

# **GEOSCIENCES IN THE DEVELOPMENT OF THE SANTA CRUZ RIVER BASIN IN SOUTHERN ARGENTINA.**

**HORACIO VICTOR RIMOLDI - Consultant Geologist (1)**

**JOSE FRANCISCO SPEZIALE - Civil Engineer (2)**

(1)Senior Geologist - Chief Geologist Researcher - Institute for Geologic and Mineral Resources (IGRM) and Argentine Geologic - Mining Services (SEGEMAR), Buenos Aires, Argentina.

(2)Vicepresident IATASA, Consulting Engineers - Buenos Aires, Argentina.

## **ABSTRACT**

The study of major hydro developments offer a unique opportunity to validate the outstanding basic role of geosciences on vast regional landscape as is the case of the Santa Cruz river basin in Southern Argentina.

A chain of no less tahn sites along the some 380 km of the Santa Cruz river and its only tributary, the Leona river (which contributes one third of the total flow) some 60 km long, allow for an extensive development of the basin to be conceived as a series of dams for the integral use of the full flow of the river from the western lake area to the ocean, in a broad range of activities. No serious enterprise of such magnitude could be undertaken without an indepth study centered on the priorities of geosciences and environmental sciences.

The valley was carved in tertiary strata along/and following the end of the glacial periiod, as an only canal which cuts through the typical stepped patagonian plateau, showing three distinctive morphologic sections: the western area (130 km), shapped by glacial activity; the main central span (170 km) definitely the exclusive work of fluvial erosion; and the eastern end, subject to tidal action which determined a fairly long (80km) and wide estuary. The definitions needed at the various sites regarding stability of the banks of the rivers and of their highter terraces, the variety, heterogeneity and physico properties of the predominat sedimentary fairly thick foundation strata, do call for appealing of further analyses leading to provide the valid information on wich all design work ought to be based.