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## Service Volume and Stations

<table>
<thead>
<tr>
<th>Service Volume</th>
<th>Station</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Boston, Washington, New York</td>
</tr>
<tr>
<td>1</td>
<td>Memphis, Atlanta</td>
</tr>
<tr>
<td>2</td>
<td>Jacksonville, Miami, San Juan</td>
</tr>
<tr>
<td>5</td>
<td>Indianapolis, Cleveland</td>
</tr>
<tr>
<td>6</td>
<td>Chicago, Kansas City, Minneapolis</td>
</tr>
</tbody>
</table>
## Service Volume and Stations

<table>
<thead>
<tr>
<th>Service Volume</th>
<th>Station</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Albuquerque</td>
</tr>
<tr>
<td></td>
<td>Fort Worth</td>
</tr>
<tr>
<td></td>
<td>Houston</td>
</tr>
<tr>
<td></td>
<td>Golf of Mexico</td>
</tr>
<tr>
<td>10</td>
<td>Denver</td>
</tr>
<tr>
<td></td>
<td>Salt Lake City</td>
</tr>
<tr>
<td></td>
<td>Seattle</td>
</tr>
<tr>
<td>11</td>
<td>Los Angeles</td>
</tr>
<tr>
<td></td>
<td>Oakland</td>
</tr>
<tr>
<td>15</td>
<td>Alaska</td>
</tr>
<tr>
<td></td>
<td>Juneau</td>
</tr>
<tr>
<td>16</td>
<td>Honolulu</td>
</tr>
<tr>
<td>17</td>
<td>Guam</td>
</tr>
</tbody>
</table>
USA Operational Radio Stations

ADS-B data Unique Aircraft & total of ASE segments

Year | Unique Aircraft | Segments |
--- | --- | --- |
2014 | 1919 | 829703 |
2015 | 3203 | 1522499 |
2016 | 6441 | 3417113 |
Data Report

- Quarterly Report for 2016

- 1st Quarter (Jan, Feb, Mar)
  - 590,971 Segments with an ASE
  - 3,053 Unique Aircraft

- 2nd Quarter (Apr, May, Jun)
  - 720,547 Segments with an ASE
  - 4,066 Unique Aircraft
Data Report

- Quarterly Report for 2016

- 3rd Quarter (Jul, Aug, Sep)
  - 835,824 Segments with an ASE
  - 4,294 Unique Aircraft

- 4th Quarter (Oct, Nov, Dec)
  - 969,771 Segments with an ASE
  - 4,969 Unique Aircraft
Data Report

- Currently getting more than 1,000 individual Aircraft daily
- Around 350 GB of zip data per month
- The week of Jan 15 – Jan 20, 2017
  - 93,886 Segments
  - 3,157 Unique Aircraft
- The week of May 14 – May 21, 2017
  - 60,676 Segments
  - 3,138 Unique Aircraft
- The week of Sep 01 – Sep 07, 2017 *
  - 34,733 Segments
  - 2,918 Unique Aircraft
Population of ADS-B ASE Measurements

Overall bias of approximately -75ft.
MD-11 bias of approximately 0ft.
B744 bias of approximately -100ft.
Comparison of AHGME and ADS-B

Example ASE Measurement (1)
Comparison of AHGME and ADS-B Example ASE Measurement (2)
Aircraft on 4-Aug-15

• LOA on 31-Mar-15

<table>
<thead>
<tr>
<th>Date</th>
<th>Count of ASE Segments</th>
</tr>
</thead>
<tbody>
<tr>
<td>21-Jul-15</td>
<td>1</td>
</tr>
<tr>
<td>27-Jul-15</td>
<td>3</td>
</tr>
<tr>
<td>4-Aug-15</td>
<td>12</td>
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<td>17-Aug-15</td>
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<tr>
<td>12-Sep-15</td>
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</tr>
<tr>
<td>13-Sep-15</td>
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</tr>
<tr>
<td>16-Sep-15</td>
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<tr>
<td>29-Sep-15</td>
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<tr>
<td>1-Oct-15</td>
<td>3</td>
</tr>
<tr>
<td>2-Oct-15</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>39</strong></td>
</tr>
</tbody>
</table>

• 469 ADS-B Aircraft ON 04-AUG-15

[Map showing flight paths with dates and times]
ADS-B Plot

Flight 1468 Boston to Phoenix
ADS-B Plot

Level Flight  AAL1468

Date Time

Altitude

Flight Level FDA Pressure Altitude  Flight Level FDA GNSS Ititude  MetData Pressure Altitude  Flight Level SWIM Altitude
ADS-B Plot

Level Flight  AAL1468

Altitude

Date Time

Flight Level FDA Pressure Altitude  Flight Level FDA GNSS Altitude  MetData Pressure Altitude  Flight Level SWIM Altitude

FAA  NextGEN
Level Flight AAL1468

- Flight Level FDA Pressure Altitude
- Flight Level FDA GNSS Altitude
- MetData Pressure Altitude
- Flight Level SWIM Altitude
ADS-B Plot

Flight 423 New York to Los Angeles
Level Flight DAL423

- Flight Level FDA Pressure Altitude
- Flight Level FDA GNSS Altitude
- MetData Pressure Altitude
- Flight Level SWIM Altitude
ADS-B Plot

Flight 619 Boston to San Diego
ADS-B Plot

Level Flight JBU619

Altitude

Date Time

Flight Level FDA Pressure Altitude  Flight Level FDA GNSS Altitude  MetData Pressure Altitude  Flight Level SWIM Altitude
Factors to be Consider for Quality Control

- Aircraft type performance at Different FL
- Aircraft type performance during Ascending & Descending
- Aircraft type performance at Different Speed