

## CERTIFICATION

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Specific dates of summary: April 1, 2015 – March 31, 2016

I certify that the information contained in the following pages is correct to the best of my knowledge.

PREPARED BY:

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DATE: June 06, 2016

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Deputy Director of Aviation  
Norman Y. Mineta San Jose International Airport

DATE:

## SUMMARY OF CALTRANS STATISTICAL INFORMATION

(Form DOA 617 10/89)

1st QUARTER 2016

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### **Annualized Noise Impact Data (April 1, 2015 – March 31, 2016):**

1. Noise Impact Area (statue miles-squared) ..... 0  
Includes land parcels only: Does not include streets
2. Estimated number of dwellings impacted ..... 0
3. Estimated number of people residing within the Noise Impact Boundary ..... 0  
(Estimated, based on 3.09 people per dwelling unit.)

### **Quarterly Aircraft Operations Data (January 1, 2016 – March 31, 2016):**

4. Aircraft type having highest takeoff noise level ..... B727-200 (Stage 3 compliant)  
Total operations by this aircraft ..... 0
5. Estimated number of aircraft operations ..... 36,163
6. Estimated number of air carrier/cargo jet operations ..... 23,278
7. Estimated percent of air carrier/cargo jet operations by Stage 3 aircraft ..... 100%
8. Estimated number of general aviation aircraft operations ..... 7,434
9. Estimated number of military aircraft operation ..... 88
10. Estimated number of taxi/commuter aircraft operations ..... 5,363

## **BACKGROUND INFORMATION**

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### **“Noise Problem” Airports in California**

The California Airport Noise Standards (California Code of Regulations, Title 21, Section 5000 et seq.) apply to any airport that is determined to have a noise problem by the local County Board of Supervisors in accordance with the provisions in the regulation. Norman Y. Mineta San Jose International Airport (SJIA) is one of ten airports in California that have been determined to have a noise problem by local County governments.

### **How is aircraft noise measured?**

California uses the Community Noise Equivalent Level (CNEL) as the primary measure for determining exposure of individuals to airport noise. CNEL is the annual, 24-hour average sound level, in decibels, obtained from the accumulation of all noise events, with the addition of 4.77 decibels to weight sound levels from 7 P.M. to 10 P.M. and 10 decibels to weight sound levels from 10 P.M. to 7 A.M. In effect, this weighting means that each evening operation is counted as it is five daytime operations and each nighttime operation counts as the same as ten daytime operations. The weighing of evening and nighttime events accounts for the fact that noise events during these hours are more intrusive when ambient levels are lower and people are trying to sleep. The 24-hour CNEL is annualized to reflect noise generated by aircraft operations for an entire year and is identified by “noise contours” showing levels of aircraft noise.

CNEL is a widely accepted descriptor for aviation noise because of the following characteristics: CNEL is a measurable quantity; CNEL can be used by airport planners and the general public who are not familiar with acoustics or acoustical theory; CNEL provides a simple method to compare the effectiveness of alternative airport scenarios; and CNEL is based on a substantial body of scientific survey data regarding the reactions people have to noise.

### **What are Noise Contours (noise Exposure Maps – NEMs) and how are they used?**

Noise contours are computer generated lines that are modeled to reflect both current noise conditions near airports, as well as to predict what the future noise conditions will be. Technically, a noise contour represents the average annual noise levels (CNEL) summarized by lines connecting points of equal noise exposure.

Norman Y. Mineta San Jose International Airport uses the 65 CNEL contour to identify non-compatible land uses and determine eligibility for federal funds for noise mitigation. Any noise sensitive uses (such as residences, schools, churches, etc.) within the 65 CNEL and greater contour are considered to be non-compatible with aircraft noise.

A variety of information is gathered each quarter to create an accurate noise contour including: the number of flights, flight paths, type of aircraft, type of aircraft engines, time of day, weather conditions, and runway use. Actual on-site noise measurements specific to aircraft operating at SJIA are used to verify predicted individual aircraft noise levels contained in the computer model.

These data are used to generate noise contours that are overlaid onto base maps to create a Noise Exposure Map (NEM), which is used to identify where specific levels of aircraft noise occur. The Noise Exposure Maps developed for SJIA will be used in the following ways:

- Defining where areas of roughly equal noise exist in the communities surrounding the Airport
- Assessing various alternative solutions to reduce the effect of noise

### **What is the Integrated Noise Model?**

The Integrated Noise Model (INM) is the model developed by the Federal Aviation Administration (FAA) for evaluating aircraft noise impacts in the communities surrounding airports. The INM uses inputs such as number of operations, aircraft fleet mix (aircraft types), aircraft flight tracks, and flight profiles, time of day of operations and terrain to evaluate aircraft noise. The INM has been used by the FAA since 1978, but has been updated many times since then to include improved metrics and the most current aircraft information.

### **What is considered a non-compatible land use?**

California uses the 65 CNEL and greater contour to represent non-compatible land uses and determine eligibility for noise mitigation. Noise sensitive uses (such as residences, schools, hospitals, nursing homes, and churches) within the 65 CNEL and greater contour are considered to be non-compatible land uses. The date of original construction, the presence of an exterior habitable area, and the presence of acoustic insulation may convert certain uses to a compatible use.

### **What is the purpose of noise monitoring?**

The purpose of noise monitoring is to provide a method to confirm the outputs in the Integrated Noise Model from different aircraft types. The monitoring measures how loud individual aircraft are at certain points. This is then compared to the prediction based on the model and helps determine if any adjustments need to be made to the model inputs to accurately portray the unique noise environment at SJIA. Said another way, these measurements are used to validate the FAA INM. Measurements are taken of the actual noise levels an aircraft makes at a particular airport under particular conditions to compare them to predicted noise levels from the FAA INM using the exact same conditions.

### ANNUALIZED COMMUNITY NOISE EQUIVALENT LEVEL (CNEL) VALUES

	<i>Year/Quarter</i>			
<b>Remote Monitoring Terminal (RMT)</b>	<b>2016/1<sup>st</sup></b>	<b>2015/4<sup>th</sup></b>	<b>2015/3<sup>rd</sup></b>	<b>2015/2<sup>nd</sup></b>
101	59.4	60.6	61.7	62.5
102	65.9	65.8	65.7	65.7
104	57.1	57.1	57.0	56.7
105	59.0	58.3	57.6	57.5
106	65.4	65.2	65.2	65.0
107	61.0	61.2	60.6	60.9
108	63.3	63.6	63.3	64.0
109	61.6	61.6	61.5	61.3
110	64.4	64.4	64.5	64.8
111	62.1	62.1	62.3	62.5
112	59.6	59.5	59.8	59.8
114	58.0	58.3	58.1	58.6
115	58.4	57.8	58.5	59.0

### TOTAL AIRCRAFT OPERATIONS

	<i>Year/Quarter</i>			
<b>Operations</b>	<b>2016/1<sup>st</sup></b>	<b>2015/4<sup>th</sup></b>	<b>2015/3<sup>rd</sup></b>	<b>2015/2<sup>nd</sup></b>
Total	36,163	35,064	32,102	33,693
Air Carrier/Cargo	23,278	24,119	21,846	23,842
General Aviation	7,434	6,198	6,184	6,142
Military	88	50	50	50
Taxi/Commuter	5,363	4,697	4,022	3,659

### REMOTE MONITORING TERMINAL (RMT) LOCATIONS

Remote Monitoring Terminal (RMT)	Location	Latitude	Longitude
101	Oak Street San Jose, CA	37.321292	-121.881981
102	Center for Performing Arts San Jose, CA	37.329572	-121.892365
104	Bellarmino Prep School San Jose, CA	37.340997	-121.917993
105	Rosemary Garden San Jose, CA	37.3624	-121.91475
106	St. John/Autumn San Jose, CA	37.33424	-121.899946
107	Fire Station 6 Santa Clara, CA	37.39516	-121.949916
108	MacGregor Lane Santa Clara, CA	37.386895	-121.946527
109	Lake Santa Clara Santa Clara, CA	37.392133	-121.967717
110	Chestnut St. Santa Clara, CA	37.390153	-121.959598
111	Fuller Street Park Santa Clara, CA	37.397987	-121.965516
112	Mnt. View/Alviso Santa Clara, CA	37.40969	-121.97944
114	Fairway Glen Park Santa Clara, CA	37.405623	-121.961404
115	3 <sup>rd</sup> /Reed San Jose, CA	37.328608	-121.882987

**MONTHLY COMMUNITY NOISE EQUIVALENT LEVEL (CNEL) VALUES**  
**April 1, 2015 – March 31, 2016**

	<i>Remote Monitoring Terminal (RMT)</i>												
	<b>101</b>	<b>102</b>	<b>104</b>	<b>105</b>	<b>106</b>	<b>107</b>	<b>108</b>	<b>109</b>	<b>110</b>	<b>111</b>	<b>112</b>	<b>114</b>	<b>115</b>
Apr 2015	<b>62.6</b>	<b>65.8</b>	<b>56.2</b>	<b>57.7</b>	<b>65.3</b>	<b>61.2</b>	<b>63.2</b>	<b>60.7</b>	<b>64.0</b>	<b>61.7</b>	<b>58.9</b>	<b>58.2</b>	<b>58.2</b>
# Days	30	30	30	30	30	30	30	30	30	30	30	30	30
May 2015	<b>62.8</b>	<b>65.8</b>	<b>54.3</b>	<b>56.3</b>	<b>65.4</b>	<b>60.5</b>	<b>63.0</b>	<b>60.5</b>	<b>64.0</b>	<b>61.3</b>	<b>58.6</b>	<b>58.0</b>	<b>58.0</b>
# Days	31	31	31	31	31	31	20	31	31	31	31	31	31
June 2015	<b>62.8</b>	<b>65.9</b>	<b>53.5</b>	<b>55.1</b>	<b>65.3</b>	<b>60.9</b>		<b>61.2</b>	<b>64.7</b>	<b>62.1</b>	<b>59.0</b>	<b>58.3</b>	<b>57.5</b>
# Days	30	30	30	30	30	30	0	30	30	30	30	30	30
2 <sup>nd</sup> Qtr.	<b>62.7</b>	<b>65.9</b>	<b>54.8</b>	<b>56.5</b>	<b>65.4</b>	<b>60.9</b>	<b>63.1</b>	<b>60.8</b>	<b>64.2</b>	<b>61.7</b>	<b>58.8</b>	<b>58.2</b>	<b>57.9</b>
# Days	91	91	91	91	91	91	50	91	91	91	91	91	91
Jul 2015	<b>59.5</b>	<b>66.8</b>	<b>57.7</b>	<b>55.4</b>	<b>66.1</b>	<b>60.2</b>	<b>62.3</b>	<b>62.3</b>	<b>64.3</b>	<b>62.4</b>	<b>59.8</b>	<b>57.5</b>	<b>57.0</b>
# Days	31	31	31	31	31	31	22	31	31	31	31	31	31
Aug 2015	<b>55.6</b>	<b>65.9</b>	<b>55.7</b>	<b>55.2</b>	<b>65.9</b>	<b>59.0</b>	<b>61.5</b>	<b>62.4</b>	<b>63.5</b>	<b>62.0</b>	<b>59.8</b>	<b>56.3</b>	<b>56.2</b>
# Days	31	31	31	31	31	31	31	31	31	31	31	31	31
Sep 2015	<b>54.6</b>	<b>65.0</b>	<b>55.7</b>	<b>56.7</b>	<b>64.8</b>	<b>58.5</b>	<b>60.9</b>	<b>61.8</b>	<b>63.2</b>	<b>61.4</b>	<b>59.2</b>	<b>55.5</b>	<b>56.9</b>
# Days	30	30	30	30	30	30	30	30	30	30	30	30	30
3 <sup>rd</sup> Qtr.	<b>57.1</b>	<b>66.0</b>	<b>56.4</b>	<b>55.8</b>	<b>65.6</b>	<b>59.3</b>	<b>61.5</b>	<b>62.2</b>	<b>63.7</b>	<b>62.0</b>	<b>59.6</b>	<b>56.5</b>	<b>56.7</b>
# Days	92	92	92	92	92	92	83	92	92	92	92	92	92
Oct 2015	<b>57.6</b>	<b>64.8</b>	<b>56.3</b>	<b>57.9</b>	<b>63.2</b>	<b>60.9</b>	<b>64.0</b>	<b>61.3</b>	<b>64.4</b>	<b>61.9</b>	<b>59.2</b>	<b>58.2</b>	<b>57.3</b>
# Days	31	21	31	31	31	31	31	31	31	31	31	31	31
Nov 2015	<b>58.1</b>	<b>66.1</b>	<b>59.4</b>	<b>61.5</b>	<b>65.5</b>	<b>61.9</b>	<b>64.9</b>	<b>62.1</b>	<b>64.9</b>	<b>62.6</b>	<b>60.0</b>	<b>59.4</b>	<b>57.6</b>
# Days	30	30	30	30	30	30	30	30	30	30	30	30	30
Dec 2015	<b>57.0</b>	<b>66.8</b>	<b>58.3</b>	<b>61.4</b>	<b>66.1</b>	<b>63.8</b>	<b>64.2</b>	<b>61.6</b>	<b>64.7</b>	<b>62.3</b>	<b>59.9</b>	<b>58.9</b>	<b>60.2</b>
# Days	31	31	31	31	31	31	31	31	31	31	31	31	31
4 <sup>th</sup> Qtr.	<b>57.6</b>	<b>66.1</b>	<b>58.1</b>	<b>60.5</b>	<b>65.1</b>	<b>62.4</b>	<b>64.4</b>	<b>61.7</b>	<b>64.7</b>	<b>62.3</b>	<b>59.7</b>	<b>58.9</b>	<b>58.6</b>
# Days	92	82	92	92	92	92	92	92	92	92	92	92	92
Jan 2016	<b>55.6</b>	<b>65.6</b>	<b>58.5</b>	<b>60.6</b>	<b>65.3</b>	<b>60.4</b>	<b>62.9</b>	<b>61.3</b>	<b>65.5</b>	<b>62.7</b>	<b>60.7</b>	<b>57.6</b>	<b>60.5</b>
# Days	31	21	31	31	31	31	31	31	31	31	31	31	31
Feb 2016	<b>56.7</b>	<b>65.6</b>	<b>58.3</b>	<b>60.9</b>	<b>65.1</b>	<b>60.9</b>	<b>63.6</b>	<b>61.2</b>	<b>64.3</b>	<b>61.6</b>	<b>59.1</b>	<b>58.2</b>	<b>58.3</b>
# Days	29	29	29	29	29	29	29	29	29	29	29	29	29
Mar 2016	<b>59.3</b>	<b>66.2</b>	<b>57.8</b>	<b>60.9</b>	<b>65.7</b>	<b>61.5</b>	<b>64.3</b>	<b>77.4</b>	<b>65.2</b>	<b>62.6</b>	<b>60.3</b>	<b>58.5</b>	<b>59.9</b>
# Days	31	31	31	31	31	31	31	31	31	31	31	31	31
1 <sup>st</sup> Qtr.	<b>57.5</b>	<b>65.8</b>	<b>58.2</b>	<b>60.8</b>	<b>65.4</b>	<b>60.9</b>	<b>63.6</b>	<b>72.9</b>	<b>65.1</b>	<b>62.4</b>	<b>60.1</b>	<b>58.1</b>	<b>59.7</b>
# Days	91	91	91	91	91	91	91	91	91	91	91	91	91
12 Mo.	<b>59.4</b>	<b>65.9</b>	<b>57.1</b>	<b>59.0</b>	<b>65.4</b>	<b>61.0</b>	<b>63.3</b>	<b>61.6</b>	<b>64.4</b>	<b>62.1</b>	<b>59.6</b>	<b>58.0</b>	<b>58.4</b>
# Days	366	356	366	366	366	366	316	365	366	366	366	366	366
On-Line	100%	97.3%	100%	100%	100%	100%	86.3%	99.7%	100%	100%	100%	100%	100%

**DAILY AIRCRAFT COMMUNITY NOISE EQUIVALENT LEVEL (CNEL) VALUES  
JANUARY 2016**

	Remote Monitoring Terminal (RMT)												
Day	101	102	104	105	106	107	108	109	110	111	112	114	115
1	52.9	64.5	61.5	57.2	64.6	56.9	60.7	58.5	61.3	59	56.9	55.6	57.7
2	57.2	65.8	50.4	55.7	65.2	61.9	65.2	62.6	65.1	62.8	60.5	60	55.9
3	58.8	66.1	59.7	59.9	66	61.7	65.7	63.1	66	63.8	61.1	60	58.6
4	52.8	65	59.8	61.4	64.2	60.4	62.9	63.4	69.1	65.9	64.3	57.7	62.3
5	57.6	66.7	59.8	61.5	66.5	61.1	62.6	61.3	65.9	63	60.7	57.4	62.8
6	44	66.2	60.3	62	65.3	61.5	55.2	60.2	66.2	63.5	62.1	47	64.7
7	55.5	68	59.7	62.7	67	60.4	63.3	62.1	64.6	62.4	60.4	58.1	61.5
8	58.4	63.5	56	60.6	63.2	61.6	64.7	63.2	67.1	64.5	62.5	59.4	57.6
9	46	63.7	58.9	59.1	63.4	55.4	51.8	56.6	62.7	59.6	58.5	41.5	62.3
10	58.1	64.9	50.8	58.1	65.1	60.6	64.6	62.2	64.8	62.4	59.8	59	54.7
11	56.7	65.6	53.2	58.4	65.6	62.1	65.6	62.8	65.8	63.6	60.7	60.4	56.3
12	50.1	65.4	59.6	61.8	64.5	54.8	55.2	59.5	65.7	62.7	61.6	47.2	62.5
13	56	67	59.7	62.6	66.3	60.3	62.3	59.9	62.8	60.2	57.9	56.8	61.4
14	50.1	66.8	60.2	62.3	65.7	56.3	55.4	60.5	66.2	63.9	62.4	49.2	64.1
15	56.7	65.7	56.1	61.8	65.7	62.2	65.4	63.1	66.2	63.7	60.9	60.5	56.3
16	39.3	63.9	58.6	59.5	65.1	48.8	52.2	57.3	63.4	60.6	59.1	45.3	62.6
17	46.9	64.3	58.9	58.9	63.7	59.3	53.4	60	66	63	61.9	43.9	62.4
18	49.2	63.7	60.3	60.2	62.7	58	61.4	61.9	67.5	64.7	62.6	55.9	61.1
19	56.7	67.1	60.8	62	67.7	60.9	61.9	60.2	64	61.2	59.5	56.4	63.1
20	56.8	65.7	53.1	57.4	65	61.4	64.4	61.8	64.8	62	59.3	59.1	55.8
21	55.3	63.7	58.7	62.8	63.6	60.2	63.7	62.8	68.1	65.3	63.5	58.1	60.5
22	49.2	66.5	60.7	61.8	65.4	57.3	55.2	60.4	66.3	63.4	62.3	47.2	64.3
23	54.9	64.2	52.2	60.2	63.2	60.7	63.7	60	62.8	60.2	56.6	58.6	53.8
24	56.8	64.9	59.5	58.4	65.1	60.5	63.9	61.2	63.5	60.9	57.8	58.8	54.9
25	56.1	65.4	58.6	60.6	66.9	62.1	65	61.6	64.6	62	59.8	59.2	55.3
26	57	64.9	54.9	59.4	64.7	61.7	64.3	61.7	64.4	62.1	59.4	59	55
27	58.7	65.2	56.6	59.9	65.4	63.2	64.7	62.2	65.4	62.3	59.3	60	55.3
28	58.5	65.8	54.5	60.5	65.6	62.1	65.3	62.6	67.1	62.9	60.8	60.2	56.8
29	48.4	66.8	59.3	61.7	65.6	55.7	57.1	59.4	65.3	62.2	60.9	51.6	63.5
30	51.5	62.8	53.5	56.4	62.7	60.2	63	58.8	62.5	59.8	57	58.1	53.6
31	58.6	67.4	59.4	61.4	67.4	61	64.4	61.3	63.3	61	58.9	59.8	58.9
Avg.	55.6	65.6	58.5	60.6	65.3	60.4	62.9	61.3	65.5	62.7	60.7	57.6	60.5
# Days	31	31	31	31	31	31	31	31	31	31	31	31	31

## DAILY AIRCRAFT COMMUNITY NOISE EQUIVALENT LEVEL (CNEL) VALUES FEBRUARY 2016

[illegible]



**DAILY AIRCRAFT COMMUNITY NOISE EQUIVALENT LEVEL (CNEL) VALUES  
MARCH 2016**

	Remote Monitoring Terminal (RMT)												
Day	101	102	104	105	106	107	108	109	110	111	112	114	115
1	59.3	65.8	55.7	61.1	65.1	61.2	64.3	61.7	64.9	61.8	59.1	58.8	56.5
2	57.3	64.3	53.5	58.1	63.2	61.2	64.1	62.3	65.7	63.2	60.7	59.1	55.1
3	56.8	67.2	58.4	59.4	67	59.1	61.5	59.7	63.4	61.2	58.3	55.9	61.9
4	47.2	64.8	58.1	61.7	63.6	62.6	62.6	62.7	67.9	64.9	62.6	57.3	62.1
5	44.4	65	59.2	60.1	64.8	55	56.6	58.3	63.5	60.7	59.7	51.8	62.7
6	55.6	63.4	59.1	62	63.1	60	62.9	63.1	67.9	65	63.3	57.8	60.8
7	57.4	68	61.4	63.4	67.8	61	62.2	60.1	62.6	59.9	58.6	56.7	62.4
8	59.2	65.6	55.3	61.2	65.1	62.6	65.5	63	65.3	62.7	60.4	60.3	55.8
9	54.9	66.6	59.2	62	65.1	58.1	60.4	60.6	66.2	63.3	61.6	54.2	63.5
10	53	66.6	60.6	64.2	65.4	55.5	55.8	60.4	66.9	63.7	62.5	44.5	63.8
11	61.7	68.4	59.3	65.2	67.2	62.6	65.4	60.7	64.7	61.8	59.5	59.2	63.8
12	44.6	64.7	58.9	58.7	63.9	57.4	52.6	59.6	65.3	62.9	61.5	45.8	63.1
13	55.5	66.3	58.3	58.5	66.2	58.4	61.1	59.8	64.4	61.4	59.5	55.9	62.5
14	59.5	66.5	57.3	62.5	66.4	62.2	65.1	61.9	64.5	62	59	60	57
15	57.9	66.5	57.2	60.8	66.1	62.1	65.1	62.9	64.9	62.5	60.3	59.7	56.7
16	60.8	66.1	57.6	61.8	65	61.7	65.2	63.1	64.9	62.6	60.3	59.4	56
17	56.8	66.5	60.1	61.1	68.5	63.2	65.7	63.2	65.5	63.4	61	59.8	56.4
18	59.2	66.1	56.1	58.2	65.8	61	64.8	62	65.5	62.9	59.9	58.8	56.8
19	55.5	63.9	50.5	51.9	64.2	59.8	63.4	61.8	64.1	61.9	59.8	57.8	53.5
20	49.4	64.6	58.7	60.4	64.3	55	58.8	59.6	64.8	62	60.7	52.8	61.9
21	63.2	68	59.1	63.5	67.1	61.3	65.6	92.2	63.7	60.5	57.9	57.1	62.7
22	63.6	66.9	56.8	63.8	66.3	63.1	67.2	62.9	66.2	62.7	60.2	60.4	57.4
23	62	66	59.6	59.7	65.5	62	65.4	62.8	65	62.5	60.3	60.1	55.5
24	65.2	67.6	56.3	59.7	67.1	63.5	66.9	62.9	65.3	62.9	59.8	60.4	60.5
25	62.6	66.7	54.5	60.3	66.4	62.5	66.2	63.1	65.8	63.5	60.4	60.4	55.8
26	52.7	64.6	56.2	54.5	64.5	63.5	63.4	61.1	63.3	61.2	58.6	58.1	54.6
27	57.9	65.6	53.1	50.9	65.4	60.8	64.4	62.1	64.4	62.3	59	59.3	55.1
28	60.7	66.1	58.7	62.6	66.2	64.2	66.1	62.6	64.9	62.4	59.7	60.9	56.5
29	57.9	65.5	53.8	57.8	64.9	62.4	64.7	62	64.7	62	59.5	59.2	55.4
30	60.7	66.3	55.1	56.2	65.3	61.6	65.8	62	64.8	62.1	61.1	59.6	56.6
31	60	66.8	57	55.4	65.7	63.3	65.3	63.1	65.8	63.5	60.2	60.1	56.5
Avg.	59.3	66.2	57.8	60.9	65.7	61.5	64.3	77.4	65.2	62.6	60.3	58.5	59.9
# Days	31	31	31	31	31	31	31	31	31	31	31	31	31