

...SEPTEMBER 2012 CLIMATE SUMMARY...

SUMMARY FOR THE SAN FRANCISCO BAY AREA AND MONTEREY BAY AREA...

...RECORD COOL MONTH FOR SOME COASTAL LOCATIONS...

...RECORD WARM MONTH FOR HIGHER ELEVATION LOCATIONS...

THE WEATHER PATTERN DURING SEPTEMBER WAS MUCH LIKE IT WAS IN AUGUST. AN UPPER LEVEL LOW PRESSURE TROUGH WAS POSITIONED JUST OFF THE WEST COAST FOR MUCH OF THE MONTH WHILE A RIDGE OF HIGH PRESSURE WAS OFTEN LOCATED TO OUR EAST OVER THE SOUTHWESTERN PART OF THE COUNTRY. THE RIDGE TO THE EAST WAS STRONG ENOUGH TO MAINTAIN SEASONABLY WARM TEMPERATURES ACROSS THE HILLS AND IN THE INLAND VALLEYS OF OUR REGION. BUT THE PERSISTENT LOW PRESSURE TROUGH NEAR THE WEST COAST MAINTAINED AN ONSHORE FLOW REGIME THROUGH NEARLY THE ENTIRE MONTH. DURING MOST YEARS...DAYTIME TEMPERATURES IN COASTAL AREAS REACH THEIR MAXIMUM VALUES IN SEPTEMBER AND EARLY OCTOBER...PRIMARILY BECAUSE OFFSHORE FLOW BECOMES MORE FREQUENT COMPARED TO THE SUMMER MONTHS. SEPTEMBER 2012 WAS ALMOST COMPLETELY DEVOID OF OFFSHORE FLOW. IN FACT...THE ONLY NOTABLE DAY WITH OFFSHORE FLOW WAS THE FINAL DAY OF THE MONTH. THE RESULT OF SEPTEMBER'S PERSISTENT ONSHORE FLOW WAS MUCH COOLER THAN NORMAL AVERAGE TEMPERATURES IN COASTAL AREAS. LOCATIONS NEAR SAN FRANCISCO BAY AND SOME COASTAL VALLEYS WERE ALSO MUCH COOLER THAN NORMAL. BUT THE BIGGEST DEPARTURES FROM NORMAL OCCURRED NEAR THE IMMEDIATE COAST. FOR EXAMPLE...THE AVERAGE HIGH TEMPERATURE IN DOWNTOWN SAN FRANCISCO FOR SEPTEMBER WAS 64.0 DEGREES...6.2 DEGREES BELOW THE SEPTEMBER NORMAL HIGH OF 70.2. THIS 64 DEGREE AVERAGE HIGH WAS THE 2ND COOLEST FOR THE MONTH OF SEPTEMBER OVER THE PAST 138 YEARS (SAN FRANCISCO TEMPERATURE RECORDS GOES BACK TO 1874). SEPTEMBER'S MINIMUM TEMPERATURES WERE ALSO MUCH COOLER THAN NORMAL. THE AVERAGE LOW TEMPERATURE IN DOWNTOWN SAN FRANCISCO WAS 52.2 DEGREES...2.9 DEGREES BELOW NORMAL. THIS REPRESENTED THE 3RD COOLEST AVERAGE LOW TEMPERATURE OVER 138 YEARS. A COMPLETE LIST OF NOTABLE SEPTEMBER MONTHLY COOL TEMPERATURE RECORDS APPEARS BELOW:

LOCATION	SEPT 2012 AVG HIGH	NORMAL HIGH	RECORD SET	YEARS OF RECORD
SAN FRANCISCO OCEANSIDE	58.3	63.8	COOLEST	53
SAN FRANCISCO AIRPORT	68.3	73.6	COOLEST	67
SAN FRANCISCO DOWNTOWN	64.0	70.2	2ND COOLEST	138
HALF MOON BAY	62.3	66.4	2ND COOLEST	73
REDWOOD CITY	75.1	79.7	3RD COOLEST	81
NEWARK	72.8	77.1	3RD COOLEST	70
WATSONVILLE	68.9	73.6	6TH COOLEST	104
PALO ALTO	74.8	79.5	7TH COOLEST	59
SALINAS AIRPORT	71.4	74.1	7TH COOLEST	81

LOCATION	SEPT 2012 AVG LOW	NORMAL LOW	RECORD SET	YEARS OF RECORD
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SAN FRANCISCO OCEANSIDE	51.8	54.8	3RD COOLEST	53
SAN FRANCISCO DOWNTOWN	52.2	55.1	3RD COOLEST	138
SAN FRANCISCO AIRPORT	52.9	55.8	9TH COOLEST	67

AREAS WELL INLAND REMAINED SOMEWHAT ISOLATED FROM THE COOL MARINE AIR DURING SEPTEMBER. CONSEQUENTLY...CLIMATE STATIONS IN THE INLAND VALLEYS EXPERIENCED NEAR NORMAL OR EVEN SLIGHTLY ABOVE NORMAL HIGH TEMPERATURES FOR THE MONTH. BUT EVENING SEABREEZES WERE STRONG ENOUGH TO COOL EVEN THE INLAND VALLEYS AT NIGHT...RESULTING IN BELOW NORMAL AVERAGE LOW TEMPERATURES IN PLACES LIKE LIVERMORE AND CALISTOGA...LOCATIONS THAT RECORD ABOVE NORMAL HIGH TEMPERATURES.

IN MARKED CONTRAST TO THE RECORD COOL WEATHER NEAR THE COAST...TWO CLIMATE STATIONS LOCATED IN THE HILLS OF THE SAN FRANCISCO BAY AREA REPORTED RECORD WARMTH DURING SEPTEMBER...PARTICULARLY DURING THE OVERNIGHT HOURS. THESE TWO CLIMATE STATIONS...LOCATED MORE THAN 2000 FEET ABOVE SEA LEVEL...WERE USUALLY ABOVE THE MARINE INVERSION AND THUS COMPLETELY ISOLATED FROM THE COOL MARINE AIR...EVEN DURING MOST NIGHTS. AT THE LICK OBSERVATORY ATOP MOUNT HAMILTON (4200 FEET ELEVATION) THE AVERAGE HIGH OF 78.8 DEGREES WAS 5.5 DEGREES WARMER THAN NORMAL. THIS WAS THE 5TH WARMEST AVERAGE SEPTEMBER HIGH TEMPERATURE IN 64 YEARS OF RECORD KEEPING. THE AVERAGE LOW OF 65.6 DEGREES ON MOUNT HAMILTON WAS 6.2 DEGREES ABOVE NORMAL AND IS THE WARMEST SEPTEMBER AVERAGE MINIMUM TEMPERATURE ON RECORD AT THIS CLIMATE STATION. AT MOUNT DIABLO JUNCTION (2200 FEET ELEVATION) THE AVERAGE LOW OF 62.8 DEGREES WAS 5.0 DEGREES ABOVE NORMAL...REPRESENTING THE 3RD WARMEST AVERAGE MONTHLY LOW FOR SEPTEMBER SINCE RECORD KEEPING STARTED THERE IN 1952.

OFFSHORE FLOW FINALLY DEVELOPED ON THE LAST DAY OF SEPTEMBER AND TEMPERATURES SOARED...EVEN CLOSE TO THE COAST. DOWNTOWN SAN FRANCISCO HAD A HIGH THAT DAY OF 84 DEGREES...20 DEGREES WARMER THAN THE AVERAGE HIGH FOR THE MONTH. IF IT WERE NOT FOR THE SHARP UPWARD TURN IN TEMPERATURES ON THE 30TH...DOWNTOWN SAN FRANCISCO LIKELY WOULD HAVE HAD ITS COOLEST SEPTEMBER ON RECORD INSTEAD OF ITS SECOND COOLEST.

SEPTEMBER 2012 WAS A DRY MONTH. MOST CLIMATE STATIONS PICKED UP NO MEASURABLE RAINFALL. NO RAINFALL IN SEPTEMBER IS NOT PARTICULARLY UNUSUAL. FOR EXAMPLE...IN SAN FRANCISCO THERE HAVE BEEN 44 SEPTEMBERS SINCE 1850 WITH NO RAIN. MOST OF THE MEASURABLE RAIN THAT FELL AT SCATTERED LOCATIONS ACROSS THE REGION OCCURRED DURING THE 5TH AND 6TH WHEN MID AND UPPER LEVEL MOISTURE FROM POST-TROPICAL STORM JOHN WAS ADVECTED NORTHWARD BY A WEAK UPPER LOW OFF THE CALIFORNIA COAST. SCATTERED LIGHT SHOWERS AND ISOLATED THUNDERSTORMS DEVELOPED ON THE MORNING OF THE 5TH AND MOVED FROM SOUTH TO NORTH ACROSS THE REGION. ONE MORE ISOLATED THUNDERSTORM MOVED ACROSS SAN JOSE ON THE MORNING OF THE 6TH. THE SHOWERS AND THUNDERSTORMS ON THE 5TH AND 6TH PRODUCED...AT MOST...ONLY A HUNDREDTH OR TWO OF RAINFALL AT OFFICIAL WEATHER SERVICE CLIMATE

STATIONS.

...SEPTEMBER REGIONAL TEMPERATURE SUMMARY...

LOCATION	AVG HIGH	NORMAL HIGH	DEPARTURE FROM NORMAL	AVG LOW	NORMAL LOW	DEPARTURE FROM NORMAL
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NORTH BAY...

ANGWIN	83.1	81.7	1.4	52.1	53.8	-1.7
CALISTOGA	89.7	87.9	1.8	45.0	50.2	-5.2
KENTFIELD	78.8	81.2	-2.4	47.8	52.2	-4.4
NAPA AIRPORT	77.3	79.7	-2.4	47.8	49.2	-1.4
SAINT HELENA	86.7	86.0	0.7	50.2	52.3	-2.1
SAN RAFAEL	78.7	78.7	0.0	50.0	54.2	-4.2
SANTA ROSA AP	82.0	83.2	-1.2	46.1	49.3	-3.2
SONOMA	83.5	84.8	-1.3	46.9	50.5	-3.6

SAN FRANCISCO PENINSULA...

HALF MOON BAY	62.3	66.4	-4.1	49.8	49.8	0.0
PALO ALTO	74.8	79.5	-4.7	49.7	52.5	-2.8
REDWOOD CITY	75.1	79.7	-4.6	52.0	54.0	-2.0
SAN FRANCISCO AIRPORT	68.3	73.6	-5.3	52.9	55.8	-2.9
SAN FRANCISCO DOWNTOWN	64.0	70.2	-6.2	52.2	55.1	-2.9
SAN FRANCISCO OCEANSIDE	58.3	63.8	-5.5	51.8	54.8	-3.0
WOODSIDE	84.4	86.4	-2.0	48.4	49.8	-1.4

EAST BAY...

CONCORD AIRPORT	84.2	84.1	0.1	52.8	56.1	-3.3
FREMONT	75.2	78.3	-3.1	53.1	55.5	-2.4
HAYWARD AIRPORT	72.2	75.6	-3.4	54.2	57.1	-2.9
LIVERMORE	88.3	85.5	2.8	52.8	54.9	-2.1
LIVERMORE AP	87.4	84.3	3.1	54.0	55.5	-1.5
MARTINEZ	82.8	84.4	-1.6	49.5	49.9	-0.4
MOUNT DIABLO JUNCTION	81.4	81.7	-0.3	62.8	57.8	5.0
NEWARK	72.8	77.1	-4.3	53.8	57.5	-3.7
OAKLAND	71.1	74.1	-3.0	53.9	57.1	-3.2
OAKLAND AIRPORT	69.3	74.6	-5.3	51.7	54.4	-2.7

SOUTH BAY AND SANTA CRUZ COUNTY...

GILROY	85.1	85.5	-0.4	52.3	52.8	-0.5
MOFFETT FIELD	73.6	77.5	-3.9	55.7	57.7	-2.0
MOUNT HAMILTON	78.8	73.3	5.5	65.6	59.4	6.2
SAN JOSE	77.4	80.1	-2.7	53.9	56.8	-2.9

SANTA CRUZ	74.3	76.4	-2.1	51.2	53.0	-1.8
WATSONVILLE	68.9	73.6	-4.7	52.6	52.5	0.1
WATSONVILLE AP	70.3	75.1	-4.8	50.8	51.8	-1.0

MONTEREY AND SAN BENITO COUNTIES...

CARMEL VALLEY	76.6	81.3	-4.7	46.0	51.0	-5.0
HOLLISTER	81.2	81.4	-0.2	51.2	52.2	-1.0
KING CITY	83.0	85.5	-2.5	50.0	51.1	-1.1
MONTEREY AIRPORT	64.5	69.3	-4.8	51.7	53.1	-1.4
PINNACLES NM	94.4	90.2	4.2	46.8	48.2	-1.4
SALINAS AIRPORT	71.4	74.1	-2.7	53.8	54.3	-0.5

...SEPTEMBER REGIONAL PRECIPITATION SUMMARY...

NOTE: ONLY CLIMATE STATIONS WITH MEASURABLE RAINFALL DURING THE MONTH ARE LISTED.

LOCATION	SEPT TOTAL	AVERAGE SEPT PRECIP	PERCENT OF NORMAL
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SAN FRANCISCO PENINSULA...

HALF MOON BAY	0.04	0.37	11
PACIFICA	0.01	0.36	3
WOODSIDE	0.01	0.17	6

EAST BAY...

LIVERMORE	0.01	0.22	5
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SOUTH BAY AND SANTA CRUZ COUNTY...

BEN LOMOND	0.02	0.27	7
MOUNT HAMILTON	0.02	0.38	5
SANTA CRUZ	0.02	0.27	7

...MONTHLY RANKS FOR DOWNTOWN SAN FRANCISCO...

AVERAGE HIGH TEMPERATURE....64.0....2ND COOLEST OUT OF 138 YEARS
 AVERAGE LOW TEMPERATURE.....52.2.....3RD COOLEST OUT OF 138 YEARS
 AVERAGE MEAN TEMPERATURE....58.1....2ND COOLEST OUT OF 138 YEARS

PRECIPITATION.....0.00 INCHES....DRIEST ALONG WITH 43 OTHER SEPTEMBERS
 SINCE 1850

...MONTHLY EXTREMES FOR SELECT LOCATIONS...

LOCATION	MAX TEMP: WARMEST DAY(S)	MIN TEMP: COOLEST DAY(S)	PRECIP: WETTEST DAY(S)
SANTA ROSA AIRPORT	9/30 96 DEG	9/09 39 DEG	N/A
SAN FRANCISCO	9/30 84 DEG	9/23 49 DEG	N/A
LIVERMORE AIRPORT	9/30 100 DEG	9/10 49 DEG	N/A
SAN JOSE	9/30 90 DEG	9/10 9/20 9/24 50 DEG	N/A
SALINAS AIRPORT	9/30 91 DEG	9/21 49 DEG	N/A

NOTE: THIS CLIMATOLOGICAL DATA IS PRELIMINARY. FOR OFFICIAL
 CERTIFIED CLIMATOLOGICAL DATA PLEASE CONTACT THE NATIONAL
 CLIMATIC DATA CENTER AT 828-271-4800 OR <http://www.ncdc.noaa.gov>.
 OFFICIAL VALUES AS DETERMINED AT THE ABOVE WEB SITE MAY TAKE
 SEVERAL MONTHS FOR AUTHENTICATION AND PUBLICATION.

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