Discover
How linking weather and mining can help you source responsibly

Better scientific understanding of weather and climate provides a cost benefit to mining companies operating across the world in harsh environments. With an Environmental Impact Assessment, weather risk can be better understood and addressed during design and operation stages of a mine, the transport logistics (rail, road, pipeline or port), and the smelting operation.

Biodiversity and Environmental Impact Assessment
Investors look favourably on companies that work towards a better environment and strive to minimise their impact on it. Accurate climate information from the Met Office underpins comprehensive hydrological, ecological and biodiversity studies that help reduce impact on the environment.

Corporate Responsibility
The need for responsible sourcing puts pressure on companies to demonstrate good governance at local level. Providing weather alerts through a local weather service not only demonstrates good governance, it also reduces operational risk, saving lives and property.
Mining operations
Open and deep pits, transport and port operations are particularly prone to weather vagaries. Modern forecasting developments offer Geospatial Information System (GIS) based services anywhere in the world, with alerts to manage sudden air pressure drops, floods, storm surges or hurricanes.

Mine closure and climate change
Environmental Impact Assessments consider the impact of mines. Increasingly, they also look at the long-term operation and closure of mines. For example, long-term constraints such as water availability may become a limiting factor over time. Addressing these issues at an early stage demonstrates good management and planning to stakeholders and investors.

Project examples

Environmental Impact Assessments
– remote climatology

Proposed mine in West Africa
We were asked to find, validate and analyse weather parameters used in the Environmental Impact Assessment for a proposed mine in West Africa, including a railway and ports. We produced a review of published and unpublished material relating to the site, the proposed railway and two port facilities. The integrity and reliance of Met Office data not only contributed towards mine design but also gave the mining company confidence in their decisions.

Environmental Impact Assessment
– impact modelling

Proposed mine in West Africa
The climatological study and numerical modelling that we conducted for this project supported the hydrological and ecological work for a proposed mountain-top mine. Our modelling illustrated the expected impact of the mine design on the local climate, ecology and vegetation, as well as animal and human life. Outcomes of our work could be used by our customer to determine the size of the mine and, ultimately, how profitable it may be.

Climate change
Review for a mine re-development in Central Asia
A proposed re-development of an existing mine commissioned a Met Office study to determine how many operational days would be gained or lost as a result of changing snowfall patterns. Conclusions of the study informed our client of the potential change in the number of days of extraction over the next 40 to 50 years, which could then be translated into expected mine outputs.

To discover more about the links between weather, climate and mining, and how we can help you, contact philip.beauvais@metoffice.gov.uk
www.metoffice.gov.uk/services/industry/mining