

## NOAA/ESRL Aircraft Network Update

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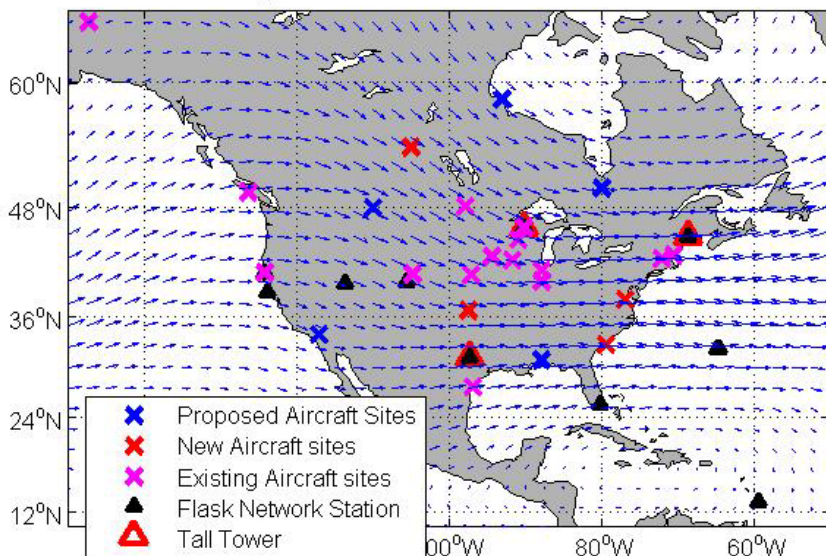
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The NOAA/ESRL Global Monitoring Division (GMD) Aircraft Network has been in existence for more than 10 years and in 2006 underwent additional expansion. Efforts over the last year have focused on finding errors induced by the programmable flask package sampling system; developing instrumentation for in situ measurements of CO<sub>2</sub>, temperature, humidity, and location; optimizing the sample network, including through the addition of new aircraft sites; and increasing the number of species measured.

(Figure 1) shows a broad shift in the aircraft network site locations from a focus on the mid-continent to sites to one that optimizes our ability to resolve sources and sinks of CO<sub>2</sub> and CH<sub>4</sub> over the whole North American continent. While this distribution of sites has been shown to be helpful for resolving the biologically productive summer months in the continental United States, more sites are needed along the boundaries and in land areas of Southern Canada. We also continue to look to areas such as Churchill, Manitoba in Canada where we hope to monitor rapid change due to permafrost melt.



**Figure 1.** The NOAA/ESRL/GMD aircraft network as of March, 2006. New Aircraft sites are defined as those that have been implemented in the last year. With funding cuts 3 mid-continent sites of the sites have been terminated and our initial efforts to do profiles weekly has been scaled back at every site to at least every two weeks and at the mid-continent sites every three weeks. Vectors represent average 500 mbar NCEP re-analysis winds for January.