

Coal seam fires



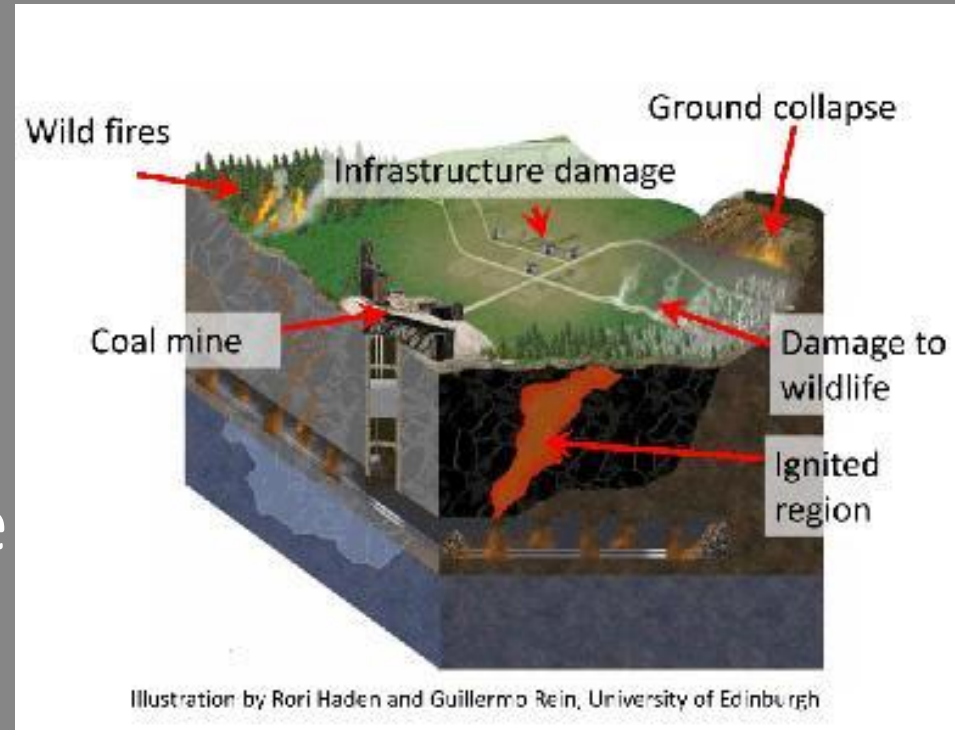
What they are all about

- A **coal seam fire** or **mine fire** is the underground smoldering of a coal deposit, often in a coal mine.
- Economic, social and ecological impacts.
- Often started by lightning, grass, or forest fires.
- Propagate in a creeping fashion along mine shafts and cracks in geologic structures.



Origins

- Near-surface fires – seams extend to the surface; oxygen comes from the atmosphere.
- Fires in deep-underground – oxygen comes from the ventilation.
- Causes: industrial accident, natural occurrences, wildfires, humans.



Extinguishing coal fires

- Isolation from the fuel source (firebreaks or fireproof barriers)
- Excavation (steep slopes)
- Covering the area or installing gas-tight barriers
- Hinder the outflow of combustion gases



Burning Mountain

- The underground fire is estimated to be at a depth of around 30 m
- Has been burning for 6000 years
- The fire moving at a rate of 1 m per year



United States

- 150 fire zones in 1999
- More than 100 fires were burning under 9 states in 2010
- The actual number – 200 fires under 21 states
- 45 fire zones in Pennsylvania



Centralia, PA

- **Centralia** is a near-ghost town in Pennsylvania.
- Mine fire has been burning since 1962.
- Population has dwindled from almost 1,500 residents in 1960s to 10 in 2010.
- Centralia is the least-populated municipality in Pennsylvania.



Theories

- The fire in the dump was not fully extinguished
- Incomplete fire-resistant clay barrier between the layers of garbage in the landfill
- The fire of 1932 was never fully extinguished



Gas station, 1981



1963 - 2001



Today





WARNING - DANGER

UNDERGROUND MINE FIRE

WALKING OR DRIVING IN THIS AREA COULD
RESULT IN SERIOUS INJURY OR DEATH

DANGEROUS GASES ARE PRESENT

GROUND IS PRONE TO SUDDEN COLLAPSE

Commonwealth of Pennsylvania
Department of Environmental Protection

