

Civil Report Card On GPS Performance

December 2009

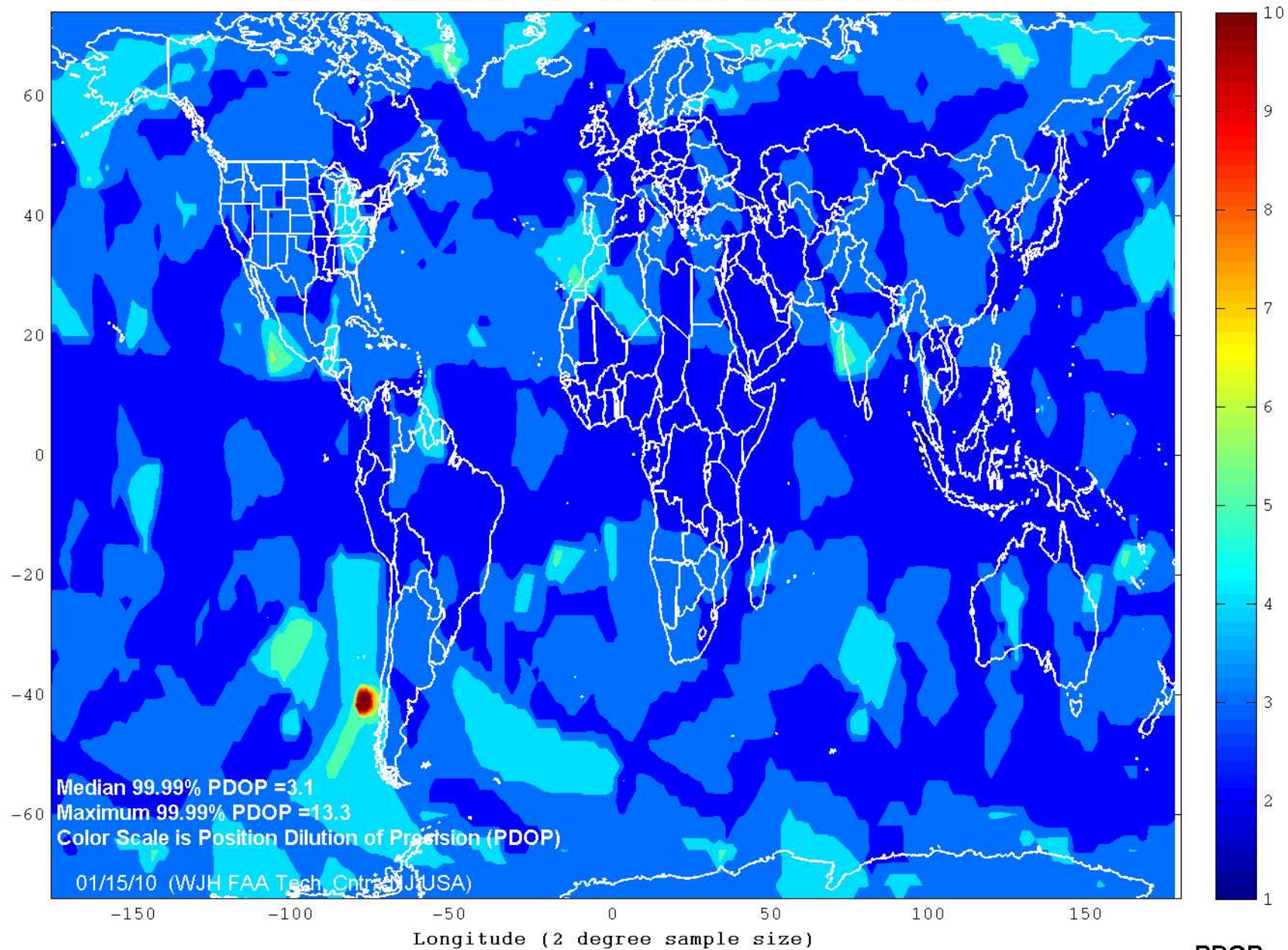
Operational Performance Parameter	CY 2008	Nov 2009	Dec 2009	Long term	Short term
Availability Parameters					
<i>Average Number of satellites usable</i>	30.48	30.30	30.98	↑	↑
<i>Average number of satellites usable in primary slots</i>	23.95 (99.80%)	23.47 (97.79%)	23.98 (99.93%)	↑	↑
<i>Average availability of 6 satellites in view</i>	99.99%	99.99%	99.99%	→	→
99.99% Horizontal DOP					
<i>Area Median</i>	1.8	1.6	1.5	↑	→
<i>Worst Site</i>	5.8	8.6	6.2	↓	↑
99.99% Vertical DOP					
<i>Area Median</i>	3.3	3.1	2.8	↑	↑
<i>Worst Site</i>	17.6	15.5	11.7	↑	↑
99.99% Position DOP (PDOP)					
<i>Area Median</i>	3.6	3.4	3.1	↑	↑
<i>Worst Site</i>	18.3	17.5	13.3	↑	↑
Accuracy Parameters					
RMS Single Frequency User Range Error					
<i>Constellation Median</i>	1.72	1.75	1.76	↓	→
<i>Worst Satellite</i>	2.14	2.37	2.66	↓	↓
95% Horizontal Error					
<i>Area Median</i>	2.36	2.21	2.10	↑	↑
<i>Worst Site</i>	3.35	3.94	2.73	↑	↑
<i>Availability (% <4.5m (historical 3-sigma))</i>	99.77%	99.87%	99.98%	↑	↑
95% Vertical Error					
<i>Area Median</i>	4.46	4.25	4.29	↑	↓
<i>Worst Site</i>	4.95	5.24	4.94	→	↑
<i>Availability (% < 9m (historical 3-sigma))</i>	99.94%	99.98%	99.98%	↑	→

Key: ↑ improving ↓ worsening → no significant change

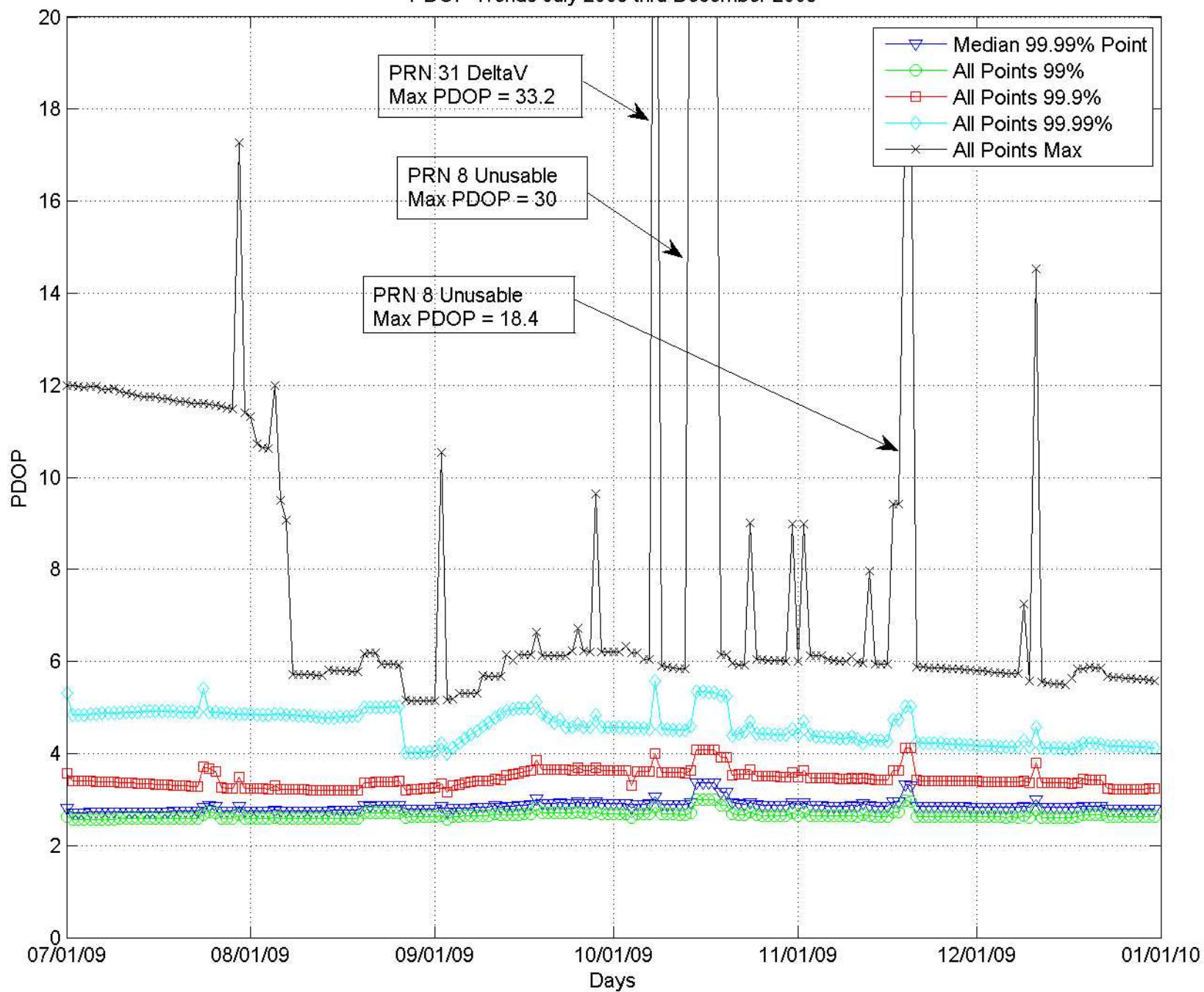
Long Term is current month vs. prior 24 months; Short Term is current month vs. prior month

Compiled from WAAS network as requested by the Defense Science Board

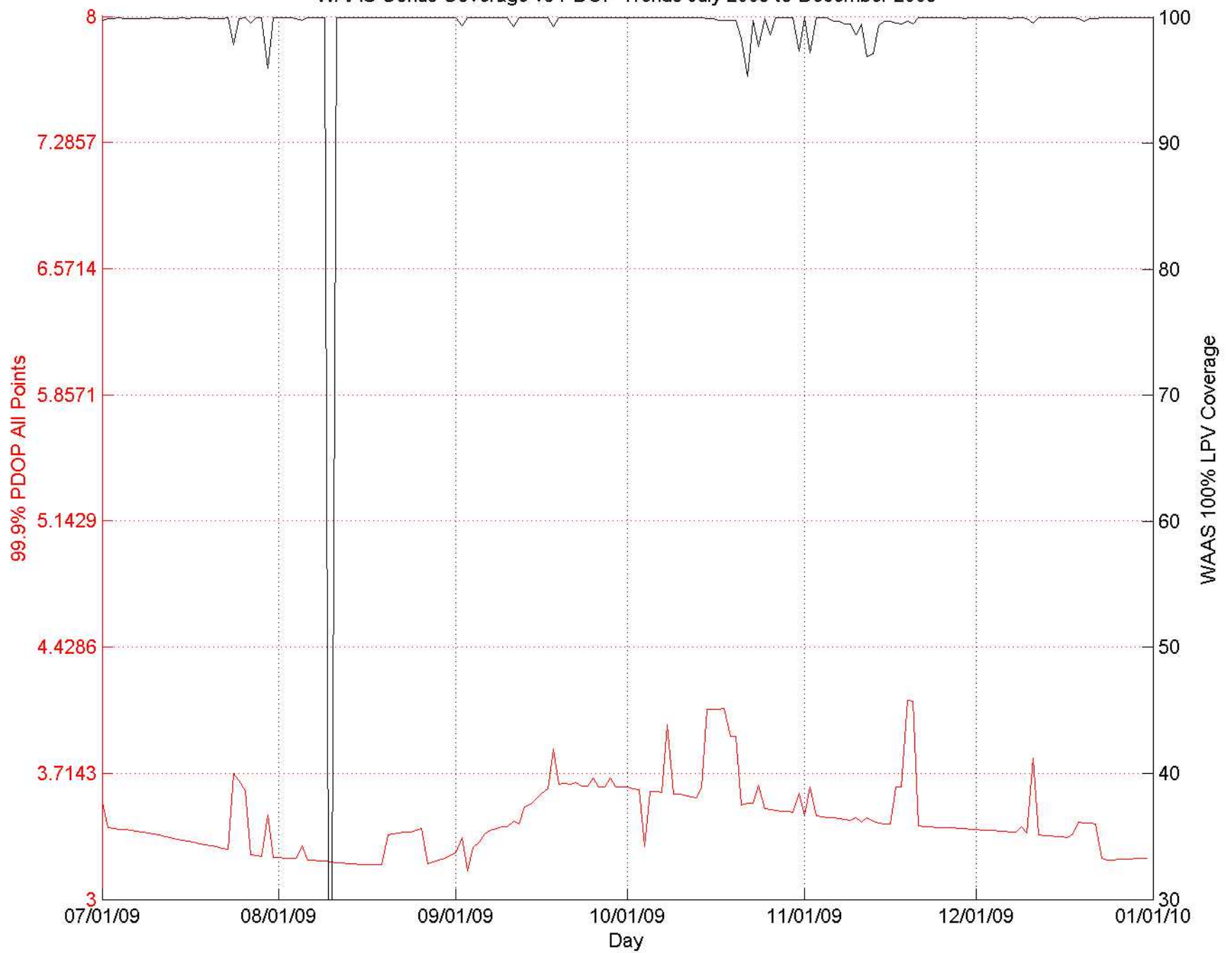
GPS World PDOP 99.99% Index December 2009



PDOP Trends July 2009 thru December 2009



WAAS Conus Coverage vs PDOP Trends July 2009 to December 2009



Six Satellite Availability Trends July 2009 thru December 2009

