**Table S1.** Statistical assessment of hourly average PurpleAir PM2.5 at selected sites for the years 2016 and 2022 at FEM/FRM

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Site Name and AQS ID, POC** | **PurpleAir Sensor Index** | **Distance, mts** | **Dates Duration**  |  **Num. of Paired Observation (#)** | **R2** | **Mean Bias (µg/m3)** | **RMSE** |
| Thousand Oaks 061110007, 3 | 12741 | 0.14 | 7/9/18 to 11/10/21 | 20,905 | 0.61 | 3.99 | 7.93 |
| Arroyo Grande 060792007, 1 | 16741 | 7.16 | 9/29/18 to 5/14/22 | 21,257 | 0.28 | 2.47 | 10.48 |
| Arroyo Grande 060792007, 1 | 6816 | 9.51 | 1/30/18 to 1/6/19 | 4,861 | 0.23 | 3.24 | 11.42 |
| Bishop-Line 060270002, 1 | 17107 | 7.89 | 10/2/18 to 10/8/21 | 22,099 | 0.83 | -1.9 | 9.89 |
| Corcoran 060310004, 8 | 104104 | 6.78 | 4/14/21 to 6/30/22 | 6,690 | 0.69 | 10.25 | 18.94 |
| El Rio-Rio Mesa Schl. 061113001, 3 | 9594 | 0.18 | 4/2/18 to 8/31/22 | 30,798 | 0.5 | 3.5 | 7.85 |
| Fresno-Garland 060190011, 3 | 22305 | 6.62 | 12/13/18 to 1/17/21 | 16,222 | 0.8 | 6.19 | 13.16 |
| Fresno-Garland 060190011, 3 | 2358 | 1.87 | 7/31/17 to 12/9/19 | 17,194 | 0.83 | 5.71 | 11.85 |
| Fresno-Garland 060190011, 3 | 6558 | 8.68 | 1/25/18 to 12/12/18 | 3,729 | 0.85 | 2.96 | 9.28 |
| Fresno-Garland 060190011, 4 | 22305 | 6.62 | 12/13/18 to 12/31/20 | 15,893 | 0.81 | 5.38 | 12.46 |
| Fresno-Garland 060190011, 4 | 2358 | 1.87 | 7/31/17 to 12/9/19 | 17,016 | 0.83 | 6.98 | 12.58 |
| Fresno-Garland 060190011, 4 | 6558 | 8.68 | 1/25/18 to 12/12/18 | 3,739 | 0.85 | 6.6 | 10.72 |
| Goleta-Fairview 060832011, 1 | 16705 | 0 | 9/29/18 to 6/30/22 | 28,532 | 0.56 | 3.44 | 6.93 |
| Hanford 060311004, 3 | 104246 | 17.59 | 4/15/21 to 6/30/22 | 6,578 | 0.73 | 10.61 | 18.6 |
| Lancaster 060379033, 1 | 8290 | 18.28 | 3/8/18 to 8/24/20 | 18,658 | 0.51 | 0.03 | 5.64 |
| Lancaster 060379033, 1 | 8306 | 18.28 | 3/8/18 to 6/30/22 | 11,712 | 0.51 | -1.2 | 6.58 |
| Long Beach 060374008, 3 | 104940 | 6.63 | 4/24/21 to 3/14/22 | 7,501 | 0.62 | 3.37 | 9.25 |
| Long Beach 060374008, 3 | 5016 | 2.53 | 11/28/17 to 3/14/22 | 27,090 | 0.55 | 3.52 | 9.98 |
| Lompoc 060832004, 1 | 16703 | 0 | 9/29/18 to 6/30/22 | 28,482 | 0.6 | 2.14 | 6.21 |
| Madera 060392010, 3 | 104254 | 1.58 | 7/9/21 to 4/30/22 | 5,205 | 0.67 | 12.76 | 18.14 |
| Manteca 060772010, 3 | 104108 | 5.87 | 4/14/21 to 2/12/22 | 2,090 | 0.67 | 13.01 | 20.32 |
| Merced 060470003, 3 | 104208 | 7.42 | 4/15/21 to 1/24/22 | 2,181 | 0.7 | 15.67 | 21.23 |
| Mammoth Lakes 060510001, 6 | 17105 | 11.32 | 12/20/18 to 5/31/19 | 3,793 | 0.9 | -0.16 | 5.64 |
| Modesto 060990005, 3 | 13489 | 4.23 | 7/18/18 to 6/30/22 | 10,267 | 0.75 | 1.26 | 11.64 |
| Modesto 060990005, 3 | 2368 | 0.58 | 7/31/17 to 6/30/22 | 27,836 | 0.83 | 3.67 | 9.83 |
| Ojai 061111004, 3 | 48393 | 0.35 | 2/26/20 to 8/31/22 | 20,756 | 0.55 | 1.82 | 6.05 |
| Ontario 060710027, 3 | 5276 | 12.43 | 6/8/18 to 3/9/22 | 12,983 | 0.67 | 1.65 | 8.54 |
| Piru 061110009, 3 | 12288 | 6.84 | 6/28/18 to 8/2/22 | 27,803 | 0.54 | 1.52 | 6.52 |
| San Jose 060850005, 3 | 146592 | 9.91 | 4/13/22 to 8/18/22 | 2,753 | 0.25 | -3.86 | 5.74 |
| Simi Valley 061112002, 3 | 12743 | 0.64 | 7/9/18 to 8/31/22 | 30,151 | 0.66 | 2.6 | 7.03 |
| Simi Valley 061112002, 4 | 12743 | 0.64 | 7/9/18 to 8/31/22 | 30,108 | 0.64 | 3.11 | 7.32 |
| Santa Maria 060831008, 3 | 16701 | 3.34 | 9/29/18 to 2/4/21 | 16,931 | 0.63 | 2.78 | 7.14 |
| Stockton 060771002, 3 | 44707 | 19.61 | 12/20/19 to 11/1/21 | 5,393 | 0.45 | 2.48 | 12.73 |
| Stockton 060771002, 4 | 44707 | 19.61 | 1/20/20 to 2/20/20 | 717 | 0.29 | 19.76 | 24.45 |
| Victorville 060710306, 1 | 8338 | 15.16 | 3/8/18 to 6/30/22 | 34,918 | 0.4 | -1.55 | 7.25 |
| Victorville 060710306, 2 | 8338 | 15.16 | 3/8/18 to 6/30/22 | 34,655 | 0.44 | -1.98 | 6.95 |

**Table S2.** Statistical assessment of hourly average PurpleAir PM2.5 at selected sites for the years 2016 and 2022 at non-FEM/FRM sites

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Site Name and AQS ID, POC** | **PurpleAir Sensor Index** | **Distance, mts** | **Dates Duration**  |  **Num. of Paired Observation (#)** | **R2**  | **Mean Bias (µg/m3)** | **RMSE** |
| Bakersfield 060290014, 3 | 13473 | 0.6 | 7/18/18 to 10/25/21 | 3,531 | 0.76 | 3.1 | 9.4 |
| Bakersfield 060290014, 3 | 2350 | 0.6 | 7/31/17 to 3/8/22 | 34,583 | 0.73 | 4.3 | 11.7 |
| Calexico-Ethel Street 060250005, 3 | 1174 | 0.0 | 10/24/17 to 2/19/18 | 2,486 | 0.89 | 3.5 | 11.6 |
| Eureka-Humboldt Hill 060231005, 1 | 12929 | 15.9 | 7/31/18 to 12/31/18 | 2,717 | 0.27 | 1.1 | 15.1 |
| Riverside 060658001, 9 | 1854 | 8.5 | 7/10/17 to 12/31/19 | 14,604 | 0.69 | 5.7 | 9.7 |
| Riverside 060658001, 9 | 2612 | 9.0 | 8/7/17 to 12/31/19 | 19,132 | 0.73 | 4.6 | 9.0 |
| Riverside 060658001, 9 | 4731 | 11.2 | 11/22/17 to 3/1/19 | 5,686 | 0.76 | 5.2 | 9.7 |
| Riverside 060658001, 9 | 4748 | 10.3 | 11/22/17 to 12/31/19 | 12,614 | 0.72 | 4.4 | 8.6 |
| Riverside 060658001, 9 | 5280 | 14.8 | 12/12/17 to 12/31/19 | 13,888 | 0.73 | 4.4 | 8.6 |
| Riverside 060658001, 9 | 5284 | 17.2 | 12/12/17 to 12/31/19 | 13,815 | 0.73 | 3.8 | 8.1 |
| Riverside 060658001, 9 | 6806 | 18.4 | 1/30/18 to 12/31/19 | 11,599 | 0.68 | 5.0 | 9.0 |
| Sacramento-T Street 060670010, 3 | 1208 | 11.9 | 10/20/17 to 11/16/17 | 536 | 0.65 | 4.6 | 7.6 |
| Sacramento-T Street 060670010, 3 | 13369 | 13.1 | 7/17/18 to 9/1/20 | 8,824 | 0.79 | 4.6 | 11.6 |
| Sacramento-T Street 060670010, 3 | 13373 | 13.1 | 7/17/18 to 9/1/20 | 8,909 | 0.80 | 4.1 | 11.2 |
| Sacramento-T Street 060670010, 3 | 13391 | 13.1 | 7/17/18 to 8/31/20 | 8,896 | 0.82 | 4.2 | 11.0 |
| Sacramento-T Street 060670010, 3 | 13413 | 13.1 | 7/17/18 to 9/1/20 | 8,801 | 0.79 | 3.6 | 9.2 |
| Sacramento-T Street 060670010, 3 | 13421 | 13.1 | 7/17/18 to 9/1/20 | 8,881 | 0.80 | 3.9 | 10.5 |
| Sacramento-T Street 060670010, 3 | 13447 | 13.1 | 7/17/18 to 8/31/20 | 9,412 | 0.80 | 3.9 | 10.7 |
| Sacramento-T Street 060670010, 3 | 16599 | 13.1 | 9/28/18 to 8/31/20 | 8,897 | 0.80 | 3.9 | 10.4 |
| Sacramento-T Street 060670010, 3 | 16603 | 13.1 | 9/28/18 to 9/1/20 | 8,830 | 0.80 | 3.8 | 11.0 |
| Sacramento-T Street 060670010, 3 | 16605 | 13.1 | 9/28/18 to 8/31/20 | 8,911 | 0.81 | 4.1 | 11.3 |
| Sacramento-T Street 060670010, 3 | 16619 | 13.1 | 9/28/18 to 8/31/20 | 8,896 | 0.79 | 4.3 | 11.4 |
| Sacramento-T Street 060670010, 3 | 16627 | 13.1 | 9/28/18 to 8/31/20 | 8,922 | 0.80 | 3.9 | 10.6 |
| Sacramento-T Street 060670010, 3 | 16633 | 13.1 | 9/28/18 to 9/1/20 | 8,943 | 0.80 | 4.4 | 11.6 |
| Sacramento-T Street 060670010, 3 | 16639 | 13.1 | 9/28/18 to 8/31/20 | 8,874 | 0.79 | 4.1 | 11.2 |
| Sacramento-T Street 060670010, 3 | 16643 | 13.1 | 9/28/18 to 8/31/20 | 8,986 | 0.80 | 4.1 | 10.7 |
| Sacramento-T Street 060670010, 3 | 16645 | 13.1 | 9/28/18 to 8/31/20 | 9,191 | 0.80 | 3.9 | 10.9 |
| Sacramento-T Street 060670010, 3 | 18819 | 2.8 | 11/8/18 to 9/4/20 | 1,543 | 0.81 | 7.2 | 20.9 |
| Sacramento-T Street 060670010, 3 | 18825 | 5.2 | 7/7/20 to 9/4/20 | 1,371 | 0.84 | 8.0 | 20.8 |
| Sacramento-T Street 060670010, 3 | 18827 | 4.6 | 11/8/18 to 8/28/20 | 1,117 | 0.79 | 6.9 | 21.8 |
| Sacramento-T Street 060670010, 3 | 18835 | 9.8 | 11/8/18 to 8/27/20 | 1,190 | 0.80 | 5.0 | 18.9 |
| Sacramento-T Street 060670010, 3 | 18851 | 8.8 | 11/8/18 to 8/27/20 | 1,352 | 0.79 | 4.6 | 17.8 |
| Sacramento-T Street 060670010, 3 | 18857 | 11.0 | 11/8/18 to 8/27/20 | 1,351 | 0.79 | 4.2 | 17.5 |
| Sacramento-T Street 060670010, 3 | 18865 | 9.3 | 11/8/18 to 8/26/20 | 1,422 | 0.79 | 4.3 | 18.4 |
| Sacramento-T Street 060670010, 3 | 18869 | 3.7 | 11/8/18 to 8/27/20 | 1,442 | 0.78 | 3.5 | 16.8 |
| Sacramento-T Street 060670010, 3 | 18871 | 10.3 | 11/8/18 to 8/26/20 | 1,435 | 0.79 | 4.5 | 17.1 |
| Sacramento-T Street 060670010, 3 | 18873 | 3.1 | 11/8/18 to 8/26/20 | 1,419 | 0.79 | 3.3 | 16.1 |
| Sacramento-T Street 060670010, 3 | 18879 | 10.3 | 11/8/18 to 8/20/20 | 1,469 | 0.78 | 2.0 | 9.2 |
| Sacramento-T Street 060670010, 3 | 21613 | 5.5 | 12/11/18 to 6/25/20 | 3,548 | 0.77 | 2.3 | 6.9 |
| Sacramento-T Street 060670010, 3 | 21651 | 5.5 | 12/11/18 to 6/19/20 | 3,405 | 0.77 | 2.5 | 7.1 |
| Sacramento-T Street 060670010, 3 | 21667 | 5.5 | 12/11/18 to 6/19/20 | 3,329 | 0.79 | 2.1 | 6.2 |
| Sacramento-T Street 060670010, 3 | 21681 | 5.5 | 12/11/18 to 6/19/20 | 3,291 | 0.79 | 2.2 | 6.3 |
| Sacramento-T Street 060670010, 3 | 21683 | 5.5 | 12/11/18 to 6/19/20 | 3,336 | 0.77 | 2.7 | 7.1 |
| Sacramento-T Street 060670010, 3 | 21691 | 5.5 | 12/11/18 to 6/19/20 | 3,386 | 0.77 | 2.2 | 6.8 |
| Sacramento-T Street 060670010, 3 | 21734 | 5.5 | 12/11/18 to 7/7/20 | 3,868 | 0.72 | 2.3 | 6.7 |
| Sacramento-T Street 060670010, 3 | 21741 | 5.5 | 12/11/18 to 6/19/20 | 2,356 | 0.56 | -0.7 | 5.3 |
| Sacramento-T Street 060670010, 3 | 21743 | 5.5 | 12/11/18 to 6/19/20 | 3,363 | 0.79 | 2.7 | 6.7 |
| Sacramento-T Street 060670010, 3 | 21753 | 5.5 | 12/11/18 to 6/25/20 | 3,518 | 0.76 | 2.8 | 7.8 |
| Sacramento-T Street 060670010, 3 | 21767 | 5.5 | 12/11/18 to 6/19/20 | 3,333 | 0.78 | 2.1 | 6.3 |
| Sacramento-T Street 060670010, 3 | 21787 | 5.5 | 12/11/18 to 6/25/20 | 3,558 | 0.77 | 2.4 | 6.8 |
| Sacramento-T Street 060670010, 3 | 21792 | 5.5 | 12/11/18 to 6/19/20 | 3,310 | 0.79 | 2.0 | 6.0 |
| Sacramento-T Street 060670010, 3 | 21835 | 5.5 | 12/11/18 to 6/19/20 | 3,316 | 0.78 | 1.9 | 6.4 |
| Sacramento-T Street 060670010, 3 | 21863 | 5.5 | 12/12/18 to 8/1/20 | 3,887 | 0.70 | 2.5 | 7.3 |
| Sacramento-T Street 060670010, 3 | 21871 | 5.5 | 12/12/18 to 6/19/20 | 3,314 | 0.79 | 2.2 | 6.2 |
| Sacramento-T Street 060670010, 3 | 21873 | 5.5 | 12/12/18 to 6/19/20 | 3,389 | 0.78 | 2.7 | 7.2 |
| Sacramento-T Street 060670010, 3 | 21875 | 5.5 | 12/12/18 to 6/19/20 | 3,448 | 0.78 | 2.1 | 6.7 |
| Sacramento-T Street 060670010, 3 | 53637 | 10.2 | 4/24/20 to 12/11/20 | 2,389 | 0.87 | 8.3 | 17.3 |
| Sacramento-T Street 060670010, 3 | 53769 | 9.0 | 4/27/20 to 12/11/20 | 2,378 | 0.91 | 7.7 | 14.0 |
| Sacramento-T Street 060670010, 3 | 53777 | 15.8 | 4/27/20 to 12/11/20 | 2,323 | 0.89 | 12.2 | 21.0 |
| Sacramento-T Street 060670010, 3 | 58715 | 6.1 | 7/7/20 to 8/20/20 | 1,043 | 0.85 | 1.0 | 9.3 |
| Sacramento-T Street 060670010, 3 | 8246 | 1.4 | 6/14/18 to 12/11/20 | 17,724 | 0.91 | 5.1 | 12.2 |
| Sacramento-T Street 060670010, 3 | 8396 | 6.1 | 3/9/18 to 12/11/20 | 20,709 | 0.91 | 5.2 | 13.1 |
| Sacramento-T Street 060670010, 3 | 8408 | 17.4 | 3/9/18 to 12/11/20 | 20,293 | 0.78 | 4.1 | 9.7 |
| Sacramento-T Street 060670010, 3 | 8414 | 2.1 | 3/9/18 to 12/11/20 | 20,799 | 0.90 | 5.0 | 11.5 |
| Sacramento-T Street 060670010, 3 | 8422 | 15.8 | 3/9/18 to 12/11/20 | 20,958 | 0.90 | 5.0 | 12.0 |
| Sacramento-T Street 060670010, 3 | 8424 | 6.1 | 9/14/19 to 12/11/20 | 9,574 | 0.86 | 5.5 | 12.0 |
| Sacramento-T Street 060670010, 3 | 8432 | 2.1 | 3/9/18 to 10/28/20 | 19,490 | 0.92 | 5.0 | 12.6 |
| Sacramento-T Street 060670010, 3 | 8440 | 2.1 | 2/2/19 to 12/11/20 | 14,797 | 0.86 | 4.2 | 10.2 |
| South Long Beach 060374004, 3 | 21893 | 18.9 | 12/12/18 to 3/1/19 | 407 | 0.54 | 3.7 | 11.3 |
| South Long Beach 060374004, 3 | 21895 | 16.1 | 12/12/18 to 3/1/19 | 360 | 0.76 | 3.6 | 7.9 |
| South Long Beach 060374004, 3 | 21897 | 15.3 | 12/12/18 to 3/1/19 | 407 | 0.50 | 3.0 | 11.0 |
| South Long Beach 060374004, 3 | 21899 | 10.4 | 12/12/18 to 3/1/19 | 410 | 0.48 | 3.0 | 11.2 |
| South Long Beach 060374004, 3 | 21901 | 17.4 | 12/12/18 to 3/11/19 | 456 | 0.48 | 3.5 | 10.7 |
| South Long Beach 060374004, 3 | 21907 | 16.6 | 12/12/18 to 3/1/19 | 408 | 0.55 | 2.9 | 10.5 |
| South Long Beach 060374004, 3 | 21909 | 18.3 | 12/12/18 to 3/1/19 | 403 | 0.51 | 3.2 | 11.4 |
| South Long Beach 060374004, 3 | 21919 | 18.4 | 12/12/18 to 3/1/19 | 407 | 0.74 | 3.1 | 7.9 |
| South Long Beach 060374004, 3 | 21921 | 7.8 | 12/12/18 to 3/1/19 | 406 | 0.53 | 3.0 | 11.0 |
| South Long Beach 060374004, 3 | 21937 | 13.6 | 12/12/18 to 3/1/19 | 408 | 0.70 | 2.9 | 7.9 |
| South Long Beach 060374004, 3 | 21951 | 16.8 | 12/12/18 to 3/1/19 | 407 | 0.68 | 3.3 | 9.0 |
| South Long Beach 060374004, 3 | 21955 | 17.4 | 12/12/18 to 3/1/19 | 408 | 0.44 | 3.8 | 13.3 |
| South Long Beach 060374004, 3 | 21959 | 16.1 | 12/12/18 to 3/1/19 | 407 | 0.51 | 3.3 | 11.1 |
| South Long Beach 060374004, 3 | 21971 | 15.3 | 12/12/18 to 3/1/19 | 408 | 0.46 | 3.3 | 12.1 |
| South Long Beach 060374004, 3 | 21975 | 14.4 | 12/12/18 to 3/1/19 | 405 | 0.43 | 3.4 | 13.0 |
| South Long Beach 060374004, 3 | 21979 | 15.2 | 12/12/18 to 3/1/19 | 405 | 0.51 | 2.7 | 10.9 |
| South Long Beach 060374004, 3 | 6848 | 6.9 | 1/31/18 to 3/16/19 | 3,094 | 0.62 | -1.4 | 5.2 |
| Yosemite Village 060431001, 3 | 50601 | 6.9 | 8/28/20 to 6/30/22 | 10,290 | 0.92 | -0.8 | 13.5 |

**Table S3.** ANOVA statistics year wise over San Diego

|  |
| --- |
| **ANOVA** |
| PM2.5 | Sum of Squares | df | Mean Square | F | Sig. |
| Between Groups |  9,643 |  2 |  4,821 |  54 | 0.0 |
| Within Groups |  700,824 |  7,799 | 90 |   |   |
| Total |  710,467 |  7,801 |   |   |   |

**Table S4.** Multi-comparison for different years using Tukey’s Test over San Diego

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Year |   | Mean Difference | Std. Error | Sigma | 99% Confidence Interval |
|   |   |   |   |   | Lower Bound | Upper Bound |
| 2019 | 2018 | -1.9 | 0.2 | 0.0 | -2.6 | -1.2 |
| 2017 | -4.6 | 0.6 | 0.0 | -6.6 | -2.6 |
| 2018 | 2019 | 1.9 | 0.2 | 0.0 | 1.2 | 2.6 |
| 2017 | -2.6 | 0.6 | 0.0 | -4.6 | -0.6 |
| 2017 | 2019 | 4.6 | 0.6 | 0.0 | 2.6 | 6.6 |
| 2018 | 2.6 | 0.6 | 0.0 | 0.6 | 4.6 |

**Table S5.** ANOVA statistics year wise over SJV

|  |
| --- |
| **ANOVA** |
| PM2.5 | Sum of Squares | df | Mean Square | F | Sig. |
| Between Groups |  633,439 | 3 |  211146 |  697 | 0.0 |
| Within Groups |  11,283,912 | 37.229 |  303 |   |   |
| Total |  11,917,351 | 37,232 |   |   |   |

**Table S6.** Multi-comparison for different years using Tukey’s Test over SJV

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Year |   | Mean Difference | Std. Error | Sigma | 99% Confidence Interval |
|   |   |   |   |   | Lower Bound | Upper Bound |
| 2019  | 2018 | -7.6 | 0.1 | 0.0 | -8.2 | -7.0 |
| 2017 | -13.5 | 0.4 | 0.0 | -14.9 | -12.0 |
|  2018 | 2016 | -17.2 | 3.2 | 0.0 | -27.3 | -7.1 |
| 2019 | 7.6 | 0.1 | 0.0 | 7.0 | 8.2 |
|    | 2017 | -5.8 | 0.4 | 0.0 | -7.3 | -4.3 |
| 2016 | -9.5 | 3.2 | 0.01 | -19.6 | 0.4 |
| 2017 | 2019 | 13.5 | 0.4 | 0.0 | 12.0 | 14.9 |
|   | 2018 | 5.8 | 0.4 | 0.0 | 4.3 | 7.3 |
|   | 2016 | -3.7 | 3.2 | 0.6 | -13.9 | 6.4 |
| 2016 | 2019 | 17.2 | 3.2 | 0.0 | 7.1 | 27.3 |
|   | 2018 | 9.5 | 3.2 | 0.0 | -0.4 | 19.6 |
|   | 2017 | 3.7 | 3.2 | 0.6 | -6.4 | 13.9 |

**Table S7.** ANOVA statistics year wise over South Coast

|  |
| --- |
| **ANOVA** |
| PM2.5 | Sum of Squares | df | Mean Square | F | Sig. |
| Between Groups |  327,905 | 3 |  109,302 |  812 | 0.0 |
| Within Groups |  33,374,015 | 248061 |  135 |   |   |
| Total |  33,701,920 | 248064 |   |   |   |

**Table S8.** Multi-comparison for different years using Tukey’s Test over South Coast

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Year |   | Mean Difference | Std. Error | Sigma | 99% Confidence Interval |
|   |   |   |   |   | Lower Bound | Upper Bound |
| 2019  | 2018 | -1.8 | 0.0 | 0.0 | -1.9 | -1.6 |
| 2017 | -3.3 | 0.0 | 0.0 | -3.5 | -3.0 |
|  2018 | 2016 | -1.6 | 0.2 | 0.0 | -2.4 | -0.8 |
| 2019 | 1.8 | 0.0 | 0.0 | 1.6 | 1.9 |
|    | 2017 | -1.5 | 0.0 | 0.0 | -1.7 | -1.2 |
| 2016 | 0.1 | 0.2 | 0.9 | -0.6 | 0.9 |
| 2017   | 2019 | 3.3 | 0.0 | 0.0 | 3.0 | 3.5 |
| 2018 | 1.5 | 0.0 | 0.0 | 1.2 | 1.7 |
| 2016 | 1.7 | 0.2 | 0.0 | 0.8 | 2.5 |
| 2016   | 2019 | 1.6 | 0.2 | 0.0 | 0.8 | 2.4 |
| 2018 | -0.1 | 0.2 | 0.9 | -0.9 | 0.6 |
| 2017 | -1.7 | 0.2 | 0.0 | -2.5 | -0.8 |