

TYPE	DATE	TIME		AGENCY	DESCRIPTION	PAGE
Area Forecast Discussion	11/26/2018	2110	PST	San Diego	A low pressure trough speeding across the Pacific will bring rain, snow to the mountain peaks, and gusty westerly winds. Locally heavy rain will likely occur on the coastal mountain slopes. Another system could bring more precipitation this weekend.	45
Area Forecast Discussion	11/27/2018	0448	PST	San Diego	For late Wednesday night through Thursday, a low pressure system will move through southwest California bringing cooling, strong gusty southwest to west winds, and widespread moderate to locally heavy rainfall.	48
Area Forecast Discussion	11/27/2018	1028	PST	San Diego	The storm will begin Wednesday evening with rain developing along the coastal mountain slopes. The showers will become more widespread and heavier on Thursday along with strong gusty southwest to west winds from the mountain ridge tops to the desert slopes.	52
Area Forecast Discussion	11/27/2018	2031	PST	San Diego	Benign weather will prevail through Wednesday afternoon ahead of the first significant Pacific Storm of the season poised to arrive on Thursday. Some light rain and showers should break out along and west of the mountains Wednesday evening, then become more widespread and heavier on Thursday, along with strong gusty south to southwest winds ahead of a cold front.	56
Urgent Weather Message	11/28/2018	0334	PST	San Diego	Wind Advisory in effect for the San Diego County mountains and deserts...	60
Area Forecast Discussion	11/28/2018	0527	PST	San Diego	Stronger and gusty southwest winds will develop late this afternoon and tonight in the mountains and deserts, then become westerly Thursday afternoon and continue through Thursday night with stronger winds for coastal and valley areas mainly during the day on Thursday.	62
Urgent Weather Message	11/28/2018	1332	PST	San Diego	Wind Advisory in effect for the San Diego County mountains and deserts...	66
Area Forecast Discussion	11/28/2018	1347	PST	San Diego	Onshore flow will strengthen through tonight in advance of a Pacific storm that will move inland across California on Thursday. Stronger and gusty southwest winds will develop late this afternoon and tonight in the mountains and deserts then become westerly Thursday afternoon, continuing through Thursday night. Stronger winds for coastal and valley areas will be mainly during the day on Thursday.	68
Urgent Weather Message	11/28/2018	1505	MST	Phoenix	Wind Advisory in effect for southwest Imperial County...	72
Area Forecast Discussion	11/28/2018	1545	MST	Phoenix	Good downward momentum transfer of stronger winds aloft will also result in gusty southwesterly winds ahead of the front. Although wind speeds are expected to remain below advisory levels for the most part, they could reach these levels in the usual windier spots in SW Imperial County and across the higher terrain of Joshua Tree NP. Along with the winds, patchy blowing dust is possible as well, especially across SE CA and SW AZ.	73
Area Forecast Discussion	11/28/2018	2130	PST	San Diego	Rainfall totals through Thursday night still appear to be: Lower deserts: 0.30 inches or less. High deserts: 0.25 to 0.50 inches Coast: 0.75 to 1.25 inches Valleys: 1.00 to 1.75 inches Mountains: 1.50 to 5.00 inches (highest on coastal slopes)	76
Urgent Weather Message	11/29/2018	2142	PST	San Diego	Wind Advisory for the San Diego County mountains and deserts...	80
Urgent Weather Message	11/28/2018	2146	PST	San Diego	Winter Weather Advisory...	82
Urgent Weather Message	11/29/2018	0149	MST	Phoenix	Wind Advisory for southwest Imperial County...	83

TYPE	DATE	TIME		AGENCY	DESCRIPTION	PAGE
Area Forecast Discussion	11/29/2018	0216	MST	Phoenix	By Thursday afternoon, this system will dig into the Southwest with a strong cold front pegged to move from west to east across the region. The front will push through Southeast California by midday Thursday bringing very strong winds capable of producing areas of blowing dust. As such, a wind advisory is in effect for portions of western Imperial County and Joshua Tree National Park from this morning until Friday evening.	84
Area Forecast Discussion	11/29/2018	0307	PST	San Diego	A weather system passing by to the north will bring another round of showers from midday Saturday through early Sunday with strong and gusty west winds in the mountains and deserts.	87
Urgent Weather Message	11/29/2018	0320	PST	San Diego	Wind Advisory for the San Diego County mountains and deserts...	91
Public Information Statement	11/29/2018	1104	PST	San Diego	Regional wind speeds (unofficial)	93
Area Forecast Discussion	11/29/2018	1150	MST	Phoenix	By Thursday afternoon, this system will dig into the Southwest with a strong cold front pegged to move from west to east across the region. The front will push through Southeast California by midday Thursday bringing very strong winds capable of producing areas of blowing dust. As such, a wind advisory is in effect for portions of western Imperial County and Joshua Tree National Park from this morning until Friday evening.	99
Urgent Weather Message	11/29/2018	1346	PST	San Diego	Wind Advisory for the San Diego County mountains and deserts...	102
Area Forecast Discussion	11/29/2018	1401	PST	San Diego	In the cold, unstable air behind the front, winds will shift to the west with strong winds and wind gusts for this afternoon into tonight in the mountains from the ridgetops and desert slopes into adjacent desert areas. Gusty west winds over the coastal waters will extend into adjacent coastal areas through this afternoon.	104
Urgent Weather Message	11/29/2018	1405	MST	Phoenix	Wind Advisory for southwest Imperial County...	107
Urgent Weather Message	11/29/2018	1454	MST	Phoenix	Wind Advisory for southwest Imperial County...	108
Public Information Statement	11/29/2018	1535	PST	San Diego	Regional wind speeds (unofficial)	109
Urgent Weather Message	11/29/2018	1747	PST	San Diego	Wind Advisory for the San Diego County mountains and deserts...	115
Area Forecast Discussion	11/29/2018	2130	PST	San Diego	A Pacific storm system moving across southern California will continue to bring widespread moderate to locally heavy rain and showers through tonight, along with strong and gusty winds.	117
Urgent Weather Message	11/30/2018	0208	PST	San Diego	Wind Advisory for the San Diego County mountains and deserts is Cancelled	121
Regional Temperature and Precipitation	11/30/2018	0430	PST	San Diego	Precipitation during the past 24 hours	122

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FXUS66 KSGX 270510

AFDSGX

## Area Forecast Discussion

National Weather Service San Diego CA

910 PM PST Mon Nov 26 2018

## .SYNOPSIS...

Fair and very mild weather will continue through Tuesday. Locally gusty northeast winds will occur through and below passes and canyons through Tuesday morning. Cooling will begin Wednesday as onshore flow strengthens and the marine air moves farther inland. A low pressure trough speeding across the Pacific will bring rain, snow to the mountain peaks, and gusty westerly winds. Locally heavy rain will likely occur on the coastal mountain slopes. Another system could bring more precipitation this weekend.

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.DISCUSSION...FOR EXTREME SOUTHWESTERN CALIFORNIA INCLUDING ORANGE...  
SAN DIEGO...WESTERN RIVERSIDE AND SOUTHWESTERN SAN BERNARDINO  
COUNTIES...

Other than some patchy high clouds, skies were clear across SoCal at 8 PM PDT. The 00Z Miramar sounding had a shallow weak inversion base near 1000 FT MSL. Winds were NW 10 KT or less below 3500 FT and solidly NE above through 10K FT. The sfc gradients were holding at 7 MBS offshore from SW NV to KSAN, but NE winds were mostly 15-20 MPH in the windiest spots. It was quite dry with RH values at numerous stations inland at or below 15%. The winds are likely to pick up a bit overnight into Tue morning, combined with the low RH well inland, will continue an elevated fire weather threat there.

Looks like the offshore gradient, coupled with cool drainage flow should hold any stratus/fog development offshore tonight. Wednesday will be a transition day as onshore flow strengthens. The marine layer will be returning Tue night with low clouds expected to spread inland over coastal areas and into the western valleys, where some fog is possible. No forecast changes this evening. New...HYDROLOGY DISCUSSION added below.

From previous discussion...

The Pacific storm system is still on track to bring widespread rain Thursday, possibly starting as early as Wednesday evening. Rainfall amounts vary with each model, but it still looks like around or slightly under one inch will prevail at lower elevations, though confidence is increasing that orographic southwest-facing slopes will receive substantially more, perhaps 3-5 inches locally, from Wednesday night through Friday morning, as southwest flow in the 850-700 MB will be saturated with speeds in the 20-40 knot range over the mountains. GFS has been consistent with a weak atmospheric river

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in our area, with 500 kg/m/s values during recent runs, and saturation mostly up to 600-650 MB. Timing of the maximum moisture and forcing along the front is likely to be late morning-early afternoon Thursday, though probably a bit later in San Diego County. The cold air aloft will stay mostly to the north, so snow levels will be quite high, 8000+ feet Thursday morning, then 6500-7000 feet by Thursday evening, so snow will mostly be restricted to the highest mountains of San Bernardino/Riverside County. With tight pressure height gradients aloft, strong winds will occur in the mountains and parts of the deserts Thursday/Thursday night, with gust potential over 60 MPH.

Precip should end Friday morning, but models, somewhat inconsistently, are showing a weaker but colder system moving through sometime over the weekend, which could bring more rain and some mountain snows, but probably nothing excessive.

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**.HYDROLOGY...**

A fast-moving low pressure system will drive east across CA on Thursday. Current indications are that it will pull a cold front across the CWA from NW to SE on Thursday fed by a moisture plume of just over one inch. Strong upslope flow should concentrate the heaviest precip amounts of 3 inches or more on the coastal slopes for the duration of the storm. Due to the speed of the system, widespread excessive rainfall and flooding is not expected. However, models are showing cold frontal structure to the sfc winds, and support aloft by the nose of a strong jet aloft. Organized heavier rainfall is possible along and just ahead of the front, and the cold air aloft trailing it will set the stage for post-frontal convective showers and possible thunderstorms. Rainfall rates are likely to be briefly heavy at time of frontal passage. It will be more difficult to determine the timing of any convective rainfall potential in any less organized activity behind the front later Thu/Thu night. At this time rainfall rates are expected to reach 1/2 inch per hour near the front. In any heavy convection/thunderstorm development though, rates could reach 1/2 inch or more in 15 minutes. These rates are capable of triggering debris flows, urban flooding, and ponding of water in low-lying and poorly drained areas. Greatest impact appears to be for Thursday. Where available, check latest briefing sheets for updates on forecast rainfall timing and rates.

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**.AVIATION...**

270430...FEW/SCT high clouds AOA 25,000 ft and unrestricted vis through Tuesday afternoon. Low clouds will likely return to the coast Tuesday night.

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**.MARINE...**

No hazardous marine weather is expected through Tuesday. Combined

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seas will increase to 9-11 ft on Wednesday, followed by gusty west-northwest winds Thursday through Saturday. This will likely generate conditions hazardous to small craft for the latter half of the week.

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.BEACHES...

A 9-11 ft swell at 16-18 seconds from 290 degrees will generate high surf, strong rip currents, and the potential for minor coastal flooding and minor beach erosion beginning on Wednesday and likely continuing into the weekend. A Beach Hazards Statement remains in effect for Tuesday afternoon through Friday evening.

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.FIRE WEATHER...

Low RH will continue inland through Tuesday, with some recovery late in the day as winds turn back onshore. Northeast winds will hold overnight into early Tuesday morning at 15 to 20 MPH along the coastal slopes and foothills, with isolated gusts 25-30 MPH below wind-favored canyons and passes. Otherwise the wind will trend weaker and turn back onshore by Tue afternoon. Better RH recovery will occur tomorrow night through Wednesday, with wetting rains Thursday.

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.SKYWARN...

Skywarn activation is not requested. However weather spotters are encouraged to report significant weather conditions.

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.SGX WATCHES/WARNINGS/ADVISORIES...

CA...Beach Hazards Statement from Tuesday afternoon through Friday evening for Orange County Coastal Areas-San Diego County Coastal Areas.

PZ...NONE.

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PUBLIC...10/Maxwell

FIRE WEATHER/Hydrology...10

AVIATION/MARINE/BEACHES...JJT

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FXUS66 KSGX 271248

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## Area Forecast Discussion

National Weather Service San Diego CA

448 AM PST Tue Nov 27 2018

## .SYNOPSIS...

Weak onshore flow will return today and strengthen on Wednesday. This will begin to spread cooling inland today with a return of coastal low clouds tonight. For late Wednesday night through Thursday, a low pressure system will move through southwest California bringing cooling, strong gusty southwest to west winds, and widespread moderate to locally heavy rainfall. Continued cool on Friday with a few light showers possible. For Saturday through early Sunday, another low pressure system moving inland through California may bring another round of rainfall and mountain snowfall with periods of stronger and gusty west winds.

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.DISCUSSION...FOR EXTREME SOUTHWESTERN CALIFORNIA INCLUDING ORANGE...  
SAN DIEGO...WESTERN RIVERSIDE AND SOUTHWESTERN SAN BERNARDINO  
COUNTIES...

High pressure aloft is weakening over southern California as a low pressure system moves inland through the Pacific Northwest and northern California. This will bring a return of weak onshore flow today with stronger onshore flow on Wednesday. Satellite imagery shows stratus well off the southern California coast with some high clouds moving southeastward across the area.

Slow cooling will begin to spread inland today with greater cooling on Wednesday. Higher resolution models show stratus returning near the coast in the evening. A coastal eddy develops tonight which will bring enough deepening for areas of coastal low clouds to extending into portions of the western valleys on Wednesday morning. The stronger onshore flow will bring gusty southwest winds to the mountains and deserts for Wednesday afternoon and evening.

A potent low pressure system moving along in the fast, nearly zonal mid-latitude flow across the central and eastern Pacific is expected to be off the California coast approaching 130W latitude on Wednesday, moving inland through California Wednesday night and Thursday with the global models similar on the timing and track.

Some light and less widespread precipitation may develop as early Wednesday evening. After 3 AM Thursday, strengthening southwesterly low level flow will bring increasing orographic lift along the south slopes of the San Gabriel Mountains, fed by

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subtropical moisture plume with precipitable water values of around 1.25 inch, about 225 percent of normal. On the current timing, the cold front would reach northern Orange County around 9 AM and San Diego around noon.

Higher resolution output of the ECMWF continues to show a low level jet just ahead of the front. South winds could gust to around 40 mph near the coast Thursday morning in advance of the front. Advisory strength south to southwest winds are possible ahead of the front for much of southwest California. Following the frontal passage, southwest to west winds are expected to be strongest near the mountain ridge tops to the desert foothills of the mountains with gusts to around 65 mph possible.

Widespread moderate to locally heavy rainfall will move quickly across southwest California along and west of the mountains from mid morning through early to mid afternoon on Thursday. During the mid to late afternoon, numerous showers will continue near the mountains with less coverage towards the coast. Another round of more widespread showers is expected to spread southeastward across the area during Thursday evening with showers decreasing late Thursday night. Through Thursday night, rainfall is expected to range from one half to one inch near the coast, to 2 to 3 inches on the coastal mountains slopes with local amounts exceeding 4 inches on southwest facing mountain slopes.

Snow levels will start out quite high, but lower with the frontal passage through Thursday afternoon. Snowfall of 6 to 12 inches is possible on the mountains above 7000 feet with more than one foot possible on the highest peaks.

The coldest mid level air moves across southwest California Thursday afternoon and evening with the ECMWF showing surface based CAPE of 200 to 400 J/kg. A slight chance of thunderstorms has been added to the forecast for Thursday afternoon and evening. Friday and Friday night will be cool, but mostly dry.

The global models are in much better agreement in bringing a second low pressure system through southwest California on Saturday afternoon into Saturday night. Given the fast movement and lesser available moisture, precipitation amounts are expected to be less than for the first storm on Thursday. However, the Saturday storm will be colder with a colder airmass spreading southward into southern California behind this storm. Sunday and Monday nights are more likely to be the coldest nights with low temperatures in the 20s in the high desert, and lower to mid 30s in portions of the inland valleys.

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AVIATION...

271000...Variable thin high clouds today and tonight. Low clouds expected to return to coastal areas after 03Z and spread locally inland overnight. Initial cigs would be around 800 feet msl with

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some vis reduction over higher coastal terrain, but clouds are expected to lift overnight.

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.MARINE...

No hazardous marine weather is expected through Wednesday. A storm will arrive Thursday, bringing strong winds and high seas. It will also bring a slight chance of thunderstorms Thursday afternoon and evening. While the storm departs Friday, winds and choppy waves will continue through Saturday.

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.BEACHES...

A long-period swell from the west-northwest will generate high surf Wednesday. It will peak Thursday into Friday before gradually subsiding over the weekend. The main hazard is that the high surf and strong rip currents will make swimming conditions hazardous. For details, check the High Surf Advisory and the Surf Zone Forecast.

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.HYDROLOGY...

A fast moving low pressure system will move through southwest California late Wednesday night and Thursday. Widespread moderate to locally heavy rainfall will move quickly across southwest California along and west of the mountains from mid morning through early to mid afternoon on Thursday. On the current timing, the cold front would reach northern Orange County around 9 AM and San Diego around noon. During the mid to late afternoon, numerous showers will continue near the mountains with less coverage towards the coast. Another round of more widespread showers is expected to spread southeastward across the area during Thursday evening with showers decreasing late Thursday night. Through Thursday night, rainfall is expected to range from one half to one inch near the coast, to 2 to 3 inches on the coastal mountains slopes with local amounts exceeding 4 inches on southwest facing mountain slopes.

Due to the speed of the system, widespread excessive rainfall and flooding is not expected. Organized heavier rainfall is possible along and just ahead of the front. With colder air aloft behind the front, periods of showers may continue into Thursday night with a slight chance of thunderstorms for Thursday afternoon and evening.

Rainfall rates are expected to reach one half inch per hour near the front. However, in stronger showers and isolated thunderstorms, rainfall rates could reach one half inch or more in 15 minutes. These rates are capable of triggering debris flows, urban flooding, and ponding of water in low-lying and poorly drained areas. The greatest impact appears to be for Thursday. Where available, check latest briefing sheets for updates on



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forecast rainfall timing and rates.

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.SKYWARN...

Skywarn activation is not requested. However weather spotters are encouraged to report significant weather conditions.

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.SGX WATCHES/WARNINGS/ADVISORIES...

CA...High Surf Advisory from 2 AM Wednesday to 10 PM PST Friday for Orange County Coastal Areas.

High Surf Advisory from 2 AM Wednesday to 8 PM PST Saturday for San Diego County Coastal Areas.

PZ...NONE.

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PUBLIC/HYDROLOGY...17

AVIATION/MARINE/BEACHES...MM

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FXUS66 KSGX 271828

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## Area Forecast Discussion

National Weather Service San Diego CA

1028 AM PST Tue Nov 27 2018

## .SYNOPSIS...

Benign weather will prevail through Wednesday afternoon ahead of the first significant Pacific Storm of the season poised to arrive on Thursday. The storm will begin Wednesday evening with rain developing along the coastal mountain slopes. The showers will become more widespread and heavier on Thursday along with strong gusty southwest to west winds from the mountain ridge tops to the desert slopes. Localized heavy rain is expected, particularly along the coastal mountain slopes due to good upslope flow and plentiful moisture. Temperatures will cool with the arrival of the Pacific Storm. Another storm system is poised to arrive from the north Saturday afternoon through Sunday morning, delivering another round of rain and mountain snow. This second storm will have less moisture available, but will be colder, with snow levels lowering.

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.DISCUSSION...FOR EXTREME SOUTHWESTERN CALIFORNIA INCLUDING ORANGE...  
SAN DIEGO...WESTERN RIVERSIDE AND SOUTHWESTERN SAN BERNARDINO  
COUNTIES...

...Update...

No changes to the forecast this morning. Focus is on the incoming Pacific storm. Latest model runs are still showing the same forecast philosophy. Rain begins along the coastal mountain slopes with good orographic lift Wednesday evening-overnight along with a weakening Atmospheric River ahead of a surface cold front which will be moving from NW to SE across the service area late morning into Orange County and through San Diego County Thursday afternoon. Some heavier showers are anticipated from late Thursday morning through the afternoon, when a concern arises for rainfall thresholds for burn scars to be met. See hydrology discussion below for more details.

...Previous Discussion (Issued at 448 AM PST Tue Nov 27 2018)...

High pressure aloft is weakening over southern California as a low pressure system moves inland through the Pacific Northwest and northern California. This will bring a return of weak onshore flow today with stronger onshore flow on Wednesday. Satellite imagery shows stratus well off the southern California coast with some high clouds moving southeastward across the area.

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Slow cooling will begin to spread inland today with greater cooling on Wednesday. Higher resolution models show stratus returning near the coast in the evening. A coastal eddy develops tonight which will bring enough deepening for areas of coastal low clouds to extending into portions of the western valleys on Wednesday morning. The stronger onshore flow will bring gusty southwest winds to the mountains and deserts for Wednesday afternoon and evening.

A potent low pressure system moving along in the fast, nearly zonal mid-latitude flow across the central and eastern Pacific is expected to be off the California coast approaching 130W latitude on Wednesday, moving inland through California Wednesday night and Thursday with the global models similar on the timing and track.

Some light and less widespread precipitation may develop as early Wednesday evening. After 3 AM Thursday, strengthening southwesterly low level flow will bring increasing orographic lift along the south slopes of the San Gabriel Mountains, fed by subtropical moisture plume with precipitable water values of around 1.25 inch, about 225 percent of normal. On the current timing, the cold front would reach northern Orange County around 9 AM and San Diego around noon.

Higher resolution output of the ECMWF continues to show a low level jet just ahead of the front. South winds could gust to around 40 mph near the coast Thursday morning in advance of the front. Advisory strength south to southwest winds are possible ahead of the front for much of southwest California. Following the frontal passage, southwest to west winds are expected to be strongest near the mountain ridge tops to the desert foothills of the mountains with gusts to around 65 mph possible.

Widespread moderate to locally heavy rainfall will move quickly across southwest California along and west of the mountains from mid morning through early to mid afternoon on Thursday. During the mid to late afternoon, numerous showers will continue near the mountains with less coverage towards the coast. Another round of more widespread showers is expected to spread southeastward across the area during Thursday evening with showers decreasing late Thursday night. Through Thursday night, rainfall is expected to range from one half to one inch near the coast, to 2 to 3 inches on the coastal mountains slopes with local amounts exceeding 4 inches on southwest facing mountain slopes.

Snow levels will start out quite high, but lower with the frontal passage through Thursday afternoon. Snowfall of 6 to 12 inches is possible on the mountains above 7000 feet with more than one foot possible on the highest peaks.

The coldest mid level air moves across southwest California Thursday afternoon and evening with the ECMWF showing surface based CAPE of 200 to 400 J/kg. A slight chance of thunderstorms

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has been added to the forecast for Thursday afternoon and evening. Friday and Friday night will be cool, but mostly dry.

The global models are in much better agreement in bringing a second low pressure system through southwest California on Saturday afternoon into Saturday night. Given the fast movement and lesser available moisture, precipitation amounts are expected to be less than for the first storm on Thursday. However, the Saturday storm will be colder with a colder airmass spreading southward into southern California behind this storm. Sunday and Monday nights are more likely to be the coldest nights with low temperatures in the 20s in the high desert, and lower to mid 30s in portions of the inland valleys.

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**AVIATION...**

271000...Variable thin high clouds today and tonight. Low clouds expected to return to coastal areas after 03Z and spread locally inland overnight. Initial cigs would be around 800 feet msl with some vis reduction over higher coastal terrain, but clouds are expected to lift overnight.

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**.MARINE...**

No hazardous marine weather is expected through Wednesday. A storm will arrive Thursday, bringing strong winds and high seas. It will also bring a slight chance of thunderstorms Thursday afternoon and evening. While the storm departs Friday, winds and choppy waves will continue through Saturday.

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**.BEACHES...**

A long-period swell from the west-northwest will generate high surf Wednesday. It will peak Thursday into Friday before gradually subsiding over the weekend. The main hazard is that the high surf and strong rip currents will make swimming conditions hazardous. For details, check the High Surf Advisory and the Surf Zone Forecast.

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**.HYDROLOGY...**

A fast moving low pressure system will move through southwest California late Wednesday night and Thursday. Widespread moderate to locally heavy rainfall will move quickly across southwest California along and west of the mountains from mid morning through early to mid afternoon on Thursday. On the current timing, the cold front would reach northern Orange County mid morning and into San Diego County during the afternoon. During the mid to late afternoon, numerous showers will continue near the mountains with less coverage towards the coast. Another round of more widespread showers is expected to spread

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southeastward across the area during Thursday evening with showers decreasing late Thursday night. Through Thursday night, rainfall is expected to range from one half to one inch near the coast, to 2 to 3 inches on the coastal mountains slopes with local amounts exceeding 4 inches on southwest facing mountain slopes.

Due to the speed of the system, widespread excessive rainfall and flooding is not expected. Organized heavier rainfall is possible along and just ahead of the front. With colder air aloft behind the front, periods of showers may continue into Thursday night with a slight chance of thunderstorms for Thursday afternoon and evening.

Rainfall rates are expected to reach one half inch per hour in the heavier showers. These rates are capable of triggering debris flows, urban flooding, and ponding of water in low-lying and poorly drained areas. The greatest impact potential period is from late Thursday morning through early Thursday evening. Burn scar debris flow rain thresholds could be met for the Holy, Canyon, and Valley burn scars (moderate confidence), but not as likely for the Cranston burn scar.

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.SKYWARN...

Skywarn activation is not requested. However weather spotters are encouraged to report significant weather conditions.

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.SGX WATCHES/WARNINGS/ADVISORIES...

CA...High Surf Advisory from 2 AM Wednesday to 10 PM PST Friday for Orange County Coastal Areas.

High Surf Advisory from 2 AM Wednesday to 8 PM PST Saturday for San Diego County Coastal Areas.

PZ...NONE.

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PUBLIC...Gregoria (Update)/17 (Prev Discussion)  
AVIATION/MARINE...PG

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FXUS66 KSGX 280431

AFDSGX

## Area Forecast Discussion

National Weather Service San Diego CA

831 PM PST Tue Nov 27 2018

## .SYNOPSIS...

Benign weather will prevail through Wednesday afternoon ahead of the first significant Pacific Storm of the season poised to arrive on Thursday. Some light rain and showers should break out along and west of the mountains Wednesday evening, then become more widespread and heavier on Thursday, along with strong gusty south to southwest winds ahead of a cold front. It will be cooler beginning tomorrow and lasting through next weekend, followed by modest warming early next week. Another storm system could arrive over the weekend, but impacts are uncertain at this time.

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.DISCUSSION...FOR EXTREME SOUTHWESTERN CALIFORNIA INCLUDING ORANGE...  
SAN DIEGO...WESTERN RIVERSIDE AND SOUTHWESTERN SAN BERNARDINO  
COUNTIES...

High clouds were streaming over SoCal this evening, and with weakened surface pressure gradients, winds were mostly light. A few patches of lower clouds were visible offshore through the blanket of higher clouds, but as of 8 PM PST, none had reached the coast. The 00Z Miramar sounding was still very dry and had a complete shift of wind in the column from NE to NW. Warming in the mid-levels rendered the sounding even more stable than yesterday. Surface dewpoints were coming up along the coast this evening too.

Expect some of those clouds to come onshore around 1000 FT, then lift further toward morning. Tomorrow will be cooler with areas of lower clouds as the marine air builds inland. Some light rain could break out Wed evening, but it looks like the main show will come Thursday as a cold front sweeps across the region. Latest model guidance maintains the strength of the system so no changes in the precip forecast.

One other subject that may need to be revisited is the wind. The fcst sfc pressure gradient KSN to KSFO is around 12 MBS Thu morning. The NAM12 also shows 850 MB winds over 30 KTS along the San Diego County Coast with a peak of 45 KTS. This type of wind occurs rarely (on average once every 5-10 years) If it mixes to the surface with the front, peak wind gusts could reach 45-50 MPH in some spots west of the mts. Farther inland, 65 to 75 MPH over the mtn crests and onto the desert slopes. So it is a good time to think about securing any loose patio and yard objects, and pulling down umbrellas that can easily catch the wind. No forecast changes at this time.

From previous discussion...

The Pacific storm will approach Wednesday night. A weak-moderate Atmospheric River (200-500 IVT) will move NW-SE across the area overnight Wednesday night through early Thursday afternoon across the area. Good orographic lift will occur along the coastal mountain slopes with rain developing Wednesday evening and becoming more widespread overnight-Thursday morning. Highest rain rates Wed night-Thu morning will be along the San Bernardino County coastal mountain slopes. Latest WRF runs are more bullish with rainfall amounts along the coastal mountain slopes. Trended QPF up a bit there.

A surface cold front will move across the area, through Orange County Thursday morning and across San Diego County Thursday afternoon. Instability will be weak, but convective showers, and possibly a thunderstorm or two, is possible especially late Thursday morning through early Thursday evening. This is the period when rainfall rates will be critical to the potential of debris flows. See hydrology discussion below for further details.

The system will start out warm with high snow levels, but snow levels will crash by Thursday evening. However, the highest moisture levels lie within the warm air. Still, several inches of snow is expected above 7000 FT with a foot plus possible at the highest peaks. Much lower amounts at resort level due to the warm nature of this system. Pass levels will be all rain.

There will be wind with this system. West-southwest wind gusts of 30 mph is currently projected as the front moves across the area. Locally higher gusts are possible if higher winds can mix down. The strongest winds will occur from the mountain ridge tops to the desert slopes where gusts 50+ mph are forecast.

The system will depart the area Thursday night-Friday with lingering and weaker showers. Then we have a break in the weather with another potential storm system arriving over the weekend. Global models are in strong disagreement now on this with the GFS providing another round of rain and mountain snow. However, the latest operational run of the ECMWF has this system much weaker and bypassing SoCal well to the north. GFS ensemble supports this system, so will maintain current forecast and monitor model trends to see what impact this system will have on the area.

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.AVIATION...

280330...Low clouds will develop over coastal areas tonight and spread locally inland by Wednesday morning, with bases starting around 1000 ft MSL and increasing to 3000 ft MSL by late morning. VCSH possible over coastal areas starting Wednesday evening. Otherwise, FEW-SCT clouds at or abv 20000 ft through Wednesday morning.

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**.MARINE...**

No hazardous marine weather is expected through Wednesday. A storm will arrive Thursday, bringing strong winds and high seas with rough conditions. It will also bring a slight chance of thunderstorms Thursday afternoon and evening. While the storm departs Friday, winds and choppy waves will continue through Saturday. A Small Craft Advisory remains in effect from Thursday through Friday.

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**.BEACHES...**

A long-period swell from the west-northwest will generate high surf Wednesday. The surf will peak Thursday into Friday before gradually subsiding over the weekend. The high surf and strong rip currents will make swimming conditions hazardous. For details, check the High Surf Advisory and the Surf Zone Forecast.

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**.HYDROLOGY...**

A fast moving low pressure system will move through southwest California late Wednesday night and Thursday. Widespread moderate to locally heavy rainfall will move quickly across southwest California along and west of the mountains from mid morning through early to mid afternoon on Thursday. On the current timing, the cold front would reach northern Orange County mid morning and into San Diego County during the afternoon. During the mid to late afternoon, numerous showers will continue near the mountains with less coverage towards the coast. Another round of more widespread showers is expected to spread southeastward across the area during Thursday evening with showers decreasing Thursday night. Through Thursday night, rainfall is expected to range from one half to one inch near the coast, to 2 to 3 inches on the coastal mountains slopes with local amounts exceeding 4 inches on southwest facing mountain slopes.

Due to the speed of the system, widespread excessive rainfall and flooding is not expected. Organized heavier rainfall is possible along and just ahead of the front. With colder air aloft behind the front, periods of showers may continue into Thursday night with a slight chance of thunderstorms for Thursday afternoon and evening.

Rainfall rates are expected to reach one half inch per hour in the heavier showers. These rates are capable of triggering debris flows, urban flooding, and ponding of water in low-lying and poorly drained areas. The greatest impact potential period is from late Thursday morning through early Thursday evening. Burn scar debris flow rain thresholds could be met for the Holy, Canyon, and Valley burn scars (moderate confidence), but not as likely for the Cranston burn scar. A Flash Flood Watch has been issued for these burn scar locations.



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.SKYWARN...

Skywarn activation is not requested. However weather spotters are encouraged to report significant weather conditions.

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.SGX WATCHES/WARNINGS/ADVISORIES...

CA...Flash Flood Watch from Thursday morning through Thursday evening for Orange County Inland Areas-Riverside County Mountains-

San Bernardino County Mountains-Santa Ana Mountains and Foothills.

High Surf Advisory from 2 AM Wednesday to 8 PM PST Saturday for San Diego County Coastal Areas.

High Surf Advisory from 2 AM Wednesday to 10 PM PST Friday for Orange County Coastal Areas.

PZ...Small Craft Advisory from 4 AM Thursday to 10 PM PST Friday for Coastal Waters from San Mateo Point to the Mexican Border and out to 30 nm-Waters from San Mateo point to the Mexican Border Extending 30 to 60 nm out including San Clemente Island.

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PUBLIC/HYDROLOGY...10/Gregoria  
AVIATION/MARINE...JJT/PG

# IOWA STATE UNIVERSITY

College of Ag

Department of Agronomy

## Department of Agronomy

716 Farm House Ln

Ames, IA 50011

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WWUS76 KSGX 281134

NPWSGX

URGENT - WEATHER MESSAGE

National Weather Service San Diego CA

334 AM PST Wed Nov 28 2018

...PERIODS OF STRONG GUSTY WINDS FOR THURSDAY AND THURSDAY NIGHT...

.Strong and gusty south to southwest winds will develop late tonight and strengthen Thursday morning in advance of a low pressure system moving inland through California, becoming westerly in the afternoon behind the cold front and continuing through Thursday night for the mountains and deserts.

CAZ055-056-058-060-062-065-282245-

/O.NEW.KSGX.WI.Y.0020.181129T1400Z-181130T1400Z/

San Bernardino County Mountains-Riverside County Mountains-

San Diego County Mountains-Apple and Lucerne Valleys-

San Diego County Deserts-San Geronio Pass Near Banning-

Including the cities of Crestline, Lake Arrowhead, Big Bear City,

Big Bear Lake, Running Springs, Wrightwood, Idyllwild-Pine Cove,

Julian, Pine Valley, Victorville, Hesperia, Apple Valley,

Borrego Springs, Banning, and Desert Hot Springs

334 AM PST Wed Nov 28 2018

...WIND ADVISORY IN EFFECT FROM 6 AM THURSDAY TO 6 AM PST  
FRIDAY...

The National Weather Service in San Diego has issued a Wind  
Advisory...which is in effect from 6 AM Thursday to 6 AM PST  
Friday.

- \* Winds...Areas of south to southwest winds 25 to 35 mph with gusts to 55 mph, becoming westerly on Thursday afternoon and diminishing late Thursday night. Isolated gusts to 65 mph are possible.
- \* Timing...Winds will strengthen late tonight and Thursday, then diminishing late Thursday night.
- \* Location...Strongest winds near mountain ridge tops and along desert mountain slopes into adjacent desert areas.
- \* Impacts...The winds will make driving difficult...especially for motorists with high profile vehicles. Watch for broken tree limbs and downed power lines.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

A Wind Advisory means that winds of 35 mph are expected. Winds

this strong can make driving difficult...especially for high profile vehicles. Use extra caution.

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CAZ043-048-050-057-552-554-282245-

/O.NEW.KSGX.WI.Y.0020.181129T1600Z-181130T0200Z/

San Diego County Coastal Areas-

San Bernardino and Riverside County Valleys-The Inland Empire-

San Diego County Valleys-Santa Ana Mountains and Foothills-

Orange County Coastal Areas-Orange County Inland Areas-

Including the cities of Vista, Carlsbad, Encinitas, Chula Vista,

National City, San Diego, Riverside, San Bernardino, Ontario,

Moreno Valley, Fontana, Rancho Cucamonga, Corona, Escondido,

El Cajon, San Marcos, La Mesa, Santee, Poway, Huntington Beach,

Costa Mesa, Santa Ana, Anaheim, Garden Grove, Irvine, Orange,

Fullerton, and Mission Viejo

334 AM PST Wed Nov 28 2018

...WIND ADVISORY IN EFFECT FROM 8 AM TO 6 PM PST THURSDAY...

The National Weather Service in San Diego has issued a Wind Advisory...which is in effect from 8 AM to 6 PM PST Thursday.

\* Winds...Areas of south winds 15 to 25 mph with gusts to 35 mph, becoming west in the afternoon and diminishing late Thursday afternoon.

\* Timing...South winds will develop late tonight and strengthen through Thursday morning. Winds will shift to the west behind the cold front for late Thursday morning and afternoon

\* Location...Strongest winds are expected toward the coast.

\* Impacts...The winds will make driving difficult...especially for motorists with high profile vehicles. Watch for broken tree limbs and palm fronds, and downed power lines.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

A Wind Advisory means that winds of 35 mph are expected. Winds this strong can make driving difficult...especially for high profile vehicles. Use extra caution.

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FXUS66 KSGX 281327

AFDSGX

## Area Forecast Discussion

National Weather Service San Diego CA

527 AM PST Wed Nov 28 2018

## .SYNOPSIS...

Onshore flow will strengthen today in advance of a Pacific storm that will move inland across California tonight and Thursday. Stronger and gusty southwest winds will develop late this afternoon and tonight in the mountains and deserts, then become westerly Thursday afternoon and continue through Thursday night with stronger winds for coastal and valley areas mainly during the day on Thursday. This storm is expected to bring widespread moderate to locally heavy rainfall with the heaviest precipitation on Thursday. Another round of showers is possible for late Saturday into Sunday but with much less precipitation expected. Mostly dry on Monday and Tuesday with weak high pressure aloft and weak offshore lower level flow with locally gusty northeast winds near the coast mountain slopes. For late next Wednesday, another Pacific storm may move inland into portions of California.

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.DISCUSSION...FOR EXTREME SOUTHWESTERN CALIFORNIA INCLUDING ORANGE...  
SAN DIEGO...WESTERN RIVERSIDE AND SOUTHWESTERN SAN BERNARDINO  
COUNTIES...

## .SHORT TERM (Today through Friday)...

Satellite imagery shows patchy stratus has returned for coastal areas with the more widespread stratus beyond the offshore islands. A low pressure system moving quickly towards the West Coast in the fast mid-latitude flow over the eastern Pacific will move into California tonight and Thursday.

Light rainfall is expected to develop this evening, with heavier rainfall developing on the south facing coastal slopes of the San Gabriel Mountains toward daybreak on Thursday as strengthening south to south winds lift a subtropical moisture plume with a precipitable water values greater than 200 percent of normal orographically along the coastal mountain slopes. The cold front with this low pressure system is expected to move across southwest California from mid morning to early afternoon on Thursday. More widespread heavier rainfall is expected with the cold front with isolated thunderstorms possible. The highest resolution models continue to show narrow bands of heavier rainfall with peak amounts exceeding 1 inch per hour, mostly with the cold frontal passage.

The highest resolution models also show some potential for storm

**November 29, 2018 Exceptional Event, Imperial County****Appendix A**

rotation just ahead for the front with a more favorable lower level vertical shear profile. This has mostly been in the broader area around Orange County during the late morning ahead of the cold front.

Following the frontal passage, numerous showers will continue, especially near the mountains. A second area of more enhanced shower activity may move into the area early Thursday evening with some model differences in the timing and track, though it is generally more likely to have a greater impact on San Diego County on Thursday evening, than areas farther north.

A wind advisory has been issued for coastal and valley areas on Thursday from 8 AM to 6 PM and for mountain and desert areas from 6 AM Thursday until 6 AM Friday. Strong south to southwest winds are expected to develop just ahead of the cold front Thursday morning, then shift to the west behind the front. There could be some prefrontal gusts to around 45 mph near the coast. Given the strength of the wind field aloft, stronger convection in the frontal band would have the potential to mix down some of those stronger winds with gusts to 50 to 60 mph possible.

Most lingering showers are expected to end Friday morning with weakening winds and cool temperatures.

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.LONG TERM (Saturday through Tuesday)...

The global models have trended for lesser impact on Southern California for Saturday afternoon into Sunday from a low pressure system passing by to the north with broad cyclonic flow across the area versus a better defined system. This would still be sufficient to bring periods of showers at times, but with overall lesser amounts. It will be a little colder with snow levels lowering to 5000 to 5500 feet by early Sunday.

Weak high pressure aloft and weak offshore lower level flow will follow for Monday and Tuesday with locally gusty northeast winds near the coastal slopes of the mountains. High temperatures may warm slightly on Monday with a little greater warming on Tuesday possible. Nights will be quite cool, with low temperatures in portions of the high desert falling into the 20s.

Another stronger storm is possible around the middle of next week sometime in the late Wednesday into Thursday time frame.

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.AVIATION...

281000Z...Low clouds will continue to develop over coastal areas and western valleys through sunrise. Bases will be around 1000-1200 feet msl with tops to 1800 feet, but the layer will lift during the morning. Scatter out expected by 16-18Z. Clouds gathering at around 2500-3500 feet msl after 00Z and spreading through the coastal basin

**November 29, 2018 Exceptional Event, Imperial County****Appendix A**

and into mountains overnight. Showers increasing overnight in the coastal basin and up the coastal slopes of mountains. Local terrain obscuration in clouds and -SHRA. Winds increasing tonight on mountain ridgetops and adjacent desert slopes with localized gusts 25-35 KT.

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**.MARINE...**

No hazardous marine weather is expected today. A storm will arrive Thursday, bringing strong winds and high seas with rough conditions. It will also bring a slight chance of thunderstorms Thursday afternoon and evening. Winds will decrease some late Friday. A Small

Craft Advisory is in effect Thursday through Friday. Strong winds and choppy conditions are forecast to redevelop late Saturday through Sunday, which could produce hazardous conditions again.

&&

**.BEACHES...**

A long-period swell from the west-northwest will generate high surf starting today. The surf will peak Thursday into Friday before gradually subsiding over the weekend. For details, check the High Surf Advisory and the Surf Zone Forecast.

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**.HYDROLOGY...**

Light rainfall will develop this evening and becoming locally heavy late tonight along the coastal slopes of the San Gabriel Mountains as south to southwest winds strengthen in advance of the cold front with a low pressure system moving inland through California for tonight and Thursday.

More widespread and heavier rainfall is expected with the cold front as it moves through southwest California for Thursday morning and early afternoon. Isolated thunderstorms are possible with the cold frontal passage. Rainfall of around one half inch per hour is possible on southwest facing mountain slopes. With stronger showers and isolated thunderstorms, rainfall of one half to one inch is possible. These rainfall rates are capable of causing local urban flooding, ponding of water in poorly drained areas, and deadly debris flows on and below recent burn areas. A Flash Flood Watch continues for recent burn areas for Thursday morning into Thursday evening.

Behind the front, periods of showers with isolated thunderstorms will continue through Thursday evening, with showers decreasing late Thursday night. Through early Friday, rainfall is expected to range from around one inch near the coast to 2 to 4 inches in the mountains. Isolated rainfall to around 5 inches is possible on favored southwest facing slopes. Around one half inch of rainfall is expected in the high desert areas and one quarter inch in the lower deserts.

**November 29, 2018 Exceptional Event, Imperial County****Appendix A**

A second, weaker storm may bring additional showers to portions of Southern California for Saturday afternoon into Sunday with less rainfall expected.

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.SKYWARN...

Skywarn activation is not requested. However weather spotters are encouraged to report significant weather conditions.

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.SGX WATCHES/WARNINGS/ADVISORIES...

CA...Wind Advisory from 6 AM Thursday to 6 AM PST Friday for Apple and Lucerne Valleys-Riverside County Mountains-San Bernardino County Mountains-San Diego County Deserts-San Diego County Mountains-San Geronio Pass Near Banning.

Flash Flood Watch from Thursday morning through Thursday evening for Orange County Inland Areas-Riverside County Mountains-San Bernardino County Mountains-Santa Ana Mountains and Foothills.

Wind Advisory from 8 AM to 6 PM PST Thursday for Orange County Coastal Areas-Orange County Inland Areas-San Bernardino and Riverside County Valleys-The Inland Empire-San Diego County Coastal Areas-San Diego County Valleys-Santa Ana Mountains and Foothills.

High Surf Advisory until 8 PM PST Saturday for San Diego County Coastal Areas.

High Surf Advisory until 10 PM PST Friday for Orange County Coastal Areas.

PZ...Small Craft Advisory from 4 AM Thursday to 10 PM PST Friday for Coastal Waters from San Mateo Point to the Mexican Border and out to 30 nm-Waters from San Mateo point to the Mexican Border Extending 30 to 60 nm out including San Clemente Island.

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PUBLIC/HYDROLOGY...17

AVIATION/MARINE/BEACHES...MM

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347

WWUS76 KSGX 282132

NPWSGX

URGENT - WEATHER MESSAGE

National Weather Service San Diego CA

132 PM PST Wed Nov 28 2018

...PERIODS OF STRONG GUSTY WINDS THURSDAY THROUGH THURSDAY NIGHT...

.Strong and gusty south to southwest winds will develop late tonight and strengthen Thursday morning, becoming westerly in the afternoon after the passage of a cold front and continuing through Thursday night for the mountains and deserts.

CAZ055-056-058-060-062-065-290600-

/O.CON.KSGX.WI.Y.0020.181129T1400Z-181130T1400Z/

San Bernardino County Mountains-Riverside County Mountains-

San Diego County Mountains-Apple and Lucerne Valleys-

San Diego County Deserts-San Gorgonio Pass Near Banning-

Including the cities of Crestline, Lake Arrowhead, Big Bear City,

Big Bear Lake, Running Springs, Wrightwood, Idyllwild-Pine Cove,

Julian, Pine Valley, Victorville, Hesperia, Apple Valley,

Borrego Springs, Banning, and Desert Hot Springs

132 PM PST Wed Nov 28 2018

...WIND ADVISORY REMAINS IN EFFECT FROM 6 AM THURSDAY TO 6 AM PST FRIDAY...

- \* Winds...Areas of south to southwest winds 25 to 35 mph with gusts to 55 mph, becoming westerly on Thursday afternoon and diminishing late Thursday night. Isolated gusts to 65 mph will be possible.
- \* Timing...Winds will strengthen late tonight and Thursday, then diminishing late Thursday night.
- \* Location...Strongest winds near mountain ridge tops and along desert mountain slopes into adjacent desert areas.
- \* Impacts...The winds will make driving difficult...especially for motorists with high profile vehicles. Watch for broken tree limbs and other debris as well as downed power lines.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

A Wind Advisory means that winds of 35 mph are expected. Winds this strong can make driving difficult...especially for high profile vehicles. Use extra caution.

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CAZ043-048-050-057-552-554-290600-

/O.CON.KSGX.WI.Y.0020.181129T1600Z-181130T0200Z/

San Diego County Coastal Areas-

San Bernardino and Riverside County Valleys-The Inland Empire-

San Diego County Valleys-Santa Ana Mountains and Foothills-

Orange County Coastal Areas-Orange County Inland Areas-

Including the cities of Vista, Carlsbad, Encinitas, Chula Vista,

National City, San Diego, Riverside, San Bernardino, Ontario,

Moreno Valley, Fontana, Rancho Cucamonga, Corona, Escondido,

El Cajon, San Marcos, La Mesa, Santee, Poway, Huntington Beach,

Costa Mesa, Santa Ana, Anaheim, Garden Grove, Irvine, Orange,

Fullerton, and Mission Viejo

132 PM PST Wed Nov 28 2018

...WIND ADVISORY REMAINS IN EFFECT FROM 8 AM TO 6 PM PST  
THURSDAY...

- \* Winds...Areas of south winds 15 to 25 mph with gusts to 35 mph, becoming west in the afternoon and diminishing late Thursday afternoon.
- \* Timing...South winds will develop late tonight and strengthen through Thursday morning. Winds will shift to the west after the passage of the cold front for late Thursday morning and afternoon.
- \* Location...Strongest winds are expected near the coast.
- \* Impacts...The winds will make driving difficult...especially for motorists with high profile vehicles. Watch for broken tree limbs, palm fronds and other debris as well as downed power lines.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

A Wind Advisory means that winds of 35 mph are expected. Winds this strong can make driving difficult...especially for high profile vehicles. Use extra caution.

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FXUS66 KSGX 282147

AFDSGX

## Area Forecast Discussion

National Weather Service San Diego CA

147 PM PST Wed Nov 28 2018

## .SYNOPSIS...

Onshore flow will strengthen through tonight in advance of a Pacific storm that will move inland across California on Thursday. Stronger and gusty southwest winds will develop late this afternoon and tonight in the mountains and deserts then become westerly Thursday afternoon, continuing through Thursday night. Stronger winds for coastal and valley areas will be mainly during the day on Thursday. This storm is expected to bring widespread moderate to locally heavy rainfall, with the heaviest precipitation on Thursday. Snow accumulations are expected mostly above five thousand feet in the San Bernardino and San Jacinto mountains. Another round of showers is possible for late Saturday into Sunday but with much less precipitation expected. Mostly dry on Monday and Tuesday with weak high pressure aloft and weak offshore flow at the surface, with locally gusty northeast winds near the coastal mountain slopes. For late next Wednesday, another Pacific storm may move inland into portions of California.

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.DISCUSSION...FOR EXTREME SOUTHWESTERN CALIFORNIA INCLUDING ORANGE...  
SAN DIEGO...WESTERN RIVERSIDE AND SOUTHWESTERN SAN BERNARDINO  
COUNTIES...

Low clouds over the coastal areas will increase in coverage through this afternoon as the winds strengthen out of the southwest.

From previous discussion...

A low pressure system moving quickly towards Southern California in the fast mid-latitude flow over the eastern Pacific will move into California tonight and Thursday.

Light rainfall is expected to develop this evening, with heavier rainfall developing on the south facing coastal slopes of the San Bernardino Mountains toward daybreak on Thursday. Strengthening south to southwest winds will lift a subtropical moisture plume with a precipitable water values greater than 200 percent of normal orographically along the coastal mountain slopes. The cold front with this low pressure system is expected to move across southwest California from early Thursday morning to late Thursday morning. More widespread heavier rainfall is expected with the cold front, and isolated thunderstorms will be possible. The highest resolution models continue to show narrow bands of heavier rainfall with highest rainfall rates exceeding 1 inch per hour,

**November 29, 2018 Exceptional Event, Imperial County**

mostly with the cold frontal passage.

The highest resolution models also show some potential for storm rotation just ahead for the front with a more favorable lower level vertical shear profile. This has mostly been in the broader area around Orange County during the late morning ahead of the cold front. This could favor the formation of waterspouts with the showers and thunderstorms as they approach the coastline from the west.

Following the frontal passage, numerous showers will continue, especially near the mountains. A second area of more enhanced shower activity is expected to move into the area Thursday

evening and is generally more likely to have a greater impact on San Diego County Thursday night, than areas farther north.

Snow is expected at the highest elevations of the San Bernardino and San Jacinto mountains. Snow levels will remain mostly above 8000 ft through Thursday morning, dropping to around 5500 ft Thursday afternoon. Snow totals could range from 2-4 inches from 5500 to 6500 ft, 4-12 inches from 6500 to 8500 feet, and 12 inches or more above 8500 ft.

A wind advisory has been issued for coastal and valley areas on Thursday from 8 AM to 6 PM and for mountain and desert areas from 6 AM Thursday until 6 AM Friday. Strong south to southwest winds are expected to develop just ahead of the cold front Thursday morning, then shift to the west behind the front. There could be some prefrontal gusts to around 45 mph near the coast. Given the strength of the wind field aloft, stronger convection in the frontal band would have the potential to mix down some of those stronger winds with gusts to 50 to 60 mph possible.

Most lingering showers are expected to end Friday morning with weakening winds and cool temperatures.

Saturday through Tuesday...A low pressure system passing by to the north with broad cyclonic flow across the area seems likely to bring more chances for showers Saturday afternoon into Sunday. Overall precipitation totals are expected to be much less than the system tomorrow. This is partly due to less available moisture but also to the speed of movement of this system. It will be a little colder with snow levels lowering to around 5000 feet by early Sunday.

Weak high pressure aloft and weak offshore lower level flow will follow for Monday and Tuesday with locally gusty northeast winds near the coastal slopes of the mountains. High temperatures may warm slightly on Monday with a little greater warming on Tuesday possible. Nights will be quite cool, with low temperatures in portions of the high desert falling into the 20s.

Another stronger storm is possible around the middle of next week sometime in the late Wednesday into Thursday time frame.

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.AVIATION...

282100Z...SCT-BKN mid level clouds 2000-3000 feet msl coastal areas will slowly spread through the coastal basin and into mountains overnight. Bases lowering 1500-2000 ft msl. Showers becoming more widespread overnight in the coastal basin and up the coastal slopes of mountains. Local terrain will become obscured in areas of -SHRA. Winds increase tonight into the morning on mountain ridgetops and adjacent desert slopes with localized gusts 30-40 KT.

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.MARINE...

No hazardous marine weather is expected today. A storm will arrive Thursday, bringing strong winds and high seas with rough conditions. It will also bring a slight chance of thunderstorms Thursday afternoon and evening. Winds will decrease some late Friday. A Small Craft Advisory is in effect Thursday through Friday. Strong winds and choppy conditions are forecast to redevelop late Saturday through Sunday, which could produce hazardous conditions again.

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.BEACHES...

A long-period swell from the west-northwest will continue to generate high surf starting today. The surf will peak Thursday into Friday before gradually subsiding over the weekend. For details, check the High Surf Advisory and the Surf Zone Forecast.

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.HYDROLOGY...

Light rainfall will develop this evening, becoming locally heavy late tonight along the coastal slopes of the San Bernardino Mountains as south to southwest winds strengthen in advance of a cold front. The front is associated with a low pressure system moving inland through California tonight and Thursday.

More widespread and heavier rainfall is expected with the cold front as it moves through southwest California Thursday morning and early afternoon. Isolated thunderstorms are possible with the cold frontal passage. Rainfall rates of one half to one inch per hour will be possible with heavier showers and thunderstorms. Rainfall rates of around one half inch per hour will be possible on southwest facing mountain slopes. These rainfall rates are capable of causing local urban flooding, ponding of water in poorly drained areas, and deadly mud slides and debris flows on and below recent burn areas. The Flash Flood Watch for recent burn areas has been extended and now goes from Thursday morning through late Thursday night.

After the front passes, periods of showers with isolated

**November 29, 2018 Exceptional Event, Imperial County****Appendix A**

thunderstorms will continue through Thursday night, with showers decreasing early Friday morning. Through early Friday, rainfall is expected to range from around one inch near the coast to 2 to 4 inches in the mountains. Isolated rainfall totals of around 5 inches will be possible on favored southwest facing slopes. Around one half inch of rainfall is expected in the high desert areas and one tenth to one quarter inch in the lower deserts.

A second, weaker storm may bring additional showers to portions of Southern California for Saturday afternoon into Sunday with less rainfall expected.

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.SKYWARN...

Skywarn activation is not requested. However weather spotters are encouraged to report significant weather conditions.

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.SGX WATCHES/WARNINGS/ADVISORIES...

CA...Wind Advisory from 6 AM Thursday to 6 AM PST Friday for Apple and Lucerne Valleys-Riverside County Mountains-San Bernardino County Mountains-San Diego County Deserts-San Diego County Mountains-San Gorgonio Pass Near Banning.

Winter Weather Advisory from noon Thursday to 2 AM PST Friday for Riverside County Mountains-San Bernardino County Mountains.

Flash Flood Watch from Thursday morning through late Thursday night for Orange County Inland Areas-Riverside County Mountains-San Bernardino County Mountains-Santa Ana Mountains and Foothills.

Wind Advisory from 8 AM to 6 PM PST Thursday for Orange County Coastal Areas-Orange County Inland Areas-San Bernardino and Riverside County Valleys-The Inland Empire-San Diego County Coastal Areas-San Diego County Valleys-Santa Ana Mountains and Foothills.

High Surf Advisory until 8 PM PST Saturday for San Diego County Coastal Areas.

High Surf Advisory until 10 PM PST Friday for Orange County Coastal Areas.

PZ...Small Craft Advisory from 4 AM Thursday to 10 PM PST Friday for Coastal Waters from San Mateo Point to the Mexican Border and out to 30 nm-Waters from San Mateo point to the Mexican Border Extending 30 to 60 nm out including San Clemente Island.

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WWUS75 KPSR 282205

NPWPSR

URGENT - WEATHER MESSAGE

National Weather Service Phoenix AZ

305 PM MST Wed Nov 28 2018

CAZ560-562-291300-

/O.NEW.KPSR.WI.Y.0021.181129T1400Z-181130T1400Z/

Joshua Tree NP West-Imperial County Southwest-

Including the cities of Cottonwood Visitor and Lost Horse-Keys  
Village

205 PM PST Wed Nov 28 2018

...WIND ADVISORY IN EFFECT FROM 6 AM THURSDAY TO 6 AM PST  
FRIDAY...

The National Weather Service in Phoenix has issued a Wind  
Advisory, which is in effect from 6 AM Thursday to 6 AM PST  
Friday.

\* WINDS...Southwest 25 to 35 mph with gusts up to 50 mph.

\* TIMING...

\* IMPACTS...Difficult driving conditions, especially for larger  
vehicles traveling along roads with crosswinds. Light,  
unsecured objects may become airborne. Minor tree damage  
possible.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

A Wind Advisory means that sustained wind speeds of between  
30 and 40 mph are expected, or wind gusts of between 40 and  
58 mph. Winds this strong can make driving difficult, especially  
for high profile vehicles. In addition, strong winds over desert  
areas could result in briefly lowered visibilities to well under  
a mile at times in blowing dust or blowing sand. Use extra  
caution.

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FXUS65 KPSR 282245

AFDPSR

Area Forecast Discussion

National Weather Service Phoenix AZ

345 PM MST Wed Nov 28 2018

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.SYNOPSIS...

Dry conditions with above normal temperatures through early Thursday. A cold front will then move across the region Thursday midday into Thursday night. The best chance for rainfall in the Phoenix metro area should occur Thursday evening into Thursday night. Expect a few lingering showers Friday mainly east of Phoenix. A much cooler and unsettled pattern will prevail this weekend and early next week, with temperatures Sunday into Monday nearly ten degrees below seasonal normals.

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.DISCUSSION...

Latest model consensus forecasts continue to bring in a rather sharp cold front on Thursday and Thursday night into the region. They continue to show a closed-off upper low center moving into northern CA on Thursday, then take it into the Great Basin on Thursday night and Friday. Although this system is expected to weaken as it moves inland, the combination of a strong (120kt) jet and a rather sharp surface cold front, along with a good, but brief moisture feed (PWATS in the 0.75-0.95 inch range) ahead of the trof axis is expected to produce an area of light-moderate precip ahead of/along the sfc cold front. Although chances for measurable rainfall look quite good (POPS in the 60-80 percent range across the lower deserts of south-central AZ), QPF amounts will likely remain low (0.10-0.25 inch across south-central AZ lower deserts), due to the rapid movement of the sfc front. Good downward momentum transfer of stronger winds aloft will also result in gusty southwesterly winds ahead of the front. Although wind speeds are expected to remain below advisory levels for the most part, they could reach these levels in the usual windier spots in SW Imperial County and across the higher terrain of Joshua Tree NP. Along with the winds, patchy blowing dust is possible as well, especially across SE CA and SW AZ. Although snow levels are expected to fall to as low as 6500 feet late Thursday night, most of the precip is expected to end before significant accumulations have a chance to occur.

On Friday, there will be enough lingering moisture to support some isolated light showers, primarily north and east of Phoenix. Again, any accumulation from these showers will be fairly minimal. The most appreciable aberration to the forecast will be the

**November 29, 2018 Exceptional Event, Imperial County**

dramatic drop in daytime high temperatures. High temperatures Friday will sink to the low to mid 60's for the warmest locations.

For the weekend, another system will move across the Pacific Northwest and into the Great Basin, well north of our area, but will pack enough punch to support a slight chance for showers over the weekend. The best chance for precipitation Saturday and Sunday will remain north and east of Phoenix, but desert rain will not be out of the question with 15-30% PoPs for Phoenix and other south-central AZ desert locations. Otherwise, the system will again generate breezy conditions.

This one-two punch of low pressure systems will only solidify the below normal temperatures through the weekend and well into next week at least. By Sunday, daytime highs will struggle to reach the 60's for the Phoenix area while remaining a few degrees warmer along the Colorado River area and through Southeast California. Overnight lows on Monday and Tuesday morning will also be cold dropping into the mid to upper 30's and low 40's for the warmest locations of the lower deserts, with the Globe area perhaps falling into the upper 20's.

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**AVIATION...**

South-Central Arizona including KPHX, KIWA, and KSDL:

No aviation impacts through Thursday afternoon. Light diurnal winds will continue through the period with off and on high clouds. A cold front will move through the area Thursday evening, just after the TAF period, bringing a period of showers and lower CIGS between 4-6 kft.

Southeast California/Southwest Arizona including KIPL and KBLH:

No aviation concerns through tonight as winds remain AOB 12 kts favoring the south at KBLH and the west at KIPL. Winds increase into the mid-teens during the day Thursday, with gusts possible in the mid-20s. Patchy blowing dust, lower CIGS between 6-10 kft, and few isolated showers are possible in the afternoon associated with a cold front. Periods of LLWS may develop for KIPL through Thursday evening, just after this TAF period.

Aviation Discussion not updated for amended TAFs.

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**.FIRE WEATHER...**

Friday through Tuesday:

Cooler temperatures settle into the region behind the departing weather system. Unsettled conditions will remain in place into early next week with a second weather system through this weekend. This will keep rain chances in the forecast for mainly high terrain areas each day through Monday. Breezy westerly winds are



**November 29, 2018 Exceptional Event, Imperial County****Appendix A**

likely to be seen Friday and Saturday before diminishing into Sunday. Fortunately, RH values will be above any concerning thresholds. Temperatures will be well below normals through the period.

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.SPOTTER INFORMATION STATEMENT...

Spotters should follow standard reporting procedures.

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.PSR WATCHES/WARNINGS/ADVISORIES...

AZ...None.

CA...Wind Advisory from 6 AM Thursday to 6 AM PST Friday for CAZ560-562.

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DISCUSSION...Percha/Deemer

AVIATION...Benedict

FIRE WEATHER...Kuhlman

# IOWA STATE UNIVERSITY

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## Department of Agronomy

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497

FXUS66 KSGX 290539

AFDSGX

## Area Forecast Discussion

National Weather Service San Diego CA

930 PM PST Wed Nov 28 2018

## .SYNOPSIS...

After a few showers tonight, A Pacific storm system will bring widespread rain Thursday and Thursday night, with locally heavy rain. A few thunderstorms are also possible. Some snow will occur in the mountains late Thursday and Thursday night, mainly above 6000 feet. Strong gusty winds will occur, especially in the mountains and deserts, but some coastal areas will be windy as well with the passage of the cold front Thursday. Some light precipitation will occur Friday mostly along the coastal mountain slopes, then another system will bring showers Saturday afternoon and evening, but with light to moderate precipitation amounts along with chilly weather. After a few days of fair weather with a warming trend, another storm system could move through the region Wednesday or Thursday of next week.

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.DISCUSSION...FOR EXTREME SOUTHWESTERN CALIFORNIA INCLUDING ORANGE...  
SAN DIEGO...WESTERN RIVERSIDE AND SOUTHWESTERN SAN BERNARDINO  
COUNTIES...

Skies were mostly cloudy this evening with a few sprinkles. Models are trending less with precip overnight, but significant rainfall is likely to move through the area from northwest to southeast with a cold front Thursday. Timing of heaviest rain appears to be early-mid morning from Orange County through the Inland Empire to SBD County Mountains, and late morning/early afternoon in San Diego County and the mountains of Riverside County. With moisture up to around 650 MB and 30-50 knots winds in the 700-850 MB layer from the west/southwest, there should be substantial orographic precipitation on W/SW facing mountains slopes. The trough axis will follow the front and mostly move over Thursday evening, so a second peak in the heavier precipitation is likely then. Rainfall totals through Thursday night still appear to be:

Lower deserts: 0.30 inches or less.

High deserts: 0.25 to 0.50 inches

Coast: 0.75 to 1.25 inches

Valleys: 1.00 to 1.75 inches

Mountains: 1.50 to 5.00 inches (highest on coastal slopes)

If thunderstorms form, there could be heavy rainfall rates easily over 1/2 inch per hour. Also, there is a lot of directional wind shear along and ahead of the front along with surface CAPE values around 400 J/kg, which could contribute to waterspouts, or perhaps

**November 29, 2018 Exceptional Event, Imperial County****Appendix A**

even a brief isolated weak tornado, though confidence is quite low on that. More likely there will be strong gusty winds along the front, with gusts near the coast possibly over 40 MPH, of course much higher over the mountains where local gusts could exceed 60 MPH.

Snow levels will be quite high, above 8000 feet, Thursday morning but should come down somewhat. 00Z NAM has wet bulb zero getting only down to around 6000 feet though, so the snow level may stay at or even a little above 6000 feet Thursday night. In the colder air above the snow level, there could be significant snow, 4-12 inches at/above 7000 feet, locally higher at highest peaks.

After the storm passes to the east, there remains some low-level moisture and fairly strong onshore flow, so a few showers could occur along the coastal mountain slopes Friday and Friday night. Another system is still on track to move through the area Saturday afternoon/evening, but most rainfall from this should be below 1/2 inch, except locally over an inch could occur on west-facing mountain slopes (more northerly low-level wind profile due to the more inland track of the upper low). It will be a colder system, with a snow level possibly 5000 feet or less, so several inches of snow could fall in the mountains. It will be quite chilly, with highs Saturday barely above 60 at lower elevations, and after the system moves through, Sunday should have a cold air mass overhead, with temps likely not getting much above 60 then. Warmer weather should return Mon/Tue, though models are showing some kind of Pacific storm system, possibly strong, moving through Wed/Thu.

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.AVIATION...

290430Z...

Coast/Valleys/Mountains...Ceilings will lower across the terminals west of the mountains tonight. Light showers are developing over the coastal waters this evening and will spread inland beginning around 06Z. Expect widespread rain with ceilings of 1500-2200 ft MSL and visibilities 3-5SM beginning late tonight. Cold front will approach KSNA/KONT around 15Z, KCRQ 18-19Z, and KSAN 20-21Z. The window for heaviest rainfall and isolated thunderstorms will begin about 3 hours before the frontal passage. In the heavier band visibilities could be reduced to 1SM with wind gusts 20-30 knots with local gusts to 35 knots possible. In the wake of the front ceilings will improve to 3000-4000 ft MSL. However, another round of showers is likely to impact the terminals Thursday evening in the wake of the front. Frequent wind gusts of 25-30 knots are likely Thursday afternoon/evening.

Deserts...VFR conditions are expected tonight. Scattered showers and isolated thunderstorms are expected Thursday as a cold front moves across the area. Rain could reduce visibilities at times. Wind gusts of 25-35 knots are likely beginning around 20Z Thursday in the wake of the front.

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**.MARINE...**

An approaching storm system will generate strong winds and rough seas beginning late tonight. A cold front will cross the coastal waters Thursday with wind gusts to 30 knots possible through Friday. In addition, a few thunderstorms will be possible Thursday afternoon and evening. Winds will decrease some late Friday. A Small Craft Advisory is in effect from late tonight through Friday. Hazardous conditions will be possible again late Saturday through Sunday across the coastal waters.

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**.BEACHES...**

A long-period swell from the west-northwest will continue to generate high surf starting today. The surf will peak Thursday into Friday before gradually subsiding over the weekend. For details, check the High Surf Advisory and the Surf Zone Forecast.

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**.HYDROLOGY...**

A few showers will occur overnight, producing mostly under 1/10 inch, except late on the south slopes of the San Bernardino County Mountains.

From previous discussion (little change in general prognosis)...

More widespread and heavier rainfall is expected with the cold front as it moves through southwest California Thursday morning and early afternoon. Isolated thunderstorms are possible with the cold frontal passage. Rainfall rates of one half to one inch per hour will be possible with heavier showers and thunderstorms. Rainfall rates of around one half inch per hour will be possible on southwest facing mountain slopes. These rainfall rates are capable of causing local urban flooding, ponding of water in poorly drained areas, and deadly mud slides and debris flows on and below recent burn areas. The Flash Flood Watch for recent burn areas has been extended and now goes from Thursday morning through late Thursday night.

After the front passes, periods of showers with isolated thunderstorms will continue through Thursday night, with showers decreasing early Friday morning. Through early Friday, rainfall is expected to range from around one inch near the coast to 2 to 4 inches in the mountains. Isolated rainfall totals of around 5 inches will be possible on favored southwest facing slopes. Around one half inch of rainfall is expected in the high desert areas and one tenth to one quarter inch in the lower deserts.

A second, weaker storm may bring additional showers to portions of Southern California for Saturday afternoon into Sunday with less rainfall expected.

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**November 29, 2018 Exceptional Event, Imperial County****Appendix A**

.SKYWARN...

Skywarn activation is not requested. However weather spotters are encouraged to report significant weather conditions.

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.SGX WATCHES/WARNINGS/ADVISORIES...

CA...Wind Advisory from 6 AM Thursday to 6 AM PST Friday for Apple and Lucerne Valleys-Riverside County Mountains-San Bernardino County Mountains-San Diego County Deserts-San Diego County Mountains-San Gorgonio Pass Near Banning.

Winter Weather Advisory from noon Thursday to 2 AM PST Friday for Riverside County Mountains-San Bernardino County Mountains.

Flash Flood Watch from Thursday morning through late Thursday night for Orange County Inland Areas-Riverside County Mountains-San Bernardino County Mountains-Santa Ana Mountains and Foothills.

Wind Advisory from 8 AM to 6 PM PST Thursday for Orange County Coastal Areas-Orange County Inland Areas-San Bernardino and Riverside County Valleys-The Inland Empire-San Diego County Coastal Areas-San Diego County Valleys-Santa Ana Mountains and Foothills.

High Surf Advisory until 8 PM PST Saturday for San Diego County Coastal Areas.

High Surf Advisory until 10 PM PST Friday for Orange County Coastal Areas.

PZ...Small Craft Advisory from 4 AM Thursday to 10 PM PST Friday for Coastal Waters from San Mateo Point to the Mexican Border and out to 30 nm-Waters from San Mateo point to the Mexican Border Extending 30 to 60 nm out including San Clemente Island.

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PUBLIC/HYDROLOGY...Maxwell

AVIATION/MARINE/BEACHES...Moreland

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333

WWUS76 KSGX 290542

NPWSGX

URGENT - WEATHER MESSAGE

National Weather Service San Diego CA

942 PM PST Wed Nov 28 2018

...PERIODS OF STRONG GUSTY WINDS THURSDAY THROUGH THURSDAY NIGHT...

.Strong and gusty south to southwest winds will develop late tonight and strengthen Thursday morning, becoming westerly in the afternoon after the passage of a cold front and continuing through Thursday night for the mountains and deserts.

CAZ055-056-058-060-062-065-291400-

/O.CON.KSGX.WI.Y.0020.181129T1400Z-181130T1400Z/

San Bernardino County Mountains-Riverside County Mountains-

San Diego County Mountains-Apple and Lucerne Valleys-

San Diego County Deserts-San Geronio Pass Near Banning-

Including the cities of Crestline, Lake Arrowhead, Big Bear City,

Big Bear Lake, Running Springs, Wrightwood, Idyllwild-Pine Cove,

Julian, Pine Valley, Victorville, Hesperia, Apple Valley,

Borrego Springs, Banning, and Desert Hot Springs

942 PM PST Wed Nov 28 2018

...WIND ADVISORY REMAINS IN EFFECT FROM 6 AM THURSDAY TO 6 AM PST FRIDAY...

- \* Winds...Areas of south to southwest winds 25 to 40 mph with gusts to 55 mph, becoming westerly on Thursday afternoon and diminishing late Thursday night. Isolated gusts to 70 mph will be possible.
- \* Timing...Winds will strengthen late tonight and Thursday, then diminish late Thursday night.
- \* Location...Strongest winds near mountain ridge tops and along desert mountain slopes into adjacent desert areas.
- \* Impacts...The winds will make driving difficult...especially for motorists with high profile vehicles. Watch for broken tree limbs and other debris as well as downed power lines.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

A Wind Advisory means that winds of 35 mph are expected. Winds this strong can make driving difficult...especially for high profile vehicles. Use extra caution.

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CAZ043-048-050-057-552-554-291400-

/O.CON.KSGX.WI.Y.0020.181129T1600Z-181130T0200Z/

San Diego County Coastal Areas-

San Bernardino and Riverside County Valleys-The Inland Empire-

San Diego County Valleys-Santa Ana Mountains and Foothills-

Orange County Coastal Areas-Orange County Inland Areas-

Including the cities of Vista, Carlsbad, Encinitas, Chula Vista,

National City, San Diego, Riverside, San Bernardino, Ontario,

Moreno Valley, Fontana, Rancho Cucamonga, Corona, Escondido,

El Cajon, San Marcos, La Mesa, Santee, Poway, Huntington Beach,

Costa Mesa, Santa Ana, Anaheim, Garden Grove, Irvine, Orange,

Fullerton, and Mission Viejo

942 PM PST Wed Nov 28 2018

...WIND ADVISORY REMAINS IN EFFECT FROM 8 AM TO 6 PM PST

THURSDAY...

\* Winds...Areas of south winds 20 to 30 mph with gusts to 45 mph, becoming west in the afternoon and diminishing late Thursday afternoon.

\* Timing...South winds will develop late tonight and strengthen through Thursday morning. Winds will shift to the west after the passage of the cold front for late Thursday morning and afternoon.

\* Location...Strongest winds are expected near the coast.

\* Impacts...The winds will make driving difficult...especially for motorists with high profile vehicles. Watch for broken tree limbs, palm fronds and other debris as well as downed power lines.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

A Wind Advisory means that winds of 35 mph are expected. Winds this strong can make driving difficult...especially for high profile vehicles. Use extra caution.

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Maxwell

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139

WWUS46 KSGX 290546

WSWSGX

URGENT - WINTER WEATHER MESSAGE

National Weather Service SAN DIEGO CA

946 PM PST Wed Nov 28 2018

...WINTER WEATHER ADVISORY FOR MOUNTAIN AREAS ABOVE 5,500 FEET...

.A storm system will bring snow accumulations mainly to mountain areas above 5,500 feet Thursday afternoon through Thursday night.

CAZ055-056-291400-

/O.CON.KSGX.WW.Y.0007.181129T2000Z-181130T1000Z/

San Bernardino County Mountains-Riverside County Mountains-

Including the cities of Big Bear City, Big Bear Lake,

Running Springs, and Wrightwood

946 PM PST Wed Nov 28 2018

...WINTER WEATHER ADVISORY REMAINS IN EFFECT FROM NOON THURSDAY TO 2 AM PST FRIDAY...

\* WHAT...Snow expected. Plan on difficult travel conditions, including during the evening commute on Thursday. Damage to trees and power lines is possible due to strong gusty winds. Total snow accumulations of 2 to 4 inches between 6,000 and 7,000 feet, 4 to 12 inches between 7,000 and 8,500 feet with localized amounts up to 20 inches at the highest peaks, are expected. Winds from the southwest will be 25 to 40 MPH in some locations, mainly higher terrain, with gusts of 55 MPH, locally to 70 MPH.

\* WHERE...The San Bernardino and Riverside County mountains above 5,500 feet.

\* WHEN...Noon Thursday to 2 AM Friday.

\* ADDITIONAL DETAILS...Look for reduced visibilities at times.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

A Winter Weather Advisory for snow means periods of snow will cause primarily travel difficulties. Be prepared for snow covered roads and limited visibilities, and use caution while driving.

For road condition information in California...enter

8 0 0 4 2 7 7 6 2 3 if inside California or

9 1 6 4 5 5 7 6 2 3 if outside California.

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WWUS75 KPSR 290849

NPWPSR

URGENT - WEATHER MESSAGE

National Weather Service Phoenix AZ

149 AM MST Thu Nov 29 2018

CAZ560-562-292300-

/O.CON.KPSR.WI.Y.0021.181129T1400Z-181130T1400Z/

Joshua Tree NP West-Imperial County Southwest-

Including the cities of Cottonwood Visitor and Lost Horse-Keys  
Village

1249 AM PST Thu Nov 29 2018

...WIND ADVISORY REMAINS IN EFFECT FROM 6 AM THIS MORNING TO 6 AM  
PST FRIDAY...

The National Weather Service in Phoenix has issued a Wind  
Advisory, which is in effect from 6 AM Thursday to 6 AM PST  
Friday.

\* WINDS...West 25 to 35 mph with gusts up to 55 mph.

\* TIMING...Thursday morning through early Friday evening.

\* IMPACTS...Difficult driving conditions, especially for larger  
vehicles traveling along roads with crosswinds. Light, unsecured  
objects may become airborne. Minor tree damage possible. Blowing  
dust may also reduce visibility.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

A Wind Advisory means that sustained wind speeds of between  
30 and 40 mph are expected, or wind gusts of between 40 and  
58 mph. Winds this strong can make driving difficult, especially  
for high profile vehicles. In addition, strong winds over desert  
areas could result in briefly lowered visibilities to well under  
a mile at times in blowing dust or blowing sand. Use extra  
caution.

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897

FXUS65 KPSR 290916

AFDPSR

## Area Forecast Discussion

National Weather Service Phoenix AZ

216 AM MST Thu Nov 29 2018

## .SYNOPSIS...

Dry conditions with above normal temperatures through early Thursday. A cold front will then move across the region Thursday midday into Thursday night. The best chance for rainfall in the Phoenix metro area should occur Thursday evening into Thursday night. Expect a few lingering showers Friday mainly east of Phoenix. A much cooler and unsettled pattern will prevail this weekend and early next week, with temperatures Sunday into Monday nearly ten degrees below seasonal normals.

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## .DISCUSSION...

The forecast has not changed much with regards to the approaching Pacific low pressure system moving into California. The current midlevel water vapor channel on the GOES-17 satellite clearly shows the low making way onto the California coast. By Thursday afternoon, this system will dig into the Southwest with a strong cold front pegged to move from west to east across the region. The front will push through Southeast California by midday Thursday bringing very strong winds capable of producing areas of blowing dust. As such, a wind advisory is in effect for portions of western Imperial County and Joshua Tree National Park from this morning until Friday evening.

The cold front will make its way into Central Arizona, including the Phoenix area, by the late afternoon and evening. The overall dynamics aloft will be favorable for at least showers to form across much of the area. However, total rainfall accumulation still looks rather meager below 0.25 inches for most. The recent runs of the NAM, GFS and HREF indicate there will be some instability as the front moves through so the development of a thunderstorm or two would not be too surprising. Nevertheless, the impacts from any rainfall are not likely to be significant. Desert rain and mountain snow (the latter limited to the highest peaks in Gila County within our forecast area) should subside for most locations by Friday afternoon, although there will be enough lingering moisture to support some additional showers for Central Arizona, especially Gila County.

For this weekend, another Pacific system passing well to our north will broaden the general troughing across the West. There will be some perturbations in the general flow aloft that could support additional showers. Precipitation chances peak again late Saturday and Sunday, primarily for locations from Phoenix

**November 29, 2018 Exceptional Event, Imperial County**

eastward, but again, any accumulation looks skimpy.

The most noticeable change to our weather from these two systems will prolonged cooler weather. The warmer desert locations will see highs in the low to mid 60's beginning Friday complemented with much cooler overnight low temperatures. The coldest times are likely to be Monday and Tuesday mornings, particularly for Globe, where the low temperatures will drop at least a few degrees below freezing. Most other warmer locations will experience lows between 35 and 40 degrees at those times.

Folks will see a gradual warmup in temperatures and quiet weather through the first part of the workweek. However, both the GFS and ECMWF deterministic models indicate another moist system similar to what we are seeing today moving through the area. If this holds, we could see additional rain/snow and prolonged cooler temperatures.

&&

**AVIATION...**

South-Central Arizona including KPHX, KIWA, and KSDL:

No aviation impacts through Thursday afternoon. Light diurnal winds will continue through the period with off and on high clouds. A cold front will move through the area Thursday evening, just after the TAF period, bringing a period of showers and lower CIGS between 4-6 kft.

Southeast California/Southwest Arizona including KIPL and KBLH:

No aviation concerns through tonight as winds remain AOB 12 kts favoring the south at KBLH and the west at KIPL. Winds increase into the mid-teens during the day Thursday, with gusts possible in the mid-20s. Patchy blowing dust, lower CIGS between 6-10 kft, and few isolated showers are possible in the afternoon associated with a cold front. Periods of LLWS may develop for KIPL through Thursday evening, just after this TAF period.

Aviation Discussion not updated for amended TAFs.

&&

**.FIRE WEATHER...**

Friday through Tuesday:

Cooler temperatures settle into the region behind the departing weather system. Unsettled conditions will remain in place into early next week with a second weather system through this weekend. This will keep rain chances in the forecast for mainly high terrain areas each day through Monday. Breezy westerly winds are likely to be seen Friday and Saturday before diminishing into Sunday. Fortunately, RH values will be above any concerning thresholds. Temperatures will be well below normals through the

period.

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.SPOTTER INFORMATION STATEMENT...

Spotters should follow standard reporting procedures.

&&

.PSR WATCHES/WARNINGS/ADVISORIES...

AZ...None.

CA...Wind Advisory from 6 AM this morning to 6 AM PST Friday for  
CAZ560-562.

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DISCUSSION...Deemer

AVIATION...Benedict

FIRE WEATHER...Kuhlman

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FXUS66 KSGX 291107

AFDSGX

## Area Forecast Discussion

National Weather Service San Diego CA

307 AM PST Thu Nov 29 2018

## .SYNOPSIS...

A Pacific storm system will bring widespread moderate to locally heavy precipitation for today into tonight along with strong and gusty winds. Some snow will occur in the mountains for this afternoon into tonight, mainly above 6000 feet. Some light precipitation could linger at times in San Diego County into early Saturday. A weather system passing by to the north will bring another round of showers from midday Saturday through early Sunday with strong and gust west winds in the mountains and deserts. The rest of Sunday through Tuesday will be mostly dry with cool nights and a daytime warming trend for Monday and Tuesday. Another storm system could move through the region around Wednesday and Thursday of next week.

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.DISCUSSION...FOR EXTREME SOUTHWESTERN CALIFORNIA INCLUDING ORANGE...  
SAN DIEGO...WESTERN RIVERSIDE AND SOUTHWESTERN SAN BERNARDINO  
COUNTIES...

## .SHORT TERM (Today through Sunday)...

There are only minor changes to the existing forecast through Saturday. Aircraft soundings late Wednesday evening showed a deep saturated layer from the mountains westward from the surface to above 10k feet with areas of light rain and drizzle for coast areas into the valleys and onto the coastal slopes of the San Bernardino County mountains.

South to southwest winds will strengthen ahead of the cold front early this morning. The current timing would have the front reaching northwest Orange County around 9 AM, northwest San Diego County around 10 AM, and downtown San Diego around noon. Higher resolution models show wind gusts just ahead of the front over the inner coastal waters and adjacent coastal waters could exceed 40 mph. Given the strengthen of the wind field aloft, stronger gusts are possible with any convection along the front.

Isolated thunderstorms will be possible along the front and given the lower level shear profile just ahead of the front, there remains some possibility for storm rotation, mainly for Orange and northwestern San Diego County and adjacent coastal waters, and possibly extending into the Inland Empire. There is a small possibility of waterspouts over Orange and possibly the San Diego County coastal waters this morning, mainly near the front. Behind the front, winds will shift to the west with strong winds and

**November 29, 2018 Exceptional Event, Imperial County****Appendix A**

wind gusts for this afternoon into tonight in the mountains from the ridgetops and desert slopes into adjacent desert areas. Gusty west winds over the coastal waters will extend into adjacent coastal areas through this afternoon.

Behind the front, showers will continue through this afternoon, especially near the mountains. A second area of greater shower coverage and isolated thunderstorms is expected to move across the coastal waters and into adjacent coastal areas during the late afternoon or early evening, then decrease from the northwest overnight. Smaller chances for mostly light showers will continue at times for central and southern portions of San Diego County into Wednesday morning.

The next round of showers is expected to reach the area by around midday Saturday with showers continuing into the evening along and west of the mountains. West winds in the mountains and deserts could be even stronger than for the system today.

&&

.LONG TERM (Sunday through Wednesday)...

Any lingering showers are expected to end over southern coastal areas on Sunday morning. The rest of Sunday through Tuesday will be mostly dry with very cool nights and daytime warming trend for Monday and Tuesday. The next significant low pressure system off is expected to be off the West Coast on early Tuesday. It is expected to bring some additional precipitation to portions of Southern California on Wednesday into Thursday. There remain some track differences as well as what areas might receive the most significant precipitation. With the more southern track of the ECMWF, the more significant precipitation might go into northern Baja and far southern California.

&&

.AVIATION...

291000Z...Coast/Valleys/Mountains...Cigs will continue between 600-800 feet msl with several cloud layers above that. Light rain and drizzle will continue to reduce visibility this morning. A cold front will move through KSNA/KONT around 15-16Z and KCRQ/KSAN 19-20Z. This will bring heavy rainfall, strong winds and isolated thunderstorms. Winds 20-30 knots with local gusts to 35 knots possible. Post-frontal cloud bases will rise to 3000-4000 feet MSL. Another round of showers is likely to impact the terminals this evening with wind gusts of 25-30 knots. Showers decrease and some scatter out is possible from north to south after 03-06Z tonight.

Deserts...Gradually lowering clouds as showers develop this morning with the cold front, down to 4000 feet msl. Heavier rain could drop cigs and vis between about 18-23Z today. Wind gusts of 25-35 knots are likely after 20Z.

&&

**.MARINE...**

Strong winds and rough seas are forecast through Friday. A cold front will bring a band of very strong winds, heavy rain, and a slight chance of thunderstorms. A Marine Weather Statement is in effect today from the late morning through early afternoon for any severe weather. A Small Craft Advisory is in effect through Friday. Hazardous winds and seas are forecast again for late Saturday through Sunday.

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**.BEACHES...**

A long-period swell from the west-northwest will continue to generate high surf. The surf will peak tonight into Friday before gradually subsiding over the weekend. For details, check the High Surf Advisory and the Surf Zone Forecast.

&amp;&amp;

**.HYDROLOGY...**

After the lighter rainfall overnight, more widespread and heavier rainfall is expected with the cold front as it moves through southwest California this morning and early afternoon. Isolated thunderstorms are possible with the cold frontal passage and following the passage of the cold front into tonight. Rainfall rates of one half to one inch per hour will be possible with heavier showers and thunderstorms. Rainfall rates of around one half inch per hour will be possible on southwest facing mountain slopes with isolated amounts to around one inch with the front. These rainfall rates are capable of causing local urban flooding, ponding of water in poorly drained areas, and deadly mud slides and debris flows on and below recent burn areas. The Flash Flood Watch for recent burn areas has been extended and now goes from this morning through late tonight.

After the front passes, periods of showers with isolated thunderstorms will continue through tonight, with showers decreasing from the northwest late tonight through early Friday morning. Through early Friday, rainfall is expected to range from around one inch near the coast to 2 to 4 inches in the mountains. Isolated rainfall totals of around 5 inches will be possible on favored southwest facing slopes. Around one half inch of rainfall is expected in the high desert areas and one tenth to one quarter inch in the lower deserts.

A second storm passing by to the north is expected to bring another round of showers from around midday Saturday into early Sunday with less rainfall expected.

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**.SKYWARN...**

Skywarn activation is not requested. However weather spotters are

**November 29, 2018 Exceptional Event, Imperial County**  
encouraged to report significant weather conditions.

&&

.SGX WATCHES/WARNINGS/ADVISORIES...

CA...Wind Advisory from 6 AM this morning to 6 AM PST Friday for  
Apple and Lucerne Valleys-Riverside County Mountains-San  
Bernardino County Mountains-San Diego County Deserts-San  
Diego County Mountains-San Gorgonio Pass Near Banning.

Winter Weather Advisory from noon today to 2 AM PST Friday for  
Riverside County Mountains-San Bernardino County Mountains.

Flash Flood Watch from 6 AM PST this morning through late  
tonight for Orange County Inland Areas-Riverside County  
Mountains-San Bernardino County Mountains-Santa Ana  
Mountains and Foothills.

Wind Advisory from 8 AM this morning to 6 PM PST this evening  
for Orange County Coastal Areas-Orange County Inland Areas-  
San Bernardino and Riverside County Valleys-The Inland  
Empire-San Diego County Coastal Areas-San Diego County  
Valleys-Santa Ana Mountains and Foothills.

High Surf Advisory until 8 PM PST Saturday for San Diego County  
Coastal Areas.

High Surf Advisory until 10 PM PST Friday for Orange County  
Coastal Areas.

PZ...Small Craft Advisory until 10 PM PST Friday for Coastal Waters  
from San Mateo Point to the Mexican Border and out to 30 nm-  
Waters from San Mateo point to the Mexican Border Extending  
30 to 60 nm out including San Clemente Island.

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PUBLIC/HYDROLOGY...17

AVIATION/MARINE/BEACHES...MM



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126

WWUS76 KSGX 291120

NPWSGX

URGENT - WEATHER MESSAGE

National Weather Service San Diego CA

320 AM PST Thu Nov 29 2018

...PERIODS OF STRONG GUSTY WINDS THROUGH TONIGHT...

.Strong and gusty south to southwest winds will develop and strengthen this morning ahead of an approaching cold front. The winds will become westerly behind the cold front for this afternoon through tonight with the stronger winds continuing in the mountains and deserts through tonight.

CAZ055-056-060-062-065-292230-

/O.CON.KSGX.WI.Y.0020.181129T1400Z-181130T1400Z/

San Bernardino County Mountains-Riverside County Mountains-

San Diego County Mountains-Apple and Lucerne Valleys-

San Diego County Deserts-San Geronio Pass Near Banning-

Including the cities of Crestline, Lake Arrowhead, Big Bear City,

Big Bear Lake, Running Springs, Wrightwood, Idyllwild-Pine Cove,

Julian, Pine Valley, Victorville, Hesperia, Apple Valley,

Borrego Springs, Banning, and Desert Hot Springs

320 AM PST Thu Nov 29 2018

...WIND ADVISORY REMAINS IN EFFECT FROM 6 AM THIS MORNING TO 6 AM PST FRIDAY...

\* Winds...Areas of south to southwest winds 25 to 35 mph with gusts to 55 mph, becoming westerly for this afternoon and tonight. Isolated gusts to 70 mph will be possible.

\* Timing...South winds will strengthen through this morning, then become westerly for this afternoon through tonight.

\* Location...Strongest winds near mountain ridge tops and along desert mountain slopes into adjacent desert areas.

\* Impacts...The winds will make driving difficult...especially for motorists with high profile vehicles. Watch for broken tree limbs and other debris as well as downed power lines.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

A Wind Advisory means that winds of 35 mph are expected. Winds this strong can make driving difficult...especially for high profile vehicles. Use extra caution.

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CAZ043-048-050-057-552-554-292230-  
/O.CON.KSGX.WI.Y.0020.181129T1600Z-181130T0200Z/  
San Diego County Coastal Areas-  
San Bernardino and Riverside County Valleys-The Inland Empire-  
San Diego County Valleys-Santa Ana Mountains and Foothills-  
Orange County Coastal Areas-Orange County Inland Areas-  
Including the cities of Vista, Carlsbad, Encinitas, Chula Vista,  
National City, San Diego, Riverside, San Bernardino, Ontario,  
Moreno Valley, Fontana, Rancho Cucamonga, Corona, Escondido,  
El Cajon, San Marcos, La Mesa, Santee, Poway, Huntington Beach,  
Costa Mesa, Santa Ana, Anaheim, Garden Grove, Irvine, Orange,  
Fullerton, and Mission Viejo

320 AM PST Thu Nov 29 2018

...WIND ADVISORY REMAINS IN EFFECT FROM 8 AM THIS MORNING TO 6 PM  
PST THIS EVENING...

- \* Winds...Areas of south winds strengthening this morning to 20 to 30 mph with gusts to 45 mph, becoming west 15 to 25 mph in the afternoon with gusts to 35 mph.
- \* Timing...South winds will strengthen this morning in advance of a cold front, then shift to the west after the passage of the cold front for this afternoon.
- \* Location...Strongest winds are expected near the coast.
- \* Impacts...The winds will make driving difficult...especially for motorists with high profile vehicles. Watch for broken tree limbs, palm fronds and other debris as well as downed power lines.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

A Wind Advisory means that winds of 35 mph are expected. Winds this strong can make driving difficult...especially for high profile vehicles. Use extra caution.

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NOUS46 KSGX 291904

PNSSGX

CAZ043-048-050-055&gt;058-060&gt;062-065-552-554-300704-

## Public Information Statement

National Weather Service San Diego CA

1104 AM PST Thu Nov 29 2018

...24 HR Top 10 Wind Gusts as of 11 AM...

Location	Speed	Time/Date	Elevation (ft.)
Heaps Peak	67 MPH	0915 AM 11/29	6350
Burns Canyon	63 MPH	0951 AM 11/29	6284
Volcan Mountain	63 MPH	0600 AM 11/29	5154
White Water Raws	60 MPH	0750 AM 11/29	2546
Harrison Park	59 MPH	1030 AM 11/29	4861
Mormon Rock	53 MPH	0916 AM 11/29	3300
Irvine	51 MPH	0820 AM 11/29	72
Paivika Ridge	51 MPH	0700 AM 11/29	5298
Toro Peak	50 MPH	1003 AM 11/29	8690
Palomar Mtn Lookout	49 MPH	1022 AM 11/29	6142

...WIND REPORTS...

Location	Speed	Time/Date	Elevation (ft.)
...Santa Ana Mountains and Foothills...			
Fremont Canyon	45 MPH	0751 AM 11/29	1780
Santiago Peak	45 MPH	1006 AM 11/29	5700
Corona	43 MPH	0911 AM 11/29	1951
El Cariso	41 MPH	0920 AM 11/29	2733
4 W Lake Elsinore	41 MPH	1020 AM 11/29	2640
Santa Rosa Plateau	40 MPH	0954 AM 11/29	1986
Santiago Peak 2	35 MPH	1020 AM 11/29	4135
6 WSW Lake Elsinore	28 MPH	1020 AM 11/29	2130

...San Gorgonio Pass Near Banning...

White Water Raws	60 MPH	0750 AM 11/29	2546
Cabazon	32 MPH	1014 AM 11/29	2154

...San Diego County Mountains...

Volcan Mountain	63 MPH	0600 AM 11/29	5154
Harrison Park	59 MPH	1030 AM 11/29	4861
Palomar Mtn Lookout	49 MPH	1022 AM 11/29	6142
Boulevard	48 MPH	0930 AM 11/29	3404
Lucky Five Ranch	48 MPH	0840 AM 11/29	4740
4 E Pine Valley	44 MPH	1030 AM 11/29	6048
Inaja Park	43 MPH	0920 AM 11/29	3314
Crestwood	42 MPH	0820 AM 11/29	4114
Hoskings Ranch (Wynola)	42 MPH	1010 AM 11/29	3738
Julian Fire Station	42 MPH	0755 AM 11/29	4238

**November 29, 2018 Exceptional Event, Imperial County****Appendix A**

Mataguay	40 MPH	1010 AM 11/29	2803
Ranchita	39 MPH	0907 AM 11/29	4415
Ranchita	39 MPH	1010 AM 11/29	4128
Julian (1 ESE)	38 MPH	0940 AM 11/29	4201
Lake Cuyamaca	36 MPH	1020 AM 11/29	4779
Warner Springs	36 MPH	1030 AM 11/29	2842
East Warners	33 MPH	0810 AM 11/29	3242
La Posta	33 MPH	1010 AM 11/29	4000
Sill Hill	32 MPH	1010 AM 11/29	3556
8 WNW Santa Ysabel	31 MPH	0955 AM 11/29	4055
School House Canyon	31 MPH	0900 AM 11/29	4284
Wynola West	31 MPH	1030 AM 11/29	3553
Campo	30 MPH	0714 AM 11/29	2630
Lake Cuyamaca	30 MPH	0501 AM 11/29	4637
Corte Madera	29 MPH	1020 AM 11/29	4004
Palomar Mountain (1 SE)	29 MPH	0901 AM 11/29	5580
Oak Grove N	29 MPH	1010 AM 11/29	2756
Sunshine Summit	29 MPH	1010 AM 11/29	3244
1 ESE Palomar Mountain	29 MPH	0950 AM 11/29	5476
Viejas Grade	29 MPH	0930 AM 11/29	3211
West Santa Ysabel	29 MPH	1020 AM 11/29	3291
Guatay	28 MPH	1030 AM 11/29	3892
Palomar Observatory	28 MPH	1030 AM 11/29	5483
Boulevard (4 SW)	28 MPH	0800 AM 11/29	3544
Wynola	28 MPH	0700 AM 11/29	4131
Mesa Grande	27 MPH	1030 AM 11/29	3349
Mt Laguna Observatory	27 MPH	0740 AM 11/29	5805
Oak Grove	27 MPH	1009 AM 11/29	2781
Pine Hills	27 MPH	1004 AM 11/29	3651
Campo (3 NE)	27 MPH	0830 AM 11/29	2886
Los Coyotes	26 MPH	0820 AM 11/29	3815
North Descanso	26 MPH	0640 AM 11/29	3377
Pine Hills	26 MPH	1010 AM 11/29	4058
Campo	25 MPH	0920 AM 11/29	2433
Descanso	25 MPH	0804 AM 11/29	3567
Julian	25 MPH	0929 AM 11/29	4273
Laguna	25 MPH	1020 AM 11/29	5030
Palomar Mountain RAWS	25 MPH	1015 AM 11/29	5486

**...San Diego County Inland Valleys...**

Mateo Ridge	46 MPH	1022 AM 11/29	810
Otay Mountain	40 MPH	1014 AM 11/29	3283
Talega Ridge (Camp Pendleton	39 MPH	1022 AM 11/29	1214
Palomar Mtn Launch	38 MPH	1000 AM 11/29	3140
Rainbow	37 MPH	1033 AM 11/29	2037
Camp Pendleton	36 MPH	1022 AM 11/29	915
Elfin Forest	34 MPH	1031 AM 11/29	540
Fallbrook RAWS	34 MPH	1022 AM 11/29	441
Rockwood	34 MPH	1030 AM 11/29	2210
Mt Woodson	32 MPH	1003 AM 11/29	2850
Lower Hellhole Canyon	32 MPH	1000 AM 11/29	1848
Mission Trails	32 MPH	1010 AM 11/29	901
Otay Mountain	32 MPH	0920 AM 11/29	3359
Rancho Heights	32 MPH	1000 AM 11/29	2196

**November 29, 2018 Exceptional Event, Imperial County****Appendix A**

1 W Rainbow	32 MPH	0940 AM 11/29	1134
Red Mountain	31 MPH	0914 AM 11/29	1600
Highland Valley	31 MPH	1030 AM 11/29	1358
Loveland Reservoir	31 MPH	1030 AM 11/29	1375
Olivenhain	31 MPH	1030 AM 11/29	1167
Sequan Truck Trail	31 MPH	1010 AM 11/29	1807
Otay	30 MPH	1030 AM 11/29	862
Pala Temecula	30 MPH	0920 AM 11/29	1292
Pala	30 MPH	0950 AM 11/29	455
Ramona Airport	30 MPH	0952 AM 11/29	1393
Talega	30 MPH	1010 AM 11/29	1451
Archie Moore	29 MPH	1030 AM 11/29	1479
Alpine	28 MPH	1044 AM 11/29	1229
Dehesa	28 MPH	1030 AM 11/29	762
Dye Mountain	28 MPH	1020 AM 11/29	2998
San Marcos Palomar	28 MPH	0940 AM 11/29	629
Fallbrook	28 MPH	1000 AM 11/29	953
Rainbow	28 MPH	1000 AM 11/29	1058
San Diego Country Estates	28 MPH	0930 AM 11/29	1684
Turner Lake	28 MPH	0940 AM 11/29	1249
Cuca Ranch	27 MPH	1000 AM 11/29	2579
Mt Helix	27 MPH	1015 AM 11/29	941
Hellhole Canyon	27 MPH	0940 AM 11/29	2001
Santa Ysabel Ranch	27 MPH	1020 AM 11/29	2943
Scripps Ranch	27 MPH	0840 AM 11/29	779
Wisecarver	27 MPH	0900 AM 11/29	2552
Barrett Junction	26 MPH	0950 AM 11/29	2395
Valley Center (4 NE)	26 MPH	1020 AM 11/29	1835
Guejito Ranch	26 MPH	1020 AM 11/29	1923
Hidden Meadows	26 MPH	0910 AM 11/29	1360
Fallbrook	26 MPH	0955 AM 11/29	708
Lake Wohlford	26 MPH	0930 AM 11/29	1642
Lilac	26 MPH	1030 AM 11/29	999
Marion Canyon	26 MPH	1000 AM 11/29	699
North Boulder Creek	26 MPH	0940 AM 11/29	3091
Sky Valley	26 MPH	1010 AM 11/29	2248
Sycamore Canyon	26 MPH	1010 AM 11/29	1038
Witch Creek	26 MPH	0640 AM 11/29	2517
Rancho Bernardo West	26 MPH	0800 AM 11/29	749
Anderson Valley	25 MPH	1020 AM 11/29	2667
San Diego Country Estates	25 MPH	0940 AM 11/29	1849
Creelman	25 MPH	0920 AM 11/29	1443
Crest	25 MPH	0920 AM 11/29	1485
Fallbrook	25 MPH	1010 AM 11/29	912
Valley Center	25 MPH	1000 AM 11/29	1291
Goose Valley	25 MPH	0952 AM 11/29	1835
Mussey Grade	25 MPH	1030 AM 11/29	1594
Viejas Mtn Trail	25 MPH	0900 AM 11/29	2630
...San Diego County Deserts...			
Mason Valley	47 MPH	1046 AM 11/29	2011
In Ko Pah	41 MPH	1020 AM 11/29	3221
Anza Borrego State Park	37 MPH	0930 AM 11/29	820
Borrego Valley Airport	36 MPH	0155 PM 11/28	522

**November 29, 2018 Exceptional Event, Imperial County****Appendix A**

Borrego Air Ranch Airport	30 MPH	0925 AM 11/29	587
Borrego Springs	29 MPH	1030 AM 11/29	543
Narrows (Borrego Desert)	28 MPH	0140 PM 11/28	768
Jacumba	27 MPH	0900 AM 11/29	2700
Ocotillo Wells	25 MPH	0902 PM 11/28	390

## ...San Diego County Coastal Areas...

Carlsbad (2 W)	41 MPH	1047 AM 11/29	364
Las Flores	34 MPH	0922 AM 11/29	390
Mission Beach	33 MPH	1046 AM 11/29	13
Moonlight Beach	33 MPH	1015 AM 11/29	36
Camp Pendleton	32 MPH	0942 AM 11/29	75
Red Beach Airport	32 MPH	0914 AM 11/29	88
Carlsbad Airport	31 MPH	0945 AM 11/29	328
Oceanside Airport	31 MPH	0936 AM 11/29	28
Coronado Cays	31 MPH	1027 AM 11/29	45
Solana Beach	30 MPH	1010 AM 11/29	13
Silver Strand Beach	30 MPH	0817 AM 11/29	30
Camp Pendleton South	29 MPH	1023 AM 11/29	245
Torrey Pines Glider Port	28 MPH	1048 AM 11/29	370
Del Mar	28 MPH	1030 AM 11/29	12
San Diego Airport	28 MPH	1051 AM 11/29	15
Point Loma Lighthouse	28 MPH	1013 AM 11/29	20
Oceanside NW	27 MPH	1046 AM 11/29	45
San Miguel	26 MPH	1020 AM 11/29	500
Montgomery Field	26 MPH	0800 AM 11/29	420
Miramar MCAS	26 MPH	1046 AM 11/29	478
North Island NAS	26 MPH	0813 AM 11/29	26
Mission Valley (1 S)	26 MPH	0810 AM 11/29	301
Tecolote Canyon	26 MPH	1030 AM 11/29	273
Carlsbad	25 MPH	0940 AM 11/29	71
Linda Vista	25 MPH	1045 AM 11/29	269

## ...San Bernardino and Riverside County Valleys-The Inland Empire...

Highland Springs	38 MPH	1016 AM 11/29	2233
Devore 2	38 MPH	0730 AM 11/29	2400
1 W Temecula	36 MPH	0920 AM 11/29	1579
Murrieta Hot Springs	33 MPH	0935 AM 11/29	1339
Murrieta	32 MPH	0949 AM 11/29	1240
Sage	31 MPH	1014 AM 11/29	2560
Lake Elsinore	31 MPH	0949 AM 11/29	1274
Temecula (11 NE)	31 MPH	1000 AM 11/29	1924
Temecula	30 MPH	0949 AM 11/29	1190
Temescal	28 MPH	0741 AM 11/29	1708
Hemet	27 MPH	1050 AM 11/29	1532
Murrieta Hot Spring (5 Ne)	26 MPH	0949 AM 11/29	1424
Hemet (10 SE)	26 MPH	1010 AM 11/29	2770
Wildomar	25 MPH	1045 AM 11/29	1282
6 W Perris	25 MPH	0930 AM 11/29	2160

## ...San Bernardino County Mountains...

Heaps Peak	67 MPH	0915 AM 11/29	6350
Burns Canyon	63 MPH	0951 AM 11/29	6284
Mormon Rock	53 MPH	0916 AM 11/29	3300

**November 29, 2018 Exceptional Event, Imperial County****Appendix A**

Paivika Ridge	51 MPH	0700 AM 11/29	5298
Fawnskin	41 MPH	0925 AM 11/29	7000
Lake Arrowhead	41 MPH	0831 AM 11/29	5495
Rock Camp	40 MPH	0902 AM 11/29	4900
Big Bear Lake	39 MPH	0749 AM 11/29	6961
Snow Peak	38 MPH	1131 AM 11/28	7866
Big Bear Airport	37 MPH	0955 AM 11/29	6752
Big Bear Lake	35 MPH	1045 AM 11/29	6766
Fawnskin	35 MPH	1034 AM 11/29	6900
Converse	33 MPH	0709 AM 11/29	5618
Big Bear City	33 MPH	0700 AM 11/29	6790
Green Valley Lake	32 MPH	0901 AM 11/29	6926
Big Bear Lake (6 SE)	31 MPH	0810 AM 11/29	7225
3 E Wrightwood	31 MPH	0140 AM 11/29	4540
1 SE Running Springs	31 MPH	1010 AM 11/29	6195
Skyline Ridge	31 MPH	1014 AM 11/29	7900
5 S Forest Falls	30 MPH	1030 AM 11/29	3840
Banning	29 MPH	1013 AM 11/29	3609
Lake Arrowhead	28 MPH	0830 AM 11/29	5225
Beaumont (4 NE)	27 MPH	1010 AM 11/29	3375
4 E Yucaipa	26 MPH	1010 AM 11/29	4565

**...Riverside County Mountains...**

Toro Peak	50 MPH	1003 AM 11/29	8690
Cabazon (3 SW)	47 MPH	1020 AM 11/29	3800
Vista Grande	41 MPH	1001 AM 11/29	4906
Pinyon Pines	36 MPH	0936 AM 11/29	4060
Poppet Flat	35 MPH	1014 AM 11/29	3830
Mt San Jacinto	30 MPH	0953 AM 11/29	8584
6 SW Cabazon	25 MPH	1010 AM 11/29	3802

**...Orange County Inland...**

Los Alamitos	36 MPH	0844 AM 11/29	36
3 NNE Yorba Linda	35 MPH	0740 AM 11/29	1122
Cristianitos	34 MPH	1010 AM 11/29	352
San Clemente Ridge	31 MPH	0940 AM 11/29	770
4 ENE Tustin	30 MPH	0850 AM 11/29	830
Santiago Canyon (2 NE)	30 MPH	0820 AM 11/29	1480
Bell Canyon	29 MPH	0951 AM 11/29	793
CSU Fullerton	28 MPH	0907 AM 11/29	247
Ortega	25 MPH	1010 AM 11/29	1123
3 NNE Yorba Linda	25 MPH	0800 AM 11/29	674

**...Orange County Coastal...**

Irvine	51 MPH	0820 AM 11/29	72
Laguna Beach	40 MPH	0940 AM 11/29	899
San Clemente	39 MPH	1008 AM 11/29	32
Laguna Niguel (2 NW)	29 MPH	0950 AM 11/29	819
John Wayne Airport	29 MPH	0840 AM 11/29	50
Corona Del Mar	28 MPH	0830 AM 11/29	49
Huntington Beach	26 MPH	0846 AM 11/29	9

**...Coachella Valley...**

Boyd Deep Canyon Reserve	25 MPH	0900 AM 11/29	980
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**November 29, 2018 Exceptional Event, Imperial County****Appendix A**

## ...Apple and Lucerne Valleys...

Victorville (5 N)	45 MPH	0825 AM 11/29	4650
Victorville	37 MPH	0823 AM 11/29	3164
Lucerne Valley	37 MPH	0956 AM 11/29	3034
Hesperia	36 MPH	0545 AM 11/29	3580
Hesperia	36 MPH	0731 AM 11/29	3051
Hesperia	36 MPH	1000 AM 11/29	3723
Victorville Southwest	34 MPH	0200 AM 11/29	3156
Apple Valley Airport	32 MPH	1255 PM 11/28	3062
Apple Valley Narrows	29 MPH	0631 AM 11/29	2746
Apple Valley RAWS	28 MPH	0650 AM 11/29	3159
Phelan	27 MPH	0100 AM 11/29	3587
Adelanto	26 MPH	1250 PM 11/28	2943
El Mirage	26 MPH	0126 PM 11/28	2880
Victorville Airport	25 MPH	0846 AM 11/29	2884

## ...Maritime Stations...

Oceanside Jetty	35 MPH	0928 AM 11/29	18
Mission Bay Channel	32 MPH	0808 AM 11/29	22
San Clemente Basin Buoy	31 MPH	0950 AM 11/29	0
30 W Coronado	31 MPH	1100 PM 11/28	0
Pacific Beach (Crystal Pier)	30 MPH	1024 AM 11/29	15
La Jolla (Scripps Pier)	28 MPH	1000 AM 11/29	0
33 WSW Oceanside	26 MPH	0300 AM 11/28	0
Scripps Pier	26 MPH	0710 AM 11/29	13
Imperial Beach Pier	25 MPH	1027 AM 11/29	40

Observations are collected from a variety of sources with varying equipment and exposures. We thank all volunteer weather observers for their dedication. Not all data listed are considered official.

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FXUS65 KPSR 291850

AFDPSR

Area Forecast Discussion

National Weather Service Phoenix AZ

1150 AM MST Thu Nov 29 2018

.UPDATE...

Updated 18Z aviation discussion

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.SYNOPSIS...

Dry conditions with above normal temperatures through early Thursday. A cold front will then move across the region Thursday midday into Thursday night. The best chance for rainfall in the Phoenix metro area should occur Thursday evening into Thursday night. Expect a few lingering showers Friday mainly east of Phoenix. A much cooler and unsettled pattern will prevail this weekend and early next week, with temperatures Sunday into Monday nearly ten degrees below seasonal normals.

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.DISCUSSION...

The forecast has not changed much with regards to the approaching Pacific low pressure system moving into California. The current midlevel water vapor channel on the GOES-17 satellite clearly shows the low making way onto the California coast. By Thursday afternoon, this system will dig into the Southwest with a strong cold front pegged to move from west to east across the region. The front will push through Southeast California by midday Thursday bringing very strong winds capable of producing areas of blowing dust. As such, a wind advisory is in effect for portions of western Imperial County and Joshua Tree National Park from this morning until Friday evening.

The cold front will make its way into Central Arizona, including the Phoenix area, by the late afternoon and evening. The overall dynamics aloft will be favorable for at least showers to form across much of the area. However, total rainfall accumulation still looks rather meager below 0.25 inches for most. The recent runs of the NAM, GFS and HREF indicate there will be some instability as the front moves through so the development of a thunderstorm or two would not be too surprising. Nevertheless, the impacts from any rainfall are not likely to be significant. Desert rain and mountain snow (the latter limited to the highest peaks in Gila County within our forecast area) should subside for most locations by Friday afternoon, although there will be enough lingering moisture to support some additional showers for Central Arizona, especially Gila County.

**November 29, 2018 Exceptional Event, Imperial County****Appendix A**

For this weekend, another Pacific system passing well to our north will broaden the general troughing across the West. There will be some perturbations in the general flow aloft that could support additional showers. Precipitation chances peak again late Saturday and Sunday, primarily for locations from Phoenix eastward, but again, any accumulation looks skimpy.

The most noticeable change to our weather from these two systems will be prolonged cooler weather. The warmer desert locations will see highs in the low to mid 60's beginning Friday complemented with much cooler overnight low temperatures. The coldest times are likely to be Monday and Tuesday mornings, particularly for Globe, where the low temperatures will drop at least a few degrees below freezing. Most other warmer locations will experience lows between 35 and 40 degrees at those times.

Folks will see a gradual warmup in temperatures and quiet weather through the first part of the workweek. However, both the GFS and ECMWF deterministic models indicate another moist system similar to what we are seeing today moving through the area. If this holds, we could see additional rain/snow and prolonged cooler temperatures.

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**AVIATION...**

South-Central Arizona including KPHX, KIWA, and KSDL:

A strong Pacific low and associated cold front will impact the Phoenix TAF sites beginning early this evening and continuing overnight with the primary impacts being gusty winds, showers, and decreasing ceilings. Light easterly winds will veer to the south around 20Z and southwest at 10 knots around 21-22Z. Winds will gradually increase ahead of the front which has slowed a bit and is expected to arrive between 03-06Z. Winds will be sustained at 15-20 knots with gusts in excess of 25 knots. Light to moderate rain showers are expected for a few hours around 06Z along and just behind the front, with winds decreasing below 15 knots around 09Z. An embedded thunderstorm may be possible with elevated instability aloft, but confidence is too low to include this in the TAF. Ceilings behind the front should also decrease below 5 kft, with MVFR ceilings possible after sunrise tomorrow.

Southeast California/Southwest Arizona including KIPL and KBLH:

A strong Pacific low and associated cold front will significantly impact southeast California this afternoon and evening with the primary impacts being gusty winds, blowing dust, and isolated showers. Southerly 10 knot winds will rapidly veer to the west-southwest with the frontal passage around 21Z, causing sustained winds above 20 knots and gusts in excess of 30 knots. Blowing dust will be possible this afternoon and early evening, so we have included a TEMPO group for reduced visibilities between 21-01Z at

**November 29, 2018 Exceptional Event, Imperial County****Appendix A**

KBLH and 22-02Z at KIPL. Isolated light showers will be possible behind the front into the early overnight hours, with wind gusts decreasing below 25 knots by 09Z. If winds weaken and potentially decouple tomorrow morning, 20-30 knot wind shear in the lowest 2 kft will be possible, but confidence is too low to include this in the TAF at this time as winds currently look to remain elevated.

Aviation Discussion not updated for amended TAFs.

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.FIRE WEATHER...

Saturday through Wednesday:

Unsettled conditions will remain in place this weekend as a second weather system moves southeastward across the state. This will keep rain chances in the forecast for mainly high terrain areas each day with precipitation chances ending by early Monday. Breezy westerly winds are likely to be seen on Saturday before diminishing into Sunday. Fortunately, RH values will be above any concerning thresholds. Temperatures will be well below normals through the period with a bit of a warming trend late as higher pressure builds into the area from the west.

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.SPOTTER INFORMATION STATEMENT...

Spotters should follow standard reporting procedures.

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.PSR WATCHES/WARNINGS/ADVISORIES...

AZ...None.

CA...Wind Advisory until 6 AM PST Friday for CAZ560-562.

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DISCUSSION...Deemer

AVIATION...Hopper

FIRE WEATHER...Kuhlman/CB

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NPWSGX

URGENT - WEATHER MESSAGE

National Weather Service San Diego CA

146 PM PST Thu Nov 29 2018

...PERIODS OF STRONG GUSTY WINDS THROUGH TONIGHT...

.Strong and gusty southwest to west winds will continue in the lower elevations west of the mountains through 6 pm, and in the mountains and deserts through tonight.

CAZ055-056-058-060-062-065-300600-

/O.CON.KSGX.WI.Y.0020.000000T0000Z-181130T1400Z/

San Bernardino County Mountains-Riverside County Mountains-

San Diego County Mountains-Apple and Lucerne Valleys-

San Diego County Deserts-San Geronio Pass Near Banning-

Including the cities of Crestline, Lake Arrowhead, Big Bear City,

Big Bear Lake, Running Springs, Wrightwood, Idyllwild-Pine Cove,

Julian, Pine Valley, Victorville, Hesperia, Apple Valley,

Borrego Springs, Banning, and Desert Hot Springs

146 PM PST Thu Nov 29 2018

...WIND ADVISORY REMAINS IN EFFECT UNTIL 6 AM PST FRIDAY...

\* Winds...Areas of south to southwest winds 25 to 35 mph with gusts to 55 mph, becoming westerly for this afternoon and tonight. Isolated gusts to 70 mph will be possible.

\* Timing...South winds will become westerly this afternoon through tonight.

\* Location...Strongest winds near mountain ridge tops and along desert mountain slopes into adjacent desert areas.

\* Impacts...The winds will make driving difficult...especially for motorists with high profile vehicles. Watch for broken tree limbs and other debris as well as downed power lines.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

A Wind Advisory means that winds of 35 mph are expected. Winds this strong can make driving difficult...especially for high profile vehicles. Use extra caution.

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CAZ043-048-050-057-552-554-300200-

/O.CON.KSGX.WI.Y.0020.00000010000Z-18113010200Z/  
 San Diego County Coastal Areas-  
 San Bernardino and Riverside County Valleys-The Inland Empire-  
 San Diego County Valleys-Santa Ana Mountains and Foothills-  
 Orange County Coastal Areas-Orange County Inland Areas-  
 Including the cities of Vista, Carlsbad, Encinitas, Chula Vista,  
 National City, San Diego, Riverside, San Bernardino, Ontario,  
 Moreno Valley, Fontana, Rancho Cucamonga, Corona, Escondido,  
 El Cajon, San Marcos, La Mesa, Santee, Poway, Huntington Beach,  
 Costa Mesa, Santa Ana, Anaheim, Garden Grove, Irvine, Orange,  
 Fullerton, and Mission Viejo  
 146 PM PST Thu Nov 29 2018

...WIND ADVISORY REMAINS IN EFFECT UNTIL 6 PM PST THIS EVENING...

- \* Winds...Areas of south to southwest winds 20 to 30 mph with gusts to 45 mph, becoming west 15 to 25 mph in the afternoon with gusts to 35 mph.
- \* Timing...South winds will shift to the west this afternoon.
- \* Location...Strongest winds are expected near the coast.
- \* Impacts...The winds will make driving difficult...especially for motorists with high profile vehicles. Watch for broken tree limbs, palm fronds and other debris as well as downed power lines.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

A Wind Advisory means that winds of 35 mph are expected. Winds this strong can make driving difficult...especially for high profile vehicles. Use extra caution.

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 Department of Agronomy

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FXUS66 KSGX 292201

AFDSGX

## Area Forecast Discussion

National Weather Service San Diego CA

201 PM PST Thu Nov 29 2018

## .SYNOPSIS...

A Pacific storm system moving across southern California will continue to bring areas of moderate to locally heavy rain and showers through tonight, along with strong and gusty winds. Some snow will occur in the mountains this afternoon into tonight, mainly above 6000 feet. Some light precipitation could linger at times in San Diego County into early Saturday. A weather system passing by to the north will bring another round of showers from midday Saturday through early Sunday with strong and gusty west winds in the mountains and deserts. The rest of Sunday through Tuesday will be mostly dry with cool nights and a daytime warming trend for Monday and Tuesday. Another storm system could move through the region around Wednesday and Thursday of next week.

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.DISCUSSION...FOR EXTREME SOUTHWESTERN CALIFORNIA INCLUDING ORANGE...  
SAN DIEGO...WESTERN RIVERSIDE AND SOUTHWESTERN SAN BERNARDINO  
COUNTIES...

Through Sunday...The cold front and associated showers are currently moving Eastward through San Diego County. Ahead of the front, a deep saturated layer brought widespread rain to most of the region from the mtns westward. For rainfall totals so far, please see the Precipitation Summary product.

In the cold, unstable air behind the front, winds will shift to the west with strong winds and wind gusts for this afternoon into tonight in the mountains from the ridgetops and desert slopes into adjacent desert areas. Gusty west winds over the coastal waters will extend into adjacent coastal areas through this afternoon.

Behind the front, showers will continue through this afternoon, especially near the mountains. A second area of organized showers with isolated thunderstorms is expected to move across the coastal waters and into adjacent coastal areas during the late afternoon or early evening, then decrease from the northwest overnight. Smaller chances for mostly light showers will continue at times for central and southern portions of San Diego County into Friday morning.

The next round of showers is expected to reach the area by around midday Saturday with showers continuing into Saturday evening along and west of the mountains. West winds in the mountains and deserts could be even stronger than for the system today.

Sunday through Wednesday... Any lingering showers are expected to end over southern coastal areas on Sunday morning. The rest of Sunday through Tuesday will be mostly dry with very cool nights and daytime warming trend for Monday and Tuesday. The next significant low pressure system is expected to be off the West Coast early on Tuesday. It is expected to bring some additional precipitation to portions of Southern California next Wednesday into Thursday. Deterministic model solutions are now in better agreement as to the track and intensity of the system. With the more southern track indicated by the ECM and GFS models, the more significant precipitation might go into northern Baja and far southern California.

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.AVIATION...

292100Z...Coast/Valleys/Mountains...The main band of widespread rain has moved through coastal and valley TAF sites, and ceilings have risen slightly. Cloud bases are around 2500-3500 ft and will continue through mid afternoon. Another round of SHRA and possible TSRA to impact terminals late this afternoon and evening, but not expected to be as widespread as this morning. Winds 20-30 knots and local gusts to 35 knots to continue through tonight. Showers to decrease and some scatter out is possible after 03-06Z tonight.

Deserts... SHRA possible through 23Z Thursday. SHRA could drop cigs and visibility at KPSP and KTRM. Wind gusts of 25-35 knots are likely after 20Z.

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.MARINE...

Strong winds and rough seas are forecast through Friday. Strong winds, heavy rain, and a slight chance of thunderstorms are possible in the coastal waters. A Marine Weather Statement is in effect today through 7 PM for severe weather. A Small Craft Advisory is in effect through Friday. Hazardous winds and seas are forecast again for late Saturday through Sunday.

&&

.BEACHES...

A long-period swell from the west-northwest will continue to generate high surf. The surf will peak tonight into Friday before gradually subsiding over the weekend. Surf of 5-8 FT with sets to 9 FT possible in Orange County, and surf of 6-10 FT with sets to 12 FT possible in Southern San Diego County.

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.HYDROLOGY...

Areas of moderate to locally heavy rain and showers will continue at times through tonight. Isolated thunderstorms are expected

**November 29, 2018 Exceptional Event, Imperial County****Appendix A**

in the cold unstable air behind the cold front that is moving to the east this afternoon. Rainfall rates of one half to one inch per hour will be possible with heavier showers and thunderstorms. Rainfall rates of around one half inch per hour will be possible on southwest facing mountain slopes with isolated amounts to around one inch. These rainfall rates are capable of causing local urban flooding, ponding of water in poorly drained areas, and deadly mud slides and debris flows on and below recent burn areas. The Flash Flood Watch remains in effect through late tonight. Expect showers to decrease from the northwest late tonight through early Friday morning. Through early Friday, rainfall totals are expected to range from around one inch near the coast to 3 to 5 inches in the mountains. Isolated rainfall totals exceeding 5 inches will be possible on favored southwest facing slopes. Around one half inch of rainfall is expected in the high desert areas and one tenth to one quarter inch in the lower deserts.

A second storm passing by to the north is expected to bring another round of showers from around midday Saturday into early Sunday with less rainfall expected.

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.SKYWARN...

Skywarn activation is requested for the mountain areas.

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.SGX WATCHES/WARNINGS/ADVISORIES...

CA...Wind Advisory until 6 AM PST Friday for Apple and Lucerne Valleys-Riverside County Mountains-San Bernardino County Mountains-San Diego County Deserts-San Diego County Mountains-San Geronio Pass Near Banning.

Winter Weather Advisory until 2 AM PST Friday for Riverside County Mountains-San Bernardino County Mountains.

Flash Flood Watch through late tonight for Orange County Inland Areas-Riverside County Mountains-San Bernardino County Mountains-Santa Ana Mountains and Foothills.

Wind Advisory until 6 PM PST this evening for Orange County Coastal Areas-Orange County Inland Areas-San Bernardino and Riverside County Valleys-The Inland Empire-San Diego County Coastal Areas-San Diego County Valleys-Santa Ana Mountains and Foothills.

High Surf Advisory until 8 PM PST Saturday for San Diego County Coastal Areas.

High Surf Advisory until 10 PM PST Friday for Orange County Coastal Areas.





## Current NWS Alert: Wind Advisory

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By State/County...

UV Alerts

Observations

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Surface Weather...

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Forecasts

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Marine

Hurricanes

Severe Weather

Space Weather

Fire Weather

Text Bulletins

By State

By Message Type

National

Forecast Models

Numerical Models

Statistical Models...

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[Home](#) > [Alerts](#) > [California](#) > Wind Advisory Issued by NWS Phoenix (Central Arizona and California Desert)**Message:** NOAA-NWS-ALERTS-CA125AC8FA8F54.WindAdvisory.125AC917D960CA.PSRNPWPSR.952c08af74324bc95819721b47f4daec  
from w-nws.webmaster@noaa.gov**Sent:** 14:05 PST on 11-28-2018**Effective:** 06:00 PST on 11-29-2018**Expires:** 06:00 PST on 11-30-2018**Event: Wind Advisory****Alert:**...WIND ADVISORY IN EFFECT FROM 6 AM THURSDAY TO 6 AM PST  
FRIDAY...The National Weather Service in Phoenix has issued a Wind  
Advisory, which is in effect from 6 AM Thursday to 6 AM PST  
Friday.

\* WINDS...Southwest 25 to 35 mph with gusts up to 50 mph.

\* TIMING...

\* IMPACTS...Difficult driving conditions, especially for larger  
vehicles traveling along roads with crosswinds. Light,  
unsecured objects may become airborne. Minor tree damage  
possible.**Instructions:** A Wind Advisory means that sustained wind speeds of between 30 and 40 mph are expected, or wind  
gusts of between 40 and 58 mph. Winds this strong can make driving difficult, especially for high profile  
vehicles. In addition, strong winds over desert areas could result in briefly lowered visibilities to well  
under a mile at times in blowing dust or blowing sand. Use extra caution.**Target Area:** **Imperial County Southwest**  
**Joshua Tree NP West****Forecast**  
**Office:** NWS Phoenix (Central Arizona and California Desert)US Dept of Commerce  
National Oceanic and Atmospheric Administration  
National Weather Service  
1325 East West Highway  
Silver Spring, MD 20910  
Page Author: NWS Internet Services TeamDisclaimer  
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NPWPSR

URGENT - WEATHER MESSAGE

National Weather Service Phoenix AZ

254 PM MST Thu Nov 29 2018

CAZ560-562-301200-

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Joshua Tree NP West-Imperial County Southwest-

Including the cities of Cottonwood Visitor and Lost Horse-Keys  
Village

154 PM PST Thu Nov 29 2018

...WIND ADVISORY REMAINS IN EFFECT UNTIL 6 AM PST FRIDAY...

\* WINDS...West 25 to 35 mph with gusts up to 55 mph.

\* TIMING...Thursday morning through early Friday evening.

\* IMPACTS...Difficult driving conditions, especially for larger  
vehicles traveling along roads with crosswinds. Light,  
unsecured objects may become airborne. Minor tree damage  
possible.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

A Wind Advisory means that sustained wind speeds of between  
30 and 40 mph are expected, or wind gusts of between 40 and  
58 mph. Winds this strong can make driving difficult, especially  
for high profile vehicles. In addition, strong winds over desert  
areas could result in briefly lowered visibilities to well under  
a mile at times in blowing dust or blowing sand. Use extra  
caution.

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# IOWA STATE UNIVERSITY

College of Ag

Department of Agronomy

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CAZ043-048-050-055&gt;058-060&gt;062-065-552-554-301135-

## Public Information Statement

National Weather Service San Diego CA

335 PM PST Thu Nov 29 2018

## ...WIND REPORTS...

Location	Speed	Time/Date	Lat/Lon
Boucher Hill	71 MPH	1004 AM 11/29	
Mormon Rock	70 MPH	0116 PM 11/29	
Heaps Peak	67 MPH	0915 AM 11/29	
Burns Canyon	63 MPH	0951 AM 11/29	
Volcan Mountain	63 MPH	0600 AM 11/29	
Harrison Park	60 MPH	1130 AM 11/29	
White Water Raws	60 MPH	0750 AM 11/29	
Paivika Ridge	55 MPH	1200 PM 11/29	
3 E Wrightwood	55 MPH	1200 PM 11/29	
Toro Peak	53 MPH	1213 PM 11/29	
Highland Springs	52 MPH	1116 AM 11/29	

## ...WIND REPORTS...

Location	Speed	Time/Date	Elevation (ft.)
...Santa Ana Mountains and Foothills...			
Santiago Peak	48 MPH	0116 PM 11/29	5700
4 W Lake Elsinore	47 MPH	0230 PM 11/29	2640
El Cariso	46 MPH	0220 PM 11/29	2733
Fremont Canyon	45 MPH	0751 AM 11/29	1780
Corona	43 MPH	0911 AM 11/29	1951
Santa Rosa Plateau	40 MPH	0954 AM 11/29	1986
Santiago Peak 2	39 MPH	0220 PM 11/29	4135
6 NE Mission Viejo	31 MPH	1210 PM 11/29	1725
6 WSW Lake Elsinore	29 MPH	0200 PM 11/29	2130

## ...San Gorgonio Pass Near Banning...

White Water Raws	60 MPH	0750 AM 11/29	2546
Sky Valley	38 MPH	0313 PM 11/29	1066
Cabazon	36 MPH	1214 PM 11/29	2154
1 NNW Banning	32 MPH	0100 PM 11/29	2759

## ...San Diego County Mountains...

Boucher Hill	71 MPH	1004 AM 11/29	5440
Volcan Mountain	63 MPH	0600 AM 11/29	5154
Harrison Park	60 MPH	1130 AM 11/29	4861

**November 29, 2018 Exceptional Event, Imperial County****Appendix A**

Palomar Mtn Lookout	49 MPH	1022 AM 11/29	6142
Boulevard	48 MPH	0930 AM 11/29	3404
Lucky Five Ranch	48 MPH	0840 AM 11/29	4740
4 E Pine Valley	44 MPH	1230 PM 11/29	6048
Julian Fire Station	44 MPH	1155 AM 11/29	4238
Inaja Park	43 MPH	1110 AM 11/29	3314
Ranchita	43 MPH	1130 AM 11/29	4128
Crestwood	42 MPH	1200 PM 11/29	4114
Hoskings Ranch (Wynola)	42 MPH	1010 AM 11/29	3738
Ranchita	41 MPH	1207 PM 11/29	4415
Mataguay	40 MPH	1040 AM 11/29	2803
Campo	39 MPH	0203 PM 11/29	2630
Lake Cuyamaca	39 MPH	0120 PM 11/29	4779
North Descanso	39 MPH	1040 AM 11/29	3377
1 ESE Palomar Mountain	39 MPH	1135 AM 11/29	5476
Julian (1 ESE)	38 MPH	0940 AM 11/29	4201
Warner Springs	38 MPH	1210 PM 11/29	2842
8 WNW Santa Ysabel	36 MPH	1125 AM 11/29	4055
Oak Grove N	36 MPH	0240 PM 11/29	2756
Sill Hill	36 MPH	1240 PM 11/29	3556
Descanso	35 MPH	0104 PM 11/29	3567
Guatay	35 MPH	0100 PM 11/29	3892
Mesa Grande	35 MPH	1100 AM 11/29	3349
School House Canyon	35 MPH	1140 AM 11/29	4284
East Warners	34 MPH	1220 PM 11/29	3242
Pine Hills	34 MPH	1204 PM 11/29	3651
Campo (3 NE)	34 MPH	0140 PM 11/29	2886
La Posta	33 MPH	1220 PM 11/29	4000
West Santa Ysabel	33 MPH	1200 PM 11/29	3291
Wynola West	33 MPH	1230 PM 11/29	3553
Boulder Creek	32 MPH	1200 PM 11/29	3706
Boulevard (4 SW)	32 MPH	1210 PM 11/29	3544
Corte Madera	31 MPH	0140 PM 11/29	4004
Palomar Mountain (1 SE)	31 MPH	1147 AM 11/29	5580
Palomar Mountain RAWS	31 MPH	1115 AM 11/29	5486
Palomar Observatory	31 MPH	0220 PM 11/29	5483
Pine Hills	31 MPH	1110 AM 11/29	4058
Chihuahua Valley	30 MPH	0100 PM 11/29	4610
Cameron Corners	30 MPH	0200 PM 11/29	2848
Lake Cuyamaca	30 MPH	0501 AM 11/29	4637
Laguna	30 MPH	1210 PM 11/29	5030
Sherilton Valley	30 MPH	0100 PM 11/29	3609
Viejas Grade	30 MPH	1200 PM 11/29	3211
Descanso	29 MPH	1147 AM 11/29	3329
Lake Morena	29 MPH	0120 PM 11/29	3085
Sunshine Summit	29 MPH	1010 AM 11/29	3244
Santa Ysabel North	29 MPH	1220 PM 11/29	3009
Buckman Springs	28 MPH	0200 PM 11/29	3263
Campo	28 MPH	0200 PM 11/29	2433
Mt Laguna Observatory (1 N)	28 MPH	1152 AM 11/29	5737
Sunrise Highway	28 MPH	0140 PM 11/29	4010
Sweetwater River	28 MPH	0140 PM 11/29	3394
Wynola	28 MPH	0700 AM 11/29	4131

**November 29, 2018 Exceptional Event, Imperial County****Appendix A**

...San Diego County Inland Valleys...

Mateo Ridge	46 MPH	1022 AM	11/29	810
Otay Mountain	44 MPH	0114 PM	11/29	3283
Camp Pendleton	41 MPH	1122 AM	11/29	915
Pala	39 MPH	1150 AM	11/29	455
Talega Ridge (Camp Pendleton	39 MPH	1022 AM	11/29	1214
Dye Mountain	38 MPH	1230 PM	11/29	2998
Palomar Mtn Launch	38 MPH	1000 AM	11/29	3140
Lake Wohlford	38 MPH	1120 AM	11/29	1642
Otay Mountain	38 MPH	0130 PM	11/29	3359
Rainbow	37 MPH	0313 PM	11/29	2037
Elfin Forest	37 MPH	1116 AM	11/29	540
North Boulder Creek	37 MPH	1230 PM	11/29	3091
Olivenhain	37 MPH	1100 AM	11/29	1167
Rockwood	36 MPH	1200 PM	11/29	2210
Fallbrook RAWS	35 MPH	1122 AM	11/29	441
Mt Woodson	35 MPH	1143 AM	11/29	2850
Mission Trails	35 MPH	1120 AM	11/29	901
Ramona Airport	35 MPH	1158 AM	11/29	1393
Turner Lake	35 MPH	1120 AM	11/29	1249
Wisecarver	35 MPH	1220 PM	11/29	2552
Archie Moore	34 MPH	1040 AM	11/29	1479
Valley Center (4 NE)	34 MPH	1120 AM	11/29	1835
Pala	34 MPH	1120 AM	11/29	411
Sunset Oaks	34 MPH	1210 PM	11/29	2337
Sky Valley	34 MPH	0120 PM	11/29	2248
San Marcos Palomar	33 MPH	1101 AM	11/29	629
Sequan Truck Trail	33 MPH	1120 AM	11/29	1807
Santa Teresa Valley	33 MPH	1220 PM	11/29	2604
Scripps Ranch	33 MPH	1100 AM	11/29	779
Rancho Bernardo West	33 MPH	1130 AM	11/29	749
Alpine	32 MPH	1058 AM	11/29	1229
La Mesa	32 MPH	1123 AM	11/29	567
Lower Hellhole Canyon	32 MPH	1000 AM	11/29	1848
Rancho Heights	32 MPH	1000 AM	11/29	2196
1 W Rainbow	32 MPH	0940 AM	11/29	1134
Dehesa	31 MPH	1050 AM	11/29	762
Dulzura	31 MPH	1140 AM	11/29	1425
Goose Valley	31 MPH	1252 PM	11/29	1835
Red Mountain	31 MPH	0914 AM	11/29	1600
Highland Valley	31 MPH	1030 AM	11/29	1358
Loveland Reservoir	31 MPH	1050 AM	11/29	1375
Otay	31 MPH	1220 PM	11/29	862
Round Potrero	31 MPH	0140 PM	11/29	2634
San Diego Country Estates	31 MPH	1210 PM	11/29	1684
Witch Creek	31 MPH	1220 PM	11/29	2517
Deerhorn Valley	30 MPH	0130 PM	11/29	2384
Mt Helix	30 MPH	1145 AM	11/29	941
Hodges Dam	30 MPH	1120 AM	11/29	375
Pala Temecula	30 MPH	0920 AM	11/29	1292
Talega	30 MPH	1010 AM	11/29	1451
Fallbrook (Ammo Dump)	29 MPH	0300 PM	11/29	542
Anderson Valley	29 MPH	1210 PM	11/29	2667
Creelman	29 MPH	1200 PM	11/29	1443

**November 29, 2018 Exceptional Event, Imperial County****Appendix A**

Fallbrook	29 MPH	1040 AM 11/29	953
Alpine	28 MPH	1252 PM 11/29	2810
Barrett Junction	28 MPH	1250 PM 11/29	2395
Barona Mesa	28 MPH	1220 PM 11/29	1924
Scripps Ranch	28 MPH	1130 AM 11/29	727
Hellhole Canyon	28 MPH	1100 AM 11/29	2001
Rainbow	28 MPH	1000 AM 11/29	1058
Sycamore Canyon	28 MPH	1200 PM 11/29	1038
Santa Ysabel Ranch	28 MPH	1100 AM 11/29	2943
Potrero North	28 MPH	1140 AM 11/29	2302

## ...San Diego County Deserts...

Anza Borrego State Park	48 MPH	1140 AM 11/29	820
Mason Valley	47 MPH	1046 AM 11/29	2011
In Ko Pah	45 MPH	1220 PM 11/29	3221
Borrego Air Ranch Airport	43 MPH	1245 PM 11/29	587
Borrego Springs	41 MPH	1230 PM 11/29	543
Borrego Springs	38 MPH	1208 PM 11/29	649
Borrego Valley Airport	36 MPH	1235 PM 11/29	522
Narrows (Borrego Desert)	35 MPH	1240 PM 11/29	768
Ocotillo Wells	32 MPH	0100 PM 11/29	137

## ...San Diego County Coastal Areas...

Carlsbad (2 W)	41 MPH	1057 AM 11/29	364
Silver Strand Beach	39 MPH	1137 AM 11/29	30
Mission Beach	37 MPH	1131 AM 11/29	13
Del Mar	36 MPH	1101 AM 11/29	12
Red Beach Airport	36 MPH	0245 PM 11/29	88
Imperial Beach (NAS)	35 MPH	1105 AM 11/29	23
Moonlight Beach	35 MPH	1035 AM 11/29	36
Las Flores	34 MPH	0922 AM 11/29	390
Miramar MCAS	33 MPH	0216 PM 11/29	478
Tecolote Canyon	33 MPH	1140 AM 11/29	273
Coronado Cays	33 MPH	1147 AM 11/29	45
Camp Pendleton	32 MPH	0942 AM 11/29	75
Solana Beach	32 MPH	1100 AM 11/29	13
Border Field	31 MPH	1210 PM 11/29	328
Carlsbad Airport	31 MPH	0945 AM 11/29	328
Oceanside Airport	31 MPH	0936 AM 11/29	28
Brown Field	31 MPH	1121 AM 11/29	525
Point Loma Lighthouse	31 MPH	1133 AM 11/29	20
Torrey Pines Glider Port	30 MPH	1113 AM 11/29	370
Del Mar Heights	30 MPH	1120 AM 11/29	294
San Diego Airport	30 MPH	1139 AM 11/29	15
La Jolla Heights	29 MPH	0210 PM 11/29	409
Miramar	29 MPH	1140 AM 11/29	445
Camp Pendleton South	29 MPH	1023 AM 11/29	245
Oceanside NW	28 MPH	0259 PM 11/29	45
San Miguel	28 MPH	1130 AM 11/29	500
North Island NAS	28 MPH	1052 AM 11/29	26
Bay Park	28 MPH	1134 AM 11/29	34

## ...San Bernardino and Riverside County Valleys-The Inland Empire...

Highland Springs	52 MPH	1116 AM 11/29	2233
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**November 29, 2018 Exceptional Event, Imperial County****Appendix A**

Lake Mathews	38 MPH	1216 PM 11/29	1516
Devore 2	38 MPH	1140 AM 11/29	2400
Murrieta	36 MPH	1049 AM 11/29	1240
1 W Temecula	36 MPH	0920 AM 11/29	1579
Temescal	36 MPH	0141 PM 11/29	1708
Murrieta Hot Springs	33 MPH	0935 AM 11/29	1339
Lake Elsinore	32 MPH	0149 PM 11/29	1274
Sage	31 MPH	1114 AM 11/29	2560
Temecula	31 MPH	1149 AM 11/29	1190
Temecula (11 NE)	31 MPH	1000 AM 11/29	1924
Chino Airport	30 MPH	0112 PM 11/29	680
Lake View Terrace	30 MPH	0322 PM 11/29	1778
Riverside Airport	30 MPH	0132 PM 11/29	818
Hemet (10 SE)	30 MPH	1130 AM 11/29	2770

**...San Bernardino County Mountains...**

Mormon Rock	70 MPH	0116 PM 11/29	3300
Heaps Peak	67 MPH	0915 AM 11/29	6350
Burns Canyon	63 MPH	0951 AM 11/29	6284
Paivika Ridge	55 MPH	1200 PM 11/29	5298
3 E Wrightwood	55 MPH	1200 PM 11/29	4540
Snow Peak	51 MPH	0301 PM 11/29	7866
Running Springs (3 SE)	48 MPH	0200 PM 11/29	4000
Banning	45 MPH	0113 PM 11/29	3609
Rock Camp	43 MPH	1102 AM 11/29	4900
Skyline Ridge	43 MPH	1214 PM 11/29	7900
Converse	42 MPH	1109 AM 11/29	5618
Fawnskin	41 MPH	0925 AM 11/29	7000
Lake Arrowhead	41 MPH	0831 AM 11/29	5495
Big Bear Lake	39 MPH	1239 PM 11/29	6961
Big Bear Airport	37 MPH	0955 AM 11/29	6752
Big Bear City	35 MPH	1255 PM 11/29	6790
Big Bear Lake	35 MPH	1045 AM 11/29	6766
Fawnskin	35 MPH	1034 AM 11/29	6900
4 E Yucaipa	35 MPH	1120 AM 11/29	4565
5 S Forest Falls	35 MPH	0220 PM 11/29	3840
Forest Falls	34 MPH	1210 PM 11/29	5199
Wrightwood	33 MPH	1131 AM 11/29	5997
Beaumont (4 NE)	33 MPH	1110 AM 11/29	3375
Green Valley Lake	32 MPH	0901 AM 11/29	6926
1 SE Running Springs	32 MPH	1100 AM 11/29	6195
Lake Arrowhead	31 MPH	1146 AM 11/29	5225
Big Bear Lake (6 SE)	31 MPH	0810 AM 11/29	7225
Big Pine Flat	29 MPH	0135 PM 11/29	6861
Big Bear Lake (4 SE)	28 MPH	0240 PM 11/29	5800

**...Riverside County Mountains...**

Toro Peak	53 MPH	1213 PM 11/29	8690
Cabazon (3 SW)	47 MPH	1020 AM 11/29	3800
Vista Grande	44 MPH	1101 AM 11/29	4906
Poppet Flat	38 MPH	1214 PM 11/29	3830
Pinyon Pines	36 MPH	0936 AM 11/29	4060
Mountain Center	31 MPH	1217 PM 11/29	4701
Keenwild	31 MPH	0238 PM 11/29	4590



**November 29, 2018 Exceptional Event, Imperial County****Appendix A**

Mt San Jacinto	30 MPH	0953 AM 11/29	8584
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## ...Orange County Inland...

CSU Fullerton	36 MPH	1253 PM 11/29	247
Los Alamitos	36 MPH	0844 AM 11/29	36
3 NNE Yorba Linda	35 MPH	0740 AM 11/29	1122
Cristianitos	34 MPH	1010 AM 11/29	352
Bell Canyon	32 MPH	1051 AM 11/29	793
San Clemente Ridge	31 MPH	0940 AM 11/29	770
Cypress	30 MPH	0120 PM 11/29	42
4 ENE Tustin	30 MPH	0850 AM 11/29	830
Santiago Canyon (2 NE)	30 MPH	0820 AM 11/29	1480

## ...Orange County Coastal...

Laguna Beach	40 MPH	0940 AM 11/29	899
San Clemente	39 MPH	1008 AM 11/29	32
Corona Del Mar	31 MPH	0216 PM 11/29	49
Laguna Niguel (2 NW)	29 MPH	0250 PM 11/29	819
John Wayne Airport	29 MPH	0840 AM 11/29	50

## ...Coachella Valley...

Thousand Palms	41 MPH	0315 PM 11/29	272
Thermal Airport	39 MPH	0219 PM 11/29	-118
Palm Springs Airport	37 MPH	0258 PM 11/29	474
Boyd Deep Canyon Reserve	35 MPH	1120 AM 11/29	980
Coachella	34 MPH	0200 PM 11/29	110

## ...Apple and Lucerne Valleys...

Victorville (5 N)	45 MPH	1245 PM 11/29	4650
Hesperia	41 MPH	1115 AM 11/29	3580
Lucerne Valley	40 MPH	1126 AM 11/29	3034
Victorville	37 MPH	0823 AM 11/29	3164
Hesperia	36 MPH	0731 AM 11/29	3051
El Mirage	36 MPH	0126 PM 11/29	2880
Hesperia	36 MPH	1000 AM 11/29	3723
Victorville Southwest	34 MPH	0200 AM 11/29	3156
Means Lake	34 MPH	0226 PM 11/29	2818
Apple Valley Airport	32 MPH	1255 PM 11/28	3062
Apple Valley Narrows	31 MPH	0116 PM 11/29	2746
Victorville Airport	29 MPH	1250 PM 11/29	2884
Apple Valley RAWs	28 MPH	0650 AM 11/29	3159

## ...Maritime Stations...

Mission Bay Channel	41 MPH	1128 AM 11/29	22
Oceanside Jetty	38 MPH	1033 AM 11/29	18
San Clemente Basin Buoy	31 MPH	0950 AM 11/29	0
Imperial Beach Pier	31 MPH	1157 AM 11/29	40
Pacific Beach (Crystal Pier)	30 MPH	1024 AM 11/29	15
La Jolla (Scripps Pier)	29 MPH	1030 AM 11/29	0

Observations are collected from a variety of sources with varying equipment and exposures. We thank all volunteer weather observers for their dedication. Not all data listed are considered official.



□

199

WWUS76 KSGX 300147

NPWSGX

URGENT - WEATHER MESSAGE

National Weather Service San Diego CA

547 PM PST Thu Nov 29 2018

...PERIODS OF STRONG GUSTY WINDS THROUGH TONIGHT...

.Strong and gusty west winds will continue the rest of tonight.  
West of the mountains, winds will be somewhat lighter, except for  
local gusts around 30 MPH at times near the beaches.

CAZ043-048-050-057-552-554-300300-

/O.EXP.KSGX.WI.Y.0020.000000T0000Z-181130T0200Z/

San Diego County Coastal Areas-

San Bernardino and Riverside County Valleys-The Inland Empire-

San Diego County Valleys-Santa Ana Mountains and Foothills-

Orange County Coastal Areas-Orange County Inland Areas-

Including the cities of Vista, Carlsbad, Encinitas, Chula Vista,

National City, San Diego, Riverside, San Bernardino, Ontario,

Moreno Valley, Fontana, Rancho Cucamonga, Corona, Escondido,

El Cajon, San Marcos, La Mesa, Santee, Poway, Huntington Beach,

Costa Mesa, Santa Ana, Anaheim, Garden Grove, Irvine, Orange,

Fullerton, and Mission Viejo

547 PM PST Thu Nov 29 2018

...WIND ADVISORY WILL EXPIRE AT 6 PM PST THIS EVENING...

Some wind will occur overnight from the west, though most gusts  
will be 25 MPH or less, except locally around 30 MPH near the  
beaches.

\$\$

CAZ055-056-058-060-062-065-301000-

/O.CON.KSGX.WI.Y.0020.000000T0000Z-181130T1400Z/

San Bernardino County Mountains-Riverside County Mountains-

San Diego County Mountains-Apple and Lucerne Valleys-

San Diego County Deserts-San Geronio Pass Near Banning-

Including the cities of Crestline, Lake Arrowhead, Big Bear City,

Big Bear Lake, Running Springs, Wrightwood, Idyllwild-Pine Cove,

Julian, Pine Valley, Victorville, Hesperia, Apple Valley,

Borrego Springs, Banning, and Desert Hot Springs

547 PM PST Thu Nov 29 2018

...WIND ADVISORY REMAINS IN EFFECT UNTIL 6 AM PST FRIDAY...

\* Winds...Areas of west to southwest winds 25 to 35 mph with gusts  
to 55 mph. Isolated gusts to 70 mph will be possible.

**November 29, 2018 Exceptional Event, Imperial County****Appendix A**

\* Timing...Through tonight.

\* Location...Strongest winds near mountain ridge tops and along desert mountain slopes into adjacent desert areas.

\* Impacts...The winds will make driving difficult, especially for motorists with high profile vehicles. Watch for broken tree limbs and other debris as well as downed power lines.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

A Wind Advisory means that winds of 35 mph are expected. Winds this strong can make driving difficult, especially for high profile vehicles. Use extra caution.

&&

\$\$

Maxwell

# IOWA STATE UNIVERSITY

College of Ag  
Department of Agronomy

## Department of Agronomy

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FXUS66 KSGX 291730

AFDSGX

## Area Forecast Discussion

National Weather Service San Diego CA

930 AM PST Thu Nov 29 2018

## .SYNOPSIS...

A Pacific storm system moving across southern California will continue to bring widespread moderate to locally heavy rain and showers through tonight, along with strong and gusty winds. Some snow will occur in the mountains this afternoon into tonight, mainly above 6000 feet. Some light precipitation could linger at times in San Diego County into early Saturday. A weather system passing by to the north will bring another round of showers from midday Saturday through early Sunday with strong and gusty west winds in the mountains and deserts. The rest of Sunday through Tuesday will be mostly dry with cool nights and a daytime warming trend for Monday and Tuesday. Another storm system could move through the region around Wednesday and Thursday of next week.

&amp;&amp;

.DISCUSSION...FOR EXTREME SOUTHWESTERN CALIFORNIA INCLUDING ORANGE...  
SAN DIEGO...WESTERN RIVERSIDE AND SOUTHWESTERN SAN BERNARDINO  
COUNTIES...

Through Sunday...The cold front and associated showers are currently moving through Orange County, the Inland Empire and southwestern San Bernardino County. Ahead of the front, a deep saturated layer brought widespread rain to most of the region from the mtns westward. For a summary of rainfall so far, please see the Hydrology section of this discussion, and for more specific data the Precipitation Summary product.

South to southwest winds increased ahead of the cold front early this morning, and wind gusts of 25 to 35 mph have occurred in Orange County. The current timing would have the front reaching downtown San Diego between 11 am and noon. Higher resolution models indicate wind gusts just ahead of the front could exceed 40 mph. Given the strengthen of the wind field aloft, stronger gusts are possible with deep convection along the front.

Isolated thunderstorms will be possible along the front and given the lower level shear profile just ahead of the front, there remains some possibility for storm rotation, mainly for Orange and northwestern San Diego County and adjacent coastal waters, and possibly extending into the Inland Empire. There is a small possibility of waterspouts over Orange and possibly the San Diego County coastal waters this morning, mainly near the front. Behind the front, winds will shift to the west with strong winds and

**November 29, 2018 Exceptional Event, Imperial County****Appendix A**

wind gusts for this afternoon into tonight in the mountains from the ridgetops and desert slopes into adjacent desert areas. Gusty west winds over the coastal waters will extend into adjacent coastal areas through this afternoon.

Behind the front, showers will continue through this afternoon, especially near the mountains. A second area of organized showers with isolated thunderstorms is expected to move across the coastal waters and into adjacent coastal areas during the late afternoon or early evening, then decrease from the northwest overnight. Smaller chances for mostly light showers will continue at times for central and southern portions of San Diego County into Friday morning.

The next round of showers is expected to reach the area by around midday Saturday with showers continuing into Saturday evening along and west of the mountains. West winds in the mountains and deserts could be even stronger than for the system today.

Sunday through Wednesday... Any lingering showers are expected to end over southern coastal areas on Sunday morning. The rest of Sunday through Tuesday will be mostly dry with very cool nights and daytime warming trend for Monday and Tuesday. The next significant low pressure system is expected to be off the West Coast early on Tuesday. It is expected to bring some additional precipitation to portions of Southern California next Wednesday into Thursday. There remain some differences in model solutions as to the track and intensity of the system. With the more southern track of the ECMWF, the more significant precipitation might go into northern Baja and far southern California.

&&

.AVIATION...

291630Z...Coast/Valleys/Mountains...BKN-OVC low clouds to continue between 500-1000 feet MSL, with several cloud layers above that. Rain and drizzle will reduce visibility through early this afternoon. A cold front will move through KSNA/KONT around 15-16Z and KCRQ/KSAN 19-20Z. This will bring heavy rainfall, strong winds and isolated thunderstorms. Winds 20-30 knots with local gusts to 35 knots possible. Post-frontal cloud bases will rise to 3000-4000 feet MSL. A second round of showers is likely to impact the terminals this evening with wind gusts of 25-30 knots. Showers decrease and some scatter out is possible after 03-06Z tonight.

Deserts...Gradually lowering clouds as showers develop this morning with the cold front, down to 4000 feet MSL. Heavier rain could drop cigs and vis between about 18-23Z today. Wind gusts of 25-35 knots are likely after 20Z.

&&

.MARINE...

Strong winds and rough seas are forecast through Friday. A cold

**November 29, 2018 Exceptional Event, Imperial County****Appendix A**

front will bring a band of very strong winds, heavy rain, and a slight chance of thunderstorms. A Marine Weather Statement is in effect today from the late morning through early afternoon for any severe weather. A Small Craft Advisory is in effect through Friday. Hazardous winds and seas are forecast again for late Saturday through Sunday.

&&

.BEACHES...

A long-period swell from the west-northwest will continue to generate high surf. The surf will peak tonight into Friday before gradually subsiding over the weekend. Surf of 5-8 FT with sets to 9 FT possible in Orange County, and surf of 6-10 FT with sets to 12 FT possible in Southern San Diego County.

&&

.HYDROLOGY...

Widespread rainfall has been occurring across the region for the last 6-12 hours. Accumulations so far have ranged from about 0.10-0.20 in the southern San Diego County coastal areas to 0.25-0.50 in coastal Orange County. The coastal mtn slopes have received from about 0.50 in San Diego County to upwards of 2 inches in San Bernardino County and the Santa Ana mtns. The cold front with the bulk of the precipitation is currently moving through Orange County, the Inland Empire and southwestern San Bernardino County. Isolated thunderstorms are expected with the frontal passage and in the cold unstable air behind the cold front. Rainfall rates of one half to one inch per hour will be possible with heavier showers and thunderstorms. Rainfall rates of around one half inch per hour will be possible on southwest facing mountain slopes with isolated amounts to around one inch with the front. These rainfall rates are capable of causing local urban flooding, ponding of water in poorly drained areas, and deadly mud slides and debris flows on and below recent burn areas. The Flash Flood Watch remains in effect through late tonight.

After the front passes, periods of showers with isolated thunderstorms will continue through tonight, with showers decreasing from the northwest late tonight through early Friday morning. Through early Friday, rainfall totals are expected to range from around one inch near the coast to 3 to 5 inches in the mountains. Isolated rainfall totals exceeding 5 inches will be possible on favored southwest facing slopes. Around one half inch of rainfall is expected in the high desert areas and one tenth to one quarter inch in the lower deserts.

A second storm passing by to the north is expected to bring another round of showers from around midday Saturday into early Sunday with less rainfall expected.

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**November 29, 2018 Exceptional Event, Imperial County****Appendix A**

.SKYWARN...

Skywarn activation is requested for the mountain areas.

&&

.SGX WATCHES/WARNINGS/ADVISORIES...

CA...Wind Advisory until 6 AM PST Friday for Apple and Lucerne  
Valleys-Riverside County Mountains-San Bernardino County  
Mountains-San Diego County Deserts-San Diego County  
Mountains-San Geronio Pass Near Banning.

Winter Weather Advisory from noon today to 2 AM PST Friday for  
Riverside County Mountains-San Bernardino County Mountains.

Flash Flood Watch through late tonight for Orange County Inland  
Areas-Riverside County Mountains-San Bernardino County  
Mountains-Santa Ana Mountains and Foothills.

Wind Advisory until 6 PM PST this evening for Orange County  
Coastal Areas-Orange County Inland Areas-San Bernardino and  
Riverside County Valleys-The Inland Empire-San Diego County  
Coastal Areas-San Diego County Valleys-Santa Ana Mountains  
and Foothills.

High Surf Advisory until 8 PM PST Saturday for San Diego County  
Coastal Areas.

High Surf Advisory until 10 PM PST Friday for Orange County  
Coastal Areas.

PZ...Small Craft Advisory until 10 PM PST Friday for Coastal Waters  
from San Mateo Point to the Mexican Border and out to 30 nm-  
Waters from San Mateo point to the Mexican Border Extending  
30 to 60 nm out including San Clemente Island.

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PUBLIC...PG

AVIATION/MARINE/BEACHES...Connolly

**IOWA STATE  
UNIVERSITY**

College of Ag

Department of Agronomy

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## National Weather Service Raw Text Product

Displaying AFOS PIL: **NPWSGX** Received: **2018-11-30 10:08 UTC**

[← Previous in Time](#)[View All KSGX Products for 30 Nov 2018](#)[Next in Time →](#)[Latest Product](#)[View As Image](#)

913

WWUS76 KSGX 301008

NPWSGX

URGENT - WEATHER MESSAGE

National Weather Service San Diego CA

208 AM PST Fri Nov 30 2018

CAZ055-056-058-060-062-065-301115-

/O.CAN.KSGX.WI.Y.0020.000000T0000Z-181130T1400Z/

San Bernardino County Mountains-Riverside County Mountains-

San Diego County Mountains-Apple and Lucerne Valleys-

San Diego County Deserts-San Gorgonio Pass Near Banning-

208 AM PST Fri Nov 30 2018

...WIND ADVISORY IS CANCELLED...

The National Weather Service in San Diego has cancelled the Wind Advisory.

Winds across the mountains and deserts have been decreasing overnight.

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ASUS66 KSGX 301223

RTPSGX

:SOUTHWESTERN CALIFORNIA TEMPERATURE AND PRECIPITATION SUMMARY

:NATIONAL WEATHER SERVICE SAN DIEGO CA

:430 AM PST FRI NOV 30 2018

:

:\*\*\*\*\* UPDATED \*\*\*\*\*

:

:YESTERDAY'S HIGH AND 12 HOUR LOW TEMPERATURES AS OF 4 AM TODAY.

:

:PRECIPITATION FOR THE PAST 24 HOURS. M DENOTES MISSING.

: T DENOTES TRACE OF PRECIPITATION

:

.BR SGX 1130 P DH00/TAIRZX/DH04/TAIRZP/PPDRZZ/SDIRZZ

:

: ID :	STATION	ELEV :	HIGH /	LOW /	PCPN /	SNODEP
:	:	FEET	INCHES			

:

: ...COASTAL AREAS...

:

SDYBL: YORBA LINDA 370 : 63 / 54 / 0.89 /

FUL : FULLERTON AIRPORT 96 : 66 / 56 / 0.91 /

ANAC1: ANAHEIM 335 : 65 / M / M /

STAC1: SANTA ANA 135 : 64 / 56 / 0.62 /

SDHTB: HUNTINGTON BEACH 5 : 64 / 58 / 0.57 /

SNA : JOHN WAYNE AIRPORT 55 : 64 / 57 / 0.72 /

3L3 : NEWPORT BEACH 10 : 64 / M / M /

LAGC1: LAGUNA BEACH 35 : M / M / M /

SDFRH: LAKE FOREST 970 : 57 / 53 / 1.04 /

L34 : OCEANSIDE HARBOR 10 : 64 / 60 / 0.45 /

OKB : OCEANSIDE AIRPORT 28 : 65 / M / 0.45 /

SDVIS: VISTA 330 : 61 / 55 / 0.94 /

CRQ : CARLSBAD AIRPORT 328 : 63 / 57 / 0.80 /

SDETS: ENCINITAS 270 : 62 / 56 / 0.94 /

SDDMB: DEL MAR BEACH 10 : 65 / 60 / 0.48 /

NKX : MIRAMAR 477 : 65 / 57 / 1.30 /

MYF : MONTGOMERY FIELD 420 : 62 / 54 / 0.85 /

SAN : SAN DIEGO INT'L AP 15 : 65 / 59 / 0.52 /

SDNAC: NATIONAL CITY 25 : 63 / 58 / M /

CVAC1: CHULA VISTA 65 : 63 / 57 / 0.82 /

NRS : IMPERIAL BEACH 23 : 64 / 58 / 0.55 /

SDM : BROWN FIELD 525 : 62 / 55 / 0.94 /

:

: ...INLAND AREAS...

:

ONT : ONTARIO 943 : 60 / 49 / 0.75 /

CNO : CHINO 652 : 63 / 50 / 0.64 /

SDALO: RANCHO CUCAMONGA 1940 : 57 / 47 / 0.79 /

SBD : SAN BERNARDINO 1086 : 61 / 52 / 0.00 /

AJO : CORONA 531 : 62 / 50 / 0.92 /

RAL : RIVERSIDE AIRPORT 818 : 60 / 49 / 0.69 /



**November 29, 2018 Exceptional Event, Imperial County****Appendix A**

```

UCRC1:    RIVERSIDE      986 :    59 /    50 /    0.75 /
RIV  :    RIVERSIDE MARCH 1542 :    58 /    49 /    0.42 /
BUO  :    BEAUMONT      2680 :    52 /    45 /    1.55 /
SDLEL:    LAKE ELSINORE  1275 :    58 /    51 /    1.01 /
SDHET:    HEMET         2050 :    54 /    M /    0.77 /
SDTEC:    TEMECULA      1020 :    57 /    53 /    1.73 /
SDFBK:    FALLBROOK     698 :    59 /    54 /    1.58 /
VCFC1:    VALLEY CENTER  1312 :    61 /    52 /    1.39 /
SDSMP:    SAN MARCOS    680 :    60 /    55 /    0.85 /
ESCC1:    ESCONDIDO     645 :    60 /    55 /    0.20 /
PSQC1:    SAN PASQUAL VALLEY 255 :    61 /    53 /    1.53 /
RNM  :    RAMONA AIRPORT 1393 :    57 /    52 /    1.02 /
SGX  :    RANCHO BERNARDO 690 :    60 /    52 /    1.22 /

SDPOY:    POWAY        648 :    59 /    53 /    1.37 /
ALPC1:    ALPINE       1695 :    55 /    50 /    1.69 /
SDLAM:    LA MESA      500 :    59 /    54 /    1.49 /
SDSNL:    SANTEE       435 :    62 /    56 /    1.39 /
ELJC1:    EL CAJON     405 :    61 /    55 /    1.01 /
SDRSC:    RANCHO SAN DIEGO 400 :    61 /    56 /    0.07 /
LMGC1:    LEMON GROVE  427 :    60 /    55 /    0.04 /
:
:    ...MOUNTAIN AREAS...
:
ECSC1:    EL CARISO     2730 :    52 /    45 /    1.74 /
SDWRT:    WRIGHTWOOD   5980 :    45 /    34 /    1.56 /
SDARN:    LAKE ARROWHEAD 5180 :    44 /    38 /    2.35 /
BBLC1:    BIG BEAR LAKE 6768 :    41 /    33 /    1.71 /
SDBDN:    BALDWIN LAKE  6770 :    44 /    33 /    0.80 /
SDAOK:    ANGELUS OAKS  5800 :    43 /    34 /    M /
IDYC1:    IDYLLWILD    5380 :    46 /    37 /    2.02 /
NZAC1:    ANZA         3939 :    49 /    42 /    1.26 /
PYNC1:    PINYON PINES  4060 :    53 /    41 /    0.75 /
PLRC1:    PALOMAR MOUNTAIN 5550 :    M /    M /    M /
JULC1:    JULIAN       4240 :    47 /    40 /    3.51 /
MLNC1:    MOUNT LAGUNA  5920 :    46 /    M /    M /
CPMC1:    CAMPO COOP   2615 :    53 /    M /    M /
:
:    ...DESERT AREAS...
:
HESC1:    HESPERIA     3055 :    53 /    45 /    0.20 /
APLC1:    APPLE VALLEY  2780 :    57 /    43 /    0.01 /
PSP  :    PALM SPRINGS  425 :    67 /    49 /    0.07 /
IDOC1:    INDIO        -21 :    72 /    51 /    0.00 /
TRM  :    THERMAL      -117 :    78 /    46 /    0.00 /
BROC1:    * BORREGO SPRINGS 805 :    72 /    M /    M /
SDOCL:    OCOTILLO WELLS 149 :    78 /    60 /    0.00 /
BLH  :    BLYTHE       397 :    M /    M /    M /
IPL  :    IMPERIAL     -56 :    74 /    57 /    0.00 /
.END

```

THESE DATA ARE PRELIMINARY AND HAVE NOT UNDERGONE FINAL QUALITY CONTROL BY THE NATIONAL CLIMATIC DATA CENTER (NCDC). THEREFORE, THESE DATA ARE SUBJECT TO REVISION. FINAL AND CERTIFIED CLIMATE DATA CAN BE ACCESSED AT [WWW.NCDC.NOAA.GOV](http://WWW.NCDC.NOAA.GOV).