Mining Program PPOP

What are our priorities?

The National Institute for Occupational Safety and Health (NIOSH) Mining Program works with partners in industry, labor, trade associations, professional organizations, government, and academia. The program focuses on these areas:

- Reducing exposures to harmful mine dusts, airborne pollutants, heat, noise, and repetitive motion.
- Preventing injuries and fatalities from machinery, rock falls, materials handling, slips, trips, and falls, and other mining workplace hazards.
- Improving the likelihood of rescue and miner survival if disaster strikes.

What do we do?

- Develop state-of-the-art control technologies, monitoring techniques, and best practices to address dust, aerosol contaminants, heat, and noise.
- Design solutions to prevent musculoskeletal disorders and injuries from materials handling and slips, trips, and falls.
- Create and share new technologies and recommended practices that will reduce injuries and fatalities involving powered haulage equipment and machinery.
- Enable a robust and resilient disaster prevention system by developing innovative control technologies, practices, and procedural changes.
- Develop design criteria and engineering solutions for ground support systems that protect underground miners during seismic events or failure of weak rock.

What have we accomplished?

- Updated and expanded the ErgoMine mobile app for safety audits to add iOS compatibility and address additional hazards, including slip-trip-fall and musculoskeletal disorder risk factors.
- Activated the Mine and Mine Worker Charts web-based system that gives mine safety and health professionals interactive access to data graphs and tables for mine injuries, fatalities, and disasters.
- Published the As Simple as A-B-C and As Easy as 1-2-3 fall protection infographics and stickers for mine operations.
- Published a boot wear infographic and sticker to help mine workers prevent health and safety issues from worn boots.
- Released ObsPlus seismic data processing libraries on GitHub that streamline processing times and improve location accuracy of seismic events during mining activity.
- Released a beta version of Ground Support Factor of Safety software for engineers performing hard rock mine design.
- Formed a Mine Automation and Emerging Technologies Health and Safety Partnership with 200 industry, academic, and government partners.
- Disseminated a strategic agenda for the Miner Health Program to begin engaging stakeholders in addressing health issues.
- Conducted the Silica Exposure and Lung Disease in the Mining Industry virtual workshop to share solutions with 285 participants.

What's next?

- Publish a guide for users of the field-based respirable crystalline silica monitoring approach.
- Release guidance on how to use an ArcGIS database to understand and prevent dynamic coal mine failures.
- Release heat stress training software for instructors to use in worker education sessions.
- Publish an updated second edition of a best practices handbook for dust control in coal mining, to identify technologies that lower the respirable dust exposure of mine workers in light of the resurgence in lung disease.
- Publish a simple solutions booklet showing how to reduce exposure to respirable dust, musculoskeletal disorders, and traumatic injuries at surface mines through practical engineering controls.
- Deploy a seismic monitoring sensor array at coal mines in the western U.S. to allow a concentrated examination of local seismic activity for ground stability monitoring.

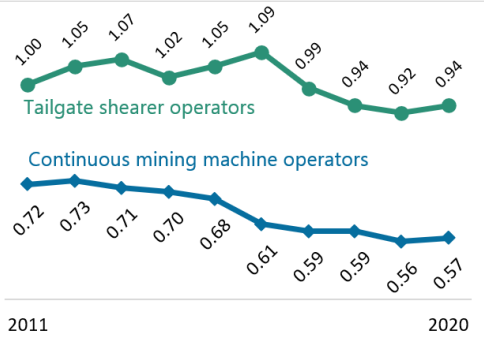
Centers for Disease Control and Prevention
National Institute for Occupational Safety and Health

Mention of any company or product does not constitute endorsement by the National Institute for Occupational Safety and Health, Centers for Disease Control and Prevention

At-A-Glance

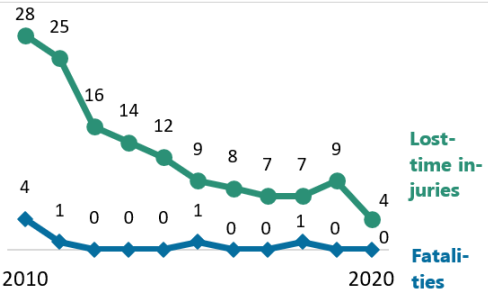
The Mining Program's mission is to eliminate occupational diseases, injuries, and fatalities among workers in the mining industry. This snapshot shows recent accomplishments and upcoming work.

Average respirable dust exposures for two coal mining jobs, (mg/m^3)



Source: MSHA Open Government Dataset

Ground fall fatalities and injuries in underground metal mines



Source: MSHA Accident Injuries dataset (2020 data preliminary)

Publication Spotlight: Fall protection guidance infographic