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Climate Change and Environmental Risks to the Sustainable Resource Base: Forecasting, Education, and Preparedness

Recent models indicate that the central and western portion of the Balkan Peninsula will be most affected in the ongoing climate flux, manifested primarily in weather extremes and atmospheric phenomena not previously encountered. The region of central Bosnia and Herzegovina has been a raw material resource base for over two millennia, with timber, water, energy, and minerals; it is currently under renewed interest for exploration and supply of critical raw materials (CRM).

Current exploration, infrastructure, and extraction operations may be profusely affected by the effects of climate change, resulting in potentially catastrophic damage, loss of life, and environmental hazards. There is an ongoing grassroots effort to leverage interdisciplinary, international collaborative programs and platforms to address specific education, training, prediction, and awareness goals.

The idea is to blend the elements of environmental awareness, engineering solutions, compliance matrices, and predictive modeling to effect sustainable and more resilient development in the region. Lessons learned from the previously encountered “atmospheric river” phenomena can be used to create training scenarios, exercises, and models to improve responsible resource extraction, but also risk management strategies.

Keywords: Climate change, Resource development, CRM, Interdisciplinary education