

# Civil Report Card On GPS Performance

## June 2010

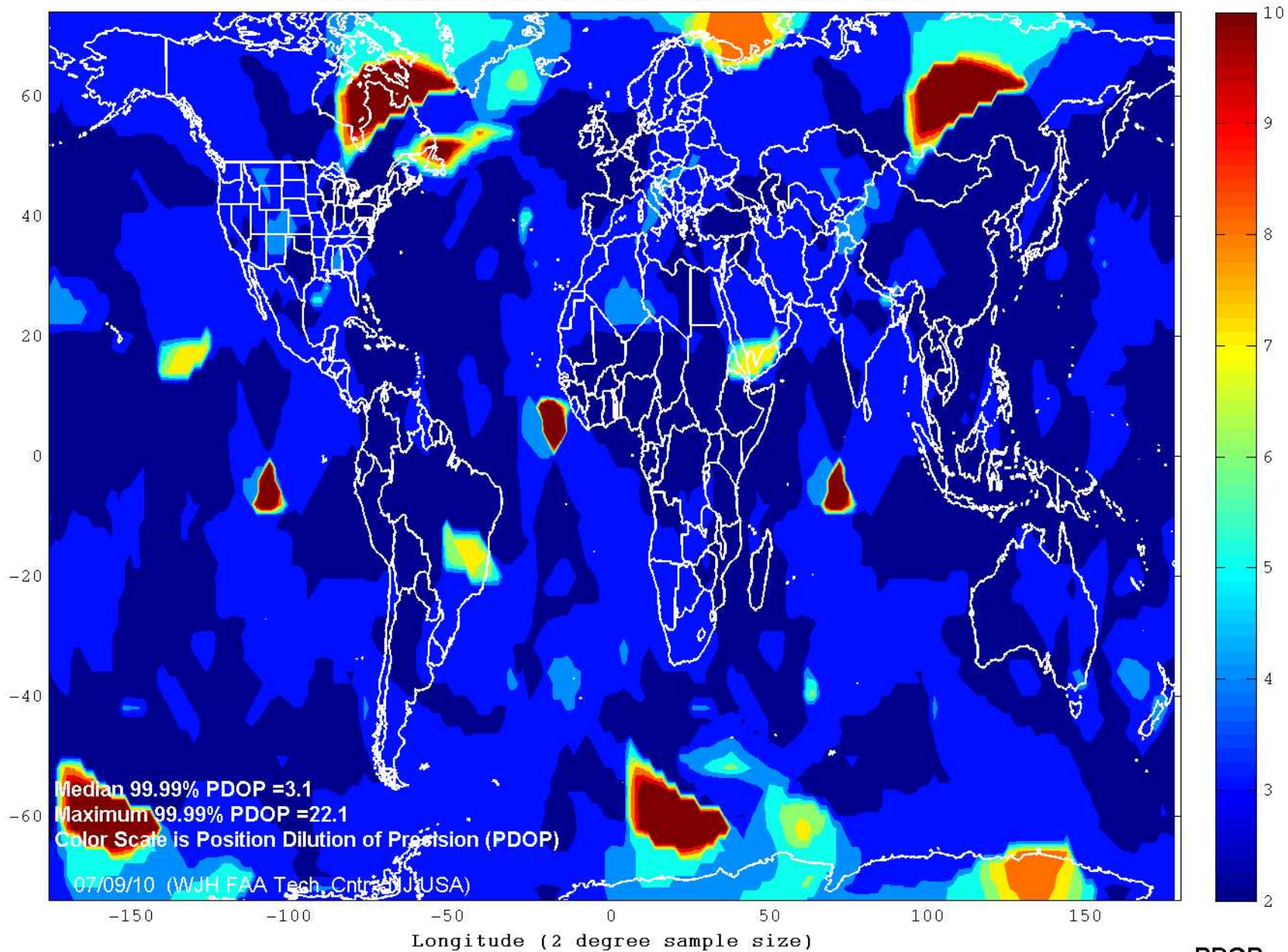
| Operational Performance Parameter                           | CY 2009           | May 2010          | June 2010         | Long term | Short term |
|-------------------------------------------------------------|-------------------|-------------------|-------------------|-----------|------------|
| <b>Availability Parameters</b>                              |                   |                   |                   |           |            |
| <i>Average Number of satellites usable</i>                  | 30.85             | 30.81             | 30.99             | ↑         | ↑          |
| <i>Average number of satellites usable in primary slots</i> | 23.90<br>(99.59%) | 23.93<br>(99.72%) | 23.99<br>(99.94%) | ↑         | ↑          |
| <i>Average availability of 6 satellites in view</i>         | 99.99%            | 99.99%            | 99.99%            | →         | →          |
| <b>99.99% Horizontal DOP</b>                                |                   |                   |                   |           |            |
| <i>Area Median</i>                                          | 1.7               | 1.7               | 1.6               | ↑         | ↑          |
| <i>Worst Site</i>                                           | 4.8               | 63.6              | 6.2               | ↓         | ↑          |
| <b>99.99% Vertical DOP</b>                                  |                   |                   |                   |           |            |
| <i>Area Median</i>                                          | 3.1               | 3.1               | 2.7               | ↑         | ↑          |
| <i>Worst Site</i>                                           | 12.0              | 153.7             | 22.0              | ↓         | ↑          |
| <b>99.99% Position DOP (PDOP)</b>                           |                   |                   |                   |           |            |
| <i>Area Median</i>                                          | 3.5               | 3.5               | 3.1               | ↑         | ↑          |
| <i>Worst Site</i>                                           | 12.8              | 166.3             | 22.1              | ↓         | ↑          |
| <b>Accuracy Parameters</b>                                  |                   |                   |                   |           |            |
| <b>RMS Single Frequency User Range Error</b>                |                   |                   |                   |           |            |
| <i>Constellation Median</i>                                 | 1.67              | 1.57              | 1.49              | ↑         | ↑          |
| <i>Worst Satellite</i>                                      | 2.26              | 1.98              | 2.19              | ↑         | ↓          |
| <b>95% Horizontal Error</b>                                 |                   |                   |                   |           |            |
| <i>Area Median</i>                                          | 2.10              | 2.43              | 2.12              | ↓         | ↑          |
| <i>Worst Site</i>                                           | 3.95              | 4.28              | 2.85              | ↑         | ↑          |
| <i>Availability (% &lt;4.5m (historical 3-sigma))</i>       | 99.80%            | 99.52%            | 99.89%            | ↑         | ↑          |
| <b>95% Vertical Error</b>                                   |                   |                   |                   |           |            |
| <i>Area Median</i>                                          | 4.11              | 3.68              | 3.61              | ↑         | ↓          |
| <i>Worst Site</i>                                           | 5.97              | 4.71              | 4.42              | ↑         | ↑          |
| <i>Availability (% &lt; 9m (historical 3-sigma))</i>        | 99.98%            | 99.96%            | 99.96%            | ↑         | →          |

Key: ↑ improving ↓ worsening → no significant change

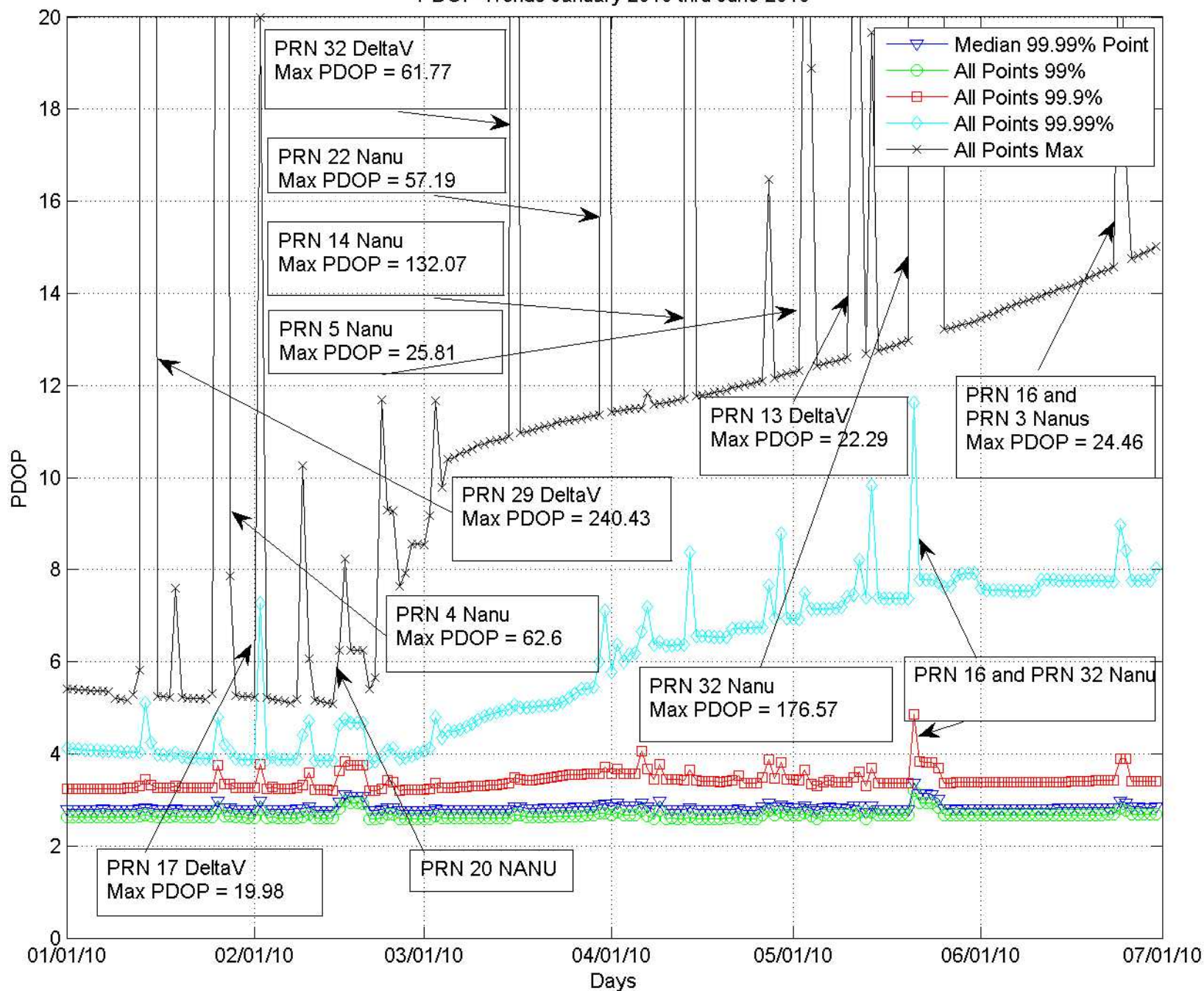
Long Term is current month vs. prior 24 months; Short Term is current month vs. prior month

Compiled from WAAS network as requested by the Defense Science Board

# GPS World PDOP 99.99% Index June 2010

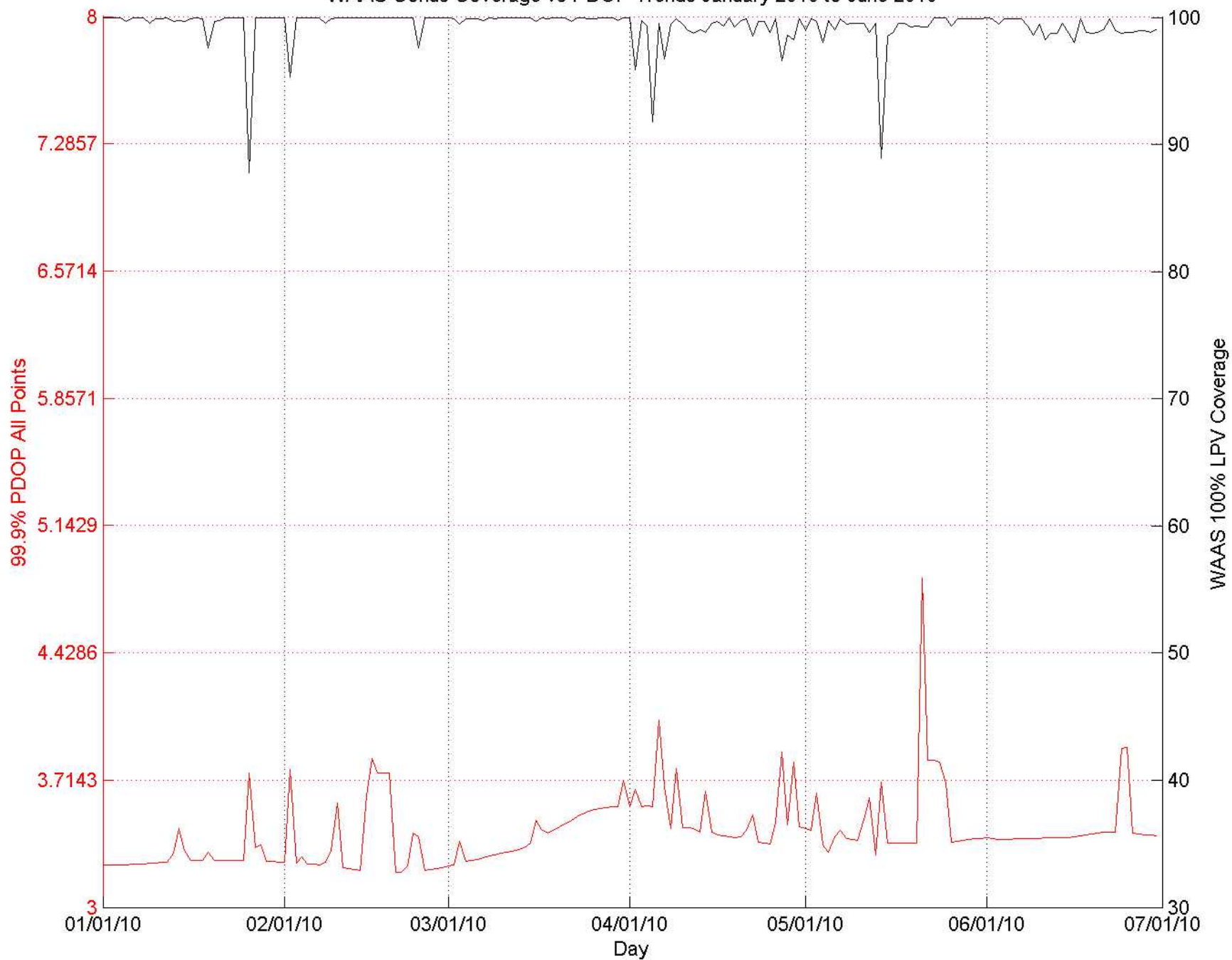


PDOP Trends January 2010 thru June 2010





WAAS Conus Coverage vs PDOP Trends January 2010 to June 2010



Six Satellite Availability Trends January 2010 thru June 2010

