TYPE	DATE	TII	ME	AGENCY	Y DESCRIPTION			
Area Forecast Discussion	2/15/2017	2110	PST	San Diego	A winter storm will move into Southern California for Fri through Sat. This storm will be able to access large amounts of moisture from the subtropics and distribute it through a deep layer of the atmosphere. This will enable the storm to produce periods of heavy rainfall which could result in flash flooding. Additionally, this storm will produce very strong	44		
Area Forecast Discussion	2/15/2017	2110	PST	San Diego	Strong southerly winds will begin to develop Fri morning and peak Fri afternoon/evening before weakening early Sat morning. Current model guidance indicates that wind gusts of 45 to 50 mph will be possible even in the coastal areas and inland valleys. Due to the southerly direction, the strongest winds will likely be in the San Bernardino mtns and the high deserts. Wind gusts exceeding 60 mph are expected in the San Bernardino mtns.	45		
Area Forecast Discussion	2/15/2017	2110	PST	San Diego	High Wind Watch from Friday morning through Saturday morning for Apple and Lucerne Valleys-Coachella Valley-Orange County Coastal Areas-Orange County Inland Areas-San Bernardino and Riverside County Valleys-The Inland Empire-San Diego County Coastal Areas-San Diego County Deserts-San Diego County Mountains-San Diego County Valleys-San Gorgonio Pass Near Banning-Santa Ana Mountains and Foothills.			
Area Forecast Discussion	2/16/2017	0230	MST	Phoenix	Friday night through Sunday nightAlthough it now seems almost certain that this will be a wet and cooler period over all of our cwa, there continues to be some uncertainty on how much rainfall will occurThere is now also stronger low-level southeasterly flow forecast to develop across the region from the Gulf of CaliforniaAlong with the rainfall, strong southeasterly winds are also expected to develop across SE CA and SW AZ, with a wind advisory a distinct possibility.	48-49		
Area Forecast Discussion	2/16/2017	0311	PST	San Diego	Onshore flow returns today ahead of a big storm system in the Pacific Oceanthe storm spins up and moves a really impressive band of rain through the region Friday afternoon through Friday night.	51		
Area Forecast Discussion	2/16/2017	0311	PST	San Diego	Strong southerly winds in all areas will precede the main band of precipitation. Gusts over 40 mph are expected nearly everywhere and over 65 mph around the ridges of the San Bernardino Mountains. These winds will be capable of causing damage, including felled trees and power lines. Winds will drop off very quickly early Saturday morning and the steady precipitation will turn to showers. There is a slight chance of thunderstorms mainly for coastal areas Friday evening, and in San Diego County, the mountains and lower deserts on Saturday.	51		
Area Forecast Discussion	2/16/2017	0311	PST	San Diego	High Wind Watch from Friday morning through Saturday morning for Apple and Lucerne Valleys-Coachella Valley-Orange County Coastal Areas-Orange County Inland Areas-San Bernardino and Riverside County Valleys-The Inland Empire-San Diego County Coastal Areas-San Diego County Deserts-San Diego County Mountains-San Diego County Valleys-San Gorgonio Pass Near Banning-Santa Ana Mountains and Foothills.			
Urgent Weather Message	2/16/2017	0312	PST	San Diego	High Wind Watch remains in effect from Friday morning through Saturday morning Identified areas included the Coachella Valley-San Diego County Desertsidentified cities included Indio, Palm Springs, Coachella, Borrego Springs	55		
Urgent Weather Message	2/16/2017	0903	PST	San Diego	<b>High Wind Warning</b> in effect from 7 AM Friday to 2 AM PST Saturday Identified areas included the Coachella Valley-San Diego County Desertsidentified cities included Indio, Palm Springs, Coachella, Borrego Springs	57		

ТҮРЕ	DATE	TII	ME	AGENCY	DESCRIPTION	PAGE
Area Forecast Discussion	2/16/2017	1042	PST	San Diego	As this system moves inland on Friday, confidence is high on a significant wind storm affecting all of Southern California during the period of 2 PM - Midnight Friday. Wind gusts of 50 to 60 mph are expected from the coast to the valleys and across portions of the lower deserts. Localized gusts of 60-70 mph is even possible. Wind gusts in the mountains and portions of the high deserts will exceed 70 mph. Even a period of high sustained winds of 30 to 40 mph is expected along the coast Friday afternoon into the evening. This will be a high impact wind event!	59-60
Area Forecast Discussion	2/16/2017	1042	PST	San Diego	High Wind Warning from 7 AM Friday to 2 AM PST Saturday for Apple and Lucerne Valleys-Coachella Valley-Orange County Coastal Areas-Orange County Inland Areas-San Bernardino and Riverside County Valleys-The Inland Empire-San Diego County Coastal Areas-San Diego County Deserts-San Diego County Mountains-San Diego County Valleys-San Gorgonio Pass Near Banning-Santa Ana Mountains and Foothills.	62
Area Forecast Discussion	2/16/2017	1446	MST	Phoenix	Latest suite of model guidance has trended somewhat slower but also wetter, particularly across the foothills of the Tonto National Forest. Initial concern will be for flooding across southeastern California as a line of heavy showers moves eastward Saturday morning. A Flood Watch remains in effect for JTNP. In addition to the threat for rain, an anomalous low-level jet will produce breezy to windy conditions across a large part of the lower deserts.	64
Urgent Weather Message	2/16/2017	1921	PST	San Diego	HIGH WIND WARNING REMAINS IN EFFECT FROM 7 AM FRIDAY TO 2 AM PST SATURDAY: areas include San Dieg Mts, Coachella Valley, San Diego deserts and the cities of Indio, Palm Springs, Palm Desert, Coachella, and Borrego Springs	67
Area Forecast Discussion	2/16/2017	2046	MST	Phoenix	Discussion is primarly when the impacts will affect the Colorado River Valley and Phoenix by Saturday. Mention of Southeast California is only in reference to the high clouds that are overspeading from Southeast California to south central Arizona.	69
Area Forecast Discussion	2/16/2017	2132	PST	San Diego	The winds will turn southerly and strengthen on Fri morning, peaking Fri afternoon/evening when wind gusts of 50 to 60 mph are expected from the coast to the valleys and across portions of the lower deserts. Wind gusts in the mountains and portions of the high deserts will likely exceed 70 mph. Even a period of high sustained winds of 30 to 40 mph is expected along the coast Friday afternoon into the evening. Winds will begin to weaken fri night, continuing their downward trend through Sat as the storm moves to the southeast.	73
Area Forecast Discussion	2/16/2017	2132	PST	San Diego	<b>High Wind Warning</b> from 7 AM Friday to 2 AM PST Saturday for Apple and Lucerne Valleys-Coachella Valley-Orange County Coastal Areas-Orange County Inland Areas-San Bernardino and Riverside County Valleys-The Inland Empire-San Diego County Coastal Areas-San Diego County Deserts-San Diego County Mountains-San Diego County Valleys-San Gorgonio Pass Near Banning-Santa Ana Mountains and Foothills.	75

TYPE	DATE	TI	ME	<b>AGENCY</b>	DESCRIPTION	PAGE
Area Forecast Discussion  Area Forecast Discussion	2/17/2017		MST	Phoenix	A strong Pacific weather system is expected to bring periods of widespread cloudiness today, with rainfall potential first increasing over southeast California this evening and spreading eastward into western and central Arizona through SaturdayThe primary feature of interest remains a seasonably strong upper trough off the California coast, which is forecast to amplify over the next 24-48 hours in association with an upper level jet. A substantial strengthening of low-level southerly winds will also occur this afternoon and evening, with 50-60 kt at 850 mb forecast to develop across the lower Colorado River Valley. Sufficient boundary-layer mixing will result in sustained surface wind speeds of at least 20-30 mph, especially across southeast California into far western Arizona. As a result, a wind advisory has been issued for most of this afternoon and evening.  Wind Advisory from 1 PM this afternoon to 11 PM PST this evening for	77
Area Porecast Discussion	2/1//201/	USSI	IVIST	rnoenix	CAZ030>033	/9
Area Forecast Discussion	2/17/2017	0359	PST	San Diego	The forecast hasn't changed much this morning. Major impacts are likely with this storm systempossibly the strongest storm we've seen over the past seasonWhile light rain is moving through Southern California early this morning well out ahead of this systemthe brunt of the storm will not arrive until this afternoon from the Westspreading SE this evening with periods of very heavy rainfall.	80
Area Forecast Discussion	2/17/2017	0359	PST	San Diego	The period of very strong winds is most likely to occur between noon and 10 pm. Gusts of 50 to 70 mph along the coast and into the valleys and deserts will certainly be capable of significant downed trees and the potential for power outages and property damage. In the mountains and along the desert slopes, gusts could be as high as 80 to 90 mph during this time.	81
Area Forecast Discussion	2/17/2017	0359	PST	San Diego	<b>High Wind Warning</b> from 7 AM this morning to 2 AM PST Saturday for Apple and Lucerne Valleys-Coachella Valley-Orange County Coastal Areas Orange County Inland Areas-San Bernardino and Riverside County Valleys The Inland Empire-San Diego County Coastal Areas-San Diego County Deserts-San Diego County Mountains-San Diego County Valleys-San Gorgonio Pass Near Banning-Santa Ana Mountains and Foothills.	
Urgent Weather Message	2/17/2017	0434	MST	Phoenix	WIND ADVISORY IN EFFECT FROM 2 PM MST /1 PM PST/ THIS AFTERNOON TO MIDNIGHT MST /11 PM PST/ TONIGHT Including Imperial County and the cities of Brawley, Calexico, El Centro, Imperial and the Salton SeaWINDSSustained winds of 25-30 mph from the south with gusts of 40 to 50 mph	84
Urgent Weather Message (Correction to wind speed on the 520am Weather Message)	2/17/2017	0434	PST	San Diego	HIGH WIND WARNING REMAINS IN EFFECT UNTIL 2 AM PST SATURDAY: areas include San Dieg Mts, Coachella Valley, San Diego deserts and the cities of Indio, Palm Springs, Palm Desert, Coachella, and Borrego SpringsWINDSDamaging southerly winds are expected to begin around midday and continue through this evening. Wind gusts of 50 to 60mph are expected from the coast to the valleys and across the deserts. Isolated wind gust reports of up to 750 mph are not out of the question. Winds of this magnitude will have the potential to cause widespread downed trees and branches, and for power outages and property damage.	86
Urgent Weather Message (Correction)	2/17/2017	0520	PST	San Diego	HIGH WIND WARNING REMAINS IN EFFECT UNTIL 2 AM PST SATURDAY: Wind speed corrected from 750 mph to 75 mph.	88

TYPE	DATE	-	ME	AGENCY	DESCRIPTION	PAGE
Area Forecast Discussion	2/17/2017	0531	MST	Phoenix	Updated Aviation - A low pressure system centered off the California coast is spreading cloudiness over the area and even some scattered sprinkles. Strong southerly flow aloft will develop today and increase tonight ahead of an approaching cold front. Southerly surface winds will develop as well with gusts to 35 knots common after 21Z (less so over the Imperial Valley). The strong winds will continue through the evening.  Areas of blowing dust can be expected as well with local visibilities briefly lowering below 3SM at times	91
Area Forecast Discussion	2/17/2017	0858	PST	San Diego	We are confident that major impacts will occur with this storm systempossibly the strongest storm we've seen this winter.	93
Area Forecast Discussion	2/17/2017	0858	PST	San Diego	High Wind Warning until 2 AM PST Saturday for Apple and Lucerne Valleys-Coachella Valley-Orange County Coastal Areas-Orange County Inland Areas-San Bernardino and Riverside County Valleys-The Inland Empire-San Diego County Coastal Areas-San Diego County Deserts-San Diego County Mountains-San Diego County Valleys-San Gorgonio Pass Near Banning-Santa Ana Mountains and Foothills.	95
Urgent Weather Message	2/17/2017	0955	MST	Phoenix	WIND ADVISORY NOW IN EFFECT FROM 2 PM MST /1 PM PST/ THIS AFTERNOON TO 3 AM MST /2 AM PST/ SATURDAYIncluding Imperial County and the Cities of Brawley, Calexico, El Centro, Imperial and the Salton SeaWINDSSustained winds of 25-30 mph from the south with gusts of 40 to 50 mph.	97
Area Forecast Discussion	2/17/2017	1000	MST	Phoenix	Main focus in the short-term remains the potential for <b>windy conditions</b> this afternoon and evening associated with the strong low-level jet ahead of the frontal boundary <b>across southeastern California</b> and southwestern Arizona. The Wind Advisory that is in effect has been extended to 3am MST/2am PST.	98
Area Forecast Discussion	2/17/2017	1000	MST	Phoenix	<b>Wind Advisory</b> from 1 PM this afternoon to 11 PM PST this evening for CAZ030>033	100
Area Forecast Discussion	2/17/2017	1430	MST	Phoenix	Ahead of the trough, anomalously strong southerly winds have increased to around 30 mph near Yuma, which has produced areas of blowing dust with reduced visibilities. Latest GFS forecast soundings indicate winds as strong as 50 kt at 2k ft AGL near Yuma this evening. Although these winds will not completely translate to the surface, the threat for gusts to 35 to 40 mph will continue into the early morning across southeastern California and southwestern Arizona	101
Area Forecast Discussion	2/17/2017	1430	MST	Phoenix	Wind Advisory until 2 AM PST Saturday for CAZ030>033.	104
Area Forecast Discussion	2/17/2017	1441	PST	San Diego	Already strong winds will increase even more as the rain band gradually tracks through the region this afternoon and evening. Gusts along the coast will exceed 50 mph and gusts in parts of the mountains and deserts will exceed 70 mph. This will be a widespread strong wind event!	105
Area Forecast Discussion	2/17/2017	1441	PST	San Diego	High Wind Warning until 2 AM PST Saturday for Apple and Lucerne Valleys-Coachella Valley-Orange County Coastal Areas-Orange County Inland Areas-San Bernardino and Riverside County Valleys-The Inland Empire-San Diego County Coastal Areas-San Diego County Deserts-San Diego County Mountains-San Diego County Valleys-San Gorgonio Pass Near Banning-Santa Ana Mountains and Foothills.	106

ТҮРЕ	DATE	TII	ME	<b>AGENCY</b>	DESCRIPTION	PAGE
Urgent Weather Message	2/17/2017	1453	PST	San Diego	HIGH WIND WARNING REMAINS IN EFFECT UNTIL 2 AM PST SATURDAY: areas include San Dieg Mts, Coachella Valley, San Diego deserts and the cities of Indio, Palm Springs, Palm Desert, Coachella, and Borrego SpringsWINDSDamaging southerly winds will continue in all areas through 9 pm. Wind gusts of 50 to 60 mph are expected from the coast to the valleys and across the deserts. Isolated wind gusts over 75 mph are expected in parts of the mountains	107
Area Forecast Discussion	2/17/2017	2030	MST	Phoenix	A powerful Pacific storm continued to develop just off the southern CA and northern Baja coasts this eveningAs the cold front pushes east tonight, rain will develop over our portions of southeast CA and the Colorado River Valley, perhaps after 2 am mstStrong 35 to 55 mph 850 mb south winds will lead to appreciable upslope rainfall. Strong surface winds in the 30 and 40 mph range were still blowing along portions southeast CA and southwest AZ at 8 pm mst. A wind advisory remains posted until 3 am.	109
Area Forecast Discussion	2/17/2017	2030	MST	Phoenix	Wind Advisory until 2 AM PST Saturday for CAZ030>033	112
Area Forecast Discussion	2/17/2017	2030	MST	Phoenix	Wind Advisory canceled for the remainder of tonight	113
Urgent Weather Message	2/17/2017	2123	PST	San Diego	HIGH WIND WARNING CANCELLED	117
Urgent Weather Message	2/17/2017	2129	MST	Phoenix	Wind Advisory is cancelled Areas include Imperial County	118
Area Forecast Discussion	2/17/2017	2130	MST	Phoenix	Wind Advisory Cancelled for the remainder of tonight	119
Area Forecast Discussion	2/17/2017	2146	PST	San Diego	A strong Pacific storm will continue to bring gusty winds, flooding and mountain snow to the region through tonight. Winds will decrease as heavy rain turns to showers tonight. Showers will continue tonight through Sunday morning. Dry weather returns Sunday, but a small chance of light rain is possible Monday through Wednesday. Earlier this afternoon/evening, the storm brought strong winds and widespread heavy rainfall to much of the regionThe worst of the storm is over but areas of rain with embedded showers will continue into early Sunday morning as the low slowly moves southeast.	123

948 FXUS66 KSGX 160510 AFDSGX

Area Forecast Discussion National Weather Service San Diego CA 910 PM PST Wed Feb 15 2017

### .SYNOPSIS...

Generally benign weather will continue through Thursday, except for areas of fog near the coast Thursday morning. A Pacific storm will impact Southern California Friday through Saturday. This storm will be significant, bringing periods of heavy rainfall capable of producing flash flooding, damaging winds, and heavy snowfall to the higher portions of Southern California mountains. The storm will exit the area late Saturday with dry weather returning Sunday through Monday. Additional lighter precipitation is possible by the middle part of next week.

### &&

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

A narrow ridge of high pressure will remain over the region through Thursday. This will continue the fair weather with variable high clouds and a shallow marine layer. The shallow marine layer could once again bring areas of fog to the coast late tonight into Thursday morning.

A winter storm will move into Southern California for Fri through Sat. This storm will be able to access large amounts of moisture from the sub-tropics and distribute it through a deep layer of the atmosphere. This will enable the storm to produce periods of heavy rainfall which could result in flash flooding. Additionally, this storm will produce very strong southerly winds as it intensifies to our west.

Light rainfall could begin moving in from the northwest as early as Fri morning, and current high-resolution models indicate that the heaviest rainfall will occur Fri evening/night. As the system moves to the southeast, its path will allow for significant rainfall even in the lower deserts and on the desert slopes. The cold air with this storm moves in on Sat after most of the moisture has moved east. As a result, snow levels will be above 6000 ft during periods of heaviest precipitation only lowering to around 5500 ft late Sat morning. Even so, significant snowfall is expected above 6000 ft with up to 18 inches possible in favored locations. The cold air moving in aloft could also produce enough instability for thunderstorms on Sat. Showers could linger into Sunday. For more precip details, see the Hydrology section.

February 17, 2017 Exceptional Event, Imperial County
Strong southerly winds will begin to develop Fri morning and peak
Fri afternoon/evening before weakening early Sat morning. Current
model guidance indicates that wind gusts of 45 to 50 mph will be
possible even in the coastal areas and inland valleys. Due to the
southerly direction, the strongest winds will likely be in the San
Bernardino mtns and the high deserts. Wind gusts exceeding 60 mph
are expected in the San Bernardino mtns.

Dry weather returns for late Sun through Mon before another low pressure system brings more chances for precip towards the middle of next week.

&&

#### .AVIATION...

160400Z...Coast/Valleys...BKN low clouds, with bases 200-400 ft MSL and tops near 600 ft MSL, should slowly develop along the coast late this evening and early tonight. VIS is likely to lower to 1/4 to 1/2 SM where low clouds move over land. Conditions should improve by late Thursday morning and continue through the afternoon. Low clouds, with bases 1000-1500 ft MSL, will develop along the coast late Thursday evening. Forecaster is moderate.

Mountains/Deserts...P6SM VIS through Thursday morning with SCT high clouds. Breezy southwesterly winds will develop over mountains, along desert mountain slopes and into adjacent deserts late Thursday afternoon, with gusts to 45 kt possible.

&&

### .MARINE...

Areas of dense fog may develop again tonight into Thursday morning as a shallow marine layer continues.

Large combined swells of 12-15 ft, strong wind gusts to 45 kt and periods of showers and isolated thunderstorms are expected at times Friday through the weekend as a strong storm system moves across the region. A Gale Watch has been issued for Friday morning through Friday night for the time of most hazardous weather, however Small Craft Advisory conditions will likely be met Saturday and Sunday, as well. See the Gale Watch for additional details.

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### .BEACHES...

High to potentially damaging surf will develop late Thursday through Sunday. Highest sets to 15 ft are expected late Saturday through early Sunday as a new elevated swell shifts from the west. Widespread coastal flooding is not expected as highest high tides will be around 4 ft through the period, however dangerous swimming conditions, strong rip currents and minor beach erosion is expected. A Beach Hazards Statement is in effect as an outlook for the event.

### .HYDROLOGY...

On Friday a strong Pacific storm along the West Coast will bring periods of moderate to heavy rain through Saturday. Rain will begin to slowly move inland through Friday afternoon and evening. Heaviest rain will fall across Orange County and western San Bernardino County. The rain will then move eastward across Riverside and San Diego Counties Friday night into Saturday morning. Numerous showers will continue through Saturday.

The greatest rain amounts are expected over Orange County and the San Bernardino Mountains, due in part to strong southerly winds

ahead of the trough on Friday afternoon and evening. Moderate to heavy rains are possible in Riverside and San Diego Counties Friday night into Saturday, but the rain totals should be less than areas in Orange County and the slopes of the San Bernardino County mountains. Snow levels will be high so there is the potential for significant runoff in the mountains.

Areas with the greatest potential for flooding INCLUDE ALL OF ORANGE COUNTY INCLUDING THE SANTA ANA MOUNTAINS...THE CAJON PASS AREA AND THE BLUE CUT FIRE BURN SCAR...AND THE UPPER MOJAVE RIVER BASIN.

CURRENT 2-DAY FORECAST RAINFALL TOTALS FOR FRIDAY AND SATURDAY...

Snow levels will mostly be above 7500 feet through Friday...then lower to around 5500 feet Saturday.

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### .SKYWARN...

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

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### .SGX WATCHES/WARNINGS/ADVISORIES...

CA...Flash Flood Watch from Friday afternoon through Saturday afternoon for Apple and Lucerne Valleys-Coachella Valley-Orange County Coastal Areas-Orange County Inland Areas-Riverside County Mountains-San Bernardino County Mountains-San Bernardino and Riverside County Valleys-The Inland Empire-San Diego County Coastal Areas-San Diego County Deserts-San Diego County Mountains-San Diego County Valleys-San Gorgonio Pass Near Banning-Santa Ana Mountains and

High Wind Watch from Friday morning through Saturday morning for Apple and Lucerne Valleys-Coachella Valley-Orange County Coastal Areas-Orange County Inland Areas-San Bernardino and Riverside County Valleys-The Inland Empire-San Diego County Coastal Areas-San Diego County Deserts-San Diego County Mountains-San Diego County Valleys-San Gorgonio Pass Near Banning-Santa Ana Mountains and Foothills.

Winter Storm Watch from Friday morning through Saturday morning for Riverside County Mountains-San Bernardino County Mountains.

Beach Hazards Statement from late Thursday night through Sunday evening for Orange County Coastal Areas-San Diego County Coastal Areas.

PZ...Gale Watch from Friday morning through late Friday night for Coastal Waters from San Mateo Point to the Mexican Border and out to 30 nm-Waters from San Mateo point to the Mexican Border Extending 30 to 60 nm out including San Clemente Island.

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PUBLIC...PG
AVIATION/MARINE/BEACHES...JJT

## IOWA STATE UNIVERSITY

College of Ag
Department of Agronomy

### **Department of Agronomy**

716 Farm House Ln Ames, IA 50011

akrherz@iastate.edu 515-294-5978 phone

908 FXUS65 KPSR 160930 AFDPSR

Area Forecast Discussion National Weather Service Phoenix AZ 230 AM MST Thu Feb 16 2017

.SYNOPSIS...

High pressure drifting eastward over the Desert Southwest will bring dry conditions and above-normal temperatures to the region from today into Friday. A rather strong Pacific weather system moving into the region is expected to bring widespread rainfall to the region on Saturday and Sunday, with locally heavy amounts possible. Clearing skies and warmer temperatures are then forecast for the early and middle parts of next week as high pressure rebuilds over the region.

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.DISCUSSION...

Today and Tonight...

High pressure moving across the region will bring another day of dry conditions, mainly clear skies, and above-normal temperatures to our cwa. Lower desert highs are expected to once again rise into the mid-70 to near-80 range, with the warmest temperatures over SE CA and the Lower Colorado River Valley.

Friday...

A transition to a much more active period weatherwise is expected to begin across the region on Friday, as a very strong upper low center approaches the central CA coast. Although widespread rainfall is expected to spread into the coastal areas of southern CA on Friday, shadowing from the coastal ranges will likely keep the vast majority of our cwa dry, except for Joshua Tree National Park, which could see some light rain bleeding into the region. On the other hand, mid and high cloudiness is expected to spread over much of our cwa during this period. In spite of the expected cloudiness, increasing low-level southerly flow ahead of the upper low center will pull somewhat warmer air into the region, which should allow highs to rise into the 70s for another day at most lower desert locations.

Friday night through Sunday night...

Although it now seems almost certain that this will be a wet and cooler period over all of our cwa, there continues to be some uncertainty on how much rainfall will occur. The latest GFS and EURO operational runs is now taking the main upper low center on a

operational runs is now taking the main upper low center on a somewhat further north track then what was forecast on the previous few runs. Both models now move the upper low center southeastward February 17, 2017 Exceptional Event, Imperial County just off the southern CA coast on Saturday, then swing it inland over extreme northern Mexico/along the International Border on Saturday night and Sunday. This more northerly track places our cwa, especially SE CA and SW AZ under better difluence/colder

temperatures aloft. There is now also stronger low-level southeasterly flow forecast to develop across the region from the Gulf of California. The GFSBufr forecast soundings now show 45-50

knots of southerly flow developing across SW AZ and SE CA on Saturday, bringing a plume of very moist (PWATS aoa 1.00 inch) into the region. The combination of this very moist air and strong lift will likely result in a band of moderate-heavy rain (and perhaps even a few thunderstorms) developing and moving across the region early Saturday.

Although the models do show this band weakening somewhat as it moves into south-central AZ Saturday afternoon/Saturday night, as the best dynamics shift to the south, a period of light-moderate rain is still forecast to develop across that region as well, with heavier amounts falling over the higher terrain. Thus, have raised QPF amounts across the region, with some lower desert locations across SE CA and the higher terrain of SW and SOuth-Central AZ now likely to see rainfall amounts of over an inch. The only reason that QPF amounts were not raised further is the fact that the GFS emsemble mean is once again showing a further south track of the upper low center, resulting in less rainfall. Flash flood watches may have to be considered if future model runs (and their respective ensemble members) continue to trend back towards a further north/wetter soln.

Along with the rainfall, strong southeasterly winds are also expected to develop across SE CA and SW AZ, with a wind advisory a distinct possibility. A drying trend is expected to develop from west to east on Sunday as the upper low moves off to the east, but with rainfall likely lingering into Sunday night over the higher terrain of South-Central AZ. The rain and thick cloudiness should keep most lower desert highs in the 60s on Saturday and Sunday.

Monday through next Thursday...

The weather system will move quickly east across northern Mexico and into south Texas on Monday and Tuesday. A few lingering showers are possible over the mountains of southern Gila County east of Phoenix Monday morning, otherwise a building high pressure system later Monday into Wednesday should stabilize conditions, allowing skies to clear, and temperatures to recover to above normal values by next Wednesday. Thursday could see an increase in cloudiness as the next system begins to affect the region.

&&

.AVIATION...

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

Mostly clear skies with light east wind under 6 knots are expected through 22z Thu.

Mostly clear skies and light and variable wind under 7 knots are expected through 19z Thu.

Aviation Discussion not updated for amended TAFs.

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.FIRE WEATHER...
Friday through Tuesday...
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High pressure will weaken and shift east Friday as showers begin to develop over the western deserts, especially far southeast CA. High temperatures will start to cool as clouds increase from the west. A much wetter and cooler pattern is expected from late Friday through Sunday, as a strong Pacific storm moves through the region. As of right now, significant rainfall is possible with the heaviest rain looking to fall Saturday into early Sunday with showers possibly lingering into Monday. Temperatures during this period are expected to fall below normal, with periods of gusty winds. Strongest winds are likely later Friday night through Saturday night with peak gusts near 40 mph possible. Much less wind is expected Sunday into early next week. Minimum humidities generally 25 to 35 percent Friday will increase into the 50 to 70 percent range on Saturday and Sunday, with good-excellent overnight recoveries. Some drying from the west to occur early next week along with slight warming.

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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...Percha
AVIATION...Vasquez
FIRE WEATHER...Wilson/Percha/CB
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352 FXUS66 KSGX 161111 AFDSGX

Area Forecast Discussion National Weather Service San Diego CA 311 AM PST Thu Feb 16 2017

### .SYNOPSIS...

Fair weather is forecast today with areas of coastal fog this morning. A Pacific storm will arrive in Southern California Friday and continue through Saturday. This storm will bring heavy rain, high mountain snow and strong winds Friday afternoon and night. Showers will continue Saturday. Dry weather returns Sunday, but some lighter showers are expected Monday and again Wednesday.

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

Fair this morning for most areas, although a couple patches of fog showed up on the coast. Areas of dense fog will continue to develop through sunrise. Onshore flow returns today ahead of a big storm system in the Pacific Ocean. Clouds will gradually thicken later today which will lead to an increasing chance of showers tonight into Friday morning north of San Diego County. The storm spins up and moves a really impressive band of rain through the region Friday afternoon through Friday night. Rain will be heavy

in this band and we expect at least some urban and small stream flooding. For more on the rainfall/flood threat check the hydrology discussion below. Snow levels will be around 6500 to 7500 feet during the heaviest band of precipitation and a foot or two could pile up in the San Bernardino Mountains above that

elevation. Strong southerly winds in all areas will precede the main band of precipitation. Gusts over 40 mph are expected nearly everywhere and over 65 mph around the ridges of the San Bernardino Mountains. These winds will be capable of causing damage, including felled trees and power lines. Winds will drop off very quickly early Saturday morning and the steady precipitation will turn to showers. There is a slight chance of thunderstorms mainly for coastal areas Friday evening, and in San Diego County, the mountains and lower deserts on Saturday. The

storm slowly moves out Sunday bringing an end to the showers. Southern California remains on the edge of moist westerly flow next week with LA and Orange Counties right on the line separating rain and no rain. We'll carry a small chance of showers in the forecast Monday north of San Diego County. A trough of low pressure pushes that moisture southward on Wednesday for a better chance of showers. These shower events do not appear heavy.

.AVIATION...

161100Z...Coast/Valleys...SCT to BKN low clouds, with bases 200-400 ft MSL and tops near 600 ft MSL, through about 16Z this morning. Patchy dense fog within a few SM of the coast with VSBY to 1/4 SM at times. Improved conditions after 16Z this morning. Low clouds, with bases 1000-1500 ft MSL, will develop along the coast late this evening. Forecaster confidence is medium-high. Rain spreading in from the NW between 15Z-18Z Friday.

Mountains/Deserts...P6SM VIS through Thursday morning with SCT high clouds. Breezy southwesterly winds will develop over mountains, along desert mountain slopes and into adjacent deserts late Thursday

afternoon, with gusts to 45 kt possible. Severe, damaging winds possible Friday afternoon with gusts well over 50 kt possible.

&&

### .MARINE...

Patchy dense fog this morning over the coastal waters.

Large combined swells of 12-15 ft, strong wind gusts to 45 kt and periods of rain, heavy at times, and isolated thunderstorms are expected Friday through the weekend, as a strong storm system moves across the region. A Gale Watch remains in effect Friday morning through Friday night for the time of the most hazardous weather, however Small Craft Advisory conditions will likely be met Saturday and Sunday, as well. See the Gale Watch for additional details.

&&

#### .BEACHES...

Potentially damaging surf Friday through Sunday. Highest sets to 15 ft are expected Saturday afternoon through Sunday morning as a new elevated swell shifts from the west. Widespread coastal flooding is not expected as highest high tides will be around 4 ft through the period, however dangerous swimming conditions, strong rip currents and minor beach erosion is expected. A Beach Hazards Statement remains in effect.

&&

### .HYDROLOGY...

On Friday a strong Pacific storm along the West Coast will bring periods of moderate to heavy rain through Saturday. The heaviest band of rain will move slowly through the region Friday afternoon and evening. Rain will turn to showers early Saturday and continue showery all day. The greatest rain amounts are expected over Orange County and the San Bernardino Mountains, due in part to strong southerly winds ahead of the trough on Friday afternoon and evening. Moderate to heavy rains are possible in Riverside and San Diego Counties Friday night, but the rain totals should be less. Snow levels will be high so there is the potential for significant runoff in the mountains.

Areas with the greatest potential for flooding INCLUDE ALL OF ORANGE COUNTY INCLUDING THE SANTA ANA MOUNTAINS...THE CAJON PASS AREA AND THE BLUE CUT FIRE BURN SCAR...AND THE UPPER MOJAVE RIVER BASIN.

CURRENT 2-DAY FORECAST RAINFALL TOTALS FOR FRIDAY AND SATURDAY...

Snow levels will mostly be above 6500 feet through Friday...then lower to around 5000 feet Saturday.

&&

.SKYWARN...

Skywarn activation is not requested today, but will be requested Friday.

&&

### .SGX WATCHES/WARNINGS/ADVISORIES...

CA...Flash Flood Watch from Friday afternoon through Saturday afternoon for Apple and Lucerne Valleys-Coachella Valley-Orange County Coastal Areas-Orange County Inland Areas-Riverside County Mountains-San Bernardino County Mountains-San Bernardino and Riverside County Valleys-The Inland Empire-San Diego County Coastal Areas-San Diego County Deserts-San Diego County Mountains-San Diego County Valleys-San Gorgonio Pass Near Banning-Santa Ana Mountains and Foothills.

High Wind Watch from Friday morning through Saturday morning for Apple and Lucerne Valleys-Coachella Valley-Orange County Coastal Areas-Orange County Inland Areas-San Bernardino and Riverside County Valleys-The Inland Empire-San Diego County Coastal Areas-San Diego County Deserts-San Diego County Mountains-San Diego County Valleys-San Gorgonio Pass Near Banning-Santa Ana Mountains and Foothills.

Winter Storm Watch from Friday morning through Saturday morning for Riverside County Mountains-San Bernardino County Mountains.

Beach Hazards Statement from late tonight through Sunday evening for Orange County Coastal Areas-San Diego County Coastal Areas.

PZ...Gale Watch from Friday morning through late Friday night for Coastal Waters from San Mateo Point to the Mexican Border

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AVIATION/MARINE/BEACHES...Brotherton

College of Ag
Department of Agronomy

### **Department of Agronomy**

716 Farm House Ln Ames, IA 50011

akrherz@iastate.edu 515-294-5978 phone

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Appendix A
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URGENT - WEATHER MESSAGE National Weather Service San Diego CA 312 AM PST Thu Feb 16 2017

...DAMAGING WINDS LIKELY FRIDAY AFTERNOON THROUGH FRIDAY NIGHT...

.Strong winds will arrive Friday. Southerly winds will strengthen ahead of a Pacific storm during the day Friday and could become damaging during the afternoon through the night.

CAZ043-048-050-057-058-060>062-065-552-554-162200-/O.CON.KSGX.HW.A.0003.170217T1500Z-170218T1500Z/ San Diego County Coastal Areas-San Bernardino and Riverside County Valleys-The Inland Empire-San Diego County Valleys-Santa Ana Mountains and Foothills-San Diego County Mountains-Apple and Lucerne Valleys-Coachella Valley-San Diego County Deserts-San Gorgonio Pass Near Banning-Orange County Coastal Areas-Orange County Inland Areas-Including the cities of...Vista...Carlsbad...Encinitas... Chula Vista...National City...San Diego...Riverside... San Bernardino...Ontario...Moreno Valley...Fontana... Rancho Cucamonga...Corona...Escondido...El Cajon...San Marcos... La Mesa...Santee...Poway...Julian...Pine Valley...Victorville... Hesperia...Apple Valley...Indio...Palm Springs...Cathedral City... Palm Desert...Palm Desert Country...La Quinta...Coachella... Borrego Springs...Banning...Desert Hot Springs... Huntington Beach...Costa Mesa...Santa Ana...Anaheim... Garden Grove...Irvine...Orange...Fullerton...Mission Viejo 312 AM PST Thu Feb 16 2017

...HIGH WIND WATCH REMAINS IN EFFECT FROM FRIDAY MORNING THROUGH SATURDAY MORNING...

- \* WINDS...Southerly winds will strengthen across Southern California on Friday. Damaging wind gusts of 35 to 50 mph are expected at lower elevations and gusts 60 to 75 mph are expected in the San Bernardino Mountains and parts of the high desert. Strongest winds will occur Friday afternoon through Friday night. Sustained southerly winds along the coast could reach or exceed 30 mph.
- \* IMPACTS...Downed trees and powerlines with structural damage possible as well. Hazardous driving due to possible debris... tree branches... and even trees on the roadways. High-profile vehicles will also experience dangerous driving conditions due to strong cross-winds.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

Appendix A

A High	Wind	Watch	means 1	here is	the	poten	ntial	for a	hazaı	rdous
high w	ind ev	ent.	Sustair	ned wind:	s of	at le	ast 4	10 mph.	or	gusts
of 58 i	mph or	stron	ger may	occur.	Cont	inue	to mo	onitor	the I	latest
foreca	sts.									

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### **Department of Agronomy**

716 Farm House Ln Ames, IA 50011

akrherz@iastate.edu 515-294-5978 phone

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730 WWUS76 KSGX 161703 NPWSGX

URGENT - WEATHER MESSAGE National Weather Service San Diego CA 903 AM PST Thu Feb 16 2017

...A WIND STORM TO AFFECT SOUTHERN CALIFORNIA FRIDAY THROUGH FRIDAY NIGHT WITH DAMAGING WINDS LIKELY...

.A strong storm will approach the area from the Pacific on Friday, then move across Southern California Friday evening through Saturday. Winds will increase and become unusually strong out ahead of this storm. This will bring a period of damaging winds to the area, with the highest impact time being from 2 PM to Midnight on Friday.

CAZ043-048-050-057-058-060>062-065-552-554-170600-/O.UPG.KSGX.HW.A.0003.170217T1500Z-170218T1500Z/ /O.NEW.KSGX.HW.W.0004.170217T1500Z-170218T1000Z/ San Diego County Coastal Areas-San Bernardino and Riverside County Valleys-The Inland Empire-San Diego County Valleys-Santa Ana Mountains and Foothills-San Diego County Mountains-Apple and Lucerne Valleys-Coachella Valley-San Diego County Deserts-San Gorgonio Pass Near Banning-Orange County Coastal Areas-Orange County Inland Areas-Including the cities of...Vista...Carlsbad...Encinitas... Chula Vista...National City...San Diego...Riverside... San Bernardino...Ontario...Moreno Valley...Fontana... Rancho Cucamonga...Corona...Escondido...El Cajon...San Marcos... La Mesa...Santee...Poway...Julian...Pine Valley...Victorville... Hesperia...Apple Valley...Indio...Palm Springs...Cathedral City... Palm Desert...Palm Desert Country...La Quinta...Coachella... Borrego Springs...Banning...Desert Hot Springs... Huntington Beach...Costa Mesa...Santa Ana...Anaheim... Garden Grove...Irvine...Orange...Fullerton...Mission Viejo 903 AM PST Thu Feb 16 2017

 $\ldots$ HIGH WIND WARNING IN EFFECT FROM 7 AM FRIDAY TO 2 AM PST SATURDAY...

The National Weather Service in San Diego has issued a High Wind Warning...which is in effect from 7 AM Friday to 2 AM PST Saturday. The High Wind Watch is no longer in effect.

\* WINDS...Damaging southerly winds are expected Friday through Friday night. Wind gusts of 50 to 60 mph is expected from the coast to the valleys and across portions of the lower deserts. Wind gusts in the mountains and portions of the high deserts will exceed 70 mph. Even a period of high sustained winds of 30 to 40 mph is expected along the coast Friday afternoon into the evening. This will be a high impact wind event.

Appendix A

\* TIMING...The strongest winds will occur between 2 PM and

\* Impacts...Winds of this magnitude will produce significant impacts. Numerous trees will fall posing a life and property risk. Downed powerlines, power outages, and some structural damage is also expected. Driving will be hazardous due to debris, including downed trees on roadways. High-profile vehicles, such as semi trucks, will be prone to blow over due to strong cross-winds, especially on east-west oriented freeways.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

midnight on Friday.

A High Wind Warning means a hazardous high wind event is expected or occurring. Sustained wind speeds of at least 40 mph or gusts of 58 mph or more can lead to property damage.

&&

\$\$ GREGORIA

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College of Ag

Department of Agronomy

### **Department of Agronomy**

716 Farm House Ln Ames, IA 50011

akrherz@iastate.edu 515-294-5978 phone

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Area Forecast Discussion National Weather Service San Diego CA 1042 AM PST Thu Feb 16 2017

- ... High Impact, Major Pacific Storm to Impact Southern California Friday into Saturday...
- ...Damaging Winds Expected Friday Afternoon-Night Along with Heavy Rainfall, Potentially Leading to Flash Flooding...

### .SYNOPSIS...

A high impact, major Pacific storm will arrive to Southern California on Friday. This storm will bring damaging winds and heavy precipitation to the area. The most significant impacts are expected to occur Friday afternoon through Friday night. Showers will continue Saturday. Dry weather returns Sunday, but some lighter showers are expected Monday and again Wednesday.

&&

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

Highlights...

- \* Significant Wind Storm Expected 2 PM-Midnight Friday
- \* Widespread Rain Moves in Friday; Flash Flooding Possible
- \* Heavy High Mountain Snowfall Friday-early Saturday

Water vapor imagery shows a developing storm system over the Pacific at 143 degrees longitude directly west of the northern California coast. An atmospheric river oriented in west to east fashion will eventually move into Southern California on Friday while becoming oriented north to south as this low develops. Surface pressures will lower and are shown to be off the charts when looking at the past 30-year record. This tightening pressure field will lead to an anomalous low level jet with model consensus showing H85 winds increasing to 50-60 KT ahead of the low/cold front Friday afternoon/evening.

As this system moves inland on Friday, confidence is high on a significant wind storm affecting all of Southern California during the period of 2 PM - Midnight Friday. Wind gusts of 50 to 60 mph are expected from the coast to the valleys and across portions of the lower deserts. Localized gusts of 60-70 mph is even possible. Wind gusts in the mountains and portions of the high deserts will exceed 70 mph. Even a period of high sustained winds of 30 to 40 mph is expected along the coast Friday afternoon into the evening.

This will be a high impact wind event! Numerous trees will fall, posing a life and property risk. Downed powerlines, power outages, and some structural damage is also expected.

In addition to the damaging winds, rain will increase during the day and become heavy. Most likely timing of heaviest rain is 4 PM - midnight Friday, beginning first in Orange County then spreading south and east through the evening. Rain rates of 0.5-1.0 inch per hour are expected. A flash flood watch is in effect for the entire area. See hydrology section below for more details on amounts.

Winds will drop off very quickly early Saturday morning and the steady precipitation will turn to showers. There is a slight chance of thunderstorms mainly for coastal areas Friday evening, and in San Diego County, the mountains and lower deserts on Saturday. The storm slowly moves out Sunday bringing an end to the showers. Southern California remains on the edge of moist westerly flow next week with LA and Orange Counties right on the line separating rain and no rain. We'll carry a small chance of showers in the forecast Monday north of San Diego County. A trough of low pressure pushes that moisture southward on Wednesday for a better chance of showers. These shower events do not appear heavy.

#### &&

### .AVIATION...

161650Z...A few patches of BKN-OVC clouds within 5-10 sm of the Orange county coast and along the immediate coast of San Diego county, with bases 200 ft msl, tops around 400-500 ft msl, and vis 1/4-2 sm, should lift and clear out through 1900 UTC. Elsewhere, P6SM vis and SCT-BKN clouds AOA 20000 ft msl continuing. 1900-17/0000 UTC, prevailing P6SM vis and SCT-BKN clouds AOA 20000 ft msl, except for possibly some BKN clouds 200-600 ft msl lingering within 2 sm of the coast. 17/0000-1500 UTC, BKN-OVC clouds developing and eventually filling up the coastal basin, mountain passes and lower coastal slopes. Bases/tops start out at 700-1100 ft msl/1500 ft msl with areas of vis 3-5 sm and local vis 1/4 sm along higher coastal terrain/mesas, and then bases/tops rise through the night, reaching 1000-2000 ft msl/2500-3000 ft msl by 17/1200 UTC. Mountain obscuration of coastal slopes likely by 17/0900 UTC. Isolated light showers possible after 17/0900 UTC. Elsewhere, P6SM vis and BKN clouds AOA 20000 ft msl.

Breezy SW to W winds 15-25 kt with gusts 35-40 kt will develop over mountains, along desert mountain slopes and into adjacent deserts after 2100 UTC, with mod to locally strong uddfs/llws possible over and N, NE and E of the mountains.

### &&

#### .MARINE...

Areas of dense fog over the coastal waters should lift and clear during the late morning and into the early afternoon.

A strong storm system is expected to bring gale force southerly winds late Friday morning through Friday night, with strongest winds potentially touching 45 kt Friday evening. A Gale Warning has been issued. A couple of large west swells will occur as well, the first arriving tonight at 9 feet/17 sec/285 degrees and the second more powerful swell arriving late Saturday and peaking at 17 feet/14 sec/270 degrees. The combination of large wind waves and the west swells will create hazardous seas Thursday night through Sunday. Periods of rain expected late Thursday night through Sunday, with the heaviest rain and squalls Friday afternoon and Friday night. There is even a slight chance of thunderstorms Friday evening through Saturday morning.

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### .BEACHES...

A large long-period west-northwest swell from 285 degrees will create high surf conditions starting tonight/early Friday, with surf of 5-9 ft with locally higher sets possible. Seas and surf will build further Friday night, peaking Saturday at 17 ft/15 seconds from the 270 degree direction then lowering gradually on Sunday. This will result in very large, and potentially damaging surf of 15 ft by late Saturday. Relatively low high tides, around 4 to 4.5 feet, will mitigate significant coastal flooding threat, but some low-lying coastal areas could still be at risk of minor coastal flooding due to how high the surf could get. Powerful rip currents will accompany the high surf as well. A Beach Hazards Statement has been issued for an outlook for High Surf.

&&

### .HYDROLOGY...

On Friday a strong Pacific storm along the West Coast will bring periods of moderate to heavy rain through Saturday. The heaviest band of rain will move slowly through the region Friday afternoon and evening. Widespread rain will transition to scattered showers early Saturday and continue showery all day. The greatest rain amounts are expected over Orange County and the San Bernardino Mountains, due in part to strong southerly winds ahead of the trough on Friday afternoon and evening. Moderate to heavy rains are possible in Riverside and San Diego Counties Friday night, but the rain totals should be less. Snow levels will be high so there is the potential for significant runoff in the mountains.

Areas with the greatest potential for flash flooding include all of Orange County including the Santa Ana Mountains, the Cajon Pass area and the Blue Cut fire burn scar and the upper Mojave river basin.

2-DAY FORECAST RAINFALL TOTALS FOR FRIDAY AND SATURDAY...

ORANGE COUNTY...2 to 4 inches, locally 5 inches in the Santa Anamountains.

SAN BERNARDINO MOUNTAINS...3 TO 7 inches.

SAN DIEGO and RIVERSIDE COUNTIES...1 TO 2 inches, locally 3 inches.

UPPER AND LOWER DESERTS...0.25 to 1 inch.

Snow levels will mostly be above 6500 feet through Friday...then lower to around 5000 feet Saturday.

&&

### .SKYWARN...

Skywarn activation is not requested today, but will be requested Friday. Highest impact period 2 PM to Midnight Friday. Damaging winds and flash flooding concerns.

&&

### .SGX WATCHES/WARNINGS/ADVISORIES...

CA...High Wind Warning from 7 AM Friday to 2 AM PST Saturday for Apple and Lucerne Valleys-Coachella Valley-Orange County Coastal Areas-Orange County Inland Areas-San Bernardino and Riverside County Valleys-The Inland Empire-San Diego County Coastal Areas-San Diego County Deserts-San Diego County Mountains-San Diego County Valleys-San Gorgonio Pass Near Banning-Santa Ana Mountains and Foothills.

Flash Flood Watch from Friday afternoon through Saturday afternoon for Apple and Lucerne Valleys-Coachella Valley-Orange County Coastal Areas-Orange County Inland Areas-Riverside County Mountains-San Bernardino County Mountains-San Bernardino and Riverside County Valleys-The Inland Empire-San Diego County Coastal Areas-San Diego County Deserts-San Diego County Mountains-San Diego County Valleys-San Gorgonio Pass Near Banning-Santa Ana Mountains and Foothills.

Winter Storm Warning from 7 AM Friday to 7 AM PST Saturday for Riverside County Mountains-San Bernardino County Mountains.

Beach Hazards Statement from late tonight through Sunday evening for Orange County Coastal Areas-San Diego County Coastal Areas.

PZ...Gale Warning from 7 AM Friday to 10 PM PST Sunday for Coastal Waters from San Mateo Point to the Mexican Border and out to 30 nm-Waters from San Mateo point to the Mexican Border Extending 30 to 60 nm out including San Clemente Island.

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PUBLIC...Gregoria
AVIATION/MARINE...Harrison

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### **Department of Agronomy**

716 Farm House Ln Ames, IA 50011

akrherz@iastate.edu 515-294-5978 phone

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Area Forecast Discussion National Weather Service Phoenix AZ 246 PM MST Thu Feb 16 2017

### .SYNOPSIS...

High pressure drifting eastward over the Desert Southwest will bring dry conditions and above-normal temperatures through Friday. A rather strong Pacific weather system moving into the region is expected to bring widespread rainfall on Saturday and Sunday, with locally heavy amounts possible. Clearing skies and warmer temperatures are then forecast for the early and middle parts of next week as high pressure rebuilds over the region.

&&

### .DISCUSSION...

High clouds will lower and thicken through Friday ahead of a Pacific low pressure system that will impact the Desert Southwest this weekend. Warm air preceding the system will again result in above normal temperatures Friday.

Latest models continue to converge on a solution that favors strong vorticity and jet-forced ascent mainly Saturday and Saturday night. Although the southerly trajectory of the moisture transport is not completely ideal for orographic lift, IVT magnitudes above the 99th percentile should compensate and suggest that periods of moderate to heavy rainfall will be possible.

Latest suite of model guidance has trended somewhat slower but also wetter, particularly across the foothills of the Tonto National Forest. Initial concern will be for flooding across southeastern California as a line of heavy showers moves eastward Saturday morning. A Flood Watch remains in effect for JTNP. In addition to the threat for rain, an anomalous low-level jet will produce breezy to windy conditions across a large part of the lower deserts.

The focus will shift to the Phoenix area Saturday night. Consensus among the suite of hi-res guidance is that this will be prime time for south-central Arizona and consequently PoPs were increased to around 90 percent. Latest QPF estimates suggest around an inch of rain for Phoenix. Soils remain moist and there is certainly the possibility for localized flooding of washes and urban areas.

The trough will slow Sunday as it acquires a negative tilt. This will result in lingering showers, particularly across southcentral Arizona during the morning. A general drying trend is expected, though latest hi-res CAMs suggest some redevelopment of

February 17, 2017 Exceptional Event, Imperial County showers is also possible during the afternoon. Conditions will also be cooler behind the trough axis. High temperature of 63 degrees for Phoenix would be the coolest since late January.

&&

.PREVIOUS DISCUSSION...

Monday through next Thursday...

The weather system will move quickly east across northern Mexico and into south Texas on Monday and Tuesday. A few lingering showers are possible over the mountains of southern Gila County east of Phoenix

Monday morning, otherwise a building high pressure system later Monday into Wednesday should stabilize conditions, allowing skies to clear, and temperatures to recover to above normal values by next Wednesday. Thursday could see an increase in cloudiness as the next system begins to affect the region.

&&

.AVIATION...

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

Generally weak westerly winds expected at the surface this afternoon before switching back east this evening. High clouds will gradually move in tonight and into tomorrow ahead of our next system but models indicate they should be aoa 12-15kft these next 24 hours. Surface gradients will tighten tomorrow morning and winds will strengthen and gradually switch to the south/south-east by afternoon. Additionally, stronger 20kt gusts could develop in the afternoon at the surface as the boundary layer deepens and mixes stronger winds down to the surface.

Southeast California/Southwest Arizona including KIPL and KBLH:

High clouds will gradually move into the area this evening and tonight ahead of our next system although models indicate ceilings should stay aoa 12-15kft over these next 24 hours. Stronger south winds are expected to develop on Friday with sustained speeds approaching 20 kts with gusts around 30kts in the afternoon. Lower ceilings and showers will move in late Friday night into Saturday.

Aviation Discussion not updated for amended TAFs.

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.FIRE WEATHER...
Saturday through Wednesday...

A much wetter and cooler pattern is expected Saturday into Sunday, as a strong Pacific storm moves through the region. Significant rainfall is possible with some of the showers Saturday afternoon into early Sunday with showers possibly lingering into Monday.

February 17, 2017 Exceptional Event, Imperial County
Temperatures during this period are expected to fall below normal,
with periods of gusty winds. Strongest winds are likely Saturday
through Saturday night with peak gusts near 40 mph possible. Much
less wind is expected Sunday into early next week. Minimum
humidities will increase into the 50 to 70 percent range on Saturday
and Sunday, with good-excellent overnight recoveries. Some drying
from the west to occur Monday into Wednesday as higher pressure
builds across the area from the west, and high temperatures will
rise above seasonal normals by Tuesday with warmer deserts into the
middle 70s. Minimum RH values will remain elevated through mid week
but should lower to between 20 and 30 percent by Wednesday.

IEM :: AFD from NWS PSR

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.SPOTTER INFORMATION STATEMENT...

Spotters should follow standard reporting procedures.

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.PSR WATCHES/WARNINGS/ADVISORIES...

AZ...None.

CA...Flash Flood Watch from Friday evening through Saturday afternoon for CAZ030.

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DISCUSSION...Hirsch
PREVIOUS DISCUSSION...Percha
AVIATION...Wilson
FIRE WEATHER...Wilson/Percha/CB

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URGENT - WEATHER MESSAGE National Weather Service San Diego CA 721 PM PST Thu Feb 16 2017

...A WINTER STORM WILL IMPACT SOUTHERN CALIFORNIA FRIDAY THROUGH FRIDAY NIGHT WITH DAMAGING WINDS...

.A winter storm will move across Southern California Friday evening through Saturday. Winds will increase and become unusually strong Friday morning. This will bring a period of damaging winds to the area...with the strongest winds between 2 PM and Midnight on Friday.

CAZ043-048-050-057-058-060>062-065-552-554-171400-/O.CON.KSGX.HW.W.0004.170217T1500Z-170218T1000Z/ San Diego County Coastal Areas-San Bernardino and Riverside County Valleys-The Inland Empire-San Diego County Valleys-Santa Ana Mountains and Foothills-San Diego County Mountains-Apple and Lucerne Valleys-Coachella Valley-San Diego County Deserts-San Gorgonio Pass Near Banning-Orange County Coastal Areas-Orange County Inland Areas-Including the cities of...Vista...Carlsbad...Encinitas... Chula Vista...National City...San Diego...Riverside... San Bernardino...Ontario...Moreno Valley...Fontana... Rancho Cucamonga...Corona...Escondido...El Cajon...San Marcos... La Mesa...Santee...Poway...Julian...Pine Valley...Victorville... Hesperia...Apple Valley...Indio...Palm Springs...Cathedral City... Palm Desert...Palm Desert Country...La Quinta...Coachella... Borrego Springs...Banning...Desert Hot Springs... Huntington Beach...Costa Mesa...Santa Ana...Anaheim... Garden Grove...Irvine...Orange...Fullerton...Mission Viejo 721 PM PST Thu Feb 16 2017

- ...HIGH WIND WARNING REMAINS IN EFFECT FROM 7 AM FRIDAY TO 2 AM PST SATURDAY...
- \* WINDS...Damaging southerly winds are expected Friday morning through Friday night. Wind gusts of 50 to 60 mph are expected from the coast to the valleys and across portions of the lower deserts. Wind gusts in the mountains and portions of the high deserts will likely exceed 70 mph. Even a period of high sustained winds of 30 to 40 mph is expected along the coast Friday afternoon into the evening. This will be a high impact wind event.
- \* TIMING...The strongest winds will occur between 2 PM and midnight on Friday.

### Appendix A

\* Trees could be downed or broken...posing a risk to life and property. Downed power lines...power outages...and some structural damage is also expected. Driving will be hazardous due to debris...including downed trees on roadways. High-profile vehicles...such as semi trucks...will be prone to blowing over due to strong cross-winds...especially on east-west oriented freeways.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

A High Wind Warning means a hazardous high wind event is expected or occurring. Sustained wind speeds of at least 40 mph or gusts of 58 mph or more can lead to property damage.

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716 Farm House Ln Ames, IA 50011

akrherz@iastate.edu

515-294-5978 phone

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Area Forecast Discussion National Weather Service Phoenix AZ 846 PM MST Thu Feb 16 2017

### .SYNOPSIS...

High pressure drifting eastward over the Desert Southwest will bring dry conditions and above-normal temperatures through Friday. A rather strong Pacific weather system moving into the region is expected to bring widespread rainfall on Saturday and Sunday, with locally heavy amounts possible. Clearing skies and warmer temperatures are then forecast for the early and middle parts of next week as high pressure rebuilds over the region.

&&

### .DISCUSSION...

A high pressure system should continue to cover the region through most of Friday before a large Pacific storm moves into the area Friday night and the weekend. High clouds were beginning to overspread our forecast area, southeast CA to south central AZ, this evening, and will become more dense by Friday afternoon.

Currently the Pacific weather system expected to move into the region this weekend was in the early stages of development about 1000 miles west of San Diego at 8 pm mst. Profound traverse banding in the higher clouds suggests increasing jetstream winds, and models indicate it will greatly intensify before making landfall by Friday evening. In fact modeled 500 mb height falls of 240 meters by 12z Fri and again 00z Sat indicate strong airmass over-turning, with copious amounts of ocean moisture lifting into the frontal zone as it approaches the southern CA and northern Baja coast Friday night and Saturday morning.

The associated cold front will likely move through the Colorado River Valley around 5 am Saturday morning, then around 5-6 pm in Phoenix.

Details of this approaching system can be found in the previous discussion below. Forecasts look ok for now. No short term updates planned.

.PREVIOUS DISCUSSION...246 PM MST Thu...

High clouds will lower and thicken through Friday ahead of a Pacific low pressure system that will impact the Desert Southwest this weekend. Warm air preceding the system will again result in above normal temperatures Friday.

February 17, 2017 Exceptional Event, Imperial County
Latest models continue to converge on a solution that favors
strong vorticity and jet-forced ascent mainly Saturday and
Saturday night. Although the southerly trajectory of the moisture
transport is not completely ideal for orographic lift, IVT
magnitudes above the 99th percentile should compensate and suggest
that periods of moderate to heavy rainfall will be possible.

Latest suite of model guidance has trended somewhat slower but also wetter, particularly across the foothills of the Tonto National Forest. Initial concern will be for flooding across southeastern California as a line of heavy showers moves eastward Saturday morning. A Flood Watch remains in effect for JTNP. In addition to the threat for rain, an anomalous low-level jet will

produce breezy to windy conditions across a large part of the lower deserts.

The focus will shift to the Phoenix area Saturday night. Consensus among the suite of hi-res guidance is that this will be prime time for south-central Arizona and consequently PoPs were increased to around 90 percent. Latest QPF estimates suggest around an inch of rain for Phoenix. Soils remain moist and there is certainly the possibility for localized flooding of washes and urban areas.

The trough will slow Sunday as it acquires a negative tilt. This will result in lingering showers, particularly across southcentral Arizona during the morning. A general drying trend is expected, though latest hi-res CAMs suggest some redevelopment of showers is also possible during the afternoon. Conditions will also be cooler behind the trough axis. High temperature of 63 degrees for Phoenix would be the coolest since late January.

&&

.PREVIOUS DISCUSSION...

Monday through next Thursday...

The weather system will move quickly east across northern Mexico and into south Texas on Monday and Tuesday. A few lingering showers are possible over the mountains of southern Gila County east of Phoenix Monday morning, otherwise a building high pressure system later Monday into Wednesday should stabilize conditions, allowing skies to clear, and temperatures to recover to above normal values by next Wednesday. Thursday could see an increase in cloudiness as the next system begins to affect the region.

&&

.AVIATION...

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

A high pressure system over the region will weaken Friday afternoon as a strong Pacific storm approaches for late Friday night and

February 17, 2017 Exceptional Event, Imperial County particularly Saturday. A cold frontal passage is expected early Saturday evening. Otherwise increasing mid and high clouds are expected, becoming 14-16 thsd bkn by 18z Friday. Light east wind, but increasing from the south at 15 to 25 knots between 18z Fri and 03z Sat.

IEM:: AFD from NWS PSR

Southeast California/Southwest Arizona including KIPL and KBLH:

A high pressure system over the region will weaken tonight as a strong Pacific storm approaches on Friday. A cold frontal passage is expected across the Colorado River Valley by 12z Sat. Otherwise increasing mid and high clouds are expected, becoming 14-16 thsd bkn

by 12z Friday. Light south wind, but increasing from the south at 18 to 28 knots between 18z Fri and 03z Sat.

Aviation Discussion not updated for amended TAFs.

&&

.FIRE WEATHER...
Saturday through Wednesday...

A much wetter and cooler pattern is expected Saturday into Sunday, as a strong Pacific storm moves through the region. Significant rainfall is possible with some of the showers Saturday afternoon into early Sunday with showers possibly lingering into Monday. Temperatures during this period are expected to fall below normal, with periods of gusty winds. Strongest winds are likely Saturday through Saturday night with peak gusts near 40 mph possible. Much less wind is expected Sunday into early next week. Minimum humidities will increase into the 50 to 70 percent range on Saturday and Sunday, with good-excellent overnight recoveries. Some drying from the west to occur Monday into Wednesday as higher pressure builds across the area from the west, and high temperatures will rise above seasonal normals by Tuesday with warmer deserts into the middle 70s. Minimum RH values will remain elevated through mid week but should lower to between 20 and 30 percent by Wednesday.

&&

.SPOTTER INFORMATION STATEMENT...

Spotters should follow standard reporting procedures.

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.PSR WATCHES/WARNINGS/ADVISORIES...

AZ...None.

CA...Flash Flood Watch from Friday evening through Saturday afternoon for CAZ030.

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\$5

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DISCUSSION...Vasquez/Hirsch/Percha AVIATION...Vasquez FIRE WEATHER...Wilson/Percha/CB

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### **Department of Agronomy**

716 Farm House Ln Ames, IA 50011

akrherz@iastate.edu 515-294-5978 phone

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**Appendix A** 

776 FXUS66 KSGX 170532 AFDSGX

Area Forecast Discussion National Weather Service San Diego CA 932 PM PST Thu Feb 16 2017

### .SYNOPSIS...

A strong Pacific storm will impact Southern California Friday through Saturday. This storm will bring periods of damaging winds and heavy precipitation to the area. The most significant impacts are expected to occur Friday afternoon through Friday night. Showers will continue Saturday. Dry weather returns Sunday, but some lighter showers are expected Monday and again Wednesday.

&&

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

Light showers ahead of an approaching winter storm are currently reaching Los Angeles county. Through tonight, mostly light showers are expected to spread into portions of Orange County, the San Bernardino Mountains and the Mojave Desert.

For Fri morning through Fri night...The storm will produce periods of heavy rainfall and strong, damaging winds.

The winds will turn southerly and strengthen on Fri morning, peaking Fri afternoon/evening when wind gusts of 50 to 60 mph are expected from the coast to the valleys and across portions of the lower deserts. Wind gusts in the mountains and portions of the high deserts will likely exceed 70 mph. Even a period of high sustained winds of 30 to 40 mph is expected along the coast Friday afternoon into the evening. Winds will begin to weaken fri night, continuing their downward trend through Sat as the storm moves to the southeast.

Widespread moderate to heavy rain is expected to move in Fri afternoon and continue through Fri night. By Sat morning, the rain turns to scattered showers with a chance of tstms as colder air moves in and conditions become more unstable. Snow levels will start out at around 8000 feet Friday morning...falling to between 6500 and 7000 feet Friday afternoon and evening...then down to 5500 feet Saturday morning. Snowfall estimates are for up to 7 inches at elevations between 6000 and 7000 feet...with local 1 foot amounts, and 1 to 2 feet above the 7000 foot elevation. See the Hydrology section for more rainfall details.

Showers will taper off late Sat, ending on Sunday as a weak, transient ridge of high pressure develops over the region. Light

February 17, 2017 Exceptional Event, Imperial County-precip is possible on Mon but the probabilities will be low. Chances for more rain are better for next Wed as a trough of low pressure moves through Central California. Fair weather will return for the latter half of next week.

&&

### .AVIATION...

170430Z...Multiple cloud decks will develop across the region through tonight, with clouds becoming more widespread and thick Friday from north to south. Low cloud bases tonight will start out around 900-1200 ft MSL along the coast and valleys, and rise overnight to around 2500 ft by early Friday morning. VIS will lower

to 1-3 SM BR where low clouds near higher terrain. A strong storm system will develop +RA and very strong winds across most areas from north to south Friday morning through Friday night. Southerly gusts of 30-50 kt are expected across the coast, valleys and deserts, with 60-80 kt gusts possible over portions of the mountains. Mod to locally strong uddfs/llws is possible over and N, NE and E of the mountains Friday.

&&

#### .MARINE...

A strong storm system will generate gale force southerly winds late Friday morning through Friday night, with strongest winds potentially touching 45 kt Friday evening. A couple of large west swells will occur as well, the first arriving tonight at 9 feet/17 sec/285 degrees and the second more powerful swell arriving late Saturday and peaking at 17 feet/14 sec/270 degrees. The combination of large wind waves and the west swells will create hazardous seas Thursday night through Sunday. A Gale Warning remains in effect from Friday through Sunday. Periods of rain are expected at times late Thursday night through Sunday, with the heaviest rain and squalls Friday afternoon and Friday night. Isolated thunderstorms are possible late Friday evening through Saturday.

&&

### .BEACHES...

A large long-period west-northwest swell from 285 degrees will create high surf conditions starting tonight/early Friday, with surf of 5-9 ft and locally higher sets possible. Seas and surf will build further Friday night, peak Saturday at 17 ft/15 seconds from the 270 degree direction, then lower gradually on Sunday. This will result in very large, and potentially damaging surf of 15 ft by late Saturday. Relatively low high tides, around 4 to 4.5 feet, will mitigate significant coastal flooding threat, but some low-lying coastal areas could still be at risk of minor coastal flooding due to how high the surf could get and rainfall run-off. Powerful rip currents will accompany the high surf as well. A High Surf Warning remains in effect from tonight through Sunday evening. Surf will gradually lower during the day Sunday.

February 17, 2017 Exceptional Event, Imperial County
There is also a slight chance for thunderstorms at the beaches late
Friday evening through Saturday.

IEM :: AFD from NWS SGX

&&

#### .HYDROLOGY...

A strong Pacific storm will bring periods of widespread moderate to heavy rain Friday through Saturday. The heaviest band of rain will move slowly through the region Friday afternoon and evening. Rain will turn to showers early Saturday and continue showery all day. The greatest rain amounts are expected over Orange County and the coastal slopes of the San Bernardino Mountains, due in part to strong southerly winds ahead of the trough on Friday afternoon and

evening. Moderate to heavy rains are possible in Riverside and San Diego Counties Friday night, but the rain totals should be less. Snow levels will be high so there is the potential for significant runoff in the mountains. The southerly low-level winds could result in some rain shadowing of the upper deserts while the lower deserts and desert slopes of the Riverside and San Diego counties could experience enhanced rainfall totals.

Areas with the greatest potential for flooding include all pf Orange County including the Santa Ana Mountains...the coastal slopes of the San Bernardino Mountains...especially the Cajon Pass area and the Blue Cut fire burn scar...and the upper Mojave River basin.

CURRENT 2-DAY FORECAST RAINFALL TOTALS FOR FRIDAY AND SATURDAY...

Snow levels will mostly be above 6500 feet through Friday...then lower to around 5500 feet Saturday.

&&

#### .SKYWARN...

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

&&

#### .SGX WATCHES/WARNINGS/ADVISORIES...

CA...High Wind Warning from 7 AM Friday to 2 AM PST Saturday for Apple and Lucerne Valleys-Coachella Valley-Orange County Coastal Areas-Orange County Inland Areas-San Bernardino and Riverside County Valleys-The Inland Empire-San Diego County Coastal Areas-San Diego County Deserts-San Diego County Mountains-San Diego County Valleys-San Gorgonio Pass Near

Flash Flood Watch from Friday afternoon through Saturday afternoon for Apple and Lucerne Valleys-Coachella Valley-Orange County Coastal Areas-Orange County Inland Areas-Riverside County Mountains-San Bernardino County Mountains-San Bernardino and Riverside County Valleys-The Inland Empire-San Diego County Coastal Areas-San Diego County Deserts-San Diego County Mountains-San Diego County Valleys-San Gorgonio Pass Near Banning-Santa Ana Mountains and Foothills.

Winter Storm Warning from 7 AM Friday to 7 AM PST Saturday for Riverside County Mountains-San Bernardino County Mountains.

High Surf Warning from 1 AM Friday to 10 PM PST Sunday for Orange County Coastal Areas-San Diego County Coastal Areas.

PZ...Gale Warning from 7 AM Friday to 10 PM PST Sunday for Coastal Waters from San Mateo Point to the Mexican Border and out to 30 nm-Waters from San Mateo point to the Mexican Border Extending 30 to 60 nm out including San Clemente Island.

&&

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PUBLIC...PG
AVIATION/MARINE/BEACHES...JJT

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College of Ag
Department of Agronomy

#### **Department of Agronomy**

716 Farm House Ln Ames, IA 50011

akrherz@iastate.edu 515-294-5978 phone

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### **February 17, 2017 Exceptional Event, Imperial County**

467 FXUS65 KPSR 171031 AFDPSR

Area Forecast Discussion National Weather Service Phoenix AZ 331 AM MST Fri Feb 17 2017

#### .SYNOPSIS...

A strong Pacific weather system is expected to bring periods of widespread cloudiness today, with rainfall potential first increasing over southeast California this evening and spreading eastward into western and central Arizona through Saturday.

Locally heavy rainfall amounts will be possible, especially across parts of southeast California, the lower Colorado River Valley, and the higher terrain north and east of Phoenix. Clearing skies and a warming trend are expected early next week before another cold front moves through the region Thursday.

#### .DISCUSSION...

Early morning satellite imagery reveals widespread cloudiness over California spreading eastward across the Southwest, within a plume of rich Pacific moisture. Light radar echoes were noted across northern Arizona, but very little precipitation is expected with this activity, and will remain well north of the Phoenix area.

The primary feature of interest remains a seasonably strong upper trough off the California coast, which is forecast to amplify over the next 24-48 hours in association with an upper level jet. A substantial strengthening of low-level southerly winds will also occur this afternoon and evening, with 50-60 kt at 850 mb forecast to develop across the lower Colorado River Valley. Sufficient boundary-layer mixing will result in sustained surface wind speeds of at least 20-30 mph, especially across southeast California into far western Arizona. As a result, a wind advisory has been issued for most of this afternoon and evening.

Meanwhile, rainfall potential is expected to increase this evening across southeast California as a cold front accelerates eastward. Low-level forcing for ascent along the cold front may support a swath of moderate to heavy rain through late Saturday morning across Imperial and eastern Riverside counties and across the lower Colorado River Valley. Strengthening southerly upslope winds will also lead to increasing rainfall potential over the higher terrain north eand east of Phoenix Saturday morning. The cold front will weaken throughout the day Saturday, but periods of moderate to heavy rainfall are forecast to occur through much of Saturday afternoon into Sunday morning across south-central Arizona, as the upper trough begins to pivot northeastward.

Forecast storm-total rainfall amounts range from 0.75-1 inch across northern Maricopa westward into La Paz and eastern

February 17, 2017 Exceptional Event, Imperial County Riverside, to 1-1.5 inches with locally higher amounts possible north and east of Phoenix. The potential for flooding Saturday evening will have to be monitored, especially across terrainfavored areas. Snow levels are expected to remain high enough to result in primarily rainfall through most of the event at higher elevation areas.

The upper trough will continue to accelerate northeastward on Sunday, with lingering chances for precipitation mainly from Phoenix eastward throughout the day. Ridging aloft will build across the region early next week and support a warming trend, before another strong cold front moves southeastward out of the Great Basin. However, moisture is expected to be quite limited

with this system, so any rainfall potential should remain confined to the higher terrain north and east of Phoenix. Quasizonal flow becomes established into next weekend, as uncertainty increases with the pattern evolution potentially featuring another upper trough affecting the western U.S.

&&

.AVIATION...

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

A high pressure system over the region will weaken Friday afternoon as a strong Pacific storm approaches for late Friday night and particularly Saturday. A cold frontal passage is expected early Saturday evening. Otherwise increasing mid and high clouds are expected, becoming 14-16 thsd bkn by 18z Friday. Light east wind, but increasing from the south at 15 to 25 knots between 18z Fri and 03z Sat.

Southeast California/Southwest Arizona including KIPL and KBLH:

A high pressure system over the region will weaken tonight as a strong Pacific storm approaches on Friday. A cold frontal passage is expected across the Colorado River Valley by 12z Sat. Otherwise increasing mid and high clouds are expected, becoming 14-16 thsd bkn by 12z Friday. Light south wind, but increasing from the south at 18 to 28 knots between 18z Fri and 03z Sat.

Aviation Discussion not updated for amended TAFs.

&&

.FIRE WEATHER...
Saturday through Wednesday...

A much wetter and cooler pattern is expected Saturday into Sunday, as a strong Pacific storm moves through the region. Significant rainfall is possible with some of the showers Saturday afternoon into early Sunday with showers possibly lingering into Monday. Temperatures during this period are expected to fall below normal, with periods of gusty winds. Strongest winds are likely Saturday

4/4/2019

February 17, 2017 Exceptional Event, Imperial County through Saturday night with peak gusts near 40 mph possible. Much less wind is expected Sunday into early next week. Minimum humidities will increase into the 50 to 70 percent range on Saturday and Sunday, with good-excellent overnight recoveries. Some drying from the west to occur Monday into Wednesday as higher pressure builds across the area from the west, and high temperatures will rise above seasonal normals by Tuesday with warmer deserts into the middle 70s. Minimum RH values will remain elevated through mid week but should lower to between 20 and 30 percent by Wednesday.

&&

.SPOTTER INFORMATION STATEMENT...

Spotters should follow standard reporting procedures.

&&

.PSR WATCHES/WARNINGS/ADVISORIES...

AZ...Wind Advisory from 2 PM this afternoon to midnight MST tonight for AZZ020-021-025>027.

CA...Wind Advisory from 1 PM this afternoon to 11 PM PST this evening for CAZ030>033.

Flash Flood Watch from this evening through Saturday afternoon for CAZ030.

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DISCUSSION...Rogers
AVIATION...Vasquez
FIRE WEATHER...Wilson/Percha/CB

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Appendix A

### February 17, 2017 Exceptional Event, Imperial County

714 FXUS66 KSGX 171159 AFDSGX

Area Forecast Discussion National Weather Service San Diego CA 359 AM PST Fri Feb 17 2017

...Major Pacific storm system to bring significant weatherrelated impacts to the region...including damaging wind gusts and flooding...later today through tonight...

#### .SYNOPSIS...

Significant impacts later today through tonight as a strong Pacific storm moves across the region through Saturday. This storm will bring damaging winds and heavy precipitation to the area. The most significant impacts are expected to occur this afternoon through late tonight. Scattered to numerous showers will continue Saturday and Saturday night...with additional snow accumulation possible in the mountains. Dry weather returns Sunday, but some lighter rain is possible Monday and again Wednesday.

&&

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

The forecast hasn't changed much this morning. Major impacts are likely with this storm system...possibly the strongest storm we've seen over the past season.

Water vapor satellite loop early this morning depicts a vigorous shortwave trough off the California coast about 700 nm west of Monterey Bay. This system is quickly digging and deepening and negatively tilting...and will form into a compact closed low this morning off the CA coast. A deep plume of tropical moisture is being drawn into this system from the Western Pacific...and satellite estimates of precipitable water are now nearly 2 inches which is about 3 x's climatology.

While light rain is moving through Southern California early this morning well out ahead of this system...the brunt of the storm will not arrive until this afternoon from the West...spreading SE this evening with periods of very heavy rainfall. Heaviest

rainfall amounts will be over northern areas with a little lower amounts over SD County. With very high atmospheric moisture in place rainfall rates of one-half to up to 1 inch per hour will be possible during the height of the rain event with highest rates along favorable SSW facing slopes. This amount of short-duration rainfall will likely lead to significant flooding issues in urbanized areas and flash flooding in the mountains.

## February 17, 2017 Exceptional Event, Imperial County

...Rainfall forecast through tonight...

ORANGE COUNTY......2.5 to 5 inches (highest totals in the Santa Ana Mountains).

SAN BERNARDINO MOUNTAINS...3 TO 8 inches (highest along SSW slopes).

RIVERSIDE COUNTY...... 2 TO 3 inches.

SAN DIEGO COUNTY......1.5 TO 2.5 inches.

UPPER AND LOWER DESERTS....0.5 to 1 inch.

Snow levels will be quite high during the heaviest precipitation, around 7000 feet, and then lowering to about 5500 feet by Saturday morning, with continued snow shower activity likely on Saturday

and Saturday night over the mountains where several inches of additional snow will be likely. Total Snowfall forecast is for 6 to 12 inches between 6000 to 7000 feet, 1 to 2 feet between 7000 to 8000 feet, with isolated amounts of 2 to 3 feet possible above 8000 feet. A few inches of snow could fall as low as 5500 feet on Saturday and Saturday night...bringing winter impacts to the mountain passes.

The period of very strong winds is most likely to occur between noon and 10 pm. Gusts of 50 to 70 mph along the coast and into the valleys and deserts will certainly be capable of significant downed trees and the potential for power outages and property damage. In the mountains and along the desert slopes, gusts could be as high as 80 to 90 mph during this time. We urge people to be extremely cautious around any downed powerlines as electrocution is a possibility if in contact with these live wires or ground cover nearby.

As quickly as this system will have blown into SoCal, it will depart by early Saturday morning, with winds greatly diminishing and scattered rain and mountain snow showers in the mountains through Saturday night, in a robust WNW flow regime.

Transitory ridging building into SoCal early next week will bring an end to the showers and a moderating period. A mid week system is now looking more like an inside slider and may not bring much precipitation this far south, so just a chance of rain in the forecast for Wednesday-Wednesday night.

&&

.AVIATION...

171030Z...SCT-BKN low clouds with bases 1500-2000 ft MSL and BKN-OVC layers AOA 10000 ft MSL becoming multiple thick BKN-OVC layers between 1000 and 25000 ft MSL by late morning. A strong storm will bring widespread +RA and very strong south winds across most areas by the early afternoon. CIGS lowering to 500 ft MSL with VIS 2SM or less in +RA/BR. -SHRA continuing overnight with some improvement in CIGS/VIS. Coastal slopes of the mtns will be obscured in clouds/precip this afternoon through at least Saturday morning.

February 17, 2017 Exceptional Event, Imperial County Southerly wind gusts of 30-50 kt are expected across the coast, valleys and deserts. 60-70 kt gusts possible over portions of the mountains. STG-SVR uddfs/llws is possible over and N, NE and E of the mountains Friday. Winds will weaken substantially tonight as the front passes.

&&

#### .MARINE...

A strong storm will generate near storm-force south winds late this morning through tonight, with strongest winds potentially touching 50 kt this evening. A couple of large west swells will occur as well, peaking at 17 feet/14 sec/270 degrees on Saturday. Large

combined seas will create hazardous seas through Sunday. A Gale Warning remains in effect this afternoon through Sunday. Periods of rain are expected at times today through Sunday, with the heaviest rain this afternoon and evening. Isolated thunderstorms are possible late this evening through Saturday.

&&

#### .BEACHES...

A large, long-period west-northwest swell from 280 degrees will create surf of 5-9 ft today. Swell and surf will build further tonight, peak Saturday at 17 ft/15 seconds/280 deg, then lower gradually on Sunday. This will result in very large and potentially damaging sets of 15 ft by late Saturday. Some low-lying coastal areas could be at risk of minor coastal flooding due to large surf and rainfall runoff. Powerful rip currents will accompany the high surf as well. A High Surf Warning remains in effect through Sunday evening. Surf will gradually lower during the day Sunday.

There is also a slight chance for thunderstorms at the beaches late this evening through Saturday.

&&

#### .SKYWARN...

Skywarn activation is requested...for this afternoon through tonight...for damaging winds, heavy rain and flooding, and heavy snow in the mountains. All spotter volunteers are requested to send in reports of severe weather via normal channels. Thanks!

&&

#### .SGX WATCHES/WARNINGS/ADVISORIES...

CA...High Wind Warning from 7 AM this morning to 2 AM PST Saturday for Apple and Lucerne Valleys-Coachella Valley-Orange County Coastal Areas-Orange County Inland Areas-San Bernardino and Riverside County Valleys-The Inland Empire-San Diego County Coastal Areas-San Diego County Deserts-San Diego County Mountains-San Diego County Valleys-San Gorgonio Pass Near Banning-Santa Ana Mountains and

## February 17, 2017 Exceptional Event, Imperial County Foothills.

Flash Flood Watch from noon PST today through Saturday afternoon for Apple and Lucerne Valleys-Coachella Valley-Orange County Coastal Areas-Orange County Inland Areas-Riverside County Mountains-San Bernardino County Mountains-San Bernardino and Riverside County Valleys-The Inland Empire-San Diego County Coastal Areas-San Diego County Deserts-San Diego County Mountains-San Diego County Valleys-San Gorgonio Pass Near Banning-Santa Ana Mountains and Foothills.

Winter Storm Warning from 7 AM this morning to 7 AM PST Saturday for Riverside County Mountains-San Bernardino County Mountains.

High Surf Warning until 10 PM PST Sunday for Orange County Coastal Areas-San Diego County Coastal Areas.

PZ...Gale Warning from 7 AM this morning to 10 PM PST Sunday for Coastal Waters from San Mateo Point to the Mexican Border and out to 30 nm-Waters from San Mateo point to the Mexican Border Extending 30 to 60 nm out including San Clemente Island.

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PUBLIC...Brotherton
AVIATION/MARINE/BEACHES...SS

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College of Ag

Department of Agronomy

#### **Department of Agronomy**

716 Farm House Ln Ames, IA 50011

akrherz@iastate.edu 515-294-5978 phone

591 WWUS75 KPSR 171134 NPWPSR

URGENT - WEATHER MESSAGE National Weather Service Phoenix AZ 434 AM MST Fri Feb 17 2017

AZZ020-021-025>027-CAZ030>033-172345/O.NEW.KPSR.WI.Y.0003.170217T2100Z-170218T0700Z/
Lower Colorado River Valley AZ-West Central DesertsYuma/Martinez Lake and Vicinity-Southwest DesertsSouthwest Maricopa County-Joshua Tree National ParkLower Colorado River Valley CA-Riverside County/Eastern DesertsImperial County-

Including the cities of Ehrenberg, Parker, Bouse, Quartzsite, Salome, Fortuna Foothills, San Luis, Somerton, Yuma, Dateland, Tacna, Wellton, Gila Bend, Cottonwood Visitor Center, Keys View, Lost Horse, Blythe, Chiriaco Summit, Desert Center, Eagle Mountain, Brawley, Calexico, El Centro, Glamis, Imperial, and The Salton Sea

434 AM MST Fri Feb 17 2017 /334 AM PST Fri Feb 17 2017/

...WIND ADVISORY IN EFFECT FROM 2 PM MST /1 PM PST/ THIS AFTERNOON TO MIDNIGHT MST /11 PM PST/ TONIGHT...

The National Weather Service in Phoenix has issued a Wind Advisory, which is in effect from 2 PM MST /1 PM PST/ this afternoon to midnight MST /11 PM PST/ tonight.

- \* AFFECTED AREA...In Arizona: Yuma, La Paz, and southwest Maricopa Counties. In California: Imperial and eastern Riverside Counties.
- \* TIMING...From mid afternoon today and continuing through this evening.
- \* WINDS...Sustained winds of 25-30 mph from the south with gusts of 40 to 50 mph.
- \* IMPACTS...Driving will be significantly more difficult due to cross-winds and areas of blowing dust causing suddenly reduced visibility. Motorists traveling east-west oriented roadways such as Interstate 10 west of Phoenix and Interstate 8 west of Gila Bend should be prepared for hazardous driving conditions.

#### 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

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#### **Department of Agronomy**

716 Farm House Ln Ames, IA 50011

akrherz@iastate.edu 515-294-5978 phone

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**Appendix A** 

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WWUS76 KSGX 171234
NPWSGX
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URGENT - WEATHER MESSAGE National Weather Service San Diego CA 434 AM PST Fri Feb 17 2017

...PACIFIC STORM SYSTEM TO BRING DAMAGING HIGH WINDS TO SOCAL...

.A strong Pacific storm system will move across Southern California today through Saturday. Winds will increase and become very strong towards midday. The strongest winds and biggest potential for damaging wnd gusts between 2 pm and Midnight.

CAZ043-048-050-057-058-060>062-065-552-554-180045-/O.CON.KSGX.HW.W.0004.170217T1500Z-170218T1000Z/ San Diego County Coastal Areas-San Bernardino and Riverside County Valleys-The Inland Empire-San Diego County Valleys-Santa Ana Mountains and Foothills-San Diego County Mountains-Apple and Lucerne Valleys-Coachella Valley-San Diego County Deserts-San Gorgonio Pass Near Banning-Orange County Coastal Areas-Orange County Inland Areas-Including the cities of...Vista...Carlsbad...Encinitas... Chula Vista...National City...San Diego...Riverside... San Bernardino...Ontario...Moreno Valley...Fontana... Rancho Cucamonga...Corona...Escondido...El Cajon...San Marcos... La Mesa...Santee...Poway...Julian...Pine Valley...Victorville... Hesperia...Apple Valley...Indio...Palm Springs...Cathedral City... Palm Desert...Palm Desert Country...La Quinta...Coachella... Borrego Springs...Banning...Desert Hot Springs... Huntington Beach...Costa Mesa...Santa Ana...Anaheim... Garden Grove...Irvine...Orange...Fullerton...Mission Viejo 434 AM PST Fri Feb 17 2017

- $\ldots$ HIGH WIND WARNING REMAINS IN EFFECT UNTIL 2 AM PST SATURDAY $\ldots$
- \* WINDS...Damaging southerly winds are expected to begin around midday and continue through this evening. Wind gusts of 50 to 60 mph are expected from the coast to the valleys and across the deserts. Isolated wind gust reports of up to 750 mph are not out of the question. Winds of this magnitude will have the potential to cause widespread downed trees and branches, and for power outages and property damage.
- \* TIMING...The strongest winds will occur today between about 2 PM and midnight.
- \* Impacts...Significant tree damage, potential for power outages and property damage. Trees and limbs downed or broken...posing a risk to life and property. Downed power lines...power outages...and property damage. Driving will be hazardous due to

February 17, 2017 Exceptional Event, Imperial County debris...including downed trees on roadways...and High- profile vehicles...such as semi trucks and toy haulers...will be prone to blowing over due to strong cross- winds...especially on eastwest oriented routes. Live downed wires should be avoided as they can cause electrocution and death. PRECAUTIONARY/PREPAREDNESS ACTIONS...

A High Wind Warning means a hazardous high wind event is expected or occurring. Sustained wind speeds of at least 40 mph or gusts of 58 mph or more can lead to property damage.

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jmb



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716 Farm House Ln Ames, IA 50011

akrherz@iastate.edu 515-294-5978 phone

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110
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NPWSGX
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URGENT - WEATHER MESSAGE...CORRECTED National Weather Service San Diego CA 520 AM PST Fri Feb 17 2017

...PACIFIC STORM SYSTEM TO BRING DAMAGING HIGH WINDS TO SOCAL...

.A strong Pacific storm system will move across Southern California today through Saturday. Winds will increase and become very strong towards midday. The strongest winds and biggest potential for damaging wnd gusts between 2 pm and Midnight.

CAZ043-048-050-057-058-060>062-065-552-554-180130-/O.COR.KSGX.HW.W.0004.170217T1500Z-170218T1000Z/ San Diego County Coastal Areas-San Bernardino and Riverside County Valleys-The Inland Empire-San Diego County Valleys-Santa Ana Mountains and Foothills-San Diego County Mountains-Apple and Lucerne Valleys-Coachella Valley-San Diego County Deserts-San Gorgonio Pass Near Banning-Orange County Coastal Areas-Orange County Inland Areas-Including the cities of...Vista...Carlsbad...Encinitas... Chula Vista...National City...San Diego...Riverside... San Bernardino...Ontario...Moreno Valley...Fontana... Rancho Cucamonga...Corona...Escondido...El Cajon...San Marcos... La Mesa...Santee...Poway...Julian...Pine Valley...Victorville... Hesperia...Apple Valley...Indio...Palm Springs...Cathedral City... Palm Desert...Palm Desert Country...La Quinta...Coachella... Borrego Springs...Banning...Desert Hot Springs... Huntington Beach...Costa Mesa...Santa Ana...Anaheim... Garden Grove...Irvine...Orange...Fullerton...Mission Viejo 520 AM PST Fri Feb 17 2017

- ...HIGH WIND WARNING REMAINS IN EFFECT UNTIL 2 AM PST SATURDAY...
- \* WINDS...Damaging southerly winds are expected to begin around midday and continue through this evening. Wind gusts of 50 to 60 mph are expected from the coast to the valleys and across the deserts. Isolated wind gust reports of up to 75 mph are not out of the question. Winds of this magnitude will have the potential to cause widespread downed trees and branches, and for power outages and property damage.
- \* TIMING...The strongest winds will occur today between about 2 PM and midnight.
- \* Impacts...Significant tree damage, potential for power outages and property damage. Trees and limbs downed or broken...posing a risk to life and property. Downed power lines...power outages...and property damage. Driving will be hazardous due to

IEM :: NPW from NWS SGX February 17, 2017 Exceptional Event, Imperial County debris...including downed trees on roadways...and High- profile Appendix A vehicles...such as semi trucks and toy haulers...will be prone to blowing over due to strong cross- winds...especially on eastwest oriented routes. Live downed wires should be avoided as they can cause electrocution and death. PRECAUTIONARY/PREPAREDNESS ACTIONS... A High Wind Warning means a hazardous high wind event is expected or occurring. Sustained wind speeds of at least 40 mph or gusts of 58 mph or more can lead to property damage. && \$\$ jmb

## **IOWA STATE UNIVERSITY**

College of Ag Department of Agronomy

#### **Department of Agronomy**

716 Farm House Ln Ames, IA 50011

akrherz@iastate.edu 515-294-5978 phone

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Appendix A

464 FXUS65 KPSR 171231 **AFDPSR** 

Area Forecast Discussion National Weather Service Phoenix AZ 531 AM MST Fri Feb 17 2017

.UPDATE...

Updated Aviation and Fire Weather sections.

&&

#### .SYNOPSIS...

A strong Pacific weather system is expected to bring periods of widespread cloudiness today, with rainfall potential first increasing over southeast California this evening and spreading eastward into western and central Arizona through Saturday. Locally heavy rainfall amounts will be possible, especially across parts of southeast California, the lower Colorado River Valley, and the higher terrain north and east of Phoenix. Clearing skies and a warming trend are expected early next week before another cold front moves through the region Thursday.

#### .DISCUSSION...

Early morning satellite imagery reveals widespread cloudiness over California spreading eastward across the Southwest, within a plume of rich Pacific moisture. Light radar echoes were noted across northern Arizona, but very little precipitation is expected with this activity, and will remain well north of the Phoenix area.

The primary feature of interest remains a seasonably strong upper trough off the California coast, which is forecast to amplify over the next 24-48 hours in association with an upper level jet. A substantial strengthening of low-level southerly winds will also occur this afternoon and evening, with 50-60 kt at 850 mb forecast to develop across the lower Colorado River Valley. Sufficient boundary-layer mixing will result in sustained surface wind speeds of at least 20-30 mph, especially across southeast California into far western Arizona. As a result, a wind advisory has been issued for most of this afternoon and evening.

Meanwhile, rainfall potential is expected to increase this evening across southeast California as a cold front accelerates eastward. Low-level forcing for ascent along the cold front may support a swath of moderate to heavy rain through late Saturday morning across Imperial and eastern Riverside counties and across the lower Colorado River Valley. Strengthening southerly upslope winds will also lead to increasing rainfall potential over the higher terrain north and east of Phoenix Saturday morning. The cold front will weaken throughout the day Saturday, but periods of moderate to heavy rainfall are forecast to occur through much of

February 17, 2017 Exceptional Event, Imperial Gounty Saturday afternoon into Sunday morning across south-central Arizona, as the upper trough begins to pivot northeastward.

Forecast storm-total rainfall amounts range from 0.75-1 inch across northern Maricopa westward into La Paz and eastern Riverside, to 1-1.5 inches with locally higher amounts possible north and east of Phoenix. The potential for flooding Saturday evening will have to be monitored, especially across terrainfavored areas. Snow levels are expected to remain high enough to result in primarily rainfall through most of the event at higher elevation areas.

The upper trough will continue to accelerate northeastward on

Sunday, with lingering chances for precipitation mainly from Phoenix eastward throughout the day. Ridging aloft will build across the region early next week and support a warming trend, before another strong cold front moves southeastward out of the Great Basin. However, moisture is expected to be quite limited with this system, so any rainfall potential should remain confined to the higher terrain north and east of Phoenix. Quasizonal flow becomes established into next weekend, as uncertainty increases with the pattern evolution potentially featuring another upper trough affecting the western U.S.

&&

.AVIATION...

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

A low pressure system centered off the California coast is spreading cloudiness over the area and even some scattered sprinkles. Strong southerly flow aloft will develop today and increase tonight ahead of an approaching cold front. By midday...easterly surface winds will become southerly and strengthen. Gusts to 25kts will be common from mid afternoon through early evening. Ceilings will remain AOA FL100 until after 06Z as clouds start to thicken and scattered showers begin developing. Winds will trend toward southeasterly during the evening.

Southeast California/Southwest Arizona including KIPL and KBLH:

A low pressure system centered off the California coast is spreading cloudiness over the area and even some scattered sprinkles. Strong southerly flow aloft will develop today and increase tonight ahead of an approaching cold front. Southerly surface winds will develop as well with gusts to 35 knots common after 21Z (less so over the Imperial Valley). The strong winds will continue through the evening. Areas of blowing dust can be expected as well with local visibilities briefly lowering below 3SM at times. Expect ceilings to remain AOA FL100 through 03Z

before dropping sharply from west to east as the front passes through. Anticipate ceilings lowering to FL050 (possibly lower) for at least a few hours along with reduced visibilities in RA.

## February 17, 2017 Exceptional Event, Imperial County

Aviation Discussion not updated for amended TAFs.

&&

.FIRE WEATHER...

Sunday through Thursday...

A low pressure system begins shifting eastward on Sunday with a significant downtrend in shower activity. Dry conditions are expected Monday and Tuesday along with a significant warming trend due to a ridge of high pressure. A low pressure system passing mainly to the north on Wednesday and Thursday will lead to somewhat cooler temperatures and locally breezy conditions. Rain

chances will be limited to the higher terrain of south-central AZ. Minimum humidities will be high on Sunday before trending downward through Thursday but remaining above 20 percent. Overnight recovery though will remain good.

&&

.SPOTTER INFORMATION STATEMENT...

Spotters should follow standard reporting procedures.

&&

.PSR WATCHES/WARNINGS/ADVISORIES...

AZ...Wind Advisory from 2 PM this afternoon to midnight MST tonight for AZZ020-021-025>027.

CA...Wind Advisory from 1 PM this afternoon to 11 PM PST this evening for CAZ030>033.

Flash Flood Watch from this evening through Saturday afternoon for CAZ030.

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\$\$

Visit us on Facebook, Twitter, and at weather.gov/phoenix

DISCUSSION...Rogers
AVIATION...AJ
FIRE WEATHER...AJ



**Appendix A** 

FXUS66 KSGX 171658 AFDSGX

Area Forecast Discussion National Weather Service San Diego CA 858 AM PST Fri Feb 17 2017

...Major Pacific storm system to greatly impact the region with damaging wind gusts and flooding this afternoon and evening...

#### .SYNOPSIS...

Significant impacts this afternoon and evening as a strong Pacific storm moves across the region. This storm will bring damaging winds and flooding to the area this afternoon and evening. Showers will continue tonight through Saturday night...with additional snow accumulation possible in the mountains. Dry weather returns Sunday, but some lighter rain is possible Monday and again Wednesday.

&&

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

We are confident that major impacts will occur with this storm system...possibly the strongest storm we've seen this winter.

Moderate to heavy rain is currently in Santa Barbara and Ventura Counties this morning. This band will gradually move east into Orange County by afternoon. Strong winds will also crank up preceding the rain band gradually during the day and become really strong along this band for the afternoon and evening. Gusts along the coast will exceed 50 mph and gusts in parts of the mountains and deserts will exceed 70 mph. This will be a widespread strong wind event! Plan for widespread urban flooding, small stream flooding in the backcountry, and particularly for burn areas. Also expect the wind to knock down trees and power lines, and the resulting damage and power outages.

Heaviest rainfall amounts will be over northern areas with a little lower amounts over SD County. With very high atmospheric moisture in place rainfall rates of one-half to up to 1 inch per hour will be possible during the height of the rain event with highest rates along favorable SSW facing slopes. This amount of short-duration rainfall will likely lead to significant flooding issues in urbanized areas and flash flooding in the mountains. Thunderstorms are remotely possible and may bring briefly intense bursts of rain.

...Rainfall forecast through tonight...

February 17, 2017 Exceptional Event, Imperial County ORANGE COUNTY...........2.5 to 5 inches (highest totals in the

Santa Ana Mountains).

IEM :: AFD from NWS SGX

SAN BERNARDINO MOUNTAINS...3 TO 8 inches (highest along SSW slopes).
RIVERSIDE COUNTY.......2 TO 3 inches.
SAN DIEGO COUNTY.........1.5 TO 2.5 inches.
UPPER AND LOWER DESERTS....0.5 to 1 inch.

Snow levels will be quite high during the heaviest precipitation, around 7000 feet, and then lowering to about 5500 feet by Saturday morning, with continued snow shower activity likely on Saturday and Saturday night over the mountains where several inches of additional snow will be likely. Total Snowfall forecast is for 6 to 12 inches between 6000 to 7000 feet, 1 to 2 feet between 7000

to 8000 feet, with isolated amounts of 2 to 3 feet possible above 8000 feet. A few inches of snow could fall as low as 5500 feet on Saturday and Saturday night...bringing winter impacts to the mountain passes.

Late tonight the winds will diminish significantly and the heavy rain will turn to showers. These showers will continue through Saturday and Saturday night.

Transitory ridging building into SoCal early next week will bring an end to the showers and a moderating period. A trough of low pressure on Wednesday could bring light precipitation.

&&

#### .AVIATION...

171645Z...Multiple OVC-BKN cloud decks within the 1500-6000 ft msl layer, isol showers and mountain obscuration of coastal slopes over and west of the mountains and mainly BKN-OVC clouds AOA 10000 ft msl and P6SM vis elsewhere through 2100 UTC. 2100-18/0600 UTC, OVC-BKN cloud decks within the 1000-20000 ft msl layer and within the 5000-20000 ft msl layer in the deserts, with widespread moderate to heavy showers moving from NW to SE across the forecast area bringing areas of vis/cigs AOB 1 sm/500 ft agl, isol thunderstorms, very strong downdraft gusts of 50+ kt and continued mountain obscuration of coastal slopes. 18/0600-1500 UTC, continued OVC-BKN cloud decks within the 1000-20000 ft msl layer and within the 5000-20000 ft msl layer in the deserts, with heavy showers becoming scattered to numerous in coverage, mountain obscuration continuing, areas of vis 2-5 sm, and a slight chance of thunderstorms continuing.

Southerly wind gusts of 30-50 kt are expected across the coast, valleys and deserts from 1800 UTC through 18/0600 UTC, with 60-70 kt gusts possible over portions of the mountains. Timing of the strongest winds: KSAN, KCRQ, KONT 2000-18/0100 UTC, and KSNA 1900-18/0100 UTC. STG-SVR uddfs/llws is likely over and N, NE and E of the mountains during that time. Winds will weaken substantially after 18/0600 UTC as the front passes.

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## February 17, 2017 Exceptional Event, Imperial County

A strong storm will generate gale to near storm-force south winds late this morning through tonight, with strongest winds potentially touching 50 kt this evening. A Gale Warning remains in effect. A couple of large west swells will occur as well, peaking at 17 feet/14 sec/270 degrees on Saturday. Although winds will weaken early Saturday, seas will still be above 10 feet, resulting in hazardous conditions for small craft continuing through Sunday. Periods of rain are expected at times today through Sunday, with the heaviest rain this afternoon and evening. Isolated thunderstorms are possible late this evening through Saturday, with the potential for waterspouts as well. A Marine Weather Statement has been issued.

&&

#### .BEACHES...

A large, long-period west-northwest swell from 280 degrees will create high surf of 5-10 ft today. Swell and surf will build further tonight, peak Saturday at 17 ft/15 seconds/280 deg, then lower gradually on Sunday. This will result in very large and potentially damaging sets of 15 ft by late Saturday. Some low-lying coastal areas could be at risk of minor coastal flooding due to large surf and rainfall runoff. Powerful rip currents will accompany the high surf as well. A High Surf Warning remains in effect through Sunday evening. Surf will gradually lower during the day Sunday.

There is also a slight chance for thunderstorms at the beaches late this evening through Saturday.

&&

#### .SKYWARN...

Skywarn activation is requested to begin at 2 pm for Orange and San Bernardino Counties. At 4 pm for Riverside and San Diego Counties. The main concerns for this afternoon through tonight are damaging winds, heavy rain and flooding, and heavy snow in the mountains. All spotter volunteers are requested to send in reports of severe weather via normal channels. Thanks!

&&

#### .SGX WATCHES/WARNINGS/ADVISORIES...

CA...High Wind Warning until 2 AM PST Saturday for Apple and Lucerne Valleys-Coachella Valley-Orange County Coastal Areas-Orange County Inland Areas-San Bernardino and Riverside County Valleys-The Inland Empire-San Diego County Coastal Areas-San Diego County Deserts-San Diego County Mountains-San Diego County Valleys-San Gorgonio Pass Near Banning-Santa Ana Mountains and Foothills.

Flash Flood Watch from noon PST today through Saturday afternoon for Apple and Lucerne Valleys-Coachella Valley-Orange County Coastal Areas-Orange County Inland Areas-Riverside County Mountains-San Bernardino County Mountains-San February 17, 2017 Exceptional Event, Imperial County
Bernardino and Riverside County Valleys-The Inland Empire-

San Diego County Coastal Areas-San Diego County Deserts-San Diego County Mountains-San Diego County Valleys-San Gorgonio Pass Near Banning-Santa Ana Mountains and Foothills.

Winter Storm Warning until 7 AM PST Saturday for Riverside County Mountains-San Bernardino County Mountains.

High Surf Warning until 10 PM PST Sunday for Orange County Coastal Areas-San Diego County Coastal Areas.

PZ...Gale Warning until 10 PM PST Sunday for Coastal Waters from San

Mateo Point to the Mexican Border and out to 30 nm-Waters from San Mateo point to the Mexican Border Extending 30 to 60 nm out including San Clemente Island.

&&

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PUBLIC...MM
AVIATION/MARINE/BEACHES...Harrison

# IOWA STATE UNIVERSITY

College of Ag

Department of Agronomy

#### **Department of Agronomy**

716 Farm House Ln Ames, IA 50011

akrherz@iastate.edu 515-294-5978 phone

Facebook
Twitter
Github

505 WWUS75 KPSR 171655 NPWPSR

URGENT - WEATHER MESSAGE National Weather Service Phoenix AZ 955 AM MST Fri Feb 17 2017

AZZ020-021-025>027-CAZ030>033-180500/O.EXT.KPSR.WI.Y.0003.170217T2100Z-170218T1000Z/
Lower Colorado River Valley AZ-West Central DesertsYuma/Martinez Lake and Vicinity-Southwest DesertsSouthwest Maricopa County-Joshua Tree National ParkLower Colorado River Valley CA-Riverside County/Eastern DesertsImperial County-

Including the cities of Ehrenberg, Parker, Bouse, Quartzsite, Salome, Fortuna Foothills, San Luis, Somerton, Yuma, Dateland, Tacna, Wellton, Gila Bend, Cottonwood Visitor Center, Keys View, Lost Horse, Blythe, Chiriaco Summit, Desert Center, Eagle Mountain, Brawley, Calexico, El Centro, Glamis, Imperial, and The Salton Sea
955 AM MST Fri Feb 17 2017 /855 AM PST Fri Feb 17 2017/

...WIND ADVISORY NOW IN EFFECT FROM 2 PM MST /1 PM PST/ THIS AFTERNOON TO 3 AM MST /2 AM PST/ SATURDAY...

- \* AFFECTED AREA...In Arizona: Yuma, La Paz, and southwest Maricopa Counties. In California: Imperial and eastern Riverside Counties.
- \* TIMING...From mid afternoon today and continuing through the early overnight hours.
- \* WINDS...Sustained winds of 25-30 mph from the south with gusts of 40 to 50 mph.
- \* IMPACTS...Driving will be significantly more difficult due to cross-winds and areas of blowing dust causing suddenly reduced visibility. Motorists traveling east-west oriented roadways such as Interstate 10 west of Phoenix and Interstate 8 west of Gila Bend should be prepared for hazardous driving conditions.

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.

**Appendix A** 

717 FXUS65 KPSR 171700 AFDPSR

Area Forecast Discussion National Weather Service Phoenix AZ 1000 AM MST Fri Feb 17 2017

#### .SYNOPSIS...

A strong Pacific weather system is expected to bring periods of widespread cloudiness today, with rainfall potential first increasing over southeast California this evening and spreading eastward into western and central Arizona through Saturday. Locally heavy rainfall amounts will be possible, especially across parts of southeast California, the lower Colorado River Valley, and the higher terrain north and east of Phoenix. Clearing skies and a warming trend are expected early next week before another cold front moves through the region Thursday.

#### &&

#### .DISCUSSION...

Latest satellite imagery shows a mature storm system off the southern California Coast. Banded precipitation is evident, which is an indication of the strong frontogenesis taking place in an area juxtaposed with ascent in the left exit region of a 150 kt jet streak.

Closer to home, latest radar imagery indicates weak returns, but with cloud bases near 10k ft, it is unlikely that any

precipitation is reaching the ground. Main focus in the short-term remains the potential for windy conditions this afternoon and evening associated with the strong low-level jet ahead of the frontal boundary across southeastern California and southwestern Arizona. The Wind Advisory that is in effect has been extended to 3am MST/2am PST. Only minor adjustments to the short-term

forecast were needed this morning. Otherwise, the forecast remains on track.

#### &&

#### .PREVIOUS DISCUSSION...

The primary feature of interest remains a seasonably strong upper trough off the California coast, which is forecast to amplify over the next 24-48 hours in association with an upper level jet. A substantial strengthening of low-level southerly winds will also occur this afternoon and evening, with 50-60 kt at 850 mb forecast to develop across the lower Colorado River Valley. Sufficient boundary-layer mixing will result in sustained surface wind speeds of at least 20-30 mph, especially across southeast California into far western Arizona. As a result, a wind advisory has been issued for most of this afternoon and evening.

## February 17, 2017 Exceptional Event, Imperial County

Meanwhile, rainfall potential is expected to increase this evening across southeast California as a cold front accelerates eastward. Low-level forcing for ascent along the cold front may support a swath of moderate to heavy rain through late Saturday morning across Imperial and eastern Riverside counties and across the lower Colorado River Valley. Strengthening southerly upslope winds will also lead to increasing rainfall potential over the higher terrain north and east of Phoenix Saturday morning. The cold front will weaken throughout the day Saturday, but periods of moderate to heavy rainfall are forecast to occur through much of Saturday afternoon into Sunday morning across south-central Arizona, as the upper trough begins to pivot northeastward.

Forecast storm-total rainfall amounts range from 0.75-1 inch across northern Maricopa westward into La Paz and eastern Riverside, to 1-1.5 inches with locally higher amounts possible north and east of Phoenix. The potential for flooding Saturday evening will have to be monitored, especially across terrainfavored areas. Snow levels are expected to remain high enough to result in primarily rainfall through most of the event at higher elevation areas.

The upper trough will continue to accelerate northeastward on Sunday, with lingering chances for precipitation mainly from Phoenix eastward throughout the day. Ridging aloft will build across the region early next week and support a warming trend, before another strong cold front moves southeastward out of the Great Basin. However, moisture is expected to be quite limited with this system, so any rainfall potential should remain confined to the higher terrain north and east of Phoenix. Quasizonal flow becomes established into next weekend, as uncertainty increases with the pattern evolution potentially featuring another upper trough affecting the western U.S.

&&

.AVIATION...

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

A low pressure system centered off the California coast is spreading cloudiness over the area and even some scattered sprinkles. Strong southerly flow aloft will develop today and increase tonight ahead of an approaching cold front. By midday...easterly surface winds will become southerly and strengthen. Gusts to 25kts will be common from mid afternoon through early evening. Ceilings will remain AOA FL100 until after 06Z as clouds start to thicken and scattered showers begin developing. Winds will trend toward southeasterly during the evening.

Southeast California/Southwest Arizona including KIPL and KBLH:

A low pressure system centered off the California coast is

February 17, 2017 Exceptional Event, Imperial County spreading cloudiness over the area and even some scattered sprinkles. Strong southerly flow aloft will develop today and increase tonight ahead of an approaching cold front. Southerly surface winds will develop as well with gusts to 35 knots common after 21Z (less so over the Imperial Valley). The strong winds will continue through the evening. Areas of blowing dust can be expected as well with local visibilities briefly lowering below 3SM at times. Expect ceilings to remain AOA FL100 through 03Z before dropping sharply from west to east as the front passes through. Anticipate ceilings lowering to FL050 (possibly lower) for at least a few hours along with reduced visibilities in RA.

IEM:: AFD from NWS PSR

Aviation Discussion not updated for amended TAFs.

&&

.FIRE WEATHER...

Sunday through Thursday...

A low pressure system begins shifting eastward on Sunday with a significant downtrend in shower activity. Dry conditions are expected Monday and Tuesday along with a significant warming trend due to a ridge of high pressure. A low pressure system passing mainly to the north on Wednesday and Thursday will lead to somewhat cooler temperatures and locally breezy conditions. Rain chances will be limited to the higher terrain of south-central AZ. Minimum humidities will be high on Sunday before trending downward through Thursday but remaining above 20 percent. Overnight recovery though will remain good.

&&

.SPOTTER INFORMATION STATEMENT...

Spotters should follow standard reporting procedures.

&&

.PSR WATCHES/WARNINGS/ADVISORIES...

AZ...Wind Advisory from 2 PM this afternoon to midnight MST tonight for AZZ020-021-025>027.

CA...Wind Advisory from 1 PM this afternoon to 11 PM PST this evening for CAZ030>033.

Flash Flood Watch from 7 PM PST this evening through Saturday afternoon for CAZ030.

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DISCUSSION...Hirsch

PREVIOUS DISCUSSION...Rogers

FXUS65 KPSR 172130 AFDPSR

Area Forecast Discussion National Weather Service Phoenix AZ 230 PM MST Fri Feb 17 2017

#### .SYNOPSIS...

A strong Pacific weather system is expected to bring periods of widespread cloudiness today, with rainfall potential first increasing over southeast California this evening and spreading eastward into western and central Arizona through Saturday. Locally heavy rainfall amounts will be possible, especially across parts of southeast California, the lower Colorado River Valley, and the higher terrain north and east of Phoenix. Clearing skies and a warming trend are expected early next week before another cold front moves through the region Thursday.

#### &&

#### .DISCUSSION...

Latest satellite imagery shows a mature storm system off the southern California Coast. Banded precipitation is evident, which is an indication of the strong frontogenesis taking place in an area juxtaposed with ascent in the left exit region of a 150 kt

jet streak. Ahead of the trough, anomalously strong southerly winds have increased to around 30 mph near Yuma, which has produced areas of blowing dust with reduced visibilities. Latest GFS forecast soundings indicate winds as strong as 50 kt at 2k ft AGL near Yuma this evening. Although these winds will not completely translate to the surface, the threat for gusts to 35 to 40 mph will continue into the early morning across southeastern California and southwestern Arizona.

Models remain in good agreement and only minor adjustments were made to the forecast through the weekend. Although the southerly trajectory of the moisture transport is not completely ideal for orographic lift Saturday, IVT magnitudes above the 99th percentile should compensate and suggest that periods of moderate to heavy rainfall will be possible across a large portion of the area.

GFS has trended somewhat drier further west near JTNP, but wetter across the foothills of the Tonto National Forest. Latest official QPF is for close to an inch in the Phoenix area and up to two inches in the higher terrain north and east of the Valley. Latest river forecasts suggest some response in the normally dry washes and streams, including Cave Creek and Sycamore Creek. Given the recent model trends, felt it was prudent to hoist a Flash Flood Watch along a line extending eastward from JTNP into southern Gila County. For the Phoenix area, latest suite of hiresolution CAMs suggests the most likely period of flooding will

February 17, 2017 Exceptional Event, Imperial County be Saturday night. Latest guidance also indicates a more abrupt drying trend Sunday and this is reflected in the forecast.

&&

#### .PREVIOUS DISCUSSION...

The primary feature of interest remains a seasonably strong upper trough off the California coast, which is forecast to amplify over the next 24-48 hours in association with an upper level jet. A substantial strengthening of low-level southerly winds will also occur this afternoon and evening, with 50-60 kt at 850 mb forecast to develop across the lower Colorado River Valley.

Sufficient boundary-layer mixing will result in sustained surface wind speeds of at least 20-30 mph, especially across southeast California into far western Arizona. As a result, a wind advisory has been issued for most of this afternoon and evening.

Meanwhile, rainfall potential is expected to increase this evening across southeast California as a cold front accelerates eastward. Low-level forcing for ascent along the cold front may support a swath of moderate to heavy rain through late Saturday morning across Imperial and eastern Riverside counties and across the lower Colorado River Valley. Strengthening southerly upslope winds will also lead to increasing rainfall potential over the higher terrain north and east of Phoenix Saturday morning. The cold front will weaken throughout the day Saturday, but periods of moderate to heavy rainfall are forecast to occur through much of Saturday afternoon into Sunday morning across south-central Arizona, as the upper trough begins to pivot northeastward.

Forecast storm-total rainfall amounts range from 0.75-1 inch across northern Maricopa westward into La Paz and eastern Riverside, to 1-1.5 inches with locally higher amounts possible north and east of Phoenix. The potential for flooding Saturday evening will have to be monitored, especially across terrainfavored areas. Snow levels are expected to remain high enough to result in primarily rainfall through most of the event at higher elevation areas.

The upper trough will continue to accelerate northeastward on Sunday, with lingering chances for precipitation mainly from Phoenix eastward throughout the day. Ridging aloft will build across the region early next week and support a warming trend, before another strong cold front moves southeastward out of the Great Basin. However, moisture is expected to be quite limited with this system, so any rainfall potential should remain confined to the higher terrain north and east of Phoenix. Quasizonal flow becomes established into next weekend, as uncertainty increases with the pattern evolution potentially featuring another upper trough affecting the western U.S.

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### February 17, 2017 Exceptional Event, Imperial County

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

Our next system is currently moving onshore and spreading mid-level clouds over our area. South-east winds this afternoon could gust up to 25kts before weakening late this evening. However, winds 1kft above the surface are still expected to be around 20 kts which could allow gusts to mix down to the surface even in the night. Since confidence is low, have left these gusts out of the TAF for now. South-east winds pick up again early tomorrow morning and showers will develop over TAF sites. There may be a break in the activity late Saturday morning before heavier showers move in during the evening. At this point, ceilings are expected to remain aoa 6kft

through late Saturday morning. By Saturday afternoon/evening winds are expected to weaken although heavier showers will move in which could push ceilings and visibility down to MVFR criteria.

Southeast California/Southwest Arizona including KIPL and KBLH:

Strong southerly winds will continue ahead of our next system this evening and could temporarily bring blowing dust and reduced visibility. Winds will weaken late tonight/early tomorrow as precipitation moves into the area. Showers early tomorrow morning could be heavy at times and will likely bring reduced visibility and possibly MVFR ceilings. By late morning, showers will become more widespread with ceilings and visibility expected to return back to VFR conditions.

Aviation Discussion not updated for amended TAFs.

&&

.FIRE WEATHER...

Sunday through Thursday...

A low pressure system begins shifting eastward on Sunday with a significant downtrend in shower activity. Dry conditions are expected Monday and Tuesday along with a significant warming trend due to a ridge of high pressure. A low pressure system passing mainly to the north on Wednesday and Thursday will lead to somewhat cooler temperatures and locally breezy conditions. Rain chances will be limited to the higher terrain of south-central AZ. Minimum humidities will be high on Sunday before trending downward through Thursday but remaining above 20 percent. Overnight recovery though will remain good.

&&

.SPOTTER INFORMATION STATEMENT...

Spotters should follow standard reporting procedures.

&&

.PSR WATCHES/WARNINGS/ADVISORIES...

AZ...Wind Advisory until 3 AM MST Saturday for AZZ020-021-025>027.

IEM :: AFD from NWS PSR

### February 17, 2017 Exceptional Event, Imperial County

Appendix A

Flash Flood Watch from Saturday morning through Sunday morning for AZZ022>024.

Flash Flood Watch from 11 PM MST this evening through Saturday afternoon for AZZ020-021.

CA...Wind Advisory until 2 AM PST Saturday for CAZ030>033.

Flash Flood Watch from 10 PM PST this evening through Saturday afternoon for CAZ031-032.

Flash Flood Watch from 7 PM PST this evening through late tonight for CAZ030.

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DISCUSSION...Hirsch
PREVIOUS DISCUSSION...Rogers
AVIATION...Wilson
FIRE WEATHER...AJ

# IOWA STATE UNIVERSITY

College of Ag

Department of Agronomy

### **Department of Agronomy**

716 Farm House Ln Ames, IA 50011

akrherz@iastate.edu 515-294-5978 phone

Facebook
Twitter

601 FXUS66 KSGX 172241 AFDSGX

Area Forecast Discussion National Weather Service San Diego CA 241 PM PST Fri Feb 17 2017

...Major Pacific storm system to greatly impact the region with damaging wind gusts and flooding this afternoon and evening...

.SYNOPSIS...

A powerful Pacific storm will bring bring damaging winds, flooding and heavy mountain snow to the region this afternoon and evening. Winds will decrease as heavy rain turns to showers tonight. Showers will continue tonight through Sunday morning. Dry weather returns Sunday, but a small chance of light rain is forecast Monday through Wednesday.

&&

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

We are confident that major impacts will occur with this storm system...possibly the strongest storm we've seen this winter.

A band of moderate to heavy rain is currently moving into Orange and San Bernardino Counties this afternoon. Already strong winds will increase even more as the rain band gradually tracks through the region this afternoon and evening. Gusts along the coast will exceed 50 mph and gusts in parts of the mountains and deserts will exceed 70 mph. This will be a widespread strong wind event! Plan

for widespread urban flooding, small stream flooding in the backcountry, and particularly for burn areas. Also expect the wind to knock down trees and power lines, and the resulting damage and power outages.

Heaviest rainfall amounts will be over Orange and San Bernardino Counties. With very high atmospheric moisture in place rainfall rates of one-half to up to 1 inch per hour will be possible during the height of the rain event with highest rates along favorable SSW facing slopes. This amount of short-duration rainfall will likely lead to significant flooding issues in urbanized areas and flash flooding in the mountains. Thunderstorms are remotely possible and may bring briefly intense bursts of rain.

...Rainfall forecast through tonight...

ORANGE COUNTY......2.5 to 4.5 inches (highest totals in the Santa Ana Mountains).

SAN BERNARDINO MOUNTAINS...3 TO 8 inches (highest along SSW slopes).

February 17, 2017 Exceptional Event, Imperial County RIVERSIDE COUNTY......1.5 TO 3 inches.

Snow levels will be around 6500 feet during the heaviest precipitation, and then lower to about 5000 feet Saturday morning. Snow showers will continue Saturday and Saturday night. Total Snowfall forecast is for 4 to 12 inches between 6000 to 7000 feet, 1 to 2 feet between 7000 to 8000 feet, with isolated amounts of 2 to 3 feet possible above 8000 feet. An inch or two could fall as low as 5000 feet...bringing winter impacts to the mountain passes.

After about 9 pm the winds will quickly diminish and the heavy rain will turn to showers. Showers and isolated thunderstorms will continue through Saturday and Saturday night.

A ridge of high pressure will bring dry weather Sunday, but our region will remain on the southern fringes of a stream of moisture for several days. That will mean small chances of light showers Monday through Wednesday. A trough of low pressure on Wednesday will bring more winds. Dry weather appears to follow Thursday heading into next weekend.

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#### .SGX WATCHES/WARNINGS/ADVISORIES...

CA...High Wind Warning until 2 AM PST Saturday for Apple and Lucerne Valleys-Coachella Valley-Orange County Coastal Areas-Orange County Inland Areas-San Bernardino and Riverside County Valleys-The Inland Empire-San Diego County Coastal Areas-San Diego County Deserts-San Diego County Mountains-San Diego County Valleys-San Gorgonio Pass Near Banning-Santa Ana Mountains and Foothills.

Flash Flood Watch through Saturday afternoon for Apple and Lucerne Valleys-Coachella Valley-Orange County Coastal Areas-Orange County Inland Areas-Riverside County Mountains-San Bernardino County Mountains-San Bernardino and Riverside County Valleys-The Inland Empire-San Diego County Coastal Areas-San Diego County Deserts-San Diego County Mountains-San Diego County Valleys-San Gorgonio Pass Near Banning-Santa Ana Mountains and Foothills.

Winter Storm Warning until 7 AM PST Saturday for Riverside County Mountains-San Bernardino County Mountains.

High Surf Warning until 10 PM PST Sunday for Orange County Coastal Areas-San Diego County Coastal Areas.

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

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February 17, 2017 Exceptional Event, Imperial County
                                                                     Appendix A
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150 WWUS76 KSGX 172253 **NPWSGX** 

URGENT - WEATHER MESSAGE National Weather Service San Diego CA 253 PM PST Fri Feb 17 2017

...PACIFIC STORM SYSTEM TO BRING DAMAGING HIGH WINDS TO SOCAL...

.A powerful Pacific storm system will continue to bring very strong and damaging winds to all areas through this evening. Winds will diminish rapidly after 9 pm tonight.

CAZ043-048-050-057-058-060>062-065-552-554-180600-/O.CON.KSGX.HW.W.0004.000000T0000Z-170218T1000Z/ San Diego County Coastal Areas-San Bernardino and Riverside County Valleys-The Inland Empire-San Diego County Valleys-Santa Ana Mountains and Foothills-San Diego County Mountains-Apple and Lucerne Valleys-Coachella Valley-San Diego County Deserts-San Gorgonio Pass Near Banning-Orange County Coastal Areas-Orange County Inland Areas-Including the cities of...Vista...Carlsbad...Encinitas... Chula Vista...National City...San Diego...Riverside... San Bernardino...Ontario...Moreno Valley...Fontana... Rancho Cucamonga...Corona...Escondido...El Cajon...San Marcos... La Mesa...Santee...Poway...Julian...Pine Valley...Victorville... Hesperia...Apple Valley...Indio...Palm Springs...Cathedral City... Palm Desert...Palm Desert Country...La Quinta...Coachella... Borrego Springs...Banning...Desert Hot Springs... Huntington Beach...Costa Mesa...Santa Ana...Anaheim... Garden Grove...Irvine...Orange...Fullerton...Mission Viejo 253 PM PST Fri Feb 17 2017

...HIGH WIND WARNING REMAINS IN EFFECT UNTIL 2 AM PST SATURDAY...

- \* WINDS...Damaging southerly winds will continue in all areas through 9 pm. Wind gusts of 50 to 60 mph are expected from the coast to the valleys and across the deserts. Isolated wind gusts over 75 mph are expected in parts of the mountains.
- \* TIMING...The strongest winds will occur today through 9 pm.
- \* Impacts...Widespread damage caused by downed trees and power lines. Expect power outages and property damage. Driving will be hazardous due to debris...including downed trees on roadways... and High-profile vehicles will be prone to blowing over due to strong cross-winds...especially on east-west oriented routes. Live downed wires should be avoided as they can cause electrocution and death.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

**Appendix A** 

### **February 17, 2017 Exceptional Event, Imperial County**

A High Wind Warning means a hazardous high wind event is expected or occurring. Sustained wind speeds of at least 40 mph or gusts of 58 mph or more can lead to property damage.

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# IOWA STATE UNIVERSITY

College of Ag

**Department of Agronomy** 

### **Department of Agronomy**

716 Farm House Ln Ames, IA 50011

akrherz@iastate.edu 515-294-5978 phone

Faceboo	k
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**Privacy Policy** 

T 359 FXUS65 KPSR 180331 AFDPSR

Area Forecast Discussion National Weather Service Phoenix AZ 830 PM MST Fri Feb 17 2017

#### .SYNOPSIS...

A strong Pacific weather system is expected to bring periods of widespread cloudiness today, with rainfall potential first increasing over southeast California this evening and spreading eastward into western and central Arizona through Saturday. Locally heavy rainfall amounts will be possible, especially across parts of southeast California, the lower Colorado River Valley, and the higher terrain north and east of Phoenix. Clearing skies and a warming trend are expected early next week before another cold front moves through the region Thursday.

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A powerful Pacific storm continued to develop just off the southern CA and northern Baja coasts this evening. During its 24 hour developmental phase, a tremendous amount of ocean moisture was swept into the frontal zone which resulted in heavy rain along the coast and coastal mountains. At 8 pm mst, a north south oriented frontal band with heavy rain was noted along the San Diego coast. As the cold front pushes east tonight, rain will develop over our portions of southeast CA and the Colorado River Valley, perhaps after 2 am mst. At the same time, increasing mid cloud and jetstream difluence should also develop a few showers toward morning over and adjacent to Phoenix.

The cold front will likely move across the Colorado River around 4 am, then move into Phoenix around 5 pm with periods of heavy rain.

Strong 35 to 55 mph 850 mb south winds will lead to appreciable upslope rainfall.

Strong surface winds in the 30 and 40 mph range were still blowing along portions southeast CA and southwest AZ at 8 pm mst. A wind advisory remains posted until 3 am.

So far forecasts look fairly good, slowly introducing rain into the forecast area late tonight, then spreading it east throughout the day Saturday, becoming heavy at times. A flash flood watch remains posted for portions of our forecast area between southeast CA to south central AZ, including Phoenix, from late tonight in southeast CA, through Saturday afternoon in south central AZ.

## February 17, 2017 Exceptional Event, Imperial County PREVIOUS DISCUSSION...230 PM MST...

Latest satellite imagery shows a mature storm system off the southern California Coast. Banded precipitation is evident, which is an indication of the strong frontogenesis taking place in an area juxtaposed with ascent in the left exit region of a 150 kt jet streak. Ahead of the trough, anomalously strong southerly winds have increased to around 30 mph near Yuma, which has produced areas of blowing dust with reduced visibilities. Latest GFS forecast soundings indicate winds as strong as 50 kt at 2k ft AGL near Yuma this evening. Although these winds will not completely translate to the surface, the threat for gusts to 35 to 40 mph will continue into the early morning across southeastern California and southwestern Arizona.

Models remain in good agreement and only minor adjustments were made to the forecast through the weekend. Although the southerly trajectory of the moisture transport is not completely ideal for orographic lift Saturday, IVT magnitudes above the 99th percentile should compensate and suggest that periods of moderate to heavy rainfall will be possible across a large portion of the area.

GFS has trended somewhat drier further west near JTNP, but wetter across the foothills of the Tonto National Forest. Latest official QPF is for close to an inch in the Phoenix area and up to two inches in the higher terrain north and east of the Valley. Latest river forecasts suggest some response in the normally dry washes and streams, including Cave Creek and Sycamore Creek. Given the recent model trends, felt it was prudent to hoist a Flash Flood Watch along a line extending eastward from JTNP into southern Gila County. For the Phoenix area, latest suite of hiresolution CAMs suggests the most likely period of flooding will be Saturday night. Latest guidance also indicates a more abrupt drying trend Sunday and this is reflected in the forecast.

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The primary feature of interest remains a seasonably strong upper trough off the California coast, which is forecast to amplify over the next 24-48 hours in association with an upper level jet. A substantial strengthening of low-level southerly winds will also occur this afternoon and evening, with 50-60 kt at 850 mb forecast to develop across the lower Colorado River Valley. Sufficient boundary-layer mixing will result in sustained surface wind speeds of at least 20-30 mph, especially across southeast California into far western Arizona. As a result, a wind advisory has been issued for most of this afternoon and evening.

Meanwhile, rainfall potential is expected to increase this evening across southeast California as a cold front accelerates eastward. Low-level forcing for ascent along the cold front may support a

February 17, 2017 Exceptional Event, Imperial County swath of moderate to heavy rain through late Saturday morning across Imperial and eastern Riverside counties and across the lower Colorado River Valley. Strengthening southerly upslope winds will also lead to increasing rainfall potential over the higher terrain north and east of Phoenix Saturday morning. The cold front will weaken throughout the day Saturday, but periods of moderate to heavy rainfall are forecast to occur through much of Saturday afternoon into Sunday morning across south-central Arizona, as the upper trough begins to pivot northeastward.

Forecast storm-total rainfall amounts range from 0.75-1 inch across northern Maricopa westward into La Paz and eastern Riverside, to 1-1.5 inches with locally higher amounts possible

north and east of Phoenix. The potential for flooding Saturday evening will have to be monitored, especially across terrain-favored areas. Snow levels are expected to remain high enough to result in primarily rainfall through most of the event at higher elevation areas.

The upper trough will continue to accelerate northeastward on Sunday, with lingering chances for precipitation mainly from Phoenix eastward throughout the day. Ridging aloft will build across the region early next week and support a warming trend, before another strong cold front moves southeastward out of the Great Basin. However, moisture is expected to be quite limited with this system, so any rainfall potential should remain confined to the higher terrain north and east of Phoenix. Quasizonal flow becomes established into next weekend, as uncertainty increases with the pattern evolution potentially featuring another upper trough affecting the western U.S.

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.AVIATION...

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

A strong cold front will approach the area with a frontal passage around 23z Sat. In the interim, clouds slowly thickening and lowering, becoming bkn060 by 10 or 11z Sat with a few rain showers. As the cold front approaches Phoenix Saturday, and after 20z, clouds will lower to between 2-4 thsd agl with periods of heavy rain.

Southeast California/Southwest Arizona including KIPL and KBLH:

A strong cold front will approach the area with a frontal passage around 12z Sat. Strong low level wind shear between 04z and 09z Sat. Otherwise, clouds slowly thickening and lowering, becoming bkn/ovc 2-4 thsd agl between 08z and 15z Sat with periods of heavy rain. After 15z, cloud bases lifting to bkn 5-6 thsd agl with a few rain showers.

Aviation Discussion not updated for amended TAFs.

&&

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Sunday through Thursday...

A low pressure system begins shifting eastward on Sunday with a significant downtrend in shower activity. Dry conditions are expected Monday and Tuesday along with a significant warming trend due to a ridge of high pressure. A low pressure system passing mainly to the north on Wednesday and Thursday will lead to somewhat cooler temperatures and locally breezy conditions. Rain chances will be limited to the higher terrain of south-central AZ. Minimum humidities will be high on Sunday before trending downward through Thursday but remaining above 20 percent. Overnight

recovery though will remain good.

&&

.SPOTTER INFORMATION STATEMENT...

Spotters should follow standard reporting procedures.

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.PSR WATCHES/WARNINGS/ADVISORIES...

AZ...Wind Advisory until 3 AM MST Saturday for AZZ020-021-025>027.

Flash Flood Watch from Saturday morning through Sunday morning for AZZ022>024.

Flash Flood Watch from 11 PM MST this evening through Saturday afternoon for AZZ020-021.

CA...Wind Advisory until 2 AM PST Saturday for CAZ030>033.

Flash Flood Watch from 10 PM PST this evening through Saturday afternoon for CAZ031-032.

Flash Flood Watch from 7 PM PST this evening through late tonight for CAZ030.

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DISCUSSION...Vasquez/Hirsch/Rogers AVIATION...Vasquez FIRE WEATHER...AJ

508 FXUS65 KPSR 180431 AFDPSR

Area Forecast Discussion National Weather Service Phoenix AZ 830 PM MST Fri Feb 17 2017

.Updated...Wind advisory canceled for the remainder of tonight.

&&

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&&

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AZ...Flash Flood Watch from Saturday morning through Sunday morning for AZZ022>024.

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DISCUSSION...Vasquez/Hirsch/Rogers AVIATION...Vasquez FIRE WEATHER...AJ

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WWUS76 KSGX 180523

**NPWSGX** 

URGENT - WEATHER MESSAGE National Weather Service San Diego CA 923 PM PST Fri Feb 17 2017

...HIGH WIND WARNING CANCELLED...

.Winds continue to weaken overnight.

CAZ043-048-050-057-058-060>062-065-552-554-180630-

/O.CAN.KSGX.HW.W.0004.000000T0000Z-170218T1000Z/

San Diego County Coastal Areas-

San Bernardino and Riverside County Valleys-The Inland Empire-

San Diego County Valleys-Santa Ana Mountains and Foothills-

San Diego County Mountains-Apple and Lucerne Valleys-

Coachella Valley-San Diego County Deserts-

San Gorgonio Pass Near Banning-Orange County Coastal Areas-

Orange County Inland Areas-

923 PM PST Fri Feb 17 2017

...HIGH WIND WARNING IS CANCELLED...

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

Wind speeds have decreased to below warning levels and will continue to weaken overnight.

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College of Ag

**Department of Agronomy** 

### **Department of Agronomy**

716 Farm House Ln Ames, IA 50011

akrherz@iastate.edu

515-294-5978 phone

NPWPSR

Appendix A

## February 17, 2017 Exceptional Event, Imperial County

116 WWUS75 KPSR 180429

URGENT - WEATHER MESSAGE
National Weather Service Phoenix AZ

929 PM MST Fri Feb 17 2017

AZZ020-021-025>027-CAZ030>033-180530/O.CAN.KPSR.WI.Y.0003.000000T0000Z-170218T1000Z/
Lower Colorado River Valley AZ-West Central DesertsYuma/Martinez Lake and Vicinity-Southwest DesertsSouthwest Maricopa County-Joshua Tree National ParkLower Colorado River Valley CA-Riverside County/Eastern DesertsImperial County-

Including the cities of Ehrenberg, Parker, Bouse, Quartzsite, Salome, Fortuna Foothills, San Luis, Somerton, Yuma, Dateland, Tacna, Wellton, Gila Bend, Cottonwood Visitor Center, Keys View, Lost Horse, Blythe, Chiriaco Summit, Desert Center, Eagle Mountain, Brawley, Calexico, El Centro, Glamis, Imperial, and The Salton Sea
929 PM MST Fri Feb 17 2017 /829 PM PST Fri Feb 17 2017/

...WIND ADVISORY IS CANCELLED...

The National Weather Service in Phoenix has cancelled the Wind Advisory.

The wind advisory posted for a large area of southeast California and southwest Arizona, including the Colorado River was canceled at 925 pm mst.

Strong Friday afternoon and evening south winds in the 30 to 45 mph range, ahead of an approaching cold front, had diminished into the breezy category at 925 pm mst. A cold front is expected to move through the Colorado River area around 5 am, so breezy south winds in the 15 to 25 mph range will continue most of the night.

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College of Ag

938 FXUS65 KPSR 180431 CCA AFDPSR

Area Forecast Discussion National Weather Service Phoenix AZ 930 PM MST Fri Feb 17 2017

.Updated...Wind advisory canceled for the remainder of tonight.

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Flash Flood Watch from 11 PM MST this evening through Saturday afternoon for AZZ020-021.

CA...Flash Flood Watch from 10 PM PST this evening through Saturday afternoon for CAZ031-032.

Flash Flood Watch from 7 PM PST this evening through late tonight for CAZ030.

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DISCUSSION...Vasquez/Hirsch/Rogers AVIATION...Vasquez FIRE WEATHER...AJ

917 FXUS66 KSGX 180546 AFDSGX

Area Forecast Discussion National Weather Service San Diego CA 946 PM PST Fri Feb 17 2017

...A strong winter storm will continue to impact the region through Saturday...

#### .SYNOPSIS...

A strong Pacific storm will continue to bring gusty winds, flooding and mountain snow to the region through tonight. Winds will decrease as heavy rain turns to showers tonight. Showers will continue tonight through Sunday morning. Dry weather returns Sunday, but a small chance of light rain is possible Monday through Wednesday.

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

A winter storm continues to bring areas of light to moderate rainfall across the region this evening with snow above 6500 feet in the local mountains.

Earlier this afternoon/evening, the storm brought strong winds and widespread heavy rainfall to much of the region. Wind gusts reached 84 mph at Burns Canyon, 70 mph at Crestline Ridge, 67 mph at Laguna Beach, 60 mph at San Clemente Pier and 59 mph at North Island.

Greatest rainfall totals so far:
MT BALDY VILLAGE 3.96 inches
CRESTLINE RIDGE 3.68 inches
LAGUNA HILLS 2.73 inches
LAKE ARROWHEAD NW 2.34 inches
LOWER SILVERADO CYN 2.13 inches

The worst of the storm is over but areas of rain with embedded showers will continue into early Sunday morning as the low slowly moves southeast.

#### From previous discussion...

A ridge of high pressure will bring dry weather Sunday, but our region will remain on the southern fringes of a stream of moisture for several days. That will mean small chances of light showers Monday through Wednesday. A trough of low pressure on Wednesday will bring more winds. Dry weather appears to follow Thursday heading into next weekend.

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#### .AVIATION...

180530Z...Variable BKN-OVC cloud bases will continue overnight as occasional rain continues with snow above 6000 ft MSL. Bases will mostly be 3000-5000 ft MSL with local bases 500-1000 ft MSL west of the mountains and local vis 2-4 SM in precip and fog. Higher terrain will be obscured in clouds/fog/precip. Winds will continue to diminish overnight with local gusts 25-35 kt over higher terrain through 15Z Sat. Showers will gradually become more scattered after 12Z Sat, then more isolated for 22Z Sat.

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#### .MARINE...

Winds have diminished considerably this evening and will be variable mostly below 20 knots the rest of tonight and Saturday morning. Winds will increase from the northwest after the center of the low pressure moves east of the coastal waters late Saturday and Saturday evening, but most gusts will be 30 knots or less. The large west swell will continue, peaking at 17 feet/14 sec/270 degrees late Saturday, with hazardous conditions for small craft continuing through Sunday. Isolated thunderstorms are possible Saturday, with a small potential of waterspouts. A Marine Weather Statement has been issued for the thunderstorm potential, and a Small Craft Advisory continues through Sunday for the combination of the high seas and moderately strong winds.

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#### .BEACHES...

Swell and surf will build further tonight and Saturday and peak late Saturday at 17 ft/14 seconds/270 deg, then lower gradually on Sunday. This will result in very large and potentially damaging sets of 15 ft by late Saturday. Some low-lying coastal areas could be at risk of minor coastal flooding due to large surf and rainfall runoff, though the high tides of only 4 to 4.5 feet will mitigate this slightly. Powerful rip currents will accompany the high surf as well. A High Surf Warning remains in effect through Sunday evening. Surf will gradually lower during the day Sunday.

There is also a slight chance for thunderstorms at the beaches Saturday.

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#### .SKYWARN...

Skywarn activation is requested.

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## .SGX WATCHES/WARNINGS/ADVISORIES...

CA...Flash Flood Watch through Saturday afternoon for Apple and Lucerne Valleys-Coachella Valley-Orange County Coastal

February 17, 2017 Exceptional Event, Imperial County
Areas-Orange County Inland Areas-Riverside County Mountains-

San Bernardino County Mountains-San Bernardino and Riverside County Valleys-The Inland Empire-San Diego County Coastal Areas-San Diego County Deserts-San Diego County Mountains-San Diego County Valleys-San Gorgonio Pass Near Banning-Santa Ana Mountains and Foothills.

Winter Storm Warning until 7 AM PST Saturday for Riverside County Mountains-San Bernardino County Mountains.

High Surf Warning until 10 PM PST Sunday for Orange County Coastal Areas-San Diego County Coastal Areas.

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

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PUBLIC...PG
AVIATION/MARINE/BEACHES...Maxwell



College of Ag

Department of Agronomy

#### **Department of Agronomy**

716 Farm House Ln Ames, IA 50011

akrherz@iastate.edu 515-294-5978 phone

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