

The use of regional geochemistry data in environmental assessment and planning: ignorance or missed opportunities?

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Regional geochemical surveys have been carried out over large parts of Canada. The types of sample media used vary from recent sediments through Quaternary glacial deposits to bedrock. Generally, such surveys are designed with mineral exploration as the objective. Most of these surveys cover large areas and many different elements, and as such provide large databases that can be used as a background for epidemiological studies. Recent increases in lead and mercury in the environment, landslides, and climate change as a result of fossil fuel use, seem to be directly related with some of the changes we see in the biosphere. In these examples we know from historical records that many changes can at least partially be attributed to man's influence on the natural environment.

Several New Brunswick examples from both federal and provincial geochemical surveys will be used to identify

possible uses of geoscience data in providing answers to environmental questions. The value of this data is often limited because the specific data required for the region under investigation are not available. In some cases the data is not available in sufficient detail to provide a meaningful answer (e.g. the data required is below detection limit of the methodology used, or sample density is too low). Many concerns or questions (e.g. drinking water issues) touch on the geoscience discipline and while geologists could help in providing the answers, they are not often consulted. This is likely because geological data is ignored in many cases where it could be helpful. However, it is incumbent upon the geoscience professions, to promote the existence and value of existing data.