






# REMOTE SENSING in FISHERIES

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- ▶ GIS are essentially spatial analysis software, though for the system to function properly, it is necessary to consider the hardware, data, personnel and procedures that are essential to obtaining useful output from the software. The types of spatial analyses that GIS provides include measurement (linear, aerial, volumetric and temporal), distribution and relationship analyses, network analysis, geostatistical analyses, interpolation, and a wide range of modelling. GIS is now used in a broad spectrum of application areas, including by government, business, academia, industry, military and natural resource management (including fisheries and aquaculture).

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- ▶ Because it is useful to have information on the development stages through which any technology has evolved, the emergence of GIS as a tool for spatial analysis is described in terms of three historical stages. First, early innovations took place between 1960 and 1980 when digital developments in graphical representation and database management allowed for simple mapping output using mainframe computers and line printers or plotters.

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- ▶ Output costs during this period were extremely high, so work was limited mainly to government or major institutions or businesses. Second, the era of GIS commercialization spans the years between 1980 and 1995: costs rapidly came down and allowed markets to expand and data became far more abundant, mainly from remote sensing sources. The migration of computing capability from mainframe to micro computers (personal computers) contributed greatly to GIS proliferation, and it was in this period when application areas for GIS expanded, aided by necessary supporting infrastructure developments. At the end of this period, the world market for geospatial systems and services was growing at a rate of 14 percent per year. Finally, the period since 1995 has been an era of mass spatial exploitation.

