

GPS antenna monuments and mounts supported by UNAVCO: Options and Effectiveness (poster for Fall AGU, 2008)

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Abstract

Many different monumentation types and antenna mounts have been used in UNAVCO-supported projects for campaign, semi-permanent and long-term continuous GPS sites. We summarize nine monuments and mounts currently in popular use in UNAVCO-supported projects as options to the greater scientific community. 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. In many places outside the US, logistical, economical, and material restraints 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.



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Monuments				Antenna Mounts		Custom monumentation and mounts	
Deep drilled braced <ul style="list-style-type: none"> A 3" diameter steel pipe is a rigid configuration considered only the best as to height of about 60 feet. Height together with the... 	Concrete pillar <ul style="list-style-type: none"> Of simple design, but specific complexity of installation requires... 	Polar mast <ul style="list-style-type: none"> Heavy-duty aluminum mast bolted into bedrock. Mast height... 	SCIGN mount <ul style="list-style-type: none"> Customized for SCIGN use. 100% stainless steel. 100%... 	SECO 2072-series stainless steel adapter <ul style="list-style-type: none"> 100% stainless steel. 100% stainless steel. 100% stainless steel. 	Cup and brass adapter <ul style="list-style-type: none"> Supports full ranging antenna. Adapter for antenna to be... 	Things to consider <ul style="list-style-type: none"> Other (choosing a monument and mount, consider: <ul style="list-style-type: none"> Quality needed (precision needed) Field availability Time available for installation Site security Material availability (esp. international work) Site accessibility Site availability 	
Shallow drilled braced <ul style="list-style-type: none"> A 3" diameter stainless steel pipe is a rigid configuration considered only the best as to height of about 60 feet. Height together with the... 	Shallow foundation mast <ul style="list-style-type: none"> Of simple design, but specific complexity of installation requires... 	5/8" all-thread <ul style="list-style-type: none"> Of simple design, but specific complexity of installation requires... 	Requesting support from UNAVCO <p>UNAVCO can provide assistance with design, engineering, and construction of permanent monumentation in the US and select countries outside.</p> <p>To request support from UNAVCO, fill out a support request form at http://www.unavco.org. For questions, contact support@unavco.org.</p>		Requesting support from UNAVCO <p>UNAVCO can provide assistance with design, engineering, and construction of permanent monumentation in the US and select countries outside.</p> <p>To request support from UNAVCO, fill out a support request form at http://www.unavco.org. For questions, contact support@unavco.org.</p>		
Shallow braced (non-drilled) <ul style="list-style-type: none"> A 3" diameter stainless steel pipe is a rigid configuration considered only the best as to height of about 60 feet. Height together with the... 	Stainless steel mast <ul style="list-style-type: none"> A 3" diameter stainless steel pipe is a rigid configuration considered only the best as to height of about 60 feet. Height together with the... 	Tech 2000 (for campaign use) <ul style="list-style-type: none"> A large, ruggedized aluminum mast with a plate on the end that... 	Requesting support from UNAVCO <p>UNAVCO can provide assistance with design, engineering, and construction of permanent monumentation in the US and select countries outside.</p> <p>To request support from UNAVCO, fill out a support request form at http://www.unavco.org. For questions, contact support@unavco.org.</p>		Requesting support from UNAVCO <p>UNAVCO can provide assistance with design, engineering, and construction of permanent monumentation in the US and select countries outside.</p> <p>To request support from UNAVCO, fill out a support request form at http://www.unavco.org. For questions, contact support@unavco.org.</p>		

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