

Importance of Geologists at Municipalities. Colombian Case

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Abstract : Geology is currently absent from Colombia's education system, leading to a lack of geological awareness that hinders essential scientific training about Earth and its spatial and temporal dimensions. Understanding geological concepts is crucial for tackling challenges like climate change, sustainable resource management, geological risk mitigation, and groundwater management. Citizens have the right to receive a comprehensive scientific education that enhances their critical thinking regarding social, environmental, and economic issues. Geological sciences are vital in this context, as they enable the sustainable use of the planet's resources and effective management of human impacts. Additionally, geoethics should be integral to every citizen's education, highlighting the necessity of responsibly utilizing natural resources found in the Earth's surface and subsurface, which are fundamental to many everyday products. The Colombian associations of Geology aims to address these gaps by advocating for the appointment of geologists in municipalities. These professionals would assist in reviewing technical aspects of urban planning, identifying geological risks, pinpointing water supply opportunities, supporting sustainable mineral-energy projects, and promoting geological education in schools. The role of a professional in Earth sciences is crucial for municipalities for several reasons: Natural Resource Management: Earth scientists help in managing and conserving natural resources such as water, minerals, and soil. Their expertise ensures sustainable use and helps prevent depletion. Environmental Protection: They assess environmental impacts and advise on policies to protect ecosystems and biodiversity. This is vital for maintaining the health of local environments. Disaster Preparedness and Response: Professionals in this field analyze geological hazards like earthquakes, floods, and landslides. They contribute to developing early warning systems and emergency response plans, which can save lives and property. Climate Change Mitigation: Earth scientists study climate patterns and contribute to strategies for mitigating climate change impacts. This includes advising on land use planning and developing resilience strategies for communities. Urban Planning and Development: Their expertise is essential in urban planning, ensuring that infrastructure development considers geological and environmental factors. This helps prevent construction in hazardous areas and promotes sustainable development. Public Education and Awareness: They play a vital role in educating the public about Earth-related issues, fostering greater community engagement in environmental conservation and disaster preparedness. In summary, professionals in Earth sciences significantly contribute to the sustainability, safety, and well-being of municipalities and their residents.

Keywords : social geology, safety, sustainability, municipalities

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