

# THE MAGNETIC FIELD OVER THE PHILIPPINES

## PART I:

### THE MAGNETIC SURVEY OF THE PHILIPPINES, 1888-1892: an evaluation and a re-assessment.

The first magnetic survey of the Philippines was carried by Manila Observatory between 1888 and 1892. It comprised 36 stations on the Islands and 12 control stations on the coast of China and in Japan. The present paper describes and evaluates the techniques of observation and suggests a new interpretation for the distribution of the horizontal and total force vectors in better agreement with the eccentricity of the earth's dipole fields and the theory of plate tectonics.

#### 1. *INTRODUCTION*

A magnetic survey of the Philippines Islands was carried out by the Manila Observatory during the period between 4 April 1888 and 2 July 1892. The final list of accepted data comprised 36 sets of observations in the Philippine Islands plus an additional 12 control stations in China and Japan.

Prior to this survey, sporadic measurements had been carried out mostly at harbour sites by visiting vessels and by the Hydrographic Commission of the Philippines. Unfortunately, the Hydrographic Commission's records were lost in the fire which destroyed its Catbalogan headquarters in 1889.

As early as 1885, plans were drawn by the Manila Observatory — then called the Observatorio Central Meteorologico de Manila — for a comprehensive survey of the three primary elements of the magnetic field over the Philippines, namely the declination, inclination and horizontal components. In 1886, two Brujula surveying instruments, a theodolite-magnetometer and an inclinometer, were purchased from Brünner in Paris; each instrument