How Geoscientists Use Maps
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Geologists reconstruct the past and foresee the future by understanding how Earth's materials, structures, processes and organisms have changed over time. To make these observations they rely significantly on geological maps, which require them to work outdoors. Using geological tools like, rock hammer, clinometers compass, seismometers and core drills, air photos and GPS receiver, they study the location, age, and identity of the geologic materials of the region as well as the orientation and position of geologic structures. At the office the geologists then begin the process of the final map layout by combining and synthesizing the field data and entering it into a GIS; software used to manage and symbolize geospatial data. These maps provide abundant information not just about the structure and stratigraphy of the earth's surface, but also act as the starting point of decision making skill by the geologists that would affect our life as individuals and society.

Armed with these maps and with their "Down To Earth" knowledge, geologists play an important role to raise the quality of our lives. Geologists are able to help locate fossil fuels and the impact of their extraction on the environment, estimate and preserve ground water resources, predict and measure erosion along streams and beaches, help design and monitor waste disposal sites, locate safe sites for hazardous waste facilities and landfills. They also aid in solving engineering problems in constructing safe places for dams, securing sites for new buildings and guiding engineers plan routes for highways. They evaluate geological hazards like earthquakes, landslides, volcanoes and their effect on environment and help ease their impact by helping draw up contingency plans. The role of geologists is now more relevant, now that we need to meet the growing demand for food, water, and natural resources.

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