GEOMAGNETIC OBSERVATIONS IN INDONESIA CARRIED OUT BY BMG

INTRODUCTION

Geomagnetic observations in Indonesia were started officially in 1866 together with meteorological observations, called Keesaakjes-Magnetisch en Neerzwellenobservatorium at Jakarta. In 1950, the magnetic observation was moved to Bogor, Kujang Island (1962) and Tangerang (1964) respectively. At present there are five geomagnetic observatories of BMG, i.e. Tangerang (TNQ), Tuntungan (TUN), Tondano (TN2), Pelabuhan Ratu (PEL), and Kupang (KUP). We are planning to build magnetic observation in Poput.

THE DEVELOPMENT OF GEOMAGNETIC INSTRUMENTATION AT BMG

1866-1883: A composite of English and German photographically recording magnetograph
1933-1937: Aiden’s magnetograph, photographic type
1937-1942: 3-component photographic, Topler-Schultz’s magnetograph
1964-now: 3-component Russo and La Cosmagnetograph at Tangerang, and one at Tuntungan (Modem) installed in 1980
1991-now: Digital Fluxgate Magnetograph (ESPA Variometer) at 3 stations, Tangerang, Tuntungan and Tondano
1996-now: Digital Fluxgate Magnetograph (ESPA Variometer) at Tangerang, Kupang and PEL
2001-now: Digital Fluxgate Magnetograph (ESPA Variometer) at Tondano
2005-now: Digital Fluxgate Magnetograph (DMM Variometer) at Tangerang and Kupang
2006-now: Digital Fluxgate Magnetograph (DMM Variometer) at Pelabuhan Ratu and Kupang

ABSOLUTE MEASUREMENTS

PRESENT OBSERVATORIES

BMG GEOMAGNETIC OBSERVATORIES

KUPANG

TANGGERANG

TUNTUNGAN

MANADO

PELABUHAN RATUS

MAG-OBS MAGNETOMETER

PHOTOGRAVAMICALLY RECORDING MAGNETOMETER

GDASVIEW MAGNETOMETER

MAGNETIC DATA APPLICATION

A. NATIONAL

Magnetic data are used for the purposes of:

1. Aviation and Shipping Navigation

Directional navigation needs magnetic declination data at a site to be converted to compass reading pointing the true north.

2. Topographic Map

Large-scale topographic map must include the notation of magnetic declination on each piece of map.

3. Geophysical and Geophysical Survey

Every geophysical and geophysical survey using magnetic method need daily geomagnetic variation data recorded at geomagnetic observatory. The data are used to correct field data during surveys.

4. Radio Communication

Geomagnetic storms can influence HF radio propagation in many areas.

5. Seismo-electromagnetic Research

B. INTERNATIONAL

To support International Geomagnetic Reference Field (IGRF) in the frame of international data exchange with International Association of Geomagnetism and Aeronomy (IAGA) and World Data Center (WDC) and Geosciences – Australian (GA), and British Geological Survey (BGS).