

Permanent station GPS/GNSS antenna monuments and mounts supported by UNAVCO (poster for UNAVCO Science Meeting, 2010)

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Abstract

We compare eight long-term monuments and mounts currently in use in UNAVCO-supported projects. The designs range in height from 0 to 3 meters; substrates into which they are installed include soil, bedrock, and concrete; and costs range from approximately \$30 to \$15000. The more expensive options may be considered more stable, but in many places outside the US, logistical, economical, and material constraints make installation of deep- and shallow-drilled braced monuments at best difficult and at worst impossible. Simpler single-mast or concrete monuments offer less expensive, more portable installation options with acceptable stability.

The poster is a comprehensive comparison chart of eight different GPS/GNSS antenna monument and mount designs. It is organized into several rows, each representing a different characteristic of the monuments. The columns represent the eight monument types: Deep drilled 'steel', Shallow braced, Concrete pillar, Thermopile, Pole mast, Shallow foundation 'mast', Stainless steel 'pin-in-hole', 5/8" all-thread, and Custom. The rows include: Monument (with a small image of a monument), Description, Substrate, Stability (indicated by upward arrows), Install Time (with moon icons), Labor (with person icons), Cost (with dollar sign icons), Site Impact (with upward arrows), Drilling Requirements (with small images of drilling equipment), and Where Used (with small images of the monuments in the field). To the right of the main table, there are three sections for 'Antenna Mounts': SOGN mount, BICO 3875 series stainless steel adapter, and Cup and brass adapter. The UNAVCO logo is in the top left, and logos for NSF and NASA are in the bottom right.

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