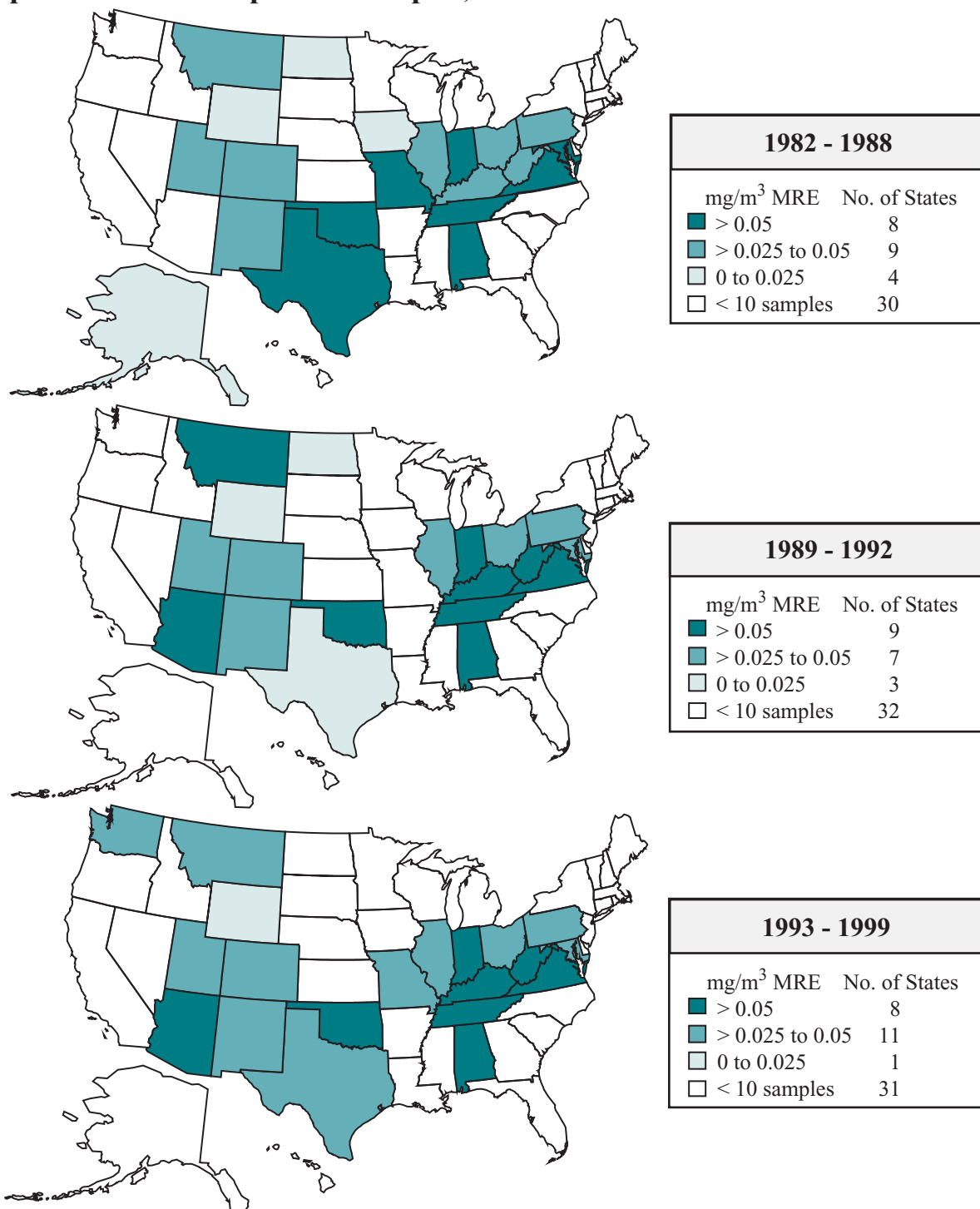


Figure 3-7. Respirable quartz: Geometric mean coal mining exposures by state, MSHA inspector and mine operator samples, 1982-1999



PEL - permissible exposure limit

REL - recommended exposure limit

mg/m³ - milligrams per cubic meter

MRE - Mining Research Establishment, not comparable to NIOSH REL

NOTE: For coal mining, the MSHA PEL is [(10 mg/m³ MRE) / (% quartz)] for respirable dust containing greater than 5 percent quartz. The MSHA respirable coal mine quartz exposure data and the NIOSH REL for respirable quartz cannot be compared to each other because they are based on different sampling criteria. See appendices for source description, methods, and agents.

SOURCE: Mine Safety and Health Administration (MSHA) coal mine inspector and operator quartz data.