

TYPE	DATE	TIME	AGENCY	DESCRIPTION	PAGE	
Area Forecast Discussion	2/8/2019	0245	MST	Phoenix	<p>...however a shortwave descending through the Rockies and into the four corners early next week will signal the first signs of a pattern re-alignment/retrogression. Some operational models suggest a secondary wave finally cutting through the ridge axis and intensifying somewhere near the SW Conus. While the concept of an initial shortwave carving out a weakness in the ridge axis, then a secondary wave filling into a cutoff feature (i.e. 00Z GFS/ECMWF) makes sense, ensemble spread remains large with many members akin to the GEM keeping all shortwave features progressive....Early next week, a series of more potent shortwaves will cross into the Pacific NW and intensify/deepen somewhere over the western US. Not surprising given the evolution out of a blocking pattern that model output continues to vary widely, but confidence in any exact timing of particular weather features next week is very low...</p>	56
Area Forecast Discussion	2/8/2018	0251	PST	San Diego	<p>...The high pressure aloft begins to break down Friday and a trough of low pressure dives southeast through the interior West this weekend. A pretty robust coastal eddy gets going Friday and peaks Saturday....Onshore winds will strengthen Saturday in the mountains and deserts as well....As the trough moves into the Southwest Saturday night, the marine layer will deepen and spread coastal clouds farther inland. At the same time offshore flow develops and the clash of these two forces will be on once again. The eastern Pacific ridge remains rather persistent this coming week....</p>	59
Area Forecast Discussion	2/8/2019	1250	MST	Phoenix	<p>...Global model suites continue to agree on the basic idea of a rather strong shortwave dropping southward into the eastern Great Basin/Central Rockies during this period. The models also continue to trend towards a slight more northerly and easterly track with the feature, with the current operational GFS/EURO both now keeping virtually all precip confined to areas at/to the north and east of the Mogollon Rim, with POPS in our cwa mainly aob 5 percent on Saturday night/early Sunday as the shortwave makes its closest approach. With less cold air making its way into the region, have also raised Sunday's highs a degree or so (low-mid 70's). <b>Some breeziness is still expected as well Sunday morning down the Lower Colorado river valley, but wind gusts should mostly remain aob 35 mph....</b></p>	61
Area Forecast Discussion	2/8/2018	1508	PST	San Diego	<p><b>Saturday night through Sunday will feature a short period of strong Santa Ana conditions with gusty winds</b> through the passes and canyons and along the foothills across Orange, San Bernardino, and Riverside Counties due to a N to NE pressure gradient. Winds could gust as high as 50 to 60 mph in these areas but that would only occur for a few hours mainly Sunday morning.</p>	64
Area Forecast Discussion	2/9/2018	0236	PST	San Diego	<p>...A low pressure shortwave and trailing dry cold front moving through the interior West will put a dent in our giant ridge. That will help a coastal eddy develop tonight, which will help the marine layer to deepen. Coastal clouds will get into far western valleys Saturday morning, and the onshore flow doesn't promise full clearing Saturday. <b>The energy from that shortwave will boost winds, mainly in the mountains and deserts during the afternoon and evening.</b> Grab a jacket; daytime temperatures will plummet down to about average. Then things get interesting. Winds quickly turn offshore (northeast) Saturday night and strengthen behind that shortwave. That will bring fairly strong offshore winds to Southern California, and fairly chilly air to the high desert and mountains. <b>Top wind gusts in the favored areas are forecast to exceed 50 mph between midnight and midday Sunday.</b></p>	67

TYPE	DATE	TIME		AGENCY	DESCRIPTION	PAGE
Area Forecast Discussion	2/9/2019	0300	MST	Phoenix	<p>...A blocked atmospheric flow pattern will persist over much of the country the next couple days; however, several shortwaves will crest a highly amplified east Pacific ridge and carve out a notable negative height anomaly affecting the forecast area next week. In the near term, heights aloft will only gradually become depressed as the first positively tilted wave descends towards the four corners region. ....<b>This trough axis will eventually slide through the region Sunday albeit weakening substantially as it does with height falls nearly ceasing during the day. However with fropa beginning Saturday night, an enhanced post frontal pressure gradient will exist through western AZ/SE California and model output suggests a developing 40-45 kt northerly LLJ.</b></p> <p>Typically, stronger winds will occur first with a frontal surge and initial pressure packing, then become associated with better mixing of the LLJ. Thus, a period of advisory category winds is possible early Sunday morning and have added a rather extensive mention of blowing dust given the extremely dry soil conditions and funneling of very strong winds down the Colorado River Valley....</p>	70
Area Forecast Discussion	2/9/2018	1209	PST	San Diego	<p>...<b>Saturday night into Sunday, behind the shortwave, offshore pressure gradients and strong Santa Ana winds will develop over San Bernardino, Orange, and Riverside Counties with a predominantly N-NE gradient.</b> Winds will become strong late Saturday night through Sunday morning with gusts of 50 to 60 mph likely through the wind favored canyons and passes and along the foothills. The populated valley areas will see gusty winds too but much weaker, up to 35 or 40 mph. <b>By Sunday afternoon the onshore gradients begin to kick in and winds will become gusty onshore Sunday evening as a result.</b></p>	73
Area Forecast Discussion	2/9/2019	1505	MST	Phoenix	<p><b>The ensembles and operational models are still on track with bringing in our first cold front in quite a while on Saturday night and early Sunday from the north, as broad cyclonic flow aloft begins to also take over.</b> This weak trof system and associated cold front marks the beginning of a significant change in our current persisting and very warm weather pattern. This system is also dry by the time it reaches our region with its moisture and precipitation being confined to far NE-E Arizona. <b>The main impacts with this system are strong gusty winds in southeast CA and the lower Colorado River Valley along with patchy blowing dust on Saturday night through Sunday morning.</b> Otherwise breezy to very breezy conditions can be expected across the lower deserts along with noticeably cooler temperatures in the mid 70s. A much stronger and deeper low pressure storm system will drop in from the northwest through California as a closed low by Monday before eventually forming a much larger closed low west of northern Baja CA by Wednesday.</p>	75

TYPE	DATE	TIME		AGENCY	DESCRIPTION	PAGE
Area Forecast Discussion	2/9/2019	2035	MST	Phoenix	<p>...<b>The ensembles and operational models are still on track with bringing in our first cold front in quite a while on Saturday night and early Sunday from the north, as broad cyclonic flow aloft begins to also take over.</b> This weak trof system and associated cold front marks the beginning of a significant change in our current persisting and very warm weather pattern. This system is also dry by the time it reaches our region with its moisture and precipitation being confined to far NE-E Arizona. <b>The main impacts with this system are strong gusty winds in southeast CA and the lower Colorado River Valley along with patchy blowing dust on Saturday night through Sunday morning.</b> Otherwise breezy to very breezy conditions can be expected across the lower deserts along with noticeably cooler temperatures in the mid 70s. A much stronger and deeper low pressure storm system will drop in from the northwest through California as a closed low by Monday before eventually forming a much larger closed low west of northern Baja CA by Wednesday.</p>	78
Area Forecast Discussion	2/10/2019	0329	MST	Phoenix	<p>...<b>As the trough approaches from the north later today, strong surface high pressure will move into the Great Basin creating a tight pressure gradient through central Arizona into southern California. Strong northerly winds will push through the Lower Colorado River Valley starting mid to late evening, lasting through the overnight. Wind gusts to 40 mph are likely across portions of the area, mainly affecting eastern areas of Riverside and Imperial Counties in California.</b> As a result, a Wind Advisory has been issued for the area from this evening through mid Sunday morning. Blowing dust will likely affect areas within the Advisory, but dense blowing dust is not anticipated.</p>	81
Urgent Weather Message	2/10/2018	0340	MST	Phoenix	<p>Parker Valley-Joshua Tree NP East-Chuckwalla Mountains-<b>Imperial County Southeast-Imperial Valley</b>-Chiriaco Summit-Palo Verde Valley-Chuckwalla Valley-Including the cities of Parker, Ehrenberg, Imperial Hot Mineral Springs, Winterhaven, <b>El Centro, Calexico, Alamo, Brawley,</b> Chiriaco Summit, Martinez Lake, Blythe, Palo Verde, Ripley, and Midland  <b>...WIND ADVISORY IN EFFECT FROM 8 PM MST /7 PM PST/ THIS EVENING TO 8 AM MST /7 AM PST/ SUNDAY...</b>The National Weather Service in Phoenix has issued a WindAdvisory, which is in effect from 8 PM MST /7 PM PST/ thisevening to 8 AM MST /7 AM PST/ Sunday.  <b>* AFFECTED AREA...</b>Lower Colorado River Valley including much of eastern Riverside and Imperial Counties.  <b>* TIMING...</b>Saturday evening through mid Sunday morning.  <b>* WINDS...</b>North winds 20 to 30 mph with gusts to 45 mph.  <b>* IMPACTS...</b>Travel for high profile vehicles along west/east area roadways may be hazardous. Locally dense blowing dust with visibilities less than 1 mile will be possible.</p>	84
Area Forecast Discussion	2/10/2019	0411	PST	San Diego	<p>...<b>A trough of low pressure will move southward through the Great Basin today...and eastward through the southern Rockies tonight.</b> ...The deeper marine layer and <b>stronger onshore flow</b> will bring significantly cooler high temperatures today for inland coastal...valley...and mountain areas...<b>Surface high pressure will bring periods of gusty north to northeast Santa Ana winds for late tonight through Sunday morning...diminishing Sunday afternoon.</b> This will bring cooler high temperatures on Sunday for the mountains and deserts...with warmer high temperatures for coastal and valley areas. A low pressure system will move southward through the western states for Monday and Tuesday with low pressure lingering off the Southern California coast for Wednesday and Thursday...then moving slowly eastward into Southern California and northern Baja sometime around Friday and Saturday.</p>	85

TYPE	DATE	TIME	AGENCY	DESCRIPTION	PAGE	
Area Forecast Discussion	2/10/2019	0430	MST	Phoenix	<p>...<b>Updated Aviation</b>...Southeast California/Southwest Arizona including KIPL and KBLH: <b>Strong, gusty winds and reduced visibilities due to blowing dust will be the primary aviation concerns late tonight. A cold front will pass through the terminals later this evening with the strongest gusts above 30kt impacting KBLH. Periods of visibilities falling into MVFR or IFR categories at KBLH are likely after midnight.</b> Wind speeds will be somewhat weaker at KIPL though some stronger gusts are possible.</p>	88
Area Forecast Discussion	2/10/2019	1043	MST	Phoenix	<p>....<b>UPDATE...Updated Aviation Discussion</b>....Southeast California/Southwest Arizona including KIPL and KBLH: <b>Strong, gusty winds and reduced visibilities due to blowing dust will be the primary aviation concerns late tonight.</b> At KBLH, south to southwest winds between 10 and 15 kts today will shift to the north-northeast late tonight and bring extremely breezy conditions and blowing dust to the terminal. Impacts will be gusts up to 40 kts and reduced visibilities down to 3 SM and possibly even lower at times. <b>AT KIPL, southeasterly winds this morning will shift to the southwest this afternoon, with gusts to 20 kts possible during the late afternoon hours.</b> Winds will shift to the northeast late tonight, with speeds remaining elevated near 15 kts through the remainder of the TAF period. Skies over both terminals will remain partly cloudy with periodic SCT-BKN mid and high clouds aoa 15 kft.</p>	91
Area Forecast Discussion	2/10/2018	1310	PST	San Diego	<p>....Surface pressure gradients were running around 6 MBS onshore KSAN to the lower deserts, but were trending offshore from NV. numerous spots over the mtns/deserts reported westerly wind gusts to 25 MPH or more including Whitewater RAWS with a gust to 53 MPH at Noon...Through Sunday...A shortwave will drop SE over the Great Basin, building sfc high pressure and sending our winds back offshore. As the flow develops, the marine layer clouds will begin scouring back toward the coast late tonight. Some marine clouds/fog could linger over extreme SW San Diego County Sun morning but should mix out for a mostly sunny day. Winds will be locally strong and gusty along the coastal foothills and through and below passes and canyons beginning tonight and continuing through Sunday morning, then diminishing in the afternoon.</p>	94
Urgent Weather Message	2/10/2018	1323	MST	Phoenix	<p>...Parker Valley-Joshua Tree NP East-Chuckwalla Mountains-<b>Imperial County Southeast-Imperial Valley</b>-Chiriaco Summit-Palo Verde Valley-Chuckwalla Valley-Including the cities of Parker, Ehrenberg, Imperial Hot Mineral Springs, Winterhaven, <b>El Centro, Calexico, Alamo, Brawley,</b> Chiriaco Summit, Martinez Lake, Blythe, Palo Verde, Ripley, and Midland  <b>...WIND ADVISORY REMAINS IN EFFECT FROM 8 PM MST /7 PM PST/ THIS EVENING TO 8 AM MST /7 AM PST/ SUNDAY...</b>  <b>* AFFECTED AREA</b>...Lower Colorado River Valley including much of eastern Riverside and Imperial Counties.  <b>* TIMING</b>...Saturday evening through mid Sunday morning.  <b>* WINDS</b>...North winds 20 to 30 mph with gusts to 50 mph.  <b>* IMPACTS</b>...Travel for high profile vehicles along west/east area roadways may be hazardous. Locally dense blowing dust with visibilities less than 1 mile will be possible.</p>	97

TYPE	DATE	TIME	AGENCY	DESCRIPTION	PAGE	
Area Forecast Discussion	2/10/2019	1507	MST	Phoenix	<p>...<b>An east-west oriented cold front is exiting the Great Basin and entering southern Nevada and far northern Arizona this afternoon.</b> The front will push southward the rest of the day and overnight tonight. For our area, the main impacts will be felt near and west of the Lower Colorado River Valley (LCRV) in the form of very strong northerly winds. There is good model agreement on 925 mb winds of 40-50kts but because it will be happening at a time of day with the least mixing (due to lack of insolation), the full potential will likely not be realized. <b>However, the surface pressure gradient aided by cool advection and some mechanical mixing with the front itself, will still produce strong winds - though probably off and on in nature.</b> A Wind Advisory remains in effect for that area. With the winds will come areas of blowing dust as well...</p>	98
Area Forecast Discussion	2/10/2019	2045	PST	San Diego	<p>The strong onshore flow and coastal eddy that deepened the marine layer to 4500 feet this afternoon will do an about face and shift offshore tonight as a 500 mb shortwave traverses the Great Basin. The gusty west winds that impacted the high deserts and the mountains this afternoon have already shifted north in the San Bernardino Mountains and Deserts this evening. <b>The winds will shift northeast and gather strength overnight as a 1025 mb surface high builds over Nevada. The pressure transition was rapid today;</b> in just 9 hours the pressure gradient from SAN-TPH went from +4.0 mb at 10 AM to -8.8 mb at 7 PM. This was apparent at Big Bear Airport where west winds were 14/G29 mph at 4 PM, but were NE at 12/G20 mph 8 PM. The offshore Santa Ana pattern will be short-lived. The northeast winds tonight will be strongest in the SBD, RIV and ORA County mountains and foothills as well as the Inland Empire with gusts of 40-50 mph tonight through early Sunday morning. Locally higher gusts are likely at the windiest areas like Fremont Canyon and Pleasants Peak. The Santa Ana will also wipe out marine layer west of the mountains tonight, followed by mostly sunny skies Sunday. The offshore flow will end midday Sunday and winds will shift back onshore in the afternoon.</p>	101
Area Forecast Discussion	2/10/2019	2145	MST	Phoenix	<p>...<b>UPDATE...Updated Aviation discussion...</b>Southeast California/Southwest Arizona including KIPL and KBLH: The leading edge of stronger winds associated with an approaching frontal boundary will reach KBLH imminently. Upstream observations suggest gusts to 35-40 kt will be possible early this morning, before dissipating later in the morning and throughout Sunday afternoon. There also is a slight chance that the wind will generate areas of blowing dust with reduced visibilities below 6SM. <b>Further south, the Chocolate Mountains will essentially block the strongest winds from reaching KIPL.</b> Nevertheless, northwesterly winds may reach 10 kt early Sunday morning in the Imperial Valley, before subsiding in the afternoon.</p>	104
Urgent Weather Message	2/11/2019	0158	MST	Phoenix	<p>Parker Valley-Joshua Tree NP East-Chuckwalla Mountains-<b>Imperial County Southeast-Imperial Valley</b>-Chiriaco Summit-Palo Verde Valley-Chuckwalla Valley-Including the cities of Parker, Ehrenberg, Imperial Hot Mineral Springs, Winterhaven, <b>El Centro, Calexico, Alamo, Brawley,</b> Chiriaco Summit, Martinez Lake, Blythe, Palo Verde, Ripley, and Midland...<b>WIND ADVISORY REMAINS IN EFFECT UNTIL 8 AM MST /7 AM PST/ THIS MORNING...</b></p> <ul style="list-style-type: none"> <li>* <b>AFFECTED AREA...</b>Lower Colorado River Valley including much of eastern Riverside and Imperial Counties.</li> <li>* <b>TIMING...</b>Through 7 AM PST this morning.</li> <li>* <b>WINDS...</b>North winds 20 to 30 mph with gusts to 45 mph.</li> <li>* <b>IMPACTS...</b>Travel for high profile vehicles along west/east area roadways may be hazardous. Locally dense blowing dust with visibilities less than 1 mile will be possible.</li> </ul>	107

TYPE	DATE	TIME	AGENCY	DESCRIPTION	PAGE	
Area Forecast Discussion	2/11/2019	0304	MST	Phoenix	<p><b>..A fast moving shortwave trough is currently tracking through the region with the bulk of the energy confined to northeast Arizona into northern New Mexico.</b> The trough axis extends southwestward through Arizona into southern California while a surface cold front has pushed down through the Lower Colorado River Valley. The cold front will mostly hang up over southern Arizona today eventually washing out. Modestly cooler air will settle into the area today limiting daytime highs mostly to the lower 70s across the deserts.</p>	108
Area Forecast Discussion	2/11/2019	0311	PST	San Diego	<p><b>...Surface high pressure over the Great Basin will bring a period of moderate offshore flow to portions of San Bernardino...Orange...and Riverside Counties this morning with weaker offshore flow extending into San Diego County.</b> Onshore flow will return this afternoon and strengthen tonight and continue through Monday with stronger and gusty southwest to west winds in the mountains and deserts. A low pressure system off the coast of southern British Columbia early this morning will move quickly southward today into northern California by late this afternoon with the upper center over Nevada on Monday. It will then move slowly toward the southwest with the center over the central part of California on Tuesday. This will bring chances for showers beginning late tonight and continuing through Tuesday.</p>	111
Area Forecast Discussion	2/11/2019	0425	MST	Phoenix	<p><b>..Updated Aviation...</b>Southeast California/Southwest Arizona including KIPL and KBLH: <b>Gusty north winds will be the primary aviation concern this morning with little other impacts beyond this afternoon.</b> Winds will remain stronger at KBLH this morning with some gusts still nearing a 25-30kt range. Suspended dust will create slantwise visibility problems before wind speeds decrease abruptly this afternoon. The pressure gradient will rapidly weaken such that light and variable winds will be common by late afternoon/evening.</p>	114
Urgent Weather Message	2/11/2018	0800	MST	Phoenix	<p>Parker Valley-Joshua Tree NP East-Chuckwalla Mountains-<b>Imperial County Southeast-Imperial Valley</b>-Chiriaco Summit-Palo Verde Valley-Chuckwalla Valley-Including the cities of Parker, Ehrenberg, Imperial Hot Mineral Springs, Winterhaven, <b>El Centro, Calexico, Alamo, Brawley,</b> Chiriaco Summit, Martinez Lake, Blythe, Palo Verde, Ripley, and Midland</p> <p><b>...WIND ADVISORY WILL EXPIRE AT 8 AM MST /7 AM PST/ THIS MORNING...</b></p> <p>Winds continue to weaken and thus the Wind Advisory will be allowed to expire.</p>	117
Area Forecast Discussion	2/11/2019	0807	PST	San Diego	<p><b>...Skies were mostly clear this morning over all of SoCal based on available satellite imagery, but visibility was reduced in some areas due to dust, in the deserts, and isolated pockets of ground fog west of the mts.</b> The 12Z Miramar sounding had a 3.5 degree C inversion based near 3400 FT MSL with weak easterly flow between 2500 and 7500 FT. Surface pressure gradients were offshore about 9 MBS NV-to-KSAN this morning, and about neutral from the lower deserts. <b>The NE gradient was sufficient for wind gusts of 45 to 55 MPH near and below the Cajon and San Geronio Passes this morning. Elsewhere...winds were weaker but gusty below the passes and canyons and along the coastal foothills.</b></p>	118

TYPE	DATE	TIME	AGENCY	DESCRIPTION	PAGE	
Area Forecast Discussion	2/11/2019	1053	MST	Phoenix	<p><b>.UPDATE...Updated aviation discussion...</b> Southeast California/Southwest Arizona including KIPL and KBLH: <b>Gusty north winds will be the primary aviation concern this morning with little other impacts beyond this afternoon.</b> Winds will remain stronger at KBLH this morning with some gusts still nearing the 25 to 30 kt range. Suspended dust will create slantwise visibility problems before wind speeds decrease abruptly this afternoon. The pressure gradient will rapidly weaken such that light and variable winds will be common by late afternoon/evening. Skies will be mostly clear today, however an increase in low-level moisture tonight will bring an increase in low-level clouds near 5 kft.</p>	122
Area Forecast Discussion	2/11/2019	1323	PST	San Diego	<p>...Gusty offshore winds were subsiding after peaking over 50 MPH earlier this morning below the San Geronio Pass. The surface pressure gradients were relaxing, but remained weakly offshore at midday. Strongest easterly wind gusts at 1 PM PST were 25 to 30 MPH. Some scattered, light precip could break out before midnight west of the mts, and could become more widespread along and west of the mts into Mon morning. <b>Surface pressure is falling rapidly over NV this afternoon in advance of a cold trough that is dropping south along the West Coast.</b> The gradient that is setting up will support Advisory strength winds over the Mts and the high desert of San Bernardino County. Weak disturbances rotating around the developing storm system to the north, will help to lift the marine layer over SoCal and squeeze out some occasional light showers.....<b>AVIATION...SW to W winds strengthening after 12/0600 UTC, with winds 20-30 KT gusting 40-50 KT over mountain ridges, through/below passes/canyons, along desert slopes and into adjacent desert areas,</b> resulting in strong UDDFS/LLWS over and NE or E of the mountains.</p>	125
Area Forecast Discussion	2/11/2019	1438	MST	Phoenix	<p>...Winds over the forecast area have weakened considerably compared to earlier this morning. Surface wind data suggests the front that went through overnight and early this morning has stalled out over southeast Arizona this afternoon. ...The next system to affect our area is centered over the Oregon/California border with another significant short wave upstream of that over southern B.C. Canada. Models remain in good agreement that the OR/CA feature will quickly weaken tonight and track east-southeastward brushing the Mohave Desert and Arizona. This is in response to the upstream system which becomes a closed low centered near the CA/NV border on Monday. The associated height falls lead to strengthening southerly flow, isentropic ascent, and moist advection...</p>	128
Area Forecast Discussion	2/11/2019	2100	PST	San Diego	<p>Pressure gradients that were nearly -10 mb offshore this morning from Nevada have shifted strongly onshore (+6.6 mb) this evening. West winds were already fairly strong in the SBD mountains (Big Bear Airport 17G25 mph) and High Deserts (Hesperia 11G32 mph) where a Wind Advisory is in effect until 6 AM Monday. A cold trough dropping south down the West Coast tonight should be able to squeeze out scattered light showers from the deep marine layer, but the lack of a deeper moisture supply will curtail precipitation amounts. Rain amounts will likely be less than one-quarter inch west of the mts, with higher amounts possible on the coastal slopes.....<b>AVIATION.....</b>Meanwhile, deserts will have SCT clouds AOA 20000 ft msl and FEW clouds in the 5000-8000 ft msl layer with mostly P6SM vis except for possible locally lower vis due to blowing dust/sand after 06Z. <b>SW to W winds will strengthen after 06Z. Winds 20-30 KT gusting 40-50 KT over mountain ridges will produce strong UDDFS/LLWS over and NE or E of the mountains,</b> including vcnty KPSP and KTRM. The strong winds will continue through Monday morning.</p>	131



TYPE	DATE	TIME		AGENCY	DESCRIPTION	PAGE
Area Forecast Discussion	2/11/2019	2139	MST	Phoenix	<p><b>..UPDATE...Updated aviation discussion.</b> Southeast California/Southwest Arizona including KIPL and KBLH: <b>A southwesterly gradient will gradually increase through tomorrow morning as a storm system approaches the terminals.</b> Winds will begin gusting 20-25 kts late tomorrow morning as higher momentum air mixes down due to the daytime heading. An increase in moisture is also expected with the southerly flow and will create FEW to SCT decks around 5-7 kft. There is a slight chance of a shower at KBLH tomorrow morning but confidence is far to low to mention in the TAF. Winds weaken tomorrow evening although the FEW/SCT clouds around 5-7 kft look to persist.</p>	133
Area Forecast Discussion	2/12/2019	0300	MST	Phoenix	<p><b>A deep upper low quickly approached the region from the north-northwest yesterday, but has since mostly stalled out over the Great Basin region as a second wave dug through California over the past 6 hours.</b> The low center at the moment is placed over northern Nevada, but the expansive area of the trough has brought a shortwave into southern California and northern Arizona early this morning. Southerly winds just above the surface have increased to around 30 kts across much of Arizona and will remain this strong through tonight before gradually weakening on Tuesday.</p>	136



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FXUS65 KPSR 080945

AFDPSR

Area Forecast Discussion

National Weather Service Phoenix AZ

245 AM MST Thu Feb 8 2018

.SYNOPSIS...

High pressure will continue to hold in place the remainder of the week resulting in above normal daytime high temperatures. The first in a series of weather disturbances will sweep by the region early next week with only slightly better chances of rain not arriving until later in the week.

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.DISCUSSION...

The hemispheric flow pattern remains in a high amplitude blocking regime with anomalously high heights extending along the entire east Pacific basin. Little in this overall pattern will change through the next 72 hours, however a shortwave descending through the Rockies and into the four corners early next week will signal the first signs of a pattern re-alignment/retrogression. Some operational models suggest a secondary wave finally cutting through the ridge axis and intensifying somewhere near the SW Conus. While the concept of an initial shortwave carving out a weakness in the ridge axis, then a secondary wave filling into a cutoff feature (i.e. 00Z GFS/ECMWF) makes sense, ensemble spread remains large with many members akin to the GEM keeping all shortwave features progressive.

Heights/thicknesses aloft will be maximized the next 48 hours over the forecast area in NW flow downstream from the core of the east Pacific blocking ridge. H5 heights not far from 580dm will be common which aligns near the 90th percentile for early February; and not surprisingly under mostly clear skies, afternoon highs some 10F above normal are a good confidence bet. The aforementioned initial shortwave will slide towards the four corners Sunday bringing a well defined cold front into the forecast area. A minority of ensemble members still attempt to cut off this wave over the SW Conus, though will continue to favor the more progressive ensemble majority/operational members. Outside of cooling back to the seasonal average, the continental trajectory of these features should preclude anything more than passing clouds.

Early next week, a series of more potent shortwaves will cross into the Pacific NW and intensify/deepen somewhere over the western US. Not surprising given the evolution out of a blocking pattern that model output continues to vary widely, but confidence in any exact timing of particular weather features next week is very low. The idea of retrogressive features and negative height anomalies

**February 11, 2018 Exceptional Event, Imperial County****Appendix A**

developing somewhere in the west is conceptually valid, and more weight was given to this idea with a growing trend among ensemble members.

However, there is still not overwhelming evidence on the duration any cutoff feature remains spinning over the region. It may become a necessity for this assumed cutoff feature to hover west of the Baja into the end of next week in order for better quality moisture to advect north and become entrained in deeper southerly flow. Ensemble members ejecting energy by the middle of the week have little QPF reflection whereas operational members keeping energy over the region eventually pull ample moisture/ascent into the forecast area. Could not get overly aggressive on POPs later in the week given this uncertainty and have guided the forecast towards an ensemble mean until better model consistency is achieved.

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**.AVIATION...**

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

Dry northwest flow aloft will lead to very benign conditions at the terminals over the next 24 hours. Gradients are light and as such we can expect typical diurnal wind patterns at the TAF sites, with winds favoring the east through early afternoon, then turning to the west before changing back to the east again around midnight on Thursday. Speeds genly below 10kt. Otherwise skies to be clear. No aviation concerns at any of the airfields for at least the next 24 hours.

Southeast California/Southwest Arizona including KIPL and KBLH:

No aviation concerns at all for at least the next 24 hours. Dry northwest flow will result in clear skies, and winds will be on the light side through Thursday evening, favoring the north at KBLH and the west at KIPL.

Aviation Discussion not updated for amended TAFs.

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**.FIRE WEATHER...**

Saturday through Wednesday:

Well above normal temperatures Saturday will cool much closer to the seasonal average next week as a weather disturbance passes north of the districts. A cold front will slide into the region Sunday yielding breezy conditions and potentially a locally enhanced fire danger. Additional weather systems later in the week could also bring more breezy weather to the area. However, humidity levels will not be unusually low for the season only falling into a 15-25% range in general. Overnight recovery will be mostly good.

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**.SPOTTER INFORMATION STATEMENT...**

Spotters should follow standard reporting procedures.

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.PSR WATCHES/WARNINGS/ADVISORIES...

AZ...None.

CA...None.

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DISCUSSION...MO

AVIATION...Hernandez

FIRE WEATHER...MO

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Area Forecast Discussion

National Weather Service San Diego CA

251 AM PST Thu Feb 8 2018

.SYNOPSIS...

Patchy coastal fog and offshore winds this morning will give way to fair and warm weather today. High pressure weakens slightly Friday through the weekend and the onshore flow should bring back more coastal clouds and fog. A trough of low pressure will bring cooler weather, more clouds, brisk onshore winds, and a chance of rain late Monday into Wednesday. Although confidence is very low at this time, there may be more rain later next week.

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

Despite the persistent offshore flow, there is a big patch of coastal fog that has been tenacious overnight. It touched the coast at San Diego while elsewhere skies were clear. Offshore winds in the foothills have gusted in the 20 to 30 mph range, and there are some light easterly breezes at the coast. It has been educational to watch the battle for the beach between the dry offshore air and the patch of humid fog. Educational, and a headache to forecast since all model guidance yesterday and today keep sweeping the fog away. High pressure aloft and the offshore flow will combine to bring us really warm weather (lots of 80s) again today. The high pressure aloft begins to break down Friday and a trough of low pressure dives southeast through the interior West this weekend. A pretty robust coastal eddy gets going Friday and peaks Saturday. That will help the coastal clouds redevelop, only patchy for Friday with increasingly greater coverage Saturday into Sunday. Onshore winds will strengthen Saturday in the mountains and deserts as well. Temperatures will top out only in the lower 70s at lower elevations this weekend. As the trough moves into the Southwest Saturday night, the marine layer will deepen and spread coastal clouds farther inland. At the same time offshore flow develops and the clash of these two forces will be on once again. The eastern Pacific ridge remains rather persistent this coming week. The GFS and Euro models show the next shortwave trough coming down the east side of the ridge with energy on its west side carving out a cutoff low just southwest of California. These two models have come into decent agreement on this feature for the last few model runs, but the Canadian model doesn't depict any such thing. Confidence in some showers late Monday into Wednesday is slowly and carefully growing, although still rather

February 11, 2018 Exceptional Event, Imperial County

Appendix A

low because of the nature of cutoff lows, how, where and when they form. The GFS and Euro also show this low to draw subtropical moisture northward next Thursday and Friday for some decent rainfall in Southern California. This time period is thankfully out of our forecast window for now, but later next week could be wet. The Canadian model continues dry with healthy high pressure. Confidence in the details are so low for next week, we're about ready to dust off the dice and the dart boards.

&&

.AVIATION...

081045Z...Coast...SKC-SCT002 with unrestricted visibilities at KSAN, KCRQ and KSNA today with weak offshore flow. Low cloud CIGS and areas of dense fog will be primarily limited west of the airports over the coastal waters and the beaches.

Tonight: Low clouds and fog returning to the coastal areas with BKN002-006 and vis 2-5 miles spreading inland between 08Z-14Z Friday. Confidence in clouds and fog occurring at the coastal airports is moderate.

Valleys/Mountains/Deserts...Mostly clear with unrestricted vis today and tonight.

&&

.MARINE...

Areas of dense fog over the Inner and Outer coastal waters this morning, primarily south of Oceanside, and decreasing this afternoon.

&&

.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...NONE.

PZ...NONE.

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PUBLIC...MM

AVIATION/MARINE...Moede

749

FXUS65 KPSR 081945

AFDPSR

Area Forecast Discussion

National Weather Service Phoenix AZ

1250 PM MST Thu Feb 8 2018

&amp;&amp;

.SYNOPSIS...

High pressure will continue to hold in place the remainder of the week resulting in above normal daytime high temperatures. The first in a series of weather disturbances will sweep by the region early next week with only slightly better chances of rain not arriving until later in the week.

&amp;&amp;

.DISCUSSION...

...Tonight through Saturday...

Very strong ridging over the eastern Pacific and along the West Coast and dry northwesterly flow aloft to continue over the region through this period as a high-amplified long-wave pattern maintains itself over Northern America, with deep trofing over the central/eastern CONUS. anomalously warm air aloft (500mb heights in the 575-580dm range) will continue to allow temperatures to rise well above normal (lower desert highs in the low-mid 80's) each day. Clear skies, a very dry airmass, and light winds will once again allow temperatures to fall sharply at night (40's and low 50's across the lower deserts).

...Saturday night through Sunday...

Global model suites continue to agree on the basic idea of a rather strong shortwave dropping southward into the eastern Great Basin/Central Rockies during this period. The models also continue to trend towards a slight more northerly and easterly track with the feature, with the current operational GFS/EURO both now keeping virtually all precip confined to areas at/to the north and east of the Mogollon Rim, with POPS in our cwa mainly aob 5 percent on Saturday night/early Sunday as the shortwave makes its closest approach. With less cold air making its way into the region, have also raised Sunday's highs a degree or so (low-mid 70's). Some breeziness is still expected as well Sunday morning down the Lower Colorado river valley, but wind gusts should mostly remain aob 35 mph.

Monday through next Thursday...

Early next week, a series of more potent shortwaves will cross into the Pacific NW and intensify/deepen somewhere over the western US. Not surprising given the evolution out of a blocking pattern that model output continues to vary widely, but confidence in any exact timing of particular weather features next week is very low. The idea of retrogressive features and negative height anomalies developing somewhere in the West is conceptually valid, and more weight was given to this idea with a growing trend among ensemble members.

However, there is still not overwhelming evidence on the duration any cutoff feature remains spinning over the region. It may become a necessity for this assumed cutoff feature to hover west of the Baja into the end of next week in order for better quality moisture to advect north and become entrained in deeper southerly flow. Ensemble members ejecting energy by the middle of the week have little QPF reflection whereas operational members keeping energy over the region eventually pull ample moisture/ascent into the forecast area. Could not get overly aggressive on POPs later in the week given this uncertainty and have guided the forecast towards an ensemble mean until better model consistency is achieved.

&&

.AVIATION...

South-Central Arizona including KPHX, KIWA, and SDL and Southeast California/Southwest Arizona including KIPL and KBLH:

No aviation concerns through the TAF period. At Phoenix terminals, winds will be light and follow typical directional directions. At California terminals, winds will be light and favor the north at KBLH and the west at KIPL. Skies will be clear at all terminals.

Aviation Discussion not updated for amended TAFs.

&&

.FIRE WEATHER...

Saturday through Wednesday:

Well above normal temperatures Saturday will cool much closer to the seasonal average next week as a weather disturbance passes north of the districts. A cold front will slide into the region Sunday yielding breezy conditions and potentially a locally enhanced fire danger. Additional weather systems later in the week could also bring more breezy weather to the area. However, humidity levels will not be unusually low for the season only falling into a 15-25% range in general. Overnight recovery will be mostly good.

&&

.SPOTTER INFORMATION STATEMENT...

Spotters should follow standard reporting procedures.



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.PSR WATCHES/WARNINGS/ADVISORIES...

AZ...None.

CA...None.

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DISCUSSION...Percha/MO

AVIATION...Hernandez

FIRE WEATHER...MO

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FXUS66 KSGX 082308

AFDSGX

## Area Forecast Discussion

National Weather Service San Diego CA

308 PM PST Thu Feb 8 2018

## .SYNOPSIS...

High pressure weakens slightly Friday through the weekend and the onshore flow should bring back more coastal clouds and fog. A trough of low pressure will bring cooler weather, more clouds, brisk onshore winds, and a chance of rain late Monday into Wednesday. Although confidence is low at this time, there may be a better chance of inclement weather for late next week.

&amp;&amp;

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

Cooler weather will develop through Saturday as the first in a series of troughs move across the interior SW. The trough will be dry but will bring some gusty onshore winds Saturday across the mountain crests and into the deserts along with cooler temperatures and a deeper marine layer.

Saturday night through Sunday will feature a short period of strong Santa Ana conditions with gusty winds through the passes and canyons and along the foothills across Orange, San Bernardino, and Riverside Counties due to a N to NE pressure gradient. Winds could gust as high as 50 to 60 mph in these areas but that would only occur for a few hours mainly Sunday morning.

The medium range models and ensembles are coming into a little better agreement to deepen a trough over the Great Basin and retrograde that trough into a closed low over SoCal by Tuesday or Wednesday next week. There is still some uncertainty given the difficult track of the shortwaves and merging of the energy streams. This system may cut off a low off the coast of Northern Baja later next week, and then eventually send the low across SoCal Wednesday or Thursday next week. This is a difficult forecast as upper cutoff lows are very difficult to forecast in terms of the track, timing and intensity. Have continued chance of precip in the forecast from Monday evening through Tuesday with another possibly better chance of precip with lower snow levels for Wednesday and/or Thursday. Although it may not rain every day during that period, there is at least a slight chance of precipitation, and the forecast will probably be fine tuned over the next several days, so stay tuned!

**&& February 11, 2018 Exceptional Event, Imperial County****.AVIATION...**

082100Z...Coast...Mostly VFR conditions this afternoon. Small chance of low clouds lingering along the beach this afternoon. A weak coastal eddy tonight will help develop stratus more along the coast, with bases around 800 ft MSL and tops near 1000 ft MSL. VIS will lower to 1-3 SM where low clouds near higher terrain, especially near KCRQ. Stratus arrival looks to be late tonight, with a very small chance of an early development this evening. Low clouds will clear towards the afternoon by late Fri morning.

Valleys/Mountains/Deserts....Mostly clear with unrestricted VIS through Fri afternoon.

**&&****.MARINE...**

Patchy dense fog is possible over the Inner and Outer coastal waters early tonight, with VIS of 1 SM or less at times.

**&&****.FIRE WEATHER...**

Behind the leading shortwave trough Saturday night, offshore flow will setup with a N to NE pressure gradient over the Great Basin. Although a short duration event, the combination of low relative humidity and strong Santa Ana winds over the Northern Inland Empire and along the slopes and foothills could generate red flag conditions, basically late Saturday night through Sunday afternoon. Therefore a fire weather watch was issued. Conditions will rapidly improve Sunday night into Monday as onshore flow kicks in in advance of the next trough.

**&&****.SKYWARN...**

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

**&&****.SGX WATCHES/WARNINGS/ADVISORIES...**

CA...Fire Weather Watch from Saturday evening through Sunday afternoon for Orange County Inland Areas-Riverside County Mountains-Including The San Jacinto Ranger District Of The San Bernardino National Forest-San Bernardino County Mountains-Including The Mountain Top And Front Country Ranger Districts Of The San Bernardino National Forest-San Bernardino and Riverside County Valleys -The Inland Empire-San Gorgonio Pass Near Banning-Santa Ana Mountains-Including The Trabuco Ranger District of the Cleveland

National Forest.

PZ...NONE.

&&

\$\$

PUBLIC/FIRE WEATHER...Brotherton

AVIATION/MARINE...JJT

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FXUS66 KSGX 091036

AFDSGX

Area Forecast Discussion

National Weather Service San Diego CA

236 AM PST Fri Feb 9 2018

.SYNOPSIS...

Cooler weather and more coastal clouds are on the way this weekend as high pressure weakens. Offshore flow develops late Saturday and will bring strong but brief offshore winds through Sunday morning, particularly to the foothills. A trough of low pressure will bring even cooler weather, more clouds, brisk onshore winds, and a chance of showers Monday possibly into Thursday.

&amp;&amp;

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

Coastal fog has developed along the San Diego County coast overnight and some of it is dense. It is not expected to move inland and it should lift just a little during the morning, but patchy dense fog could impact our morning commute along the coast. A low pressure shortwave and trailing dry cold front moving through the interior West will put a dent in our giant ridge. That will help a coastal eddy develop tonight, which will help the marine layer to deepen. Coastal clouds will get into far western valleys Saturday morning, and the onshore flow doesn't promise full clearing Saturday. The energy from that shortwave will boost winds, mainly in the mountains and deserts during the afternoon and evening. Grab a jacket; daytime temperatures will plummet down to about average. Then things get interesting. Winds quickly turn offshore (northeast) Saturday night and strengthen behind that shortwave. That will bring fairly strong offshore winds to Southern California, and fairly chilly air to the high desert and mountains. Top wind gusts in the favored areas are forecast to exceed 50 mph between midnight and midday Sunday. The coastal low clouds that got some traction and moved ashore Saturday evening will be quickly redirected out to sea by the aggressive offshore flow in Orange County, and later in San Diego County. By midday Sunday offshore winds will begin to decrease. A new shortwave follows, but the jet on its west side dips out to sea and develops a cutoff low just off the coast on Monday and Tuesday. That allows it to dip into the Pacific air and grab some moisture that could bring us showers. Moisture deepens Monday into Monday night and the chances of showers increase. The cutoff low sits and spins for a couple days for some chance of showers through Wednesday. The models are coming into much better agreement, thankfully. They depict the cutoff low to fill and eject eastward

**February 11, 2018 Exceptional Event, Imperial County****Appendix A**

on Thursday to bring an end to any showers. It appears daytime temperatures will actually go below average Monday through Wednesday. Details are still really fuzzy next week, especially regarding when we get rain and how much, but confidence is growing that we will get some wet stuff falling from the sky at some point. The forecast will most certainly get adjusted each day, maybe a lot sometimes, so stay tuned as we gain greater focus.

&&

**.AVIATION...**

090930Z...Coast...Low stratus/dense fog over KSAN, KNZY and KNRS at 09Z with CIGS 001-003 and vis of 1/4 mile. The fog bank will grow in size and move a mile or two inland through 16Z affecting KSAN and possibly KCRQ. KSNA may be affected after 13Z. CIGS will lift to 300-400 ft MSL between 13Z-18Z with vis improving to 2-4 miles. Between 18-20Z the clouds will clear back to the coast.

After 00Z Saturday...CIGS 400-800 feet returning to the coastal airports between 04Z-09Z Saturday with vis 2-5 miles.

Valleys/Mountains/Deserts....Mostly clear with unrestricted vis today and tonight.

&&

**.MARINE...**

Areas of dense fog over the Inner waters this morning with vis of 1/2 miles or less.

&&

**.FIRE WEATHER...**

A dry cold front will move into the Southwest Saturday night and produce a very dry offshore flow. Although a short duration event, the combination of low relative humidity and strong offshore winds over the Northern Inland Empire and along the slopes and foothills could generate red flag conditions early Sunday morning through early Sunday afternoon. Conditions will rapidly improve Sunday night into Monday as onshore flow kicks in in advance of the next trough. Consult the fire weather watch for more details.

&&

**.SKYWARN...**

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

&&

**.SGX WATCHES/WARNINGS/ADVISORIES...**

CA...Fire Weather Watch from Saturday evening through Sunday afternoon for Orange County Inland Areas-Riverside County

## February 11, 2018 Exceptional Event, Imperial County

## Appendix A

Mountains-Including The San Jacinto Ranger District Of The  
 San Bernardino National Forest-San Bernardino County  
 Mountains-Including The Mountain Top And Front Country  
 Ranger Districts Of The San Bernardino National Forest-San  
 Bernardino and Riverside County Valleys -The Inland Empire-  
 San Gorgonio Pass Near Banning-Santa Ana Mountains-  
 Including The Trabuco Ranger District of the Cleveland  
 National Forest.

PZ...NONE.

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PUBLIC/FIRE...MM

AVIATION/MARINE...Moede

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938  
FXUS65 KPSR 091000  
AFDPSR

Area Forecast Discussion  
National Weather Service Phoenix AZ  
300 AM MST Fri Feb 9 2018

.SYNOPSIS...

High pressure will continue to hold in place the remainder of the week resulting in above normal daytime high temperatures. The first in a series of weather disturbances will sweep by the region early next week with better chances of rain arriving during the middle of the week.

&&

.DISCUSSION...

A blocked atmospheric flow pattern will persist over much of the country the next couple days; however, several shortwaves will crest a highly amplified east Pacific ridge and carve out a notable negative height anomaly affecting the forecast area next week. In the near term, heights aloft will only gradually become depressed as the first positively tilted wave descends towards the four corners region. Impacts on temperatures will be almost negligible today as afternoon highs should peak not terribly far from Thursday's readings. Although H5 heights will likely fall nearly 6dm Saturday, low level cold advection will lag closer to the actual positively tilted trough axis to the north and highs will only be reduced some 1F-3F.

This trough axis will eventually slide through the region Sunday albeit weakening substantially as it does with height falls nearly ceasing during the day. However with frofa beginning Saturday night, an enhanced post frontal pressure gradient will exist through western AZ/SE California and model output suggests a developing 40-45 kt northerly LLJ. Typically, stronger winds will occur first with a frontal surge and initial pressure packing, then become associated with better mixing of the LLJ. Thus, a period of advisory category winds is possible early Sunday morning and have added a rather extensive mention of blowing dust given the extremely dry soil conditions and funneling of very strong winds down the Colorado River Valley.

There is a much better growing consensus among operational and ensemble members regarding deeper negative height anomalies developing, at least temporarily, over the SW Conus during the beginning/middle of next week. Even the more reluctant models to cut off a deeper circulation (i.e. GEM) have trended towards a robust weather system spinning west of the Los Angeles basin Tuesday and Wednesday. Now that the evolution of such a system appears to be established as valid, the greater forecasting questions turn towards the duration this system sits off the coast and timing its ejection

**February 11, 2018 Exceptional Event, Imperial County****Appendix A**

eastward. These questions obviously address when the best rain threat exists, but there are larger ramifications tied to the persistence of a circulation center offshore and ability to tap and advect deeper subtropical poleward.

For the time being given their agreement, have trended the forecast timing and impacts closer to the operational members lingering the cold core offshore into Wednesday before opening the circulation and ejecting the vorticity center into the CWA. Should the system not dig as far south and pass through the region quicker as some ensemble members indicate, the moisture feed and water vapor transport will become far more meager. At this time, the 00Z ECMWF forecasts the most robust moisture entrainment into a frontal band and ascent structure; and conceptually, other models take a similarly favorable trajectory to tap quality moisture. Regardless of the magnitude of WV transport, rain chances look far more promising than previous models indicated and have boosted POPs across the board. No doubt once timing issues are resolved, even higher percentages will be assigned and a good area-wide soaking rain is certainly possible.

&&

.AVIATION...

South-Central Arizona including KPHX, KIWA, and SDL; and Southeast California/Southwest Arizona including KIPL and KBLH:

Dry northwest flow aloft will continue to give generally clear skies to the terminals for the next 24 hours. Light surface/low level gradients will result in light winds favoring typical diurnal tendencies, especially in the greater Phoenix area. Most speeds will be less than 10kt. No aviation concerns at any airfield for at least the next 24 hours.

Aviation Discussion not updated for amended TAFs.

&&

.FIRE WEATHER...

Sunday through Thursday:

A cold front will slide into the region Sunday yielding windy conditions through much of SE California and the lower Colorado River Valley. While the strongest winds will occur early Sunday morning when humidity levels are higher, an enhanced fire danger will exist solely on the gusty north winds. Additional weather systems during the middle of the week will likely also bring some breezy south winds to the area, however much higher moisture levels will accompany these southerly winds. Humidity levels falling into a 10-20% range Sunday will rapidly moisten to a 20-40% range the remainder of the week. Overnight recovery will be good to excellent and widespread wetting rains become possible by Wednesday.

&&

.SPOTTER INFORMATION STATEMENT...

# February 11, 2018 Exceptional Event, Imperial County

# Appendix A

Spotters should follow standard reporting procedures.

&&

.PSR WATCHES/WARNINGS/ADVISORIES...

AZ...None.

CA...None.

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DISCUSSION...MO

AVIATION...Hernandez

FIRE WEATHER...MO

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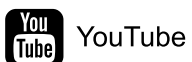
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FXUS66 KSGX 092009

AFDSGX

## Area Forecast Discussion

National Weather Service San Diego CA

1209 PM PST Fri Feb 9 2018

## .SYNOPSIS...

Cooler weather and more coastal clouds are on the way this weekend as high pressure weakens. Offshore flow develops late Saturday and will bring strong but brief offshore winds through Sunday morning, particularly to the foothills. A trough of low pressure will bring even cooler weather, more clouds, brisk onshore winds, and a chance of showers Monday possibly into Thursday.

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

Areas of dense fog finally cleared the coast around 10 am this morning with areas of fog remaining over the coastal waters. Some patchy fog will occur again tonight, and spread inland overnight due to the deepening of the marine layer. Relatively cool temperatures on Saturday due to the presence of the marine layer and weak shortwave passage over SoCal.

Saturday night into Sunday, behind the shortwave, offshore pressure gradients and strong Santa Ana winds will develop over San Bernardino, Orange, and Riverside Counties with a predominantly N-NE gradient. Winds will become strong late Saturday night through Sunday morning with gusts of 50 to 60 mph likely through the wind favored canyons and passes and along the foothills. The populated valley areas will see gusty winds too but much weaker, up to 35 or 40 mph.

By Sunday afternoon the onshore gradients begin to kick in and winds will become gusty onshore Sunday evening as a result. Marine layer will thicken up once again and some marine layer drizzle and light rain will be likely by Monday morning and into the afternoon with some showers likely Monday night with the second trough.

For Tuesday through Thursday, the models have come into better agreement that the cooler upper level trough will cutoff a low pressure area off the SoCal or Northern Mexico coast and meander off the coast through Wednesday, then get picked up by the westerlies and make a beeline for either SoCal or Northern Baja. This system will bring another good chance of rain and mountain snow then for Wednesday through Thursday morning. There could be some lingering showers into Thursday night. On Friday transitory

**February 11, 2018 Exceptional Event, Imperial County****Appendix A**

ridging should bring drier weather and temperatures near normal.

&&

.AVIATION...

092000Z...Coast...Low stratus/dense fog will linger along the immediate coast through the evening, with bases around 400 ft MSL and VIS at or below 1 SM BR/HZ. Low clouds will expand in coverage this evening, with bases rising around 800 ft MSL overnight and stratus moving inland 10-20 miles by Sat morning.

Valleys/Mountains/Deserts....Mostly clear with unrestricted VIS through Sat morning.

&&

.MARINE...

Areas of dense fog over the Inner waters through this evening, with VIS of 1 mile or less. A Marine Weather Statement continues through 10 PM for the fog.

&&

.FIRE WEATHER...

A dry cold front will move into the Southwest Saturday night and produce a very dry offshore flow. Although a short duration event, the combination of low relative humidity and strong offshore winds over the Northern Inland Empire and along the slopes and foothills will generate red flag conditions early Sunday morning through early Sunday afternoon. Conditions will rapidly improve Sunday evening into Monday as onshore flow kicks in in advance of the next low pressure trough. Consult red flag warning for more details.

&&

.SKYWARN...

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

&&

.SGX WATCHES/WARNINGS/ADVISORIES...

CA...Red Flag Warning from 10 PM Saturday to 1 PM PST Sunday for Riverside County Mountains-Including The San Jacinto Ranger District Of The San Bernardino National Forest-San Bernardino County Mountains-Including The Mountain Top And Front Country Ranger Districts Of The San Bernardino National Forest-San Bernardino and Riverside County Valleys -The Inland Empire-San Gorgonio Pass Near Banning-Santa Ana Mountains-Including The Trabuco Ranger District of the Cleveland National Forest.

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FXUS65 KPSR 092205  
AFDPSR

Area Forecast Discussion  
National Weather Service Phoenix AZ  
305 PM MST Fri Feb 9 2018

.SYNOPSIS...

High pressure will maintain warm daytime high temperatures through Saturday. A series of weather systems will return to the region beginning this weekend bringing slightly cooler daytime temperatures, occasionally breezy conditions as well as increasing rain chances by the middle of next week.

.DISCUSSION...

Current satellite is still depicting mostly clear skies this afternoon with just a few high clouds passing through in the dry northwesterly flow aloft. Once again temperatures have already climbed into the mid 70s, to even a few low 80s, across the lower deserts as we head for our afternoon high near a warm 83 degrees. Look for another warm day on Saturday with highs reaching the upper 70s to low 80s as the high pressure ridge begins to weaken slightly.

The ensembles and operational models are still on track with bringing in our first cold front in quite a while on Saturday night and early Sunday from the north, as broad cyclonic flow aloft begins to also take over. This weak trof system and associated cold front marks the beginning of a significant change in our current persisting and very warm weather pattern. This system is also dry by the time it reaches our region with its moisture and precipitation being confined to far NE-E Arizona. The main impacts with this system are strong gusty winds in southeast CA and the lower Colorado River Valley along with patchy blowing dust on Saturday night through Sunday morning. Otherwise breezy to very breezy conditions can be expected across the lower deserts along with noticeably cooler temperatures in the mid 70s.

A much stronger and deeper low pressure storm system will drop in from the northwest through California as a closed low by Monday before eventually forming a much larger closed low west of northern Baja CA by Wednesday. This system will be in an excellent position to tap into abundant subtropical and eastern Pacific moisture and advect it northeast into Arizona and the Southwest. As a result POPs have significantly increased across the region for mid and late week. Operational models and ensembles have been taking turns flip-flopping on when the closed low will kick out to the northeast. Although the NBM was more heavily weighted in this forecast, considerable uncertainty remains over the timing of next week's rain event. Storm total precipitation could also vary widely but could range from as little as a tenth of an inch to half an inch across the lower deserts.

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.PREVIOUS DISCUSSION...

A blocked atmospheric flow pattern will persist over much of the country the next couple days; however, several shortwaves will crest a highly amplified east Pacific ridge and carve out a notable negative height anomaly affecting the forecast area next week. In the near term, heights aloft will only gradually become depressed as the first positively tilted wave descends towards the four corners region. Impacts on temperatures will be almost negligible today as afternoon highs should peak not terribly far from Thursday's readings. Although H5 heights will likely fall nearly 6dm Saturday, low level cold advection will lag closer to the actual positively tilted trough axis to the north and highs will only be reduced some 1F-3F.

This trough axis will eventually slide through the region Sunday albeit weakening substantially as it does with height falls nearly ceasing during the day. However with frofa beginning Saturday night, an enhanced post frontal pressure gradient will exist through western AZ/SE California and model output suggests a developing 40-45 kt northerly LLJ. Typically, stronger winds will occur first with a frontal surge and initial pressure packing, then become associated with better mixing of the LLJ. Thus, a period of advisory category winds is possible early Sunday morning and have added a rather extensive mention of blowing dust given the extremely dry soil conditions and funneling of very strong winds down the Colorado River Valley.

There is a much better growing consensus among operational and ensemble members regarding deeper negative height anomalies developing, at least temporarily, over the SW Conus during the beginning/middle of next week. Even the more reluctant models to cut off a deeper circulation (i.e. GEM) have trended towards a robust weather system spinning west of the Los Angeles basin Tuesday and Wednesday. Now that the evolution of such a system appears to be established as valid, the greater forecasting questions turn towards the duration this system sits off the coast and timing its ejection eastward. These questions obviously address when the best rain threat exists, but there are larger ramifications tied to the persistence of a circulation center offshore and ability to tap and advect deeper subtropical poleward.

For the time being given their agreement, have trended the forecast timing and impacts closer to the operational members lingering the cold core offshore into Wednesday before opening the circulation and ejecting the vorticity center into the CWA. Should the system not dig as far south and pass through the region quicker as some ensemble members indicate, the moisture feed and water vapor transport will become far more meager. At this time, the 00Z ECMWF forecasts the most robust moisture entrainment into a frontal band and ascent structure; and conceptually, other models take a similarly favorable trajectory to tap quality moisture. Regardless of the magnitude of WV transport, rain chances look far more promising than



- **February 11, 2018 Exceptional Event, Imperial County** -  
previous models indicated and have boosted POPs across the board. No doubt once timing issues are resolved, even higher percentages will be assigned and a good area-wide soaking rain is certainly possible.

&&

.AVIATION...

South-Central Arizona including KPHX, KIWA, and SDL; and  
Southeast California/Southwest Arizona including KIPL and KBLH:

Dry northwest flow aloft will continue to give generally clear skies to the terminals for the next 24 hours. Light surface/low level gradients will result in light winds favoring typical diurnal tendencies, especially in the greater Phoenix area. Most speeds will be less than 10kt. No aviation concerns at any airfield for at least the next 24 hours.

Aviation Discussion not updated for amended TAFs.

&&

.FIRE WEATHER...

Sunday through Thursday:

A cold front will slide into the region Sunday yielding windy conditions through much of SE California and the lower Colorado River Valley. While the strongest winds will occur early Sunday morning when humidity levels are higher, an enhanced fire danger will exist solely on the gusty north winds. Additional weather systems during the middle of the week will likely also bring some breezy south winds to the area, however much higher moisture levels will accompany these southerly winds. Humidity levels falling into a 10-20% range Sunday will rapidly moisten to a 20-40% range the remainder of the week. Overnight recovery will be good to excellent and widespread wetting rains become possible by Wednesday.

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.SPOTTER INFORMATION STATEMENT...

Spotters should follow standard reporting procedures.

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.PSR WATCHES/WARNINGS/ADVISORIES...

AZ...None.

CA...None.

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Visit us on Facebook, Twitter, and at [weather.gov/phoenix](http://weather.gov/phoenix)

DISCUSSION...Sawtelle

PREVIOUS DISCUSSION...MO

AVIATION...Hernandez

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FXUS65 KPSR 100338 AAA

AFDPSR

Area Forecast Discussion...Updated  
National Weather Service Phoenix AZ  
835 PM MST Fri Feb 9 2018

.UPDATE...Updated aviation discussion.

&&

.SYNOPSIS...

High pressure will maintain warm daytime high temperatures through Saturday. A series of weather systems will return to the region beginning this weekend bringing slightly cooler daytime temperatures, occasionally breezy conditions as well as increasing rain chances by the middle of next week.

.DISCUSSION...

Current satellite is still depicting mostly clear skies this afternoon with just a few high clouds passing through in the dry northwesterly flow aloft. Once again temperatures have already climbed into the mid 70s, to even a few low 80s, across the lower deserts as we head for our afternoon high near a warm 83 degrees. Look for another warm day on Saturday with highs reaching the upper 70s to low 80s as the high pressure ridge begins to weaken slightly.

The ensembles and operational models are still on track with bringing in our first cold front in quite a while on Saturday night and early Sunday from the north, as broad cyclonic flow aloft begins to also take over. This weak trof system and associated cold front marks the beginning of a significant change in our current persisting and very warm weather pattern. This system is also dry by the time it reaches our region with its moisture and precipitation being confined to far NE-E Arizona. The main impacts with this system are strong gusty winds in southeast CA and the lower Colorado River Valley along with patchy blowing dust on Saturday night through Sunday morning. Otherwise breezy to very breezy conditions can be expected across the lower deserts along with noticeably cooler temperatures in the mid 70s.

A much stronger and deeper low pressure storm system will drop in from the northwest through California as a closed low by Monday before eventually forming a much larger closed low west of northern Baja CA by Wednesday. This system will be in an excellent position to tap into abundant subtropical and eastern Pacific moisture and advect it northeast into Arizona and the Southwest. As a result POPs have significantly increased across the region for mid and late week. Operational models and ensembles have been taking turns flip-flopping on when the closed low will kick out to the northeast. Although the NBM was more heavily weighted in this forecast,

considerable uncertainty remains over the timing of next week's rain event. Storm total precipitation could also vary widely but could range from as little as a tenth of an inch to half an inch across the lower deserts.

&&

.PREVIOUS DISCUSSION...

A blocked atmospheric flow pattern will persist over much of the country the next couple days; however, several shortwaves will crest a highly amplified east Pacific ridge and carve out a notable negative height anomaly affecting the forecast area next week. In the near term, heights aloft will only gradually become depressed as the first positively tilted wave descends towards the four corners region. Impacts on temperatures will be almost negligible today as afternoon highs should peak not terribly far from Thursday's readings. Although H5 heights will likely fall nearly 6dm Saturday, low level cold advection will lag closer to the actual positively tilted trough axis to the north and highs will only be reduced some 1F-3F.

This trough axis will eventually slide through the region Sunday albeit weakening substantially as it does with height falls nearly ceasing during the day. However with frofa beginning Saturday night, an enhanced post frontal pressure gradient will exist through western AZ/SE California and model output suggests a developing 40-45 kt northerly LLJ. Typically, stronger winds will occur first with a frontal surge and initial pressure packing, then become associated with better mixing of the LLJ. Thus, a period of advisory category winds is possible early Sunday morning and have added a rather extensive mention of blowing dust given the extremely dry soil conditions and funneling of very strong winds down the Colorado River Valley.

There is a much better growing consensus among operational and ensemble members regarding deeper negative height anomalies developing, at least temporarily, over the SW Conus during the beginning/middle of next week. Even the more reluctant models to cut off a deeper circulation (i.e. GEM) have trended towards a robust weather system spinning west of the Los Angeles basin Tuesday and Wednesday. Now that the evolution of such a system appears to be established as valid, the greater forecasting questions turn towards the duration this system sits off the coast and timing its ejection eastward. These questions obviously address when the best rain threat exists, but there are larger ramifications tied to the persistence of a circulation center offshore and ability to tap and advect deeper subtropical poleward.

For the time being given their agreement, have trended the forecast timing and impacts closer to the operational members lingering the cold core offshore into Wednesday before opening the circulation and ejecting the vorticity center into the CWA. Should the system not dig as far south and pass through the region quicker as some ensemble members indicate, the moisture feed and water vapor

**February 11, 2018 Exceptional Event, Imperial County****Appendix A**

transport will become far more meager. At this time, the 00Z ECMWF forecasts the most robust moisture entrainment into a frontal band and ascent structure; and conceptually, other models take a similarly favorable trajectory to tap quality moisture. Regardless of the magnitude of WV transport, rain chances look far more promising than previous models indicated and have boosted POPs across the board. No doubt once timing issues are resolved, even higher percentages will be assigned and a good area-wide soaking rain is certainly possible.

&&

.AVIATION...

South-Central Arizona including KPHX, KIWA, and SDL; and Southeast California/Southwest Arizona including KIPL and KBLH:

Dry northwest flow aloft will persist across the area through tomorrow evening keeping skies mostly clear. There will be some high level cirrus embedded in the flow with thin BKN decks possible at times. Gradients will remain rather weak into Saturday evening keeping winds light, favoring typical diurnal tendencies especially in the greater Phoenix area. Overnight Saturday night, surface gradients will tighten out west behind a cold front, and increasing north winds will develop along the lower Colorado River Valley. This will mainly affect the KBLH TAF as gusty north winds develop after midnight tomorrow night.

Aviation Discussion not updated for amended TAFs.

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.FIRE WEATHER...

Sunday through Thursday:

A cold front will slide into the region Sunday yielding windy conditions through much of SE California and the lower Colorado River Valley. While the strongest winds will occur early Sunday morning when humidity levels are higher, an enhanced fire danger will exist solely on the gusty north winds. Additional weather systems during the middle of the week will likely also bring some breezy south winds to the area, however much higher moisture levels will accompany these southerly winds. Humidity levels falling into a 10-20% range Sunday will rapidly moisten to a 20-40% range the remainder of the week. Overnight recovery will be good to excellent and widespread wetting rains become possible by Wednesday.

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.SPOTTER INFORMATION STATEMENT...

Spotters should follow standard reporting procedures.

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.PSR WATCHES/WARNINGS/ADVISORIES...

AZ...None.

CA...None.

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617

FXUS65 KPSR 101029

AFDPSR

## Area Forecast Discussion

National Weather Service Phoenix AZ

329 AM MST Sat Feb 10 2018

## .SYNOPSIS...

A weak weather system will provide breezy to windy conditions across the Lower Colorado River Valley tonight into early Sunday. This system will also bring temperatures back down near normals through Tuesday. A much more significant weather system will likely affect the region through much of next week bringing periods of rain, especially toward the latter part of the week.

&amp;&amp;

## .DISCUSSION...

Dry northwesterly flow continues across the area, but heights aloft are beginning to lower ahead of an upper level trough currently digging through the Pacific Northwest. Today will likely be the last well above normal temperature day for the foreseeable future with highs generally in the upper 70s to lower 80s across the deserts. As the trough approaches from the north later today, strong surface high pressure will move into the Great Basin creating a tight pressure gradient through central Arizona into southern California. Strong northerly winds will push through the Lower Colorado River Valley starting mid to late evening, lasting through the overnight. Wind gusts to 40 mph are likely across portions of the area, mainly affecting eastern areas of Riverside and Imperial Counties in California. As a result, a Wind Advisory has been issued for the area from this evening through mid Sunday morning. Blowing dust will likely affect areas within the Advisory, but dense blowing dust is not anticipated.

The trough axis will swing through Arizona early Sunday with the main trough energy and any rain chances staying well to our northeast. The cooler air settling into the region will lower highs mostly into the lower 70s for Sunday with skies clearing from west to east by early afternoon.

The next advertised low pressure trough could bring the most significant rain and snow to the region so far this winter. Models first show a strong and compact low diving southward through the Pacific Northwest and California Sunday into Monday with very little if any model spread. The inland trajectory of this low and very dry air currently situated over the Southwestern U.S. doesn't bode well for rain chances initially. However, the latest 00Z model runs show a slight chance of high based rain showers mainly across southeast California and southwest Arizona late Monday afternoon into Tuesday. Although moisture will be limited, there

should be enough system moisture to aid in a period of light showers or virga in an area of strong vertical lift south of a strengthening upper level jet from southern California into Colorado.

Model agreement remains high for Tuesday as the low center stalls out briefly over central California before drifting westward as the trough becomes cut off from the northern jet stream. Slight chances for showers will mostly be from Phoenix westward. Temperatures will still remain near normals early next week as the low stays well to our north and west and with southwesterly flow in place.

The most significant impacts to our area should occur during the latter half of next week, but quite a bit of uncertainty comes into play as the trough drifts southward off the southern California coast. Model spread is actually not all that high from Wednesday through Friday, but any subtle shift in the positioning of the system or in the residence time over the Pacific waters will greatly affect how much rain will fall. For now, models keep the low in a favorable area long enough (2 days or so) for quite a bit of moisture to get entrained into the system and eventually transported northward into the Desert Southwest. If the system positioning shifts much farther to the east or west, our rain chances and amounts will be lower.

The 00Z European is more aggressive with deepening the low and entraining much more moisture than the latest GFS or NAEFS solutions, but positioning is similar. Best rain chances initially on Wednesday will likely be across southeast California and southwest Arizona, followed by more widespread rain chances Wednesday night. The wetter European solution actually brings in widespread rain as early as Wednesday morning, but other solutions hold off until Wednesday night or Thursday morning. For now, we are going with more of a blended model approach with best rain chances falling on Thursday and lingering chances through Friday. The timing will likely change, but the strong dynamics and potential water transport into the region should give much of the area a decent rain event, including some thunderstorm activity. Rainfall amounts right now point toward widespread 0.25-0.50" across the lower deserts with upwards of one inch across the high terrain, but this is highly dependent on how much moisture will be available.

&&

.AVIATION...

South-Central Arizona including KPHX, KIWA, and SDL; and Southeast California/Southwest Arizona including KIPL and KBLH:

Dry northwest flow aloft will persist across the area through tomorrow evening keeping skies mostly clear. There will be some high level cirrus embedded in the flow with thin BKN decks possible at times. Gradients will remain rather weak into Saturday evening

**February 11, 2018 Exceptional Event, Imperial County****Appendix A**

keeping winds light, favoring typical diurnal tendencies especially in the greater Phoenix area. Overnight Saturday night, surface gradients will tighten out west behind a cold front, and increasing north winds will develop along the lower Colorado River Valley. This will mainly affect the KBLH TAF as gusty north winds develop after midnight tomorrow night.

Aviation Discussion not updated for amended TAFs.

&&

.FIRE WEATHER...

Monday through Friday:

A strong weather system will affect the region for much of the week with initial slight chances for rain as early as Monday. Breezy southerly winds will affect the area Monday, but increased moisture will result in minimum humidity levels only falling to between 25-35%. The higher humidities will last the remainder of the week with good to excellent chances of widespread wetting rains from Wednesday through Friday.

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.SPOTTER INFORMATION STATEMENT...

Spotters should follow standard reporting procedures.

&&

.PSR WATCHES/WARNINGS/ADVISORIES...

AZ...Wind Advisory from 8 PM this evening to 8 AM MST Sunday for AZZ530.

CA...Wind Advisory from 7 PM this evening to 7 AM PST Sunday for CAZ561-564-565-567>570.

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DISCUSSION...Kuhlman

AVIATION...CB

FIRE WEATHER...Kuhlman

**IOWA STATE  
UNIVERSITY**

College of Ag

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WWUS75 KPSR 101040  
NPWPSR

URGENT - WEATHER MESSAGE  
National Weather Service Phoenix AZ  
340 AM MST Sat Feb 10 2018

AZZ530-CAZ561-564-565-567>570-102300-  
/O.NEW.KPSR.WI.Y.0003.180211T0300Z-180211T1500Z/  
Parker Valley-Joshua Tree NP East-Chuckwalla Mountains-  
Imperial County Southeast-Imperial Valley-Chiriaco Summit-  
Palo Verde Valley-Chuckwalla Valley-  
Including the cities of Parker, Ehrenberg,  
Imperial Hot Mineral Springs, Winterhaven, El Centro, Calexico,  
Alamorio, Brawley, Chiriaco Summit, Martinez Lake, Blythe,  
Palo Verde, Ripley, and Midland  
340 AM MST Sat Feb 10 2018 /240 AM PST Sat Feb 10 2018/

...WIND ADVISORY IN EFFECT FROM 8 PM MST /7 PM PST/ THIS EVENING  
TO 8 AM MST /7 AM PST/ SUNDAY...

The National Weather Service in Phoenix has issued a Wind  
Advisory, which is in effect from 8 PM MST /7 PM PST/ this  
evening to 8 AM MST /7 AM PST/ Sunday.

- \* AFFECTED AREA...Lower Colorado River Valley including much of  
eastern Riverside and Imperial Counties.
- \* TIMING...Saturday evening through mid Sunday morning.
- \* WINDS...North winds 20 to 30 mph with gusts to 45 mph.
- \* IMPACTS...Travel for high profile vehicles along west/east area  
roadways may be hazardous. Locally dense blowing dust with  
visibilities less than 1 mile will be 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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143

FXUS66 KSGX 101211

AFDSGX

## Area Forecast Discussion

National Weather Service San Diego CA

411 AM PST Sat Feb 10 2018

## .SYNOPSIS...

A coastal eddy will bring more coastal clouds today with significantly cooler high temperatures spreading into the valleys and mountains. A period of moderate offshore flow and gusty Santa Ana winds will follow for late tonight through Sunday morning with Sunday high temperatures cooler for the mountains and deserts and warmer for coastal and valley areas. A low pressure system will move southward through the western states for Monday and Tuesday with low pressure lingering off the Southern California coast for Wednesday and Thursday...then moving slowly eastward into Southern California and northern Baja sometime around Friday and Saturday. This will bring chances for showers as soon as late Sunday night and continuing at times for much of next week.

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

A trough of low pressure will move southward through the Great Basin today...and eastward through the southern Rockies tonight. A coastal eddy has developed with satellite imagery showing widespread coastal stratus extending into portions of the inland valleys. The deeper marine layer and stronger onshore flow will bring significantly cooler high temperatures today for inland coastal...valley...and mountain areas. Low clouds may linger at the coast for much of the day...then spread quickly inland during the late afternoon and evening into the far inland valleys.

Surface high pressure will bring periods of gusty north to northeast Santa Ana winds for late tonight through Sunday morning...diminishing Sunday afternoon. This will bring cooler high temperatures on Sunday for the mountains and deserts...with warmer high temperatures for coastal and valley areas.

A low pressure system will move southward through the western states for Monday and Tuesday with low pressure lingering off the Southern California coast for Wednesday and Thursday...then moving slowly eastward into Southern California and northern Baja sometime around Friday and Saturday.

This will bring chances for showers as soon as late Sunday night and continuing at times for much of the week. There remains more

**February 11, 2018 Exceptional Event, Imperial County****Appendix A**

than an average level of uncertainty on the timing...amounts...and location of precipitation during the week. Amounts earlier in the week should generally be lighter with snow levels a little lower...down to around 5500 to 6000 feet at times.

Later in the week...around Wednesday and Thursday...there is the potential for the upper low off the Southern California to tap subtropical moisture with the potential for heavier rainfall. Just where the heaviest rainfall might occur is dependent on the location of the upper low at that time and not unexpectedly...there continue to be model to model and run to run differences among the global models in the placement of that upper low for Wednesday and Thursday...and the timing on when it may finally move eastward and inland around Friday or Saturday. With the subtropical moisture... snow levels should be higher for Wednesday into Friday... mostly above 7000 feet.

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.AVIATION...

101030Z...Coast/Valleys...Stratus with bases 1000-17000 ft MSL will continue to spread up to 30 NM inland this morning. Local vis 3-5 miles will occur in the valleys through 16Z. Stratus will gradually clear 16Z-19Z in the valleys and 19Z-22Z near the coast. Stratus will spread inland again this evening with bases near 1500-2000 ft MSL, clearing back to the coast early Sunday as offshore flow develops. Gusty NE to E winds with sfc gusts 30-40 kt and areas of MOD-STG LLWS/UDDFS developing over and W/SW of the mountains after 11/06Z.

Mountains/Deserts....Mostly clear with unrestricted vis through Sun morning.

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.MARINE...

No hazardous weather conditions are expected through Wednesday.

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.FIRE WEATHER...

Surface high pressure over the Great Basin will bring a period of stronger and gusty north to northeast winds for late tonight through Sunday morning along with low inland humidities. Strongest winds are expected along lower coastal mountain slopes and below passes and canyons for late tonight into Sunday morning. Humidities are expected to fall to 15 to 20 percent late tonight...and 5 to 10 percent Sunday. This will bring critical fire weather conditions for the mountains of Orange...San Bernardino...and Riverside Counties...the Inland Empire...and the San Gorgonio Pass for late this evening through early Sunday afternoon. These critical fire weather conditions may extend into the mountains and inland valleys of San Diego County for Sunday morning. Winds will diminish Sunday afternoon and humidities will recover rapidly

late Sunday night as onshore flow returns.

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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...Red Flag Warning from 10 PM this evening to 1 PM PST Sunday for Riverside County Mountains-Including The San Jacinto Ranger District Of The San Bernardino National Forest-San Bernardino County Mountains-Including The Mountain Top And Front Country Ranger Districts Of The San Bernardino National Forest-San Bernardino and Riverside County Valleys -The Inland Empire-San Gorgonio Pass Near Banning-Santa Ana Mountains-Including The Trabuco Ranger District of the Cleveland National Forest.

PZ...NONE.

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PUBLIC/FIRE WEATHER...17  
AVIATION/MARINE...SS

# IOWA STATE UNIVERSITY

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567

FXUS65 KPSR 101130

AFDPSR

## Area Forecast Discussion

National Weather Service Phoenix AZ

430 AM MST Sat Feb 10 2018

...Updated Aviation...

## .SYNOPSIS...

A weak weather system will provide breezy to windy conditions across the Lower Colorado River Valley tonight into early Sunday. This system will also bring temperatures back down near normals through Tuesday. A much more significant weather system will likely affect the region through much of next week bringing periods of rain, especially toward the latter part of the week.

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## .DISCUSSION...

Dry northwesterly flow continues across the area, but heights aloft are beginning to lower ahead of an upper level trough currently digging through the Pacific Northwest. Today will likely be the last well above normal temperature day for the foreseeable future with highs generally in the upper 70s to lower 80s across the deserts. As the trough approaches from the north later today, strong surface high pressure will move into the Great Basin creating a tight pressure gradient through central Arizona into southern California. Strong northerly winds will push through the Lower Colorado River Valley starting mid to late evening, lasting through the overnight. Wind gusts to 40 mph are likely across portions of the area, mainly affecting eastern areas of Riverside and Imperial Counties in California. As a result, a Wind Advisory has been issued for the area from this evening through mid Sunday morning. Blowing dust will likely affect areas within the Advisory, but dense blowing dust is not anticipated.

The trough axis will swing through Arizona early Sunday with the main trough energy and any rain chances staying well to our northeast. The cooler air settling into the region will lower highs mostly into the lower 70s for Sunday with skies clearing from west to east by early afternoon.

The next advertised low pressure trough could bring the most significant rain and snow to the region so far this winter. Models first show a strong and compact low diving southward through the Pacific Northwest and California Sunday into Monday with very little if any model spread. The inland trajectory of this low and very dry air currently situated over the Southwestern U.S. doesn't bode well for rain chances initially. However, the latest 00Z model runs show a slight chance of high based rain showers mainly

across southeast California and southwest Arizona late Monday afternoon into Tuesday. Although moisture will be limited, there should be enough system moisture to aid in a period of light showers or virga in an area of strong vertical lift south of a strengthening upper level jet from southern California into Colorado.

Model agreement remains high for Tuesday as the low center stalls out briefly over central California before drifting westward as the trough becomes cut off from the northern jet stream. Slight chances for showers will mostly be from Phoenix westward. Temperatures will still remain near normals early next week as the low stays well to our north and west and with southwesterly flow in place.

The most significant impacts to our area should occur during the latter half of next week, but quite a bit of uncertainty comes into play as the trough drifts southward off the southern California coast. Model spread is actually not all that high from Wednesday through Friday, but any subtle shift in the positioning of the system or in the residence time over the Pacific waters will greatly affect how much rain will fall. For now, models keep the low in a favorable area long enough (2 days or so) for quite a bit of moisture to get entrained into the system and eventually transported northward into the Desert Southwest. If the system positioning shifts much farther to the east or west, our rain chances and amounts will be lower.

The 00Z European is more aggressive with deepening the low and entraining much more moisture than the latest GFS or NAEFS solutions, but positioning is similar. Best rain chances initially on Wednesday will likely be across southeast California and southwest Arizona, followed by more widespread rain chances Wednesday night. The wetter European solution actually brings in widespread rain as early as Wednesday morning, but other solutions hold off until Wednesday night or Thursday morning. For now, we are going with more of a blended model approach with best rain chances falling on Thursday and lingering chances through Friday. The timing will likely change, but the strong dynamics and potential water transport into the region should give much of the area a decent rain event, including some thunderstorm activity. Rainfall amounts right now point toward widespread 0.25-0.50" across the lower deserts with upwards of one inch across the high terrain, but this is highly dependent on how much moisture will be available.

&&

.AVIATION...

South-Central Arizona including KPHX, KIWA, and SDL

No significant aviation concerns through Sunday morning under only periodic high cirrus cover. The typical afternoon wind shift should be more pronounced today and west winds could prevail beyond the usual midnight time frame. East winds will eventually resume late

**February 11, 2018 Exceptional Event, Imperial County****Appendix A**

tonight, and could back more to a northeast direction with some gustiness behind a cold front later Sunday morning.

Southeast California/Southwest Arizona including KIPL and KBLH: Strong, gusty winds and reduced visibilities due to blowing dust will be the primary aviation concerns late tonight. A cold front will pass through the terminals later this evening with the strongest gusts above 30kt impacting KBLH. Periods of visibilities falling into MVFR or IFR categories at KBLH are likely after midnight. Wind speeds will be somewhat weaker at KIPL though some stronger gusts are possible.

Aviation Discussion not updated for amended TAFs.

&&

.FIRE WEATHER...

Monday through Friday:

A strong weather system will affect the region for much of the week with initial slight chances for rain as early as Monday. Breezy southerly winds will affect the area Monday, but increased moisture will result in minimum humidity levels only falling to between 25-35%. The higher humidities will last the remainder of the week with good to excellent chances of widespread wetting rains from Wednesday through Friday.

&&

.SPOTTER INFORMATION STATEMENT...

Spotters should follow standard reporting procedures.

&&

.PSR WATCHES/WARNINGS/ADVISORIES...

AZ...Wind Advisory from 8 PM this evening to 8 AM MST Sunday for AZZ530.

CA...Wind Advisory from 7 PM this evening to 7 AM PST Sunday for CAZ561-564-565-567>570.

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DISCUSSION...Kuhlman

AVIATION...MO

FIRE WEATHER...Kuhlman

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855

FXUS65 KPSR 101743

AFDPSR

Area Forecast Discussion

National Weather Service Phoenix AZ

1043 AM MST Sat Feb 10 2018

.UPDATE...Updated Aviation Discussion.

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.SYNOPSIS...

A weak weather system will provide breezy to windy conditions across the Lower Colorado River Valley tonight into early Sunday. This system will also bring temperatures back down near normals through Tuesday. A much more significant weather system will likely affect the region through much of next week bringing periods of rain, especially toward the latter part of the week.

&amp;&amp;

.DISCUSSION...

Dry northwesterly flow continues across the area, but heights aloft are beginning to lower ahead of an upper level trough currently digging through the Pacific Northwest. Today will likely be the last well above normal temperature day for the foreseeable future with highs generally in the upper 70s to lower 80s across the deserts. As the trough approaches from the north later today, strong surface high pressure will move into the Great Basin creating a tight pressure gradient through central Arizona into southern California. Strong northerly winds will push through the Lower Colorado River Valley starting mid to late evening, lasting through the overnight. Wind gusts to 40 mph are likely across portions of the area, mainly affecting eastern areas of Riverside and Imperial Counties in California. As a result, a Wind Advisory has been issued for the area from this evening through mid Sunday morning. Blowing dust will likely affect areas within the Advisory, but dense blowing dust is not anticipated.

The trough axis will swing through Arizona early Sunday with the main trough energy and any rain chances staying well to our northeast. The cooler air settling into the region will lower highs mostly into the lower 70s for Sunday with skies clearing from west to east by early afternoon.

The next advertised low pressure trough could bring the most significant rain and snow to the region so far this winter. Models first show a strong and compact low diving southward through the Pacific Northwest and California Sunday into Monday with very little if any model spread. The inland trajectory of this low and very dry air currently situated over the Southwestern U.S. doesn't

**February 11, 2018 Exceptional Event, Imperial County****Appendix A**

bode well for rain chances initially. However, the latest 00Z model runs show a slight chance of high based rain showers mainly across southeast California and southwest Arizona late Monday afternoon into Tuesday. Although moisture will be limited, there should be enough system moisture to aid in a period of light showers or virga in an area of strong vertical lift south of a strengthening upper level jet from southern California into Colorado.

Model agreement remains high for Tuesday as the low center stalls out briefly over central California before drifting westward as the trough becomes cut off from the northern jet stream. Slight chances for showers will mostly be from Phoenix westward. Temperatures will still remain near normals early next week as the low stays well to our north and west and with southwesterly flow in place.

The most significant impacts to our area should occur during the latter half of next week, but quite a bit of uncertainty comes into play as the trough drifts southward off the southern California coast. Model spread is actually not all that high from Wednesday through Friday, but any subtle shift in the positioning of the system or in the residence time over the Pacific waters will greatly affect how much rain will fall. For now, models keep the low in a favorable area long enough (2 days or so) for quite a bit of moisture to get entrained into the system and eventually transported northward into the Desert Southwest. If the system positioning shifts much farther to the east or west, our rain chances and amounts will be lower.

The 00Z European is more aggressive with deepening the low and entraining much more moisture than the latest GFS or NAEFS solutions, but positioning is similar. Best rain chances initially on Wednesday will likely be across southeast California and southwest Arizona, followed by more widespread rain chances Wednesday night. The wetter European solution actually brings in widespread rain as early as Wednesday morning, but other solutions hold off until Wednesday night or Thursday morning. For now, we are going with more of a blended model approach with best rain chances falling on Thursday and lingering chances through Friday. The timing will likely change, but the strong dynamics and potential water transport into the region should give much of the area a decent rain event, including some thunderstorm activity. Rainfall amounts right now point toward widespread 0.25-0.50" across the lower deserts with upwards of one inch across the high terrain, but this is highly dependent on how much moisture will be available.

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.AVIATION...

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

Winds will follow typical diurnal tendencies. Westerly winds this



**February 11, 2018 Exceptional Event, Imperial County****Appendix A**

afternoon will be near 10 kts with some gusts up to 15 to 20 kts possible. In addition, post frontal breeziness will be possible late tomorrow morning with gusts up to 15 to 20 kts. Skies will be partly cloudy with periodic SCT-BKN mid and high clouds aoa 15 kft.

Southeast California/Southwest Arizona including KIPL and KBLH:

Strong, gusty winds and reduced visibilities due to blowing dust will be the primary aviation concerns late tonight. At KBLH, south to southwest winds between 10 and 15 kts today will shift to the north-northeast late tonight and bring extremely breezy conditions and blowing dust to the terminal. Impacts will be gusts up to 40 kts and reduced visibilities down to 3 SM and possibly even lower at times. AT KIPL, southeasterly winds this morning will shift to the southwest this afternoon, with gusts to 20 kts possible during the late afternoon hours. Winds will shift to the northeast late tonight, with speeds remaining elevated near 15 kts through the remainder of the TAF period. Skies over both terminals will remain partly cloudy with periodic SCT-BKN mid and high clouds aoa 15 kft.

Aviation Discussion not updated for amended TAFs.

&&

.FIRE WEATHER...

Monday through Friday:

A strong weather system will affect the region for much of the week with initial slight chances for rain as early as Monday. Breezy southerly winds will affect the area Monday, but increased moisture will result in minimum humidity levels only falling to between 25-35%. The higher humidities will last the remainder of the week with good to excellent chances of widespread wetting rains from Wednesday through Friday.

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.SPOTTER INFORMATION STATEMENT...

Spotters should follow standard reporting procedures.

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.PSR WATCHES/WARNINGS/ADVISORIES...

AZ...Wind Advisory from 8 PM this evening to 8 AM MST Sunday for AZZ530.

CA...Wind Advisory from 7 PM this evening to 7 AM PST Sunday for CAZ561-564-565-567>570.

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FXUS66 KSGX 102111

AFDSGX

## Area Forecast Discussion

National Weather Service San Diego CA

110 PM PST Sat Feb 10 2018

## .SYNOPSIS...

Strong offshore flow will develop tonight into Sunday morning, scouring out the marine layer clouds and driving warmer and drier conditions back toward the coast. A colder low pressure trough will move southward over the western states Monday and Tuesday with a chance of showers. The storm system will consolidate off the coast and swing inland midweek, continuing a chance of showers before moving inland on Friday.

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

Marine clouds covered most of the CA Bight and extended inland over coastal areas this afternoon, while a patch of higher clouds was spreading south. Both teamed up to snuff out much of the sun this morning into midday. A coastal eddy was observed swirling over the CA Bight at Noon. Surface pressure gradients were running around 6 MBS onshore KSAN to the lower deserts, but were trending offshore from NV. numerous spots over the mtns/deserts reported westerly wind gusts to 25 MPH or more including Whitewater RAWs with a gust to 53 MPH at Noon.

With the eddy continuing today, sunshine may be fleeting over coastal areas. Elsewhere though, there should be more sun as the higher clouds clear.

Through Sunday...A shortwave will drop SE over the Great Basin, building sfc high pressure and sending our winds back offshore. As the flow develops, the marine layer clouds will begin scouring back toward the coast late tonight. Some marine clouds/fog could linger over extreme SW San Diego County Sun morning but should mix out for a mostly sunny day. Winds will be locally strong and gusty along the coastal foothills and through and below passes and canyons beginning tonight and continuing through Sunday morning, then diminishing in the afternoon. The combination of low RH and strong NE winds have prompted a Red Flag Warning for portions of San Bernardino. Orange and Riverside Counties. Please see LAXRFWSGX and the Fire Weather discussion below.

Subsequent shortwaves will dig farther SW this week, expected to

**February 11, 2018 Exceptional Event, Imperial County****Appendix A**

develop into a cut-off low over the Central Coast on Tue. As is typical with cut-offs, the ultimate timing/track is uncertain, but most of the operational model runs suggest it will drop SW on Wed, and swing inland on Thu providing an extended threat of shower activity into midweek.

The GFS suggests PW will climb Tue through Thu, but keeps values below one inch over SoCal, with greater amounts of moisture surging across NW Mexico. Stability decreases as well, which suggests the potential for convection. All will hinge on the path/timing of the cut-off as it is drawn inland. The latest (12Z) operational runs of the GFS/ECMWF show better agreement, drawing it inland late Wed/early Thu, which brings the greatest and most widespread POPS. Significant sub-tropical moisture looks less likely to be integral in the QPF forecast. The mechanism driving precip will begin as a surging marine layer and upslope flow on Mon/Mon night, then ebb Tue as the cut-off slips farther offshore. POPS increase again Wed/Thu as the atmosphere becomes more unstable and convective with the passage of the upper low.

The precip is welcome in the forecast, but amounts look modest overall for a mid winter event, and it will do little-to-nothing to build the snowpack over the Sierra. Dry and mild weather looks to resume next weekend.

&&

.AVIATION...

102105Z...BKN-SCT clouds in the 2000-3000 ft msl layer through 11/0000 UTC over the coast and western valleys with local vis 2-5 sm, while elsewhere in the eastern valleys, there will be FEW clouds 2000-3000 ft msl. Through 11/0200 UTC, W to NW winds 15-25 KT gusting 35-40 KT over the mountain ridges, desert slopes, and through mountain passes, will create mod-strong UDDFS over and E of the mountains. 11/0000-0300 UTC, stratus becoming BKN-OVC in the coast and valleys with bases 1500-2500 ft msl and tops around 3000 ft msl. Stratus will start to clear out of the Inland Empire, the eastern San Diego County valleys, and inland Orange County during the 11/0300-0900 UTC period, and then clear out of the rest of Orange County and San Diego County 11/0900-1500 UTC. The early clearing will be caused by NE to E winds 20-30 KT gusting 40-50 KT through and below the mountain passes/canyons and into the coastal foothills/slopes (which develop after 11/0600 UTC) and will cause strong UDDFS/LLWS over and W/SW of the mountains. Mountains and deserts will have P6SM vis and FEW-SCT clouds AOA 20000 ft msl this afternoon through Sunday morning.

&&

.MARINE...

No hazardous weather conditions are expected through Thursday. A low-pressure system will move down just off the coast of Southern California Monday through late in the work-week, bringing periods of showers to the coastal waters.

&amp;&amp;

.FIRE WEATHER...

Building surface high pressure over the Great Basin will bring a period of strong and gusty north to northeast winds late tonight through Sunday morning, along with falling RH. Strongest winds are expected below the Cajon and San Gorgonio Passes, and through the Santa Ana Canyons where a Red Flag Warning has been issued. Wind will be weaker over most of San Diego County, but RH will still drop to around 10% by midday on Sunday, which may bring several hours of near-critical fire weather conditions along the coastal slopes of the mtns and adjacent foothills. Peak northeast winds of 25 to 35 MPH with gusts to 50 MPH are expected, with local 60 MPH gusts in the windiest spots. Winds will diminish Sunday afternoon and RH will recover rapidly late Sunday night as onshore flow returns.

&amp;&amp;

.SKYWARN...

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

&amp;&amp;

.SGX WATCHES/WARNINGS/ADVISORIES...

CA...Red Flag Warning from 10 PM this evening to 1 PM PST Sunday for Riverside County Mountains-Including The San Jacinto Ranger District Of The San Bernardino National Forest-San Bernardino County Mountains-Including The Mountain Top And Front Country Ranger Districts Of The San Bernardino National Forest-San Bernardino and Riverside County Valleys -The Inland Empire-San Gorgonio Pass Near Banning-Santa Ana Mountains-Including The Trabuco Ranger District of the Cleveland National Forest.

PZ...NONE.

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PUBLIC/FIRE WEATHER...jad  
AVIATION/MARINE...Harrison

**IOWA STATE  
UNIVERSITY**

College of Ag

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WWUS75 KPSR 102023  
NPWPSR

URGENT - WEATHER MESSAGE  
National Weather Service Phoenix AZ  
123 PM MST Sat Feb 10 2018

AZZ530-CAZ561-564-565-567>570-110830-  
/O.CON.KPSR.WI.Y.0003.180211T0300Z-180211T1500Z/  
Parker Valley-Joshua Tree NP East-Chuckwalla Mountains-  
Imperial County Southeast-Imperial Valley-Chiriaco Summit-  
Palo Verde Valley-Chuckwalla Valley-  
Including the cities of Parker, Ehrenberg,  
Imperial Hot Mineral Springs, Winterhaven, El Centro, Calexico,  
Alamorio, Brawley, Chiriaco Summit, Martinez Lake, Blythe,  
Palo Verde, Ripley, and Midland  
123 PM MST Sat Feb 10 2018 /1223 PM PST Sat Feb 10 2018/

...WIND ADVISORY REMAINS IN EFFECT FROM 8 PM MST /7 PM PST/ THIS  
EVENING TO 8 AM MST /7 AM PST/ SUNDAY...

- \* AFFECTED AREA...Lower Colorado River Valley including much of eastern Riverside and Imperial Counties.
- \* TIMING...Saturday evening through mid Sunday morning.
- \* WINDS...North winds 20 to 30 mph with gusts to 50 mph.
- \* IMPACTS...Travel for high profile vehicles along west/east area roadways may be hazardous. Locally dense blowing dust with visibilities less than 1 mile will be 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 102207

AFDPSR

Area Forecast Discussion

National Weather Service Phoenix AZ

307 PM MST Sat Feb 10 2018

.SYNOPSIS...

A dry cold front will bring very windy conditions to southeast California and the Lower Colorado River Valley tonight...less wind elsewhere. The front will also lead to cooler temperatures Sunday. A much more significant weather system will affect the region through much of next week bringing periods of showers, especially toward the latter part of the week. Temperatures will remain near normal.

&amp;&amp;

.DISCUSSION...

Rest of Today and Sunday...

An east-west oriented cold front is exiting the Great Basin and entering southern Nevada and far northern Arizona this afternoon. The front will push southward the rest of the day and overnight tonight. For our area, the main impacts will be felt near and west of the Lower Colorado River Valley (LCRV) in the form of very strong northerly winds. There is good model agreement on 925 mb winds of 40-50kts but because it will be happening at a time of day with the least mixing (due to lack of insolation), the full potential will likely not be realized. However, the surface pressure gradient aided by cool advection and some mechanical mixing with the front itself, will still produce strong winds - though probably off and on in nature. A Wind Advisory remains in effect for that area. With the winds will come areas of blowing dust as well. Winds overnight will be much lighter east of the advisory with the exception of some downslope/foothill areas in northern portions of the forecast area. There will be a period of minor north and northeasterly breeziness in the late morning/midday hours across the CWA before winds become light and variable by late afternoon. High temperatures Sunday will be cooler as well - most noticeably in areas that see the strongest winds.

Monday through Saturday...

The ridge axis gets nudged a bit further east due to tonight's system which allows follow-on systems in the northwesterly flow to affect the Desert Southwest. The first one reaches the Mohave Desert early Monday but weakens considerably as it moves into Arizona. The weakening is due to a stronger upstream system which digs out an upper low centered over central California by Monday night and then centered just west of Santa Barbara by Wednesday

**February 11, 2018 Exceptional Event, Imperial County****Appendix A**

morning. There is now better model agreement that the low will start moving eastward Wednesday night with the trough axis reaching Arizona by Friday. Previous runs of the ECMWF had been much slower to move inland than the GFS. Over the weekend however, the ECMWF keeps the low lingering over AZ whereas the GFS shifts it eastward. Some members of the GEFS are slower to depart as well.

Given the above, slight chances of precip develop Monday and continue Tuesday before retreating westward a bit Tuesday night. PoPs then trend upward Wednesday and peak Wednesday night into Thursday night before slowly trending down Friday and Saturday. For now, best instability looks to be Thursday afternoon through Friday afternoon but CAPE is far from overwhelming. Uncertainties remain in how much moisture the system will be able to advect into the area plus the timing of the system's movement and in turn best forcing. But given latest operational models and ensemble guidance, PoPs were generally raised conservatively from previous package. The system isn't especially cold so snow levels remain high. Temps will be a lot cooler than they have been but will struggle to dip below normal.

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.AVIATION...

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

Winds will follow typical diurnal tendencies. Westerly winds this afternoon will be near 10 kts with some gusts up to 15 to 20 kts possible. In addition, post frontal breeziness will be possible late tomorrow morning with gusts up to 15 to 20 kts. Skies will be partly cloudy with periodic SCT-BKN mid and high clouds aoa 15 kft.

Southeast California/Southwest Arizona including KIPL and KBLH:

Strong, gusty winds and reduced visibilities due to blowing dust will be the primary aviation concerns late tonight. At KBLH, south to southwest winds between 10 and 15 kts today will shift to the north-northeast late tonight and bring extremely breezy conditions and blowing dust to the terminal. Impacts will be gusts up to 40 kts and reduced visibilities down to 3 SM and possibly even lower at times. AT KIPL, southeasterly winds this morning will shift to the southwest this afternoon, with gusts to 20 kts possible during the late afternoon hours. Winds will shift to the northeast late tonight, with speeds remaining elevated near 15 kts through the remainder of the TAF period. Skies over both terminals will remain partly cloudy with periodic SCT-BKN mid and high clouds aoa 15 kft.

Aviation Discussion not updated for amended TAFs.

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**February 11, 2018 Exceptional Event, Imperial County****Appendix A**

.FIRE WEATHER...

Monday through Friday:

A strong weather system will affect the region for much of the week with initial slight chances for rain as early as Monday. Breezy southerly winds will affect the area Monday, but increased moisture will result in minimum humidity levels only falling to between 25-35%. The higher humidities will last the remainder of the week with good to excellent chances of widespread wetting rains from Wednesday through Friday.

&&

.SPOTTER INFORMATION STATEMENT...

Spotters should follow standard reporting procedures.

&&

.PSR WATCHES/WARNINGS/ADVISORIES...

AZ...Wind Advisory from 8 PM this evening to 8 AM MST Sunday for AZZ530.

CA...Wind Advisory from 7 PM this evening to 7 AM PST Sunday for CAZ561-564-565-567>570.

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Visit us on Facebook, Twitter, and at [weather.gov/phoenix](http://weather.gov/phoenix)

DISCUSSION...AJ

AVIATION...Hernandez

FIRE WEATHER...Kuhlman

# IOWA STATE UNIVERSITY

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## Department of Agronomy

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FXUS66 KSGX 110449

AFDSGX

Area Forecast Discussion

National Weather Service San Diego CA

845 PM PST Sat Feb 10 2018

.SYNOPSIS...

Strong offshore flow will develop tonight and bring gusty northeast winds to some areas. Sunday will be warmer with mostly sunny skies. A colder low pressure trough will move southward over the western states Monday and Tuesday with a chance of showers. The storm system will consolidate off the coast and swing inland midweek, continuing a chance of showers before moving inland on Friday.

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

The strong onshore flow and coastal eddy that deepened the marine layer to 4500 feet this afternoon will do an about face and shift offshore tonight as a 500 mb shortwave traverses the Great Basin. The gusty west winds that impacted the high deserts and the mountains this afternoon have already shifted north in the San Bernardino Mountains and Deserts this evening. The winds will shift northeast and gather strength overnight as a 1025 mb surface high builds over Nevada. The pressure transition was rapid today; in just 9 hours the pressure gradient from SAN-TPH went from +4.0 mb at 10 AM to -8.8 mb at 7 PM. This was apparent at Big Bear Airport where west winds were 14G29 mph at 4 PM, but were NE at 12G20 mph 8 PM.

The offshore Santa Ana pattern will be short-lived. The northeast winds tonight will be strongest in the SBD, RIV and ORA County mountains and foothills as well as the Inland Empire with gusts of 40-50 mph tonight through early Sunday morning. Locally higher gusts are likely at the windiest areas like Fremont Canyon and Pleasants Peak. The Santa Ana will also wipe out marine layer west of the mountains tonight, followed by mostly sunny skies Sunday. The offshore flow will end midday Sunday and winds will shift back onshore in the afternoon.

\*From Previous Discussion\*

Subsequent shortwaves will dig farther SW this week, expected to develop into a cut-off low over the Central Coast on Tue. As is typical with cut-offs, the ultimate timing/track is uncertain, but most of the operational model runs suggest it will drop SW on Wed,

**February 11, 2018 Exceptional Event, Imperial County****Appendix A**

and swing inland on Thu providing an extended threat of shower activity into midweek.

The GFS suggests PW will climb Tue through Thu, but keeps values below one inch over SoCal, with greater amounts of moisture surging across NW Mexico. Stability decreases as well, which suggests the potential for convection. All will hinge on the path/timing of the cut-off as it is drawn inland. The latest (12Z) operational runs of the GFS/ECMWF show better agreement, drawing it inland late Wed/early Thu, which brings the greatest and most widespread POPS. Significant sub-tropical moisture looks less likely to be integral in the QPF forecast. The mechanism driving precip will begin as a surging marine layer and upslope flow on Mon/Mon night, then ebb Tue as the cut-off slips farther offshore. POPS increase again Wed/Thu as the atmosphere becomes more unstable and convective with the passage of the upper low.

The precip is welcome in the forecast, but amounts look modest overall for a mid winter event, and it will do little-to-nothing to build the snowpack over the Sierra. Dry and mild weather looks to resume next weekend.

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.AVIATION...

110300Z...Widespread low clouds west of the mtns this evening with FEW-SCT layers 1500-2500 ft MSL and SCT-BKN layers at or abv 3000 ft MSL. Higher terrain will be obscured at times through 10Z Sun. Low clouds should clear to the coast by 15Z Sun. Low clouds could begin to return to the coastal areas aft 03Z Mon.

Northeast to east winds will develop and strengthen overnight and by 08Z NE to E winds 20-30 KT gusting 40-50 KT will begin to cause strong UDDFS/LLWS over and west of the mountains, including vcnty KONT, KSBD and KSNA. Winds begin to weaken around 21Z Sun.

&&

.MARINE...

No hazardous weather conditions are expected through Thursday. A low-pressure system will move down just off the coast of Southern California Monday through the middle of next week, bringing periods of showers to the coastal waters.

&&

.FIRE WEATHER...

Building surface high pressure over the Great Basin will bring a period of strong and gusty north to northeast winds late tonight through Sunday morning, along with falling RH. Strongest winds are expected below the Cajon and San Gorgonio Passes, and through the Santa Ana Canyons where a Red Flag Warning has been issued. Wind will be weaker over most of San Diego County, but RH will still drop

**February 11, 2018 Exceptional Event, Imperial County****Appendix A**

to around 10% by midday on Sunday, which may bring several hours of near-critical fire weather conditions along the coastal slopes of the mtns and adjacent foothills. Peak northeast winds of 25 to 35 MPH with gusts to 50 MPH are expected, with local 60 MPH gusts in the windiest spots. Winds will diminish Sunday afternoon and RH will recover rapidly late Sunday night as onshore flow returns.

&&

.SKYWARN...

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

&&

.SGX WATCHES/WARNINGS/ADVISORIES...

CA...Red Flag Warning from 10 PM this evening to 1 PM PST Sunday for Riverside County Mountains-Including The San Jacinto Ranger District Of The San Bernardino National Forest-San Bernardino County Mountains-Including The Mountain Top And Front Country Ranger Districts Of The San Bernardino National Forest-San Bernardino and Riverside County Valleys -The Inland Empire-San Gorgonio Pass Near Banning-Santa Ana Mountains-Including The Trabuco Ranger District of the Cleveland National Forest.

PZ...NONE.

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PUBLIC...Moede

FIRE WEATHER...jad

AVIATION/MARINE...PG

# IOWA STATE UNIVERSITY

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**Department of Agronomy**

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FXUS65 KPSR 110445

AFDPSR

Area Forecast Discussion

National Weather Service Phoenix AZ

945 PM MST Sat Feb 10 2018

.UPDATE...Updated Aviation discussion.

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.SYNOPSIS...

A dry cold front will bring very windy conditions to southeast California and the Lower Colorado River Valley tonight, less wind elsewhere. The front will also lead to cooler temperatures Sunday. A much more significant weather system will affect the region through much of next week bringing periods of showers, especially toward the latter part of the week. Temperatures will remain near normal.

&&

.DISCUSSION...

Rest of Today and Sunday:

An east-west oriented cold front is exiting the Great Basin and entering southern Nevada and far northern Arizona this afternoon. The front will push southward the rest of the day and overnight tonight. For our area, the main impacts will be felt near and west of the Lower Colorado River Valley (LCRV) in the form of very strong northerly winds. There is good model agreement on 925 mb winds of 40-50kts but because it will be happening at a time of day with the least mixing (due to lack of insolation), the full potential will likely not be realized. However, the surface pressure gradient aided by cool advection and some mechanical mixing with the front itself, will still produce strong winds - though probably off and on in nature. A Wind Advisory remains in effect for that area. With the winds will come areas of blowing dust as well. Winds overnight will be much lighter east of the advisory with the exception of some downslope/foothill areas in northern portions of the forecast area. There will be a period of minor north and northeasterly breeziness in the late morning/midday hours across the CWA before winds become light and variable by late afternoon. High temperatures Sunday will be cooler as well - most noticeably in areas that see the strongest winds.

Monday through Saturday:

The ridge axis gets nudged a bit further east due to tonight's system which allows follow-on systems in the northwesterly flow to affect the Desert Southwest. The first one reaches the Mohave Desert early Monday but weakens considerably as it moves into

**February 11, 2018 Exceptional Event, Imperial County****Appendix A**

Arizona. The weakening is due to a stronger upstream system which digs out an upper low centered over central California by Monday night and then centered just west of Santa Barbara by Wednesday morning. There is now better model agreement that the low will start moving eastward Wednesday night with the trough axis reaching Arizona by Friday. Previous runs of the ECMWF had been much slower to move inland than the GFS. Over the weekend however, the ECMWF keeps the low lingering over AZ whereas the GFS shifts it eastward. Some members of the GEFS are slower to depart as well.

Given the above, slight chances of precip develop Monday and continue Tuesday before retreating westward a bit Tuesday night. PoPs then trend upward Wednesday and peak Wednesday night into Thursday night before slowly trending down Friday and Saturday. For now, best instability looks to be Thursday afternoon through Friday afternoon but CAPE is far from overwhelming. Uncertainties remain in how much moisture the system will be able to advect into the area plus the timing of the system's movement and in turn best forcing. But given latest operational models and ensemble guidance, PoPs were generally raised conservatively from previous package. The system isn't especially cold so snow levels remain high. Temps will be a lot cooler than they have been but will struggle to dip below normal.

&&

.AVIATION...

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

A frontal boundary will weaken rapidly as it descends into south-central Arizona overnight. An occasional easterly gust to 15-20 kt is possible (particularly at KPHX) as the atmosphere mixes out between 14z and 18z Sunday, though in general winds will follow typical diurnal tendencies.

Southeast California/Southwest Arizona including KIPL and KBLH:

The leading edge of stronger winds associated with an approaching frontal boundary will reach KBLH imminently. Upstream observations suggest gusts to 35-40 kt will be possible early this morning, before dissipating later in the morning and throughout Sunday afternoon. There also is a slight chance that the wind will generate areas of blowing dust with reduced visibilities below 6SM. Further south, the Chocolate Mountains will essentially block the strongest winds from reaching KIPL. Nevertheless, northwesterly winds may reach 10 kt early Sunday morning in the Imperial Valley, before subsiding in the afternoon.

Aviation Discussion not updated for amended TAFs.

&&

.FIRE WEATHER...

**February 11, 2018 Exceptional Event, Imperial County****Appendix A**

Monday through Friday:

A strong weather system will affect the region for much of the week with initial slight chances for rain as early as Monday. Breezy southerly winds will affect the area Monday, but increased moisture will result in minimum humidity levels only falling to between 25-35%. The higher humidities will last the remainder of the week with good to excellent chances of widespread wetting rains from Wednesday through Friday.

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.SPOTTER INFORMATION STATEMENT...

Spotters should follow standard reporting procedures.

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.PSR WATCHES/WARNINGS/ADVISORIES...

AZ...Wind Advisory until 8 AM MST Sunday for AZZ530.

CA...Wind Advisory until 7 AM PST Sunday for CAZ561-564-565-567>570.

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DISCUSSION...AJ

AVIATION...Hirsch

FIRE WEATHER...Kuhlman

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WWUS75 KPSR 110858  
NPWPSR

URGENT - WEATHER MESSAGE  
National Weather Service Phoenix AZ  
158 AM MST Sun Feb 11 2018

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/O.CON.KPSR.WI.Y.0003.000000T0000Z-180211T1500Z/  
Parker Valley-Joshua Tree NP East-Chuckwalla Mountains-  
Imperial County Southeast-Imperial Valley-Chiriaco Summit-  
Palo Verde Valley-Chuckwalla Valley-  
Including the cities of Parker, Ehrenberg,  
Imperial Hot Mineral Springs, Winterhaven, El Centro, Calexico,  
Alamorio, Brawley, Chiriaco Summit, Martinez Lake, Blythe,  
Palo Verde, Ripley, and Midland  
158 AM MST Sun Feb 11 2018 /1258 AM PST Sun Feb 11 2018/

...WIND ADVISORY REMAINS IN EFFECT UNTIL 8 AM MST /7 AM PST/ THIS  
MORNING...

- \* AFFECTED AREA...Lower Colorado River Valley including much of  
eastern Riverside and Imperial Counties.
- \* TIMING...Through 7 AM PST this morning.
- \* WINDS...North winds 20 to 30 mph with gusts to 45 mph.
- \* IMPACTS...Travel for high profile vehicles along west/east  
area roadways may be hazardous. Locally dense blowing dust  
with visibilities less than 1 mile will be 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 111004

AFDPSR

## Area Forecast Discussion

National Weather Service Phoenix AZ

304 AM MST Sun Feb 11 2018

## .SYNOPSIS...

A dry cold front will bring windy conditions to southeast California and the Lower Colorado River Valley this morning, less wind elsewhere. The front will also lead to cooler temperatures today. A much more significant weather system will affect the region through much of the week with a period of scattered showers possible Monday into Tuesday followed by more significant and widespread rainfall toward the latter part of the week.

&amp;&amp;

## .DISCUSSION...

A fast moving shortwave trough is currently tracking through the region with the bulk of the energy confined to northeast Arizona into northern New Mexico. The trough axis extends southwestward through Arizona into southern California while a surface cold front has pushed down through the Lower Colorado River Valley. The cold front will mostly hang up over southern Arizona today eventually washing out. Modestly cooler air will settle into the area today limiting daytime highs mostly to the lower 70s across the deserts.

A somewhat uncertain and complex weather scenario is in store for the upcoming week. A deep, but compact upper level low currently just off the Pacific Northwest coast will continue to quickly track southward today reaching northern California this evening. A second shortwave trough will quickly follow behind the first one carving out an overall larger trough over the Western U.S. tonight into Monday. As this occurs, strong southerly low level flow will develop across Arizona and southern California. 850mb southerly winds of up to 35 kts develop across south-central Arizona Monday morning, slowly diminishing but staying out of the south into mid week. Latest model runs have shown increasing moisture advection out of northern Mexico for Monday with PWATs increasing to just over 0.50" and moisture concentrated between 5-10K ft. Strong divergence aloft south of a 100kt upper level jet across northern Arizona will develop by late Monday morning, lasting through Tuesday morning. The combination of the low level upslope flow and upper level divergence should be enough for periods of showers mainly across south-central Arizona Monday afternoon through Tuesday morning. Desert areas will see more isolated activity with rainfall amounts not amounting to much, but higher terrain areas north of Phoenix may see an average of around a tenth of an inch.



**February 11, 2018 Exceptional Event, Imperial County****Appendix A**

Although there is still quite a bit of uncertainty with how models are handling the upper low after Tuesday, it is likely the majority of the area will probably see the best rain event so far this winter. The biggest unknowns with the second half of this storm system later this week deal with how much moisture will actually be available and the timing of the rainfall. Models overall agree with digging the low center just off the southern California coast early Wednesday before eventually shifting it eastward through Arizona sometime Thursday into Friday. The latest European model suite moves the low through more quickly, mainly Wednesday afternoon through early Thursday while the GFS moves it through mostly on Thursday with the low possibly hanging around through Friday night.

Due to the significant model timing differences, rain chances are more spread out through a 48-60 hour period starting sometime later Wednesday lasting through Friday. The most widespread rain should fall on Thursday, but overall the bulk of the rainfall will be on the light to moderate side. Instability forecasts are on the low side with this warm system, so convective activity will be limited. Total rainfall amounts should end up around 0.50" across the deserts with localized amounts closer to an inch in more favored upslope areas closer to the mountains. High terrain locations north and east of Phoenix will likely top one inch with some localized amounts over an inch and a half. Confidence in rainfall amounts is still not all that high as any significant shift in the storm track could greatly affect available moisture and thus eventual rainfall.

Temperatures through the week will mostly stay around seasonal normals with highs mostly in the upper 60s to lower 70s each day. Have fairly low confidence in the forecast for next weekend as it will depend on how quickly this upper level moves eastward. Rain chances should end late Friday, but if the GFS is correct, rain chances will stick around across the eastern half of Arizona into Saturday. No significant warm up in temperatures is likely through next weekend, possibly longer as the weather pattern keeps a longwave trough across the middle part of the country and the Pacific ridge well off the West Coast.

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.AVIATION...

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

A frontal boundary will weaken rapidly as it descends into south-central Arizona overnight. An occasional easterly gust to 15-20 kt is possible (particularly at KPHX) as the atmosphere mixes out between 14z and 18z Sunday, though in general winds will follow typical diurnal tendencies.

Southeast California/Southwest Arizona including KIPL and KBLH:

**February 11, 2018 Exceptional Event, Imperial County****Appendix A**

The leading edge of stronger winds associated with an approaching frontal boundary will reach KBLH imminently. Upstream observations suggest gusts to 35-40 kt will be possible early this morning, before dissipating later in the morning and throughout Sunday afternoon. There also is a slight chance that the wind will generate areas of blowing dust with reduced visibilities below 6SM. Further south, the Chocolate Mountains will essentially block the strongest winds from reaching KIPL. Nevertheless, northwesterly winds may reach 10 kt early Sunday morning in the Imperial Valley, before subsiding in the afternoon.

Aviation Discussion not updated for amended TAFs.

&&

.FIRE WEATHER...

Tuesday through Saturday:

A strong weather system will affect the region for much of the week with scattered rain showers early Tuesday, but returning as soon as mid day Wednesday. Widespread wetting rains are likely to occur at some point Wednesday night through Friday with moisture levels remaining on the high side through Saturday. A slight chance of thunderstorms will also be possible, most likely on Thursday or Friday. Minimum humidity levels will remain mostly between 30-40% for the bulk of the time period. Winds will be on the light side over the course of the week with little worry of gusty winds.

&&

.SPOTTER INFORMATION STATEMENT...

Spotters should follow standard reporting procedures.

&&

.PSR WATCHES/WARNINGS/ADVISORIES...

AZ...Wind Advisory until 8 AM MST this morning for AZZ530.

CA...Wind Advisory until 7 AM PST this morning for CAZ561-564-565-567>570.

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DISCUSSION...Kuhlman

AVIATION...Hirsch

FIRE WEATHER...Kuhlman

□

991

FXUS66 KSGX 111111

AFDSGX

Area Forecast Discussion

National Weather Service San Diego CA

311 AM PST Sun Feb 11 2018

.SYNOPSIS...

Moderate offshore flow will bring gusty Santa Ana winds this morning near and along coastal mountain slopes. A colder low pressure system will move southward through the western states and off the southern California coast through mid week...then move inland Wednesday night and Thursday. This will bring cooling with chances for showers from late tonight through Wednesday night. Drier north flow aloft will follow for Friday and Saturday with high temperatures warming to around average.

&amp;&amp;

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

.SHORT TERM (Today through Tuesday)...

Surface high pressure over the Great Basin will bring a period of moderate offshore flow to portions of San Bernardino...Orange...and Riverside Counties this morning with weaker offshore flow extending into San Diego County. Onshore flow will return this afternoon and strengthen tonight and continue through Monday with stronger and gusty southwest to west winds in the mountains and deserts.

A low pressure system off the coast of southern British Columbia early this morning will move quickly southward today into northern California by late this afternoon with the upper center over Nevada on Monday. It will then move slowly toward the southwest with the center over the central part of California on Tuesday. This will bring chances for showers beginning late tonight and continuing through Tuesday.

The offshore flow will bring warming to coastal and valley areas today with the mountains and deserts cooler. Cooling for Monday and Tuesday will bring below average temperatures for all areas. Snow levels will fall to around 4500 feet for Monday night into Tuesday morning. Due to the showery nature of the precipitation...amounts will be somewhat variable with preliminary totals through Wednesday of a tenth to a quarter of an inch near the coast to one to two thirds of an inch in the mountains with local amounts to around one inch. Amounts in the deserts are generally expected to be one tenth inch or less.

&amp;&amp;

.LONG TERM (Wednesday through Saturday)...

Upper level low pressure centered over central California on Tuesday will drift southwestward to a position off the southern California coast on Wednesday. While there are still some slight differences in the placement among the global models...the models are in much better agreement than 24 hours ago. The models then move the low pressure system inland into southern California Wednesday night and into Arizona Thursday. This placement and faster eastward movement greatly reduces chances for this low pressure system to tap subtropical moisture while it is in a position to generate potentially heavier precipitation across southwestern California. That could still happen to the east...across northern Baja into Arizona...possibly extending into the eastern deserts of southern California. Drier north flow aloft will follow for Friday and Saturday with high temperatures warming to around average.

All that being said...there remain upstream differences among the global models that will likely have downstream influences in the vicinity of Southern California for the middle to latter part of the week. So while the models appear to be in much better agreement...this remains a lower than average confidence forecast with some continuing model to model and run to run differences entirely expected.

&&

.AVIATION...

111000Z...Areas of stratus with bases 1800-2500 ft MSL will gradually clear 14-16Z. Stratus redeveloping after 12/03Z and spreading into the coastal mountain slopes overnight. Bases will begin near 1500-2000 ft MSL and lift to 2000-3000 ft MSL by Monday morning. Tops rising from around 2500 ft MSL to around 5000 ft MSL. Coastal mountain slopes becoming obscured late tonight.

Northeast to east winds 20-30 KT gusting 40-50 KT will begin to cause strong UDDFS/LLWS over and west of the mountains after 14Z, including vcnty KONT, KSBD and KSNA. Winds begin to weaken around 20Z, becoming SW and strengthening tonight.

&&

.MARINE...

No hazardous weather conditions are expected through Thursday. A low-pressure system will move down just off the coast of Southern California Monday through the middle of next week, bringing periods of showers to the coastal waters.

&&

.FIRE WEATHER...

A brief period of moderate offshore flow will bring gusty north to northeast winds along and below coastal mountain slopes and passes

**February 11, 2018 Exceptional Event, Imperial County****Appendix A**

and canyons through this morning for San Bernardino...Riverside...and Orange Counties. Humidities will fall to 15 to 25 percent around sunrise and around 10 percent by late morning with critical fire weather conditions from around sunrise through the morning. Onshore flow will return in the afternoon with humidities beginning to recover by late afternoon.

&&

.SKYWARN...

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

&&

.SGX WATCHES/WARNINGS/ADVISORIES...

CA...Red Flag Warning until 1 PM PST this afternoon for Riverside County Mountains-Including The San Jacinto Ranger District Of The San Bernardino National Forest-San Bernardino County Mountains-Including The Mountain Top And Front Country Ranger Districts Of The San Bernardino National Forest-San Bernardino and Riverside County Valleys -The Inland Empire-San Gorgonio Pass Near Banning-Santa Ana Mountains-Including The Trabuco Ranger District of the Cleveland National Forest.

PZ...NONE.

&&

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PUBLIC/FIRE WEATHER...17

AVIATION/MARINE...SS

# IOWA STATE UNIVERSITY

College of Ag

Department of Agronomy

## Department of Agronomy

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498

FXUS65 KPSR 111125

AFDPSR

Area Forecast Discussion

National Weather Service Phoenix AZ

425 AM MST Sun Feb 11 2018

...Updated Aviation...

.SYNOPSIS...

A dry cold front will bring windy conditions to southeast California and the Lower Colorado River Valley this morning, less wind elsewhere. The front will also lead to cooler temperatures today. A much more significant weather system will affect the region through much of the week with a period of scattered showers possible Monday into Tuesday followed by more significant and widespread rainfall toward the latter part of the week.

&amp;&amp;

.DISCUSSION...

A fast moving shortwave trough is currently tracking through the region with the bulk of the energy confined to northeast Arizona into northern New Mexico. The trough axis extends southwestward through Arizona into southern California while a surface cold front has pushed down through the Lower Colorado River Valley. The cold front will mostly hang up over southern Arizona today eventually washing out. Modestly cooler air will settle into the area today limiting daytime highs mostly to the lower 70s across the deserts.

A somewhat uncertain and complex weather scenario is in store for the upcoming week. A deep, but compact upper level low currently just off the Pacific Northwest coast will continue to quickly track southward today reaching northern California this evening. A second shortwave trough will quickly follow behind the first one carving out an overall larger trough over the Western U.S. tonight into Monday. As this occurs, strong southerly low level flow will develop across Arizona and southern California. 850mb southerly winds of up to 35 kts develop across south-central Arizona Monday morning, slowly diminishing but staying out of the south into mid week. Latest model runs have shown increasing moisture advection out of northern Mexico for Monday with PWATs increasing to just over 0.50" and moisture concentrated between 5-10K ft. Strong divergence aloft south of a 100kt upper level jet across northern Arizona will develop by late Monday morning, lasting through Tuesday morning. The combination of the low level upslope flow and upper level divergence should be enough for periods of showers mainly across south-central Arizona Monday afternoon through Tuesday morning. Desert areas will see more isolated activity with rainfall amounts not amounting to much, but

higher terrain areas north of Phoenix may see an average of around a tenth of an inch.

Although there is still quite a bit of uncertainty with how models are handling the upper low after Tuesday, it is likely the majority of the area will probably see the best rain event so far this winter. The biggest unknowns with the second half of this storm system later this week deal with how much moisture will actually be available and the timing of the rainfall. Models overall agree with digging the low center just off the southern California coast early Wednesday before eventually shifting it eastward through Arizona sometime Thursday into Friday. The latest European model suite moves the low through more quickly, mainly Wednesday afternoon through early Thursday while the GFS moves it through mostly on Thursday with the low possibly hanging around through Friday night.

Due to the significant model timing differences, rain chances are more spread out through a 48-60 hour period starting sometime later Wednesday lasting through Friday. The most widespread rain should fall on Thursday, but overall the bulk of the rainfall will be on the light to moderate side. Instability forecasts are on the low side with this warm system, so convective activity will be limited. Total rainfall amounts should end up around 0.50" across the deserts with localized amounts closer to an inch in more favored upslope areas closer to the mountains. High terrain locations north and east of Phoenix will likely top one inch with some localized amounts over an inch and a half. Confidence in rainfall amounts is still not all that high as any significant shift in the storm track could greatly affect available moisture and thus eventual rainfall.

Temperatures through the week will mostly stay around seasonal normals with highs mostly in the upper 60s to lower 70s each day. Have fairly low confidence in the forecast for next weekend as it will depend on how quickly this upper level moves eastward. Rain chances should end late Friday, but if the GFS is correct, rain chances will stick around across the eastern half of Arizona into Saturday. No significant warm up in temperatures is likely through next weekend, possibly longer as the weather pattern keeps a longwave trough across the middle part of the country and the Pacific ridge well off the West Coast.

&&

.AVIATION...

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

Very limited aviation concerns through tonight as high clouds clear the region. E/NE winds will prevail through the mid afternoon with some chance of brief gustiness in a 15-20kt range mid morning. As the pressure gradient weakens, sfc winds will become light westerly or variable in direction late afternoon into the evening.

Outlook for Monday: the possibility of lowered cigs in 4-6K ft range

**February 11, 2018 Exceptional Event, Imperial County****Appendix A**

developing by late morning along with gusty southerly cross runway winds near 20kt will exist. Confidence is only modest at this time.

Southeast California/Southwest Arizona including KIPL and KBLH: Gusty north winds will be the primary aviation concern this morning with little other impacts beyond this afternoon. Winds will remain stronger at KBLH this morning with some gusts still nearing a 25-30kt range. Suspended dust will create slantwise visibility problems before wind speeds decrease abruptly this afternoon. The pressure gradient will rapidly weaken such that light and variable winds will be common by late afternoon/evening.

Aviation Discussion not updated for amended TAFs.

&&

.FIRE WEATHER...

Tuesday through Saturday:

A strong weather system will affect the region for much of the week with scattered rain showers early Tuesday, but returning as soon as mid day Wednesday. Widespread wetting rains are likely to occur at some point Wednesday night through Friday with moisture levels remaining on the high side through Saturday. A slight chance of thunderstorms will also be possible, most likely on Thursday or Friday. Minimum humidity levels will remain mostly between 30-40% for the bulk of the time period. Winds will be on the light side over the course of the week with little worry of gusty winds.

&&

.SPOTTER INFORMATION STATEMENT...

Spotters should follow standard reporting procedures.

&&

.PSR WATCHES/WARNINGS/ADVISORIES...

AZ...Wind Advisory until 8 AM MST this morning for AZZ530.

CA...Wind Advisory until 7 AM PST this morning for CAZ561-564-565-567>570.

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DISCUSSION...Kuhlman

AVIATION...MO

FIRE WEATHER...Kuhlman



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# Iowa State University

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### National Weather Service Raw Text Product

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736
WWUS75 KPSR 111500
NPWPSR

URGENT - WEATHER MESSAGE
National Weather Service Phoenix AZ
800 AM MST Sun Feb 11 2018

AZZ530-CAZ561-564-565-567>570-111600-
/O.EXP.KPSR.WI.Y.0003.000000T0000Z-180211T1500Z/
Parker Valley-Joshua Tree NP East-Chuckwalla Mountains-
Imperial County Southeast-Imperial Valley-Chiriaco Summit-
Palo Verde Valley-Chuckwalla Valley-
Including the cities of Parker, Ehrenberg,
Imperial Hot Mineral Springs, Winterhaven, El Centro, Calexico,
Alamorio, Brawley, Chiriaco Summit, Martinez Lake, Blythe,
Palo Verde, Ripley, and Midland
800 AM MST Sun Feb 11 2018 /700 AM PST Sun Feb 11 2018/

...WIND ADVISORY WILL EXPIRE AT 8 AM MST /7 AM PST/ THIS
MORNING...

Winds continue to weaken and thus the Wind Advisory will be
allowed to expire.

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FXUS66 KSGX 111607

AFDSGX

Area Forecast Discussion

National Weather Service San Diego CA

807 AM PST Sun Feb 11 2018

.SYNOPSIS...

Moderate offshore flow will bring sunny, drier, and warmer weather today, especially inland areas. The winds will turn back onshore this afternoon and evening ahead of a cold low pressure trough dropping southward through the western states through mid week. This will bring cooling, with a chance for showers from late tonight through Wednesday night. Drier north flow aloft will follow for Friday and Saturday with gradual warming.

&amp;&amp;

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

Skies were mostly clear this morning over all of SoCal based on available satellite imagery, but visibility was reduced in some areas due to dust, in the deserts, and isolated pockets of ground fog west of the mts. The 12Z Miramar sounding had a 3.5 degree C inversion based near 3400 FT MSL with weak easterly flow between 2500 and 7500 FT. Surface pressure gradients were offshore about 9 MBS NV-to-KSAN this morning, and about neutral from the lower deserts. The NE gradient was sufficient for wind gusts of 45 to 55 MPH near and below the Cajon and San Gorgonio Passes this morning. Elsewhere...winds were weaker but gusty below the passes and canyons and along the coastal foothills.

The offshore flow will continue to scour out the low-level RH in the inland valleys this morning, but will have little effect along the south coast of San Diego County. The sunny and drier conditions will lead to a warmer afternoon with temps well into the 70s away from the coast. A Red Flag Warning remains in effect for areas north of San Diego County this morning where several sites report critical fire weather conditions. No forecast changes this morning.

From previous discussion...

.SHORT TERM (Today through Tuesday)...

Surface high pressure over the Great Basin will bring a period of moderate offshore flow to portions of San Bernardino...Orange...and Riverside Counties this morning with weaker offshore flow extending into San Diego County. Onshore flow will return this afternoon and strengthen tonight and continue through Monday with stronger and gusty southwest to west winds in the mountains and deserts.

**February 11, 2018 Exceptional Event, Imperial County****Appendix A**

A low pressure system off the coast of southern British Columbia early this morning will move quickly southward today into northern California by late this afternoon with the upper center over Nevada on Monday. It will then move slowly toward the southwest with the center over the central part of California on Tuesday. This will bring chances for showers beginning late tonight and continuing through Tuesday.

The offshore flow will bring warming to coastal and valley areas today with the mountains and deserts cooler. Cooling for Monday and Tuesday will bring below average temperatures for all areas. Snow levels will fall to around 4500 feet for Monday night into Tuesday morning. Due to the showery nature of the precipitation...amounts will be somewhat variable with preliminary totals through Wednesday of a tenth to a quarter of an inch near the coast to one to two thirds of an inch in the mountains with local amounts to around one inch. Amounts in the deserts are generally expected to be one tenth inch or less.

&&

.LONG TERM (Wednesday through Saturday)...

Upper level low pressure centered over central California on Tuesday will drift southwestward to a position off the southern California coast on Wednesday. While there are still some slight differences in the placement among the global models...the models are in much better agreement than 24 hours ago. The models then move the low pressure system inland into southern California Wednesday night and into Arizona Thursday. This placement and faster eastward movement greatly reduces chances for this low pressure system to tap subtropical moisture while it is in a position to generate potentially heavier precipitation across southwestern California. That could still happen to the east...across northern Baja into Arizona...possibly extending into the eastern deserts of southern California. Drier north flow aloft will follow for Friday and Saturday with high temperatures warming to around average.

All that being said...there remain upstream differences among the global models that will likely have downstream influences in the vicinity of Southern California for the middle to latter part of the week. So while the models appear to be in much better agreement...this remains a lower than average confidence forecast with some continuing model to model and run to run differences entirely expected.

&&

.AVIATION...

111538Z...Through 12/0000 UTC, primarily P6SM vis and FEW clouds AOA 20000 ft msl, except for isolated ground fog/mist in the coast and valleys (producing vis 1/4 to 5 sm) which should clear out through 1800 UTC. 12/0000-0800 UTC, OVC-BKN cloud decks in the 2000-8000 ft

**February 11, 2018 Exceptional Event, Imperial County****Appendix A**

msl layer quickly developing and moving inland through the coast, valleys, coastal slopes, passes and near some of the ridge-tops, resulting in mountain obscuration of coastal slopes and locally low vis in the passes. These conditions then continuing 12/0800-1500 UTC with isol-sct light showers over and west of the mountains producing briefly locally lower vis/cigs. Meanwhile, deserts will have SCT clouds AOA 20000 ft msl and FEW clouds in the 5000-8000 ft msl layer with mostly P6SM vis except for possible locally lower vis due to blowing dust/sand after 12/0600 UTC.

Northeast to east winds 20-30 KT gusting 40-50 KT will likely cause strong UDDFS/LLWS over and west of the mountains through 2100 UTC, including vcnty KONT, KSBD and KSNA. Winds weaken quickly after 2100 UTC. SW to W winds strengthening after 12/0600 UTC, with winds 20-30 KT gusting 40-50 KT over mountain ridges, through/below passes/canyons, along desert slopes and into adjacent desert areas, resulting in strong UDDFS/LLWS over and NE or E of the mountains.

&&

.MARINE...

No hazardous weather conditions are expected through Thursday. A low-pressure system will move down just off the coast of Southern California Monday through the middle of next week, bringing periods of showers to the coastal waters.

&&

.FIRE WEATHER...

East-to-Northeast winds will peak before 10 AM PST and then begin to drop off. RH will continue to fall into the early afternoon to around 10% inland, then start to climb as the sea breeze develops and pushes inland. Critical to near critical fire weather conditions will continue in the breezier areas of the foothills and passes through the morning, especially north of San Diego County. Onshore flow will return in earnest this evening, with a big jump in RH expected.

&&

.SKYWARN...

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

&&

.SGX WATCHES/WARNINGS/ADVISORIES...

CA...Red Flag Warning until 1 PM PST this afternoon for Riverside County Mountains-Including The San Jacinto Ranger District Of The San Bernardino National Forest-San Bernardino County Mountains-Including The Mountain Top And Front Country Ranger Districts Of The San Bernardino National Forest-San Bernardino and Riverside County Valleys -The Inland Empire-San Gorgonio Pass Near Banning-Santa Ana Mountains-

# February 11, 2018 Exceptional Event, Imperial County

# Appendix A

Including The Trabuco Ranger District of the Cleveland National Forest.

PZ...NONE.

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PUBLIC/FIRE WEATHER...jad/17

AVIATION/MARINE...Harrison

# IOWA STATE UNIVERSITY

College of Ag  
Department of Agronomy

## Department of Agronomy

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822

FXUS65 KPSR 111753

AFDPSR

Area Forecast Discussion

National Weather Service Phoenix AZ

1053 AM MST Sun Feb 11 2018

.UPDATE...Updated aviation discussion.

&&

.SYNOPSIS...

A dry cold front will bring windy conditions to southeast California and the Lower Colorado River Valley this morning, less wind elsewhere. The front will also lead to cooler temperatures today. A much more significant weather system will affect the region through much of the week with a period of scattered showers possible Monday into Tuesday followed by more significant and widespread rainfall toward the latter part of the week.

&&

.DISCUSSION...

A fast moving shortwave trough is currently tracking through the region with the bulk of the energy confined to northeast Arizona into northern New Mexico. The trough axis extends southwestward through Arizona into southern California while a surface cold front has pushed down through the Lower Colorado River Valley. The cold front will mostly hang up over southern Arizona today eventually washing out. Modestly cooler air will settle into the area today limiting daytime highs mostly to the lower 70s across the deserts.

A somewhat uncertain and complex weather scenario is in store for the upcoming week. A deep, but compact upper level low currently just off the Pacific Northwest coast will continue to quickly track southward today reaching northern California this evening. A second shortwave trough will quickly follow behind the first one carving out an overall larger trough over the Western U.S. tonight into Monday. As this occurs, strong southerly low level flow will develop across Arizona and southern California. 850mb southerly winds of up to 35 kts develop across south-central Arizona Monday morning, slowly diminishing but staying out of the south into mid week. Latest model runs have shown increasing moisture advection out of northern Mexico for Monday with PWATs increasing to just over 0.50" and moisture concentrated between 5-10K ft. Strong divergence aloft south of a 100kt upper level jet across northern Arizona will develop by late Monday morning, lasting through Tuesday morning. The combination of the low level upslope flow and upper level divergence should be enough for periods of showers mainly across south-central Arizona Monday

**February 11, 2018 Exceptional Event, Imperial County****Appendix A**

afternoon through Tuesday morning. Desert areas will see more isolated activity with rainfall amounts not amounting to much, but higher terrain areas north of Phoenix may see an average of around a tenth of an inch.

Although there is still quite a bit of uncertainty with how models are handling the upper low after Tuesday, it is likely the majority of the area will probably see the best rain event so far this winter. The biggest unknowns with the second half of this storm system later this week deal with how much moisture will actually be available and the timing of the rainfall. Models overall agree with digging the low center just off the southern California coast early Wednesday before eventually shifting it eastward through Arizona sometime Thursday into Friday. The latest European model suite moves the low through more quickly, mainly Wednesday afternoon through early Thursday while the GFS moves it through mostly on Thursday with the low possibly hanging around through Friday night.

Due to the significant model timing differences, rain chances are more spread out through a 48-60 hour period starting sometime later Wednesday lasting through Friday. The most widespread rain should fall on Thursday, but overall the bulk of the rainfall will be on the light to moderate side. Instability forecasts are on the low side with this warm system, so convective activity will be limited. Total rainfall amounts should end up around 0.50" across the deserts with localized amounts closer to an inch in more favored upslope areas closer to the mountains. High terrain locations north and east of Phoenix will likely top one inch with some localized amounts over an inch and a half. Confidence in rainfall amounts is still not all that high as any significant shift in the storm track could greatly affect available moisture and thus eventual rainfall.

Temperatures through the week will mostly stay around seasonal normals with highs mostly in the upper 60s to lower 70s each day. Have fairly low confidence in the forecast for next weekend as it will depend on how quickly this upper level moves eastward. Rain chances should end late Friday, but if the GFS is correct, rain chances will stick around across the eastern half of Arizona into Saturday. No significant warm up in temperatures is likely through next weekend, possibly longer as the weather pattern keeps a longwave trough across the middle part of the country and the Pacific ridge well off the West Coast.

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.AVIATION...

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

Breezy northeasterly winds this morning will continue to taper off into the early afternoon hours. Thereafter, a weaker northeasterly gradient will allow winds to switch to the west with very light winds speeds (wind directions may be variable at times).

**February 11, 2018 Exceptional Event, Imperial County****Appendix A**

Overnight into tomorrow, strong southerly low level flow will develop ahead of an approaching low pressure system. Wind directions will switch to the south-southeast tonight but speeds will be stronger and more southerly than normal. Winds speeds will be sustained between 10 and 15 kts with gusts to 25 kts possible. In addition, this enhanced southerly flow will bring an increase in low level moisture which will first bring SCT-BKN low-level cloud decks near 5 kft to the terminals and then it will bring periods of showers mainly Monday afternoon through Tuesday morning. Terminals will see more isolated activity with greater coverage over the higher terrain east of Phoenix.

Southeast California/Southwest Arizona including KIPL and KBLH: Gusty north winds will be the primary aviation concern this morning with little other impacts beyond this afternoon. Winds will remain stronger at KBLH this morning with some gusts still nearing the 25 to 30 kt range. Suspended dust will create slantwise visibility problems before wind speeds decrease abruptly this afternoon. The pressure gradient will rapidly weaken such that light and variable winds will be common by late afternoon/evening. Skies will be mostly clear today, however an increase in low-level moisture tonight will bring an increase in low-level clouds near 5 kft.

Aviation Discussion not updated for amended TAFs.

&&

.FIRE WEATHER...

Tuesday through Saturday:

A strong weather system will affect the region for much of the week with scattered rain showers early Tuesday, but returning as soon as mid day Wednesday. Widespread wetting rains are likely to occur at some point Wednesday night through Friday with moisture levels remaining on the high side through Saturday. A slight chance of thunderstorms will also be possible, most likely on Thursday or Friday. Minimum humidity levels will remain mostly between 30-40% for the bulk of the time period. Winds will be on the light side over the course of the week with little worry of gusty winds.

&&

.SPOTTER INFORMATION STATEMENT...

Spotters should follow standard reporting procedures.

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.PSR WATCHES/WARNINGS/ADVISORIES...

AZ...None.

CA...None.

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188

FXUS66 KSGX 112124

AFDSGX

Area Forecast Discussion

National Weather Service San Diego CA

123 PM PST Sun Feb 11 2018

.SYNOPSIS...

Onshore winds will increase tonight and become strong and gusty over the mountains and into the deserts, deepening the marine layer, along with a chance for light rain showers at times. A cold, low pressure trough will drop southward through the western states through mid week. This will bring cooling, and keep a threat of some light showers from time to time into Wednesday. Drier north flow aloft and gradual warming will follow for Friday and Saturday.

&amp;&amp;

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

Skies were mostly clear this afternoon across all of SoCal. Gusty offshore winds were subsiding after peaking over 50 MPH earlier this morning below the San Geronio Pass. The surface pressure gradients were relaxing, but remained weakly offshore at midday. Strongest easterly wind gusts at 1 PM PST were 25 to 30 MPH.

The marine layer and associated clouds will be rapidly developing overnight as south winds increase. Some scattered, light precip could break out before midnight west of the mts, and could become more widespread along and west of the mts into Mon morning.

Surface pressure is falling rapidly over NV this afternoon in advance of a cold trough that is dropping south along the West Coast. The gradient that is setting up will support Advisory strength winds over the Mts and the high desert of San Bernardino County. Weak disturbances rotating around the developing storm system to the north, will help to lift the marine layer over SoCal and squeeze out some occasional light showers. Rainfall amounts are expected to be mostly less than one-quarter inch west of the mts, but higher amounts are possible on the coastal slopes.

The trough is still expected to develop a cut-off low off the SoCal coast by Wed morning. The process will keep a low-level, onshore, moist flow across the area, continuing a precip threat, but amounts, if any, will be light. The low is forecast to weaken and drift inland late Wed/Wed night with most of the energy moving across NW Mexico. Consequently, POPS have trended lower through the midweek period. Another trough slips south on Thursday, reinforcing the cooling, but it will be dry. Dry offshore flow continues into

next weekend.

Looking ahead to the following week...Both of the 12Z ECMWF/GFS runs show the strong meridional ridge well offshore with the axis between 140-150W. More energy comes south over the far EastPac and the West, which should maintain a cooler onshore pattern here. The more aggressive 12Z ECMWF run even suggests a strong enough wave by the middle of next week for some precip over the region, but no one is holding their breath at this point.

&&

.AVIATION...

112052Z...Through 12/0000 UTC, primarily P6SM vis and FEW-SCT clouds AOA 20000 ft msl for all areas. 12/0000-0800 UTC, OVC-BKN cloud decks in the 2000-8000 ft msl layer quickly developing and moving inland through the coast, valleys, coastal slopes, passes and near some of the ridge-tops, resulting in mountain obscuration of coastal slopes and locally low vis in the passes. These conditions then continuing 12/0800-1500 UTC with isol-sct light showers over and west of the mountains producing briefly locally lower vis/cigs. Meanwhile, deserts will have SCT clouds AOA 20000 ft msl and FEW clouds in the 5000-8000 ft msl layer with mostly P6SM vis except for possible locally lower vis due to blowing dust/sand after 12/0600 UTC.

SW to W winds strengthening after 12/0600 UTC, with winds 20-30 KT gusting 40-50 KT over mountain ridges, through/below passes/canyons, along desert slopes and into adjacent desert areas, resulting in strong UDDFS/LLWS over and NE or E of the mountains.

&&

.MARINE...

No hazardous weather conditions are expected through Friday. A low-pressure system will move down just off the coast of Southern California Monday through the middle of next week, bringing periods of showers to the coastal waters late Tonight through Tuesday.

&&

.FIRE WEATHER...

The Red Flag Warning has expired. Weather conditions will improve overnight with lighter winds most areas, except along the mtn ridges and into the deserts where strong southwesterly winds will develop...Strongest over the San Bernardino Mts and high desert areas. Relative humidity remained quite low 5-10% at many reporting stations inland at 1 PM PST, but it will surge overnight from the coast and onto the coastal slopes where some light precipitation is expected to develop.

&&

.SKYWARN...

## February 11, 2018 Exceptional Event, Imperial County

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

&&

.SGX WATCHES/WARNINGS/ADVISORIES...

CA...Wind Advisory from 8 PM this evening to 6 AM PST Monday for Apple and Lucerne Valleys-San Bernardino County Mountains.

PZ...NONE.

&&

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PUBLIC/FIRE WEATHER...jad/17

AVIATION/MARINE...Harrison

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FXUS65 KPSR 112138  
AFDPSR

Area Forecast Discussion  
National Weather Service Phoenix AZ  
238 PM MST Sun Feb 11 2018

.SYNOPSIS...

A weather system approaching from the northwest will lead to a chance of showers beginning late tonight and continuing through the daytime Tuesday...mainly over south-central Arizona. The system will temporarily drift offshore before moving inland again Wednesday for a return of rain chances which peak Wednesday night. A follow on system keeps lingering rain chances going into Saturday before tapering off Sunday. There will be some cooling Monday and again Thursday but temperatures will be seasonal.

&&

.DISCUSSION...

Rest of today through Tuesday...  
Winds over the forecast area have weakened considerably compared to earlier this morning. Surface wind data suggests the front that went through overnight and early this morning has stalled out over southeast Arizona this afternoon. Surface dew points have dropped into the teens over much of our area but remain in the 20s south of metro Phoenix. The next system to affect our area is centered over the Oregon/California border with another significant short wave upstream of that over southern B.C. Canada. Models remain in good agreement that the OR/CA feature will quickly weaken tonight and track east-southeastward brushing the Mohave Desert and Arizona. This is in response to the upstream system which becomes a closed low centered near the CA/NV border on Monday. The associated height falls lead to strengthening southerly flow, isentropic ascent, and moist advection. In turn, this leads to precip chances overnight tonight and continue through Tuesday morning before beginning to trend downward Tuesday afternoon. The hi-res models depict light showers developing to varying degrees tonight and Monday. The low sags to the southwest as the ridge to the west folds over a bit. In turn, PoPs go away Tuesday night. Highs dip some for Monday due to more cloud cover (mainly over south-central AZ).

Wednesday through Sunday...

Another strong short wave in the northwesterly flow approaches Wednesday which kicks the coastal low inland. The low weakens rapidly as it moves in. However, a much better moisture tap will be in place and thus, PoPs/QPF peak Wednesday night into Thursday morning. GEFS QPF plumes continue to be dispersive with very large

**February 11, 2018 Exceptional Event, Imperial County****Appendix A**

variations amongst individual members. For instance, at PHX, the Wednesday night values generally range from zero to 1 inch. The 12Z ECMWF dropped it's Wednesday PoPs and QPF way back (it had been on the high end of the operational models for daytime Wednesday). Thus nudged QPF down some. The GFS and ECMWF vary quite a bit on the behavior of the kicker system. The GFS is now stronger and slower to exit for late in the week (versus what the ECMWF had been doing). Kept PoPs going but with lower numbers due to uncertainty. Of note, fewer GEFS members depict precip with this late week feature than with the midweek system. PoPs gradually go away by Sunday. As is usually the case, the best PoPs/QPF for our area will be east of the Lower Colorado River Valley. Anticipate temps dipping again Thursday due to effects of showers before slowly climbing. However, the numbers won't be all that much below normal.

&&

.AVIATION...

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

Breezy northeasterly winds this morning will continue to taper off into the early afternoon hours. Thereafter, a weaker northeasterly gradient will allow winds to switch to the west with very light winds speeds (wind directions may be variable at times). Overnight into tomorrow, strong southerly low level flow will develop ahead of an approaching low pressure system. Wind directions will switch to the south-southeast tonight but speeds will be stronger and more southerly than normal. Winds speeds will be sustained between 10 and 15 kts with gusts to 25 kts possible. In addition, this enhanced southerly flow will bring an increase in low level moisture which will first bring SCT-BKN low-level cloud decks near 5 kft to the terminals and then it will bring periods of showers mainly Monday afternoon through Tuesday morning. Terminals will see more isolated activity with greater coverage over the higher terrain east of Phoenix.

Southeast California/Southwest Arizona including KIPL and KBLH: Gusty north winds will be the primary aviation concern this morning with little other impacts beyond this afternoon. Winds will remain stronger at KBLH this morning with some gusts still nearing the 25 to 30 kt range. Suspended dust will create slantwise visibility problems before wind speeds decrease abruptly this afternoon. The pressure gradient will rapidly weaken such that light and variable winds will be common by late afternoon/evening. Skies will be mostly clear today, however an increase in low-level moisture tonight will bring an increase in low-level clouds near 5 kft.

Aviation Discussion not updated for amended TAFs.

&&

.FIRE WEATHER...

**February 11, 2018 Exceptional Event, Imperial County****Appendix A**

Tuesday through Saturday:

A strong weather system will affect the region for much of the week with scattered rain showers early Tuesday, but returning as soon as mid day Wednesday. Widespread wetting rains are likely to occur at some point Wednesday night through Friday with moisture levels remaining on the high side through Saturday. A slight chance of thunderstorms will also be possible, most likely on Thursday or Friday. Minimum humidity levels will remain mostly between 30-40% for the bulk of the time period. Winds will be on the light side over the course of the week with little worry of gusty winds.

&&

.SPOTTER INFORMATION STATEMENT...

Spotters should follow standard reporting procedures.

&&

.PSR WATCHES/WARNINGS/ADVISORIES...

AZ...None.

CA...None.

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DISCUSSION...AJ

AVIATION...Hernandez

FIRE WEATHER...Kuhlman

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FXUS66 KSGX 120503  
AFDSGX

Area Forecast Discussion  
National Weather Service San Diego CA  
900 PM PST Sun Feb 11 2018

.SYNOPSIS...

A weak cold front will bring cloudy, cool weather tonight and Monday along with light showers at times. Gusty winds will impact the mountains and and deserts. On Tuesday and a cold upper level trough will move south down the coast and bring more cool weather and keep a chance for showers going into Wednesday. Drier north flow aloft and gradual warming will follow Friday and Saturday.

&&

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

Low clouds from a rapidly deepening marine layer filled in quickly this evening across San Diego County. Clouds were obscuring the mountains up to 5000 feet this evening. Further deepening to 7500 feet is forecast overnight with clouds and dense fog shrouding the coastal mountains slopes. Radar wasn't detecting any rain yet this evening but pockets of light rain and drizzle are likely be daybreak.

Pressure gradients that were nearly -10 mb offshore this morning from Nevada have shifted strongly onshore (+6.6 mb) this evening. West winds were already fairly strong in the SBD mountains (Big Bear Airport 17G25 mph) and High Deserts (Hesperia 11G32 mph) where a Wind Advisory is in effect until 6 AM Monday.

A cold trough dropping south down the West Coast tonight should be able to squeeze out scattered light showers from the deep marine layer, but the lack of a deeper moisture supply will curtail precipitation amounts. Rain amounts will likely be less than one-quarter inch west of the mts, with higher amounts possible on the coastal slopes.

\*From Previous Discussion\*

The trough is still expected to develop into a cut-off low off the SoCal coast by Wed morning. The process will keep a low-level, onshore, moist flow across the area, continuing a precip threat, but amounts, if any, will be light. The low is forecast to weaken and drift inland late Wed/Wed night with most of the energy moving across NW Mexico. Consequently, POPS have trended lower through the midweek period. Another trough slips south on Thursday, reinforcing

**February 11, 2018 Exceptional Event, Imperial County****Appendix A**

the cooling, but it will be dry. Dry offshore flow continues into next weekend.

Looking ahead to the following week...Both of the 12Z ECMWF/GFS runs show the strong meridional ridge well offshore with the axis between 140-150W. More energy comes south over the far EastPac and the West, which should maintain a cooler onshore pattern here. The more aggressive 12Z ECMWF run even suggests a strong enough wave by the middle of next week for some precip over the region, but no one is holding their breath at this point.

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.AVIATION...

120310Z...Low clouds now covering most of San Diego County from the mtns westward, including KSAN. Most of this area is OVC with bases around 4000 ft MSL. Higher terrain is obscured and local vis of 1SM or less is expected on the coastal slopes where clouds and terrain intersect. Elsewhere, vis will remain 6SM or more. Low clouds will continue to spread northward overnight, reaching KCRQ by 06Z, and KSNA, KONT and KSBD by 09Z. Cigs will remain mostly abv 3000 ft MSL but could lower to around 2000 ft MSL at times during showers between 09Z and 18Z.

Meanwhile, deserts will have SCT clouds AOA 20000 ft msl and FEW clouds in the 5000-8000 ft msl layer with mostly P6SM vis except for possible locally lower vis due to blowing dust/sand after 06Z.

SW to W winds will strengthen after 06Z. Winds 20-30 KT gusting 40-50 KT over mountain ridges will produce strong UDDFS/LLWS over and NE or E of the mountains, including vcnty KPSP and KTRM. The strong winds will continue through Monday morning.

&&

.MARINE...

No hazardous weather conditions are expected through Friday. A low pressure system could bring periods of showers to the coastal waters late tonight through Tuesday.

&&

.SKYWARN...

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

&&

.SGX WATCHES/WARNINGS/ADVISORIES...

CA...Wind Advisory in effect through 6 AM PST Monday for the Apple and Lucerne Valleys and San Bernardino County Mountains.

PZ...NONE.



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FXUS65 KPSR 120439

AFDPSR

Area Forecast Discussion

National Weather Service Phoenix AZ

939 PM MST Sun Feb 11 2018

.UPDATE...Updated aviation discussion

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A weather system approaching from the northwest will lead to a chance of showers beginning late tonight and continuing through the daytime Tuesday...mainly over south-central Arizona. The system will temporarily drift offshore before moving inland again Wednesday for a return of rain chances which peak Wednesday night. A follow on system keeps lingering rain chances going into Saturday before tapering off Sunday. There will be some cooling Monday and again Thursday but temperatures will be seasonal.

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**February 11, 2018 Exceptional Event, Imperial County****Appendix A**

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&&

.AVIATION...

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

An approaching storm system will increase the southerly gradient across our TAF sites tonight and into tomorrow morning. This will make the typical nighttime easterly drainage winds a bit stronger and more southerly than usual. By late morning, a southerly crosswind is expected at the terminals with gusts nearing 20-25 kts that will continue through the afternoon. This southerly flow will also advect moisture into our area on Monday bringing a moderate chance of ceilings around 5 kft starting early in the morning (15Z) and lasting though the afternoon. Additionally, a chance of precipitation begins late Monday morning and continues through the afternoon but anything that does fall will be light and isolated in nature.

Southeast California/Southwest Arizona including KIPL and KBLH:

A southwesterly gradient will gradually increase through tomorrow morning as a storm system approaches the terminals. Winds will begin gusting 20-25 kts late tomorrow morning as higher momentum air mixes down due to the daytime heading. An increase in moisture is also expected with the southerly flow and will create FEW to SCT decks around 5-7 kft. There is a slight chance of a shower at KBLH tomorrow morning but confidence is far to low to mention in the TAF. Winds weaken tomorrow evening although the FEW/SCT clouds around 5-7 kft look to persist.

Aviation Discussion not updated for amended TAFs.

&&

.FIRE WEATHER...

**February 11, 2018 Exceptional Event, Imperial County****Appendix A**

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.SPOTTER INFORMATION STATEMENT...

Spotters should follow standard reporting procedures.

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.PSR WATCHES/WARNINGS/ADVISORIES...

AZ...None.

CA...None.

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DISCUSSION...AJ

AVIATION...Wilson

FIRE WEATHER...Kuhlman

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FXUS65 KPSR 121000

AFDPSR

## Area Forecast Discussion

National Weather Service Phoenix AZ

300 AM MST Mon Feb 12 2018

## .SYNOPSIS...

A weather system approaching from the northwest will lead to a chance of showers by late this morning and continuing through the daytime Tuesday...mainly over south-central Arizona. The system will temporarily drift offshore before moving inland again Wednesday for a return of rain chances which peak Wednesday evening. A follow on system may keep lingering rain chances going into Friday. There will be some day to day temperatures variations, but temperatures will overall be near normals.

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## .DISCUSSION...

A deep upper low quickly approached the region from the north-northwest yesterday, but has since mostly stalled out over the Great Basin region as a second wave dug through California over the past 6 hours. The low center at the moment is placed over northern Nevada, but the expansive area of the trough has brought a shortwave into southern California and northern Arizona early this morning. Southerly winds just above the surface have increased to around 30 kts across much of Arizona and will remain this strong through tonight before gradually weakening on Tuesday. This southerly upslope flow will combine with increasing upper level support by mid day today to promote at least some isolated shower activity mainly from Phoenix north and northwest.

Moisture levels are forecast to increase across the southern half of Arizona with PWATs increasing to over 0.50", but high-res model guidance still only points toward scattered light showers this afternoon through tonight. Locations in more favored upslope areas across northern Maricopa and northern La Paz Counties may see up to a tenth of an inch or so while lower desert areas see a trace to a few hundredths. Considerable cloudiness today should keep highs in the middle to upper 60s across the south-central Arizona deserts with lower 70s across the Lower Colorado River Valley.

Although it is a bit early to say for sure, the second rain event this week may not end up being all the impressive. Model guidance over the past 24 hours has shifted more toward a transient solution for the upper low. There is still good agreement the upper low will shift southwestward later Tuesday to just off the California coast, but model consensus shows a weaker, less cut-off from the main flow, and faster storm system. Models are

**February 11, 2018 Exceptional Event, Imperial County****Appendix A**

notorious for poor handling of these cut-off lows and this looks to be no different. Even though we can't completely by into the last couple solutions, we have at least shifted the forecast to come more in line with a faster and weaker system. As a result, this lowers rain chances across southeast California and southwest Arizona and lowers QPF amounts in most locations across south-central Arizona. The timing is still a bit up in the air, but the main rain shield looks to occur Wednesday evening into the overnight hours.

The other shortwave that initially looked like it would bring continued rain chances into Friday has now shifted a bit further to the east and will likely move through the Four Corners area instead of across the entirety of Arizona. We have kept in at least slight rain chances through Thursday and Friday for mainly areas from Phoenix east, but if the current model guidance holds, chances will dramatically drop starting Thursday morning. Temperatures this week will be a bit up and down, but highs will generally fall between the upper 60s to middle 70s with a warming trend into the weekend. Though it is too early to tell, another Pacific trough is shown to move through the region early next week, potentially bringing rain chances back into the forecast.

&&

.AVIATION...

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

An approaching storm system will increase the southerly gradient across our TAF sites tonight and into tomorrow morning. This will make the typical nighttime easterly drainage winds a bit stronger and more southerly than usual. By late morning, a southerly crosswind is expected at the terminals with gusts nearing 20-25 kts that will continue through the afternoon. This southerly flow will also advect moisture into our area on Monday bringing a moderate chance of ceilings around 5 kft starting early in the morning (15Z) and lasting though the afternoon. Additionally, a chance of precipitation begins late Monday morning and continues through the afternoon but anything that does fall will be light and isolated in nature.

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Aviation Discussion not updated for amended TAFs.

&amp;&amp;

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Tuesday through Saturday:

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.SPOTTER INFORMATION STATEMENT...

Spotters should follow standard reporting procedures.

&amp;&amp;

.PSR WATCHES/WARNINGS/ADVISORIES...

AZ...None.

CA...None.

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DISCUSSION...Kuhlman

AVIATION...Wilson

FIRE WEATHER...Kuhlman

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