

GEOID UNDULATIONS BY GPS: A TOOL FOR UNDERGROUND INFORMATION

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A GPS Geodetic network was established in Buenos Aires Province in coincidence with the existing leveling network. In this way, it is possible to obtain the differences between ellipsoidal heights (h) and the existing mean sea level heights (H). These differences account for the geoid undulations in this area. The graphic representation of these values shows some general features that can be summarized as follows: relatively small values near the Atlantic coast, growing fast to the northwest and stabilizing in relatively high values in the northern part of the region. This design is like an image of the limit between the crystalline basement and the sediment cover, allowing for example the detection of the Rio Salado basin limits with the inflexion of the leveling curves. It is interesting to enhance that there exists a good amount of geological information in this region to improve these preliminary results. This qualitative correlation suggests the possibility of using this technology to obtain additional information about the underground. Field activities will be concentrated in the particular areas where unsuspected anomalies have been detected.