

Toward a Permanent GPS Receiver Network in Northwestern Mexico

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A permanent network of GPS receiver should be implemented in Northwestern Mexico to as a multi functional atmospheric and solid earth research and operational network as well as surveying and to provide a backbone for an internet network in relatively remote regions of Northwestern Mexico. Such a network can be assembled relatively inexpensively either from existing older GPS receivers or new internet ready receivers and low cost surface meteorological packages. The internet could be paid for by the community where the internet would be placed as was accomplished in Mazatan for the NAME field campaign. Applications include:

- Improving our understanding of the processes involved in warm season precipitation
- Weather forecasting which will use the network to determine the upstream moisture before it flows into the semiarid southwestern North America.
- Hydrology which will use observations of water in the gas phase to complement the rain gauge and radar network in the NAM area.
- Developing an early warning system for extreme storms and flooding in Mexico.
- Climatic monitoring which will use a long term, precise and all-weather hydro-meteorological record of the important and relatively remote and certainly poorly sampled NAM area.

Examples of GPS precipitable water vapor (PWV) results obtained during the 2004 NAME field campaign will be presented.

HYDROMETEOROLOGY INTEGRATION