

**FIRST UTILIZATION OF LANDSAT-TM AND SPOT-HRV IMAGERY
FOR AN ENGINEERING APPLICATION, IN BAHIA BLANCA BAY, ARGENTINA**

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ABSTRACT:

The Bahia Blanca harbor system is the largest and deepest one in Argentina and most of the country agricultural products are exported through it. The objective of this work was to improve the accessibility to admit ships with draughts up to 45 feet. The leader of the dredging works ask for local consultation of high level, who advised to buy LANDSAT-TM and SPOT-HRV data. Ground controls and digital processing data were performed by a devoted staffs.

Dredging works have been done along the 80 km long the main tidal channel leading to the harbor, including depending and widening of the port itself. The 20 km inland part, called B.Blanca "bay" by the IGM cartography, is frequently miss-called B.Blanca "estuary" or B.Blanca "ria" as good examples of terminological anarchy. It was recommended to buy data ad several specified water levels to be used together with tide-tables, to estimate the water level at tidal-times: 0.72 m, 2.11 m, 2.62 m, 3.72 m, and 4.20 m. Remote sensing techniques were used to obtain a large-scale overview of tidal levels and tidal movements in a 200-square km area around the inland part of main tidal channel.

From this overview data was derived important information to perform the following tasks. 1. Cost-effective dredging; 2. Locations of high banks in the tidal marsh, suitable as permanent dredging dumps; 3. Access ways to high banks for auxiliary equipment used for positioning dredge pipelines and machinery; 4. Shortest distance for dredging pipelines from the shipping route to high banks. All satellite imagery were geometrically transformed, classified and combined in one image, resulting a so-called tidal map, that can be considered as an useful depth contours map without precedents in the area and in Boskalis enterprise way of work.