

MONITORING ENVIRONMENTAL POLLUTION BY REMOTE SENSING

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During the past twenty years, the polluted environment has become one of the major concerns of industrial societies. Continued growth in industrial development and in the wastes from an ever increasing number of sources, together with the need to preserve nature in its many forms have focused attention on the burgeoning problems of environmental pollution and the demand for the early and reliable detection of vegetation stress caused by pollution, so that effective monitoring and control measures can be introduced.

The paper outlines the various types of environmental pollution which may be studied by remote sensing. Thus different types of water quality studies (including sewage discharge, algae, contaminated ground water, power plant effluents, industrial discharges, etc.), land degradation (including solid waste disposal, toxic waste disposal, all forms of derelict land, quarrying, etc.), as well as the effects of air pollution on the environment will be discussed.

The role of different remote sensors such as airborne cameras (including panchromatic colour, colour infra-red and multiband systems), airborne thermal and multispectral line scanners, side looking radar, and satellite imagery for the identification and monitoring of the environmental pollutants and their effect will be evaluated. Examples from several European countries, including Germany, England, Scotland, The Netherlands, will be given to illustrate the various types of pollution, how they may be detected, what effect they have on the vegetation and environmental quality in general, and how, by incorporating remote sensing methods into an overall comprehensive environmental management programme, the quality of man's environment can be improved.

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Page 21
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Page 21
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