

Panhandle Groundwater Conservation District

SEEDING REPORT - August 01, 2024

SYNOPTIC/MESOSCALE CONDITIONS:

Another very hot day was seen yesterday with Amarillo reaching 106°F, breaking the previous record. Hot conditions look to continue as the upper-level ridge maintains its influence. Within this flow, however, a cold front that is currently within the district will allow for the possibility of showers and thunderstorms to form this afternoon. With better forcing than previous days, this chance appears higher (20-40%). The most likely areas to see rainfall look to be those in the center of the district closer to the boundary with timing after 20Z. Enough instability could lead to strong to low-end severe storms with high winds and small hail the main threats. Due to low shear, storms will have a difficult time in becoming organized. Thus, activity will be short-lived and weaken towards sunset.

LIFTING MECHANISM:

Front

THERMODYNAMIC INDICES (12Z NAM valid at 21Z KAMA)

Table with 4 columns: Parameter, Value 1, Parameter, Value 2. Rows include Freezing Level, -5°C Height, -10°C Height, Cloud Base, Warm Cloud Depth, Cloud Base Temp, and Precipitable Water.

Seeding Operations:

Weak, isolated convection developed in eastern Roberts County around 21Z, so N5359P was put on alert at 2109Z. The aircraft then became airborne at 2130Z en route to this area. After takeoff, a strong cell formed near Miami. Therefore, the pilot was directed to this target where seeding commenced at 2204Z with two AgI bips. 12 additional AgI bips and two hygros were used over the next 14 minutes in this cloud. Another cloud was reported forming a few miles to the west (not on radar), so the aircraft investigated and found good, workable conditions. Thus, three AgI bips and one hygro were used. This cell further developed and became strong, so the pilot retreated to the west. Both seeded cells quickly developed after seeding took place. At 2321Z, the aircraft RTB due to low fuel and landed at TDW at 2335Z.

WATCHES/WARNINGS:

None

SEEDED CELL IDS:

Table with 7 columns containing seeded cell IDs: 68/318, 68/402, 68/479, 68/545, 68/572, 68/602, 68/634

FLIGHT INFORMATION:

Table with 4 columns: TIME (Z), Plane, Flare Location, County. Rows list flight times from 2130 to 2215, plane N5359P, flare locations, and county Roberts.

<b>2218</b>	<b>N5359P</b>	47° @ 60 nm	<b>Roberts</b>
<b>2248</b>	<b>N5359P</b>	43° @ 54 nm	<b>Roberts</b>
<b>2249</b>	<b>N5359P</b>	42° @ 53 nm	<b>Roberts</b>
<b>2252</b>	<b>N5359P</b>	43° @ 52 nm	<b>Roberts</b>
<b>2321</b>	<b>N5359P</b>	RTB	

**Panhandle Groundwater Conservation District**

**SEEDING REPORT - August 03, 2024**

**SYNOPTIC/MESOSCALE CONDITIONS:**

We finally had a sub-100-degree day yesterday as Amarillo topped out at 99°F. Post frontal conditions and the weakening of the upper-level ridge will allow for temperatures to remain in the 90s through tomorrow before 100s return for Monday. Along with the "cooler" weather, a shortwave will dive south into the region for this afternoon. Enough forcing and instability will allow for isolated convection across portions of the district with the highest chances in the central and western areas (Potter, Carson, Gray). There will also be a low-end threat for severe weather as MLCAPE is progged to be 500-1,500 J/kg, along with marginal shear (30-35 kts), especially from Potter County and westward. Additionally, moisture is greatest here (dewpoints near 60°F in western Potter County compared to low 50s farther east). Decent shear will lead to somewhat longer lasting activity than previous systems. As far as timing, convection looks to develop between 20Z-22Z.

**LIFTING MECHANISM:**

Shortwave

**THERMODYNAMIC INDICES (12Z NAM valid at 21Z KAMA)**

Freezing Level (m,MSL)	4785	LCL (m,MSL)	3993
-5°C Height (m,MSL)	5700	CCL (m,MSL)	3810
-10°C Height (m,MSL)	6492	ML CAPE (J/kg)	584
Cloud Base (m,MSL)	3505	SB CAPE (J/kg)	1076
Warm Cloud Depth (m)	1280	CINH (J/kg)	0
Cloud Base Temp (°C)	7	LI (°C)	-5
Precipitable Water (in)	1.33	Shear 0-6 km	34

**Seeding Operations:**

A cu field formed over western Potter County around 20Z with the aircraft being put on alert at this time. At 2052Z, the first TITAN cell developed over the Potter/Oldham County line. Then, at 2117Z, N5359P became airborne from TDW en route to western Potter County. On approach, the cell maintained its southward motion, hugging the district line. Additionally, the cell began to weaken. Therefore, the aircraft was redirected to eastern Hutchinson/western Roberts County where a line was moving in from the north. The pilot reconned this line for about 30 minutes before a workable base with inflow was found. Over far eastern Hutchinson County, two AgI bips were used at 2234Z. This line started to quickly move south so the pilot continued seeding along the shelf cloud as the line progressed with a total of 24 AgI bips and two hygos being used between 2234Z-2259Z. During this time (2240Z), the pilot reported rain falling out of the seeded base. Due to enough material being used and no other workable targets, N5359P RTB at 2319Z and landed at TDW at 2332Z. The pilot was instructed to refuel and reflare for a possible relaunch, but an OFB approaching TDW, and the quick southward movement of the system prevented another flight.

**WATCHES/WARNINGS:**

None

**SEEDED CELL IDS:**

334/969	334/1007	334/1032	334/1043	334/1064
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**FLIGHT INFORMATION:**

<b>TIME (Z)</b>	<b>Plane</b>	<b>Flare Location</b>	<b>County</b>
2117	N5359P	IN AIR	
2234	N5359P	35° @ 46 nm	Hutchinson
2235	N5359P	35° @ 47 nm	Roberts
2237	N5359P	34° @ 47 nm	Roberts
2239	N5359P	38° @ 49 nm	Roberts
2241	N5359P	37° @ 45 nm	Roberts
2243	N5359P	37° @ 45 nm	Roberts
2245	N5359P	39° @ 45 nm	Roberts
2248	N5359P	39° @ 34 nm	Roberts
2249	N5359P	38° @ 41 nm	Hutchinson
2253	N5359P	43° @ 42 nm	Roberts
2257	N5359P	49° @ 45 nm	Roberts
2259	N5359P	53° @ 45 nm	Gray
2319	N5359P	RTB	

Panhandle Groundwater Conservation District

SEEDING REPORT - August 10, 2024

**SYNOPTIC/MESOSCALE CONDITIONS:**

Due to the heavy rain overnight, several flash flood warnings and flood advisories are/were in effect across the district, mainly in the central areas. A lot of this activity has moved out of the district; however, a few showers are still occurring east of Pampa. This activity is weakening and will continue to do so over the next hour or so. To the west, near Dumas, another area of stratiform light rain is seen. This is also showing signs of weakening and shrinking in coverage. Satellite shows the showers under a large shield of cloud cover. This will likely limit chances of additional showers and storms from developing this afternoon, especially if clouds do not clear out. If clearing can take place, we may see a few showers or storms developing, but this chance is low. It is more likely that the next batch of rain will not come until later tonight.

**LIFTING MECHANISM:**

Shortwave

**THERMODYNAMIC INDICES (12Z NAM valid at 21Z KAMA)**

Freezing Level (m,MSL)	4755	LCL (m,MSL)	2560
-5°C Height (m,MSL)	6005	CCL (m,MSL)	3261
-10°C Height (m,MSL)	6797	ML CAPE (J/kg)	360
Cloud Base (m,MSL)	2724	SB CAPE (J/kg)	934
Warm Cloud Depth (m)	2031	CINH (J/kg)	-39
Cloud Base Temp (°C)	12	LI(°C)	-3
Precipitable Water (in)	1.52	Shear 0-6 km	12

**Seeding Operations:**

N5359P was put on alert at 2150Z due to a cluster of cells approaching Potter County from the west. The aircraft then became airborne from TDW at 2245Z. On the way to the target in central Potter County, no rain free bases were found. At 23Z, the aircraft was redirected to the east of Amarillo where additional development was seen. Seeding commenced here at 2314Z with two AgI bips. Twelve more AgI bips were lit within this area (two separate clouds) over the next 24 minutes. Once the second seeded base lost its inflow, the aircraft was directed to the north where four AgI bips and one hygro were lit between 2348Z-2351Z. After seeding here, a shelf cloud was found south of White Deer where inflow was reported to be over 1000 fpm. Eighteen total AgI bips and three hygros were used along the shelf cloud as it progressed to the east. At 0101Z, N5359P RTB due to low fuel and landed at TDW at 0140Z.

**WATCHES/WARNINGS:**

None

**SEEDED CELL IDS:**

2010	2025	1976/2036	1976/2045	1976/2052	1976/2054	1976/2058
1976/2061	1976/2063	1976/2066	1976/2073	1976/2080	1976/2084	

**FLIGHT INFORMATION:**

TIME (Z)	Plane	Flare Location	County
2245	N5359P	IN AIR	

2314	N5359P	83° @ 8 nm	Carson
2316	N5359P	71° @ 9 nm	Carson
2317	N5359P	73° @ 10 nm	Carson
2319	N5359P	72° @ 11 nm	Carson
2321	N5359P	73° @ 12 nm	Carson
2326	N5359P	69° @ 13 nm	Carson
2338	N5359P	60° @ 12 nm	Carson
2348	N5359P	32° @ 27 nm	Carson
2351	N5359P	33° @ 28 nm	Carson
0020	N5359P	61° @ 21 nm	Carson
0021	N5359P	64° @ 23 nm	Carson
0028	N5359P	68° @ 26 nm	Carson
0034	N5359P	60° @ 32 nm	Carson
0042	N5359P	67° @ 33 nm	Gray
0047	N5359P	60° @ 38 nm	Gray
0049	N5359P	65° @ 37 nm	Gray
0101	N5359P	RTB	

**Panhandle Groundwater Conservation District**

**SEEDING REPORT - August 11, 2024**

**SYNOPTIC/MESOSCALE CONDITIONS:**

The area remains on the northern fringe of the mid-level high. This will allow for another disturbance to move through late this afternoon. Much like the previous systems, the best opportunity for rainfall will exist from I-40 northward, mainly after 23Z. Both mesoscale models show CAPE on the order of 500-1,000 J/kg, and with a modest cap in place, the overall widespread nature of activity will be limited. Shear looks better with nearly 25 knts which could lead to a strong storm or two, but severe weather is not anticipated. However, Pwat values will be approaching 1.40 inches so there will be plenty of moisture available for storms to produce localized heavy rain. In summary, isolated storms can be expected late this afternoon into the evening hours with heavy downpours in spots. Most areas will stay dry.

**LIFTING MECHANISM:**

Shortwave

**THERMODYNAMIC INDICES (12Z NAM valid at 21Z KAMA)**

Freezing Level (m,MSL)	4999	LCL (m,MSL)	3962
-5°C Height (m,MSL)	5791	CCL (m,MSL)	3992
-10°C Height (m,MSL)	6797	ML CAPE (J/kg)	991
Cloud Base (m,MSL)	3305	SB CAPE (J/kg)	1667
Warm Cloud Depth (m)	1694	CINH (J/kg)	0
Cloud Base Temp (°C)	10	LI (°C)	-6
Precipitable Water (in)	1.34	Shear 0-6 km	21

**Seeding Operations:**

**FIRST FLIGHT-** A cu field started forming after 20Z with weak echoes showing up on radar over Armstrong and Carson Counties. Therefore, N5359P was put on alert at 2024Z. The aircraft then became airborne at 2105Z. Once the aircraft came under a base near Claude, two AgI bips were lit at 2123Z. A total of six AgI bips were used in this cloud. The pilot then flew to the east to investigate the broken line of cells where a continuous base was found. Twenty bips and one hygro were used north of Clarendon between 2140Z-2159Z. After seeding in this area, the pilot was directed to the west where seeding commenced at 2206Z as the aircraft crossed the Armstrong County line. Fourteen AgI bips were used along the line of cells that formed to the west of the original line. The aircraft then noticed development in southern Carson County where six bips and one hygro were lit. N5359P RTB at 2241Z due to running out of flares and landed at TDW at 2305Z. The pilot was instructed to refuel and reflare for a potential relaunch.

**SECOND FLIGHT-** N5359P became airborne for the second flight at 0020Z en route to Armstrong County. At 0106Z, the pilot came under a workable base near Claude where two AgI bips were lit. Eleven additional AgI bips and one hygro were then used over southwest Armstrong County. N5359P RTB at 0140Z due to sunset approaching and landed at TDW at 0155Z.

**WATCHES/WARNINGS:**

None

**SEEDED CELL IDS:**

882/938	882/985	882/1000	882/1008	882/1017	882/1027	882/1023
882/1031	882/1043	882/1028	882/1016	1117/1137		

**FLIGHT INFORMATION:**

<b>TIME (Z)</b>	<b>Plane</b>	<b>Flare Location</b>	<b>County</b>
2105	N5359P	IN AIR	
2123	N5359P	100° @ 23 nm	Armstrong
2125	N5359P	93° @ 24 nm	Armstrong
2127	N5359P	97° @ 27 nm	Armstrong
2140	N5359P	90° @ 32 nm	Donley
2143	N5359P	97° @ 38 nm	Donley
2144	N5359P	95° @ 40 nm	Donley
2146	N5359P	94° @ 39 nm	Donley
2147	N5359P	95° @ 42 nm	Donley
2148	N5359P	94° @ 45 nm	Donley
2150	N5359P	97° @ 42 nm	Donley
2153	N5359P	99° @ 41 nm	Donley
2155	N5359P	97° @ 41 nm	Donley
2157	N5359P	99° @ 42 nm	Donley
2159	N5359P	98° @ 42 nm	Donley
2206	N5359P	112° @ 36 nm	Donley
2208	N5359P	114° @ 33 nm	Armstrong
2209	N5359P	118° @ 30 nm	Armstrong
2211	N5359P	121° @ 27 nm	Armstrong
2216	N5359P	127° @ 22 nm	Armstrong
2217	N5359P	127° @ 24 nm	Armstrong
2223	N5359P	99° @ 17 nm	Armstrong
2236	N5359P	84° @ 14 nm	Carson
2237	N5359P	78° @ 17 nm	Carson
2239	N5359P	80° @ 16 nm	Carson
2241	N5359P	RTB	
0020	N5359P	IN AIR	
0106	N5359P	111° @ 21 nm	Armstrong
0131	N5359P	143° @ 27 nm	Armstrong
0134	N5359P	147° @ 27 nm	Armstrong
0136	N5359P	138° @ 25 nm	Armstrong
0137	N5359P	138° @ 26 nm	Armstrong
0139	N5359P	141° @ 25 nm	Armstrong
0140	N5359P	135° @ 23 nm	Armstrong
0141	N5359P	RTB	



**Panhandle Groundwater Conservation District**

**SEEDING REPORT - August 14, 2024**

**SYNOPTIC/MESOSCALE CONDITIONS:**

The upper-level ridge moves father east for today with the center near the MS/AL border. This is due to a negatively tilted trough that will migrate through the Plains with the southern portion extending into the Panhandle. Come this afternoon, convection is expected to form along the boundary somewhere in the central portion of the district with timing after 21Z. Due to decent instability (MLCAPE near 1,000 J/kg), a few strong to low-end severe storms may be possible. Low shear will likely keep storms from becoming too strong and somewhat short-lived with activity weakening as sunset approaches. The best chances of rainfall look to be in our central and eastern counties (east of Carson County).

**LIFTING MECHANISM:**

Shortwave

**THERMODYNAMIC INDICES (12Z NAM valid at 21Z KAMA)**

Freezing Level (m,MSL)	4999	LCL (m,MSL)	3962
-5°C Height (m,MSL)	5913	CCL (m,MSL)	3749
-10°C Height (m,MSL)	6797	ML CAPE (J/kg)	1170
Cloud Base (m,MSL)	3469	SB CAPE (J/kg)	1732
Warm Cloud Depth (m)	1530	CINH (J/kg)	0
Cloud Base Temp (°C)	9	LI(°C)	-4
Precipitable Water (in)	1.46	Shear 0-6 km	14

**Seeding Operations:**

A line of weak convection started developing along a boundary over northwest Potter County around 19Z. Therefore, N5359P was put on alert at 1902Z and became airborne from TDW at 1950Z. Further development was seen by the pilot southeast of the original line (not on radar) on approach. Seeding started here at 2020Z with two AgI bips (out of hygros). Twenty-one additional bips were lit over the next 30 minutes. During this period, convection quickly intensified with several TITAN cells showing up on radar. The pilot also reported that rain was developing in the seeding location at 2028Z. After seeding this area was finished, the pilot was directed to Armstrong County where seeding commenced with two AgI bips at 2126Z. A total of 12 AgI bips were used within two clouds near Claude between 2126Z-2145Z. The aircraft was then directed to the Skellytown area where 15 AgI bips were used between 2156Z-2206Z. After all the AgI bips were out, the pilot RTB at 2209Z to refuel and reflare for a possible relaunch with N5359P landing at TDW at 2230Z. The pilot became airborne for a second flight at 2345Z but RTB shortly after due to weakening of activity and landed back at TDW at 2345Z.

**WATCHES/WARNINGS:**

None

**SEEDED CELL IDS:**

0/27	0/31	0/32	0/33	0/34	0/30	0/39
20/82	20/139	20/194	20/205			

**FLIGHT INFORMATION:**

<b>TIME (Z)</b>	<b>Plane</b>	<b>Flare Location</b>	<b>County</b>
1950	N5359P	IN AIR	
2020	N5359P	335° @ 15 nm	Potter
2022	N5359P	344° @ 15 nm	Potter
2025	N5359P	344° @ 15 nm	Potter
2029	N5359P	345° @ 15 nm	Potter
2034	N5359P	347° @ 14 nm	Potter
2036	N5359P	356° @ 16 nm	Potter
2041	N5359P	349° @ 14 nm	Potter
2045	N5359P	324° @ 13 nm	Potter
2046	N5359P	327° @ 15 nm	Potter
2048	N5359P	326° @ 14 nm	Potter
2050	N5359P	327° @ 15 nm	Potter
2126	N5359P	122° @ 20 nm	Armstrong
2129	N5359P	123° @ 20 nm	Armstrong
2131	N5359P	121° @ 19 nm	Armstrong
2140	N5359P	123° @ 11 nm	Armstrong
2142	N5359P	122° @ 12 nm	Armstrong
2145	N5359P	96° @ 12 nm	Armstrong
2156	N5359P	44° @ 32 nm	Carson
2158	N5359P	43° @ 34 nm	Carson
2159	N5359P	43° @ 34 nm	Carson
2201	N5359P	45° @ 34 nm	Carson
2203	N5359P	46° @ 35 nm	Carson
2205	N5359P	47° @ 33 nm	Carson
2206	N5359P	52° @ 30 nm	Carson
2209	N5359P	RTB	

**Panhandle Groundwater Conservation District**

**SEEDING REPORT - August 15, 2024**

**SYNOPTIC/MESOSCALE CONDITIONS:**

The upper-level ridge has moved to the east as a trough has moved in behind it. This trough brought scattered showers and thunderstorms to much of the district yesterday afternoon and into the late evening hours. In addition, a cold front migrated in during the overnight with it bisecting the district as of 12Z. Convection is expected to develop along and south of the front during the afternoon, so where this boundary ends up will be crucial to what areas see rainfall. Models do not have this front moving much more with its placement somewhere close to I-40. Therefore, the best chance of convection appears to be from a line from Claude to Pampa and to the southeast with timing after 20Z. Instability looks better than yesterday, so there remains a marginal risk of severe weather, but this possibility is rather low due to weak wind shear. However, strong wind gusts and small hail cannot be ruled out with the stronger storms.

**LIFTING MECHANISM:**

Front

**THERMODYNAMIC INDICES (12Z NAM valid at 21Z KAMA)**

Freezing Level (m,MSL)	5060	LCL (m,MSL)	3505
-5°C Height (m,MSL)	6096	CCL (m,MSL)	3566
-10°C Height (m,MSL)	6797	ML CAPE (J/kg)	2101
Cloud Base (m,MSL)	3181	SB CAPE (J/kg)	2702
Warm Cloud Depth (m)	1879	CINH (J/kg)	0
Cloud Base Temp (°C)	11	LI (°C)	-6
Precipitable Water (in)	1.16	Shear 0-6 km	16

**Seeding Operations:**

A cu field formed around 19Z with a lone cell developing in southeast Armstrong County at 20Z. Therefore, N5359P was put on alert at 1942Z and became airborne from TDW at 2035Z. At 2058Z, the aircraft started seeding this cell with two AgI bips. Twenty-four additional AgI bips were then lit over southern Donley County within three clouds. After these were seeded, the aircraft was directed back to Armstrong County, but no workable bases were found. Another cell in Donley County was investigated before N5359P RTB at 2251Z and landed at TDW at 2320Z.

**WATCHES/WARNINGS:**

None

**SEEDED CELL IDS:**

223	223/311	223/328	223/360	223/368	223/378	223/395
223/416	223/429	223/442				

**FLIGHT INFORMATION:**

TIME (Z)	Plane	Flare Location	County
2035	N5359P	IN AIR	
2058	N5359P	123° @ 32 nm	Armstrong
2112	N5359P	95° @ 52 nm	Donley
2122	N5359P	113° @ 47 nm	Donley
2123	N5359P	111° @ 48 nm	Donley

<b>2125</b>	<b>N5359P</b>	112° @ 49 nm	<b>Donley</b>
<b>2126</b>	<b>N5359P</b>	110° @ 49 nm	<b>Donley</b>
<b>2128</b>	<b>N5359P</b>	112° @ 48 nm	<b>Donley</b>
<b>2129</b>	<b>N5359P</b>	110° @ 48 nm	<b>Donley</b>
<b>2131</b>	<b>N5359P</b>	112° @ 48 nm	<b>Donley</b>
<b>2133</b>	<b>N5359P</b>	109° @ 49 nm	<b>Donley</b>
<b>2155</b>	<b>N5359P</b>	109° @ 52 nm	<b>Donley</b>
<b>2156</b>	<b>N5359P</b>	109° @ 51 nm	<b>Donley</b>
<b>2158</b>	<b>N5359P</b>	108° @ 51 nm	<b>Donley</b>
<b>2251</b>	<b>N5359P</b>	RTB	

Panhandle Groundwater Conservation District

SEEDING REPORT - August 16, 2024

SYNOPTIC/MESOSCALE CONDITIONS:

With the ridge expanding into the region, heights will rise today with highs warmer than previous days. Temperatures will exceed the 100-degree mark areawide with Palo Duro approaching 110°F. Therefore, a heat advisory has been issued for the canyon, as well as Armstrong and Donley Counties. For this afternoon, a shortwave will ride the northern fringe of the ridge south into the Panhandle. Due to strong insolation, isolated showers and storms are expected to develop after 20Z. It is possible a few of these storms may become strong with the best chance of a severe storm over the northeastern half of the district where instability is greatest. Activity will then weaken and dissipate close to sunset as the atmosphere becomes more stable.

LIFTING MECHANISM:

Shortwave

THERMODYNAMIC INDICES (12Z NAM valid at 21Z KAMA)

Table with 4 columns: Parameter, Value 1, Value 2, Value 3. Rows include Freezing Level, -5°C Height, -10°C Height, Cloud Base, Warm Cloud Depth, Cloud Base Temp, and Precipitable Water.

Seeding Operations:

First Flight- A line of cells formed west of Potter County at 19Z with this line extending northeast into the district by 1920Z. Therefore, N5359P was put on alert at 1935Z and became airborne from TDW at 2018Z. On approach to central Potter County, the pilot reported bases near 14 kft. The pilot was then directed towards Groom where bases were lower at 13 kft. Good inflow was also found so two AgI bips were lit at 2205Z. A total of 10 AgI bips were used between 2205Z-2214Z. At 2219Z, the pilot RTB due to low fuel and was instructed to refuel and reflare for a possible relaunch. N5359P then landed at TDW at 2235Z.

Second Flight- N5359P became airborne for the second flight at 2317Z en route to Donley County where a good, workable base was found west of McLean. Here, two AgI bips were lit. Six additional bips and one hygro were used over the next eight minutes. The aircraft was then directed to northern Wheeler County where a strong cell was moving in from the north. Seeding commenced on arrival with 16 AgI bips and two hygros. Inflow during this period increased to over 3,000 fpm. At 0035Z, N5359P RTB due to no targets left within the district and landed at TDW at 0115Z.

WATCHES/WARNINGS:

None

SEEDED CELL IDS:

Table with 7 columns of seeded cell IDs: 118/137, 300, 300/476, 637, 637/950, 782/952, 782/999, 782/1023, 782/1054, 782/1066, 782/1106.

**FLIGHT INFORMATION:**

<b>TIME (Z)</b>	<b>Plane</b>	<b>Flare Location</b>	<b>County</b>
2018	N5359P	IN AIR	
2205	N5359P	67° @ 31 nm	Carson
2209	N5359P	67° @ 33 nm	Gray
2210	N5359P	68° @ 33 nm	Gray
2211	N5359P	68° @ 33 nm	Gray
2214	N5359P	68° @ 33 nm	Gray
2219	N5359P	RTB	
2317	N5359P	IN AIR	
2346	N5359P	91° @ 48 nm	Donley
2348	N5359P	88° @ 50 nm	Donley
2349	N5359P	92° @ 49 nm	Donley
2354	N5359P	90° @ 51 nm	Donley
0012	N5359P	69° @ 77 nm	Wheeler
0016	N5359P	66° @ 78 nm	Wheeler
0017	N5359P	65° @ 76 nm	Wheeler
0019	N5359P	65° @ 79 nm	Wheeler
0020	N5359P	65° @ 76 nm	Wheeler
0023	N5359P	66° @ 77 nm	Wheeler
0028	N5359P	64° @ 70 nm	Wheeler
0031	N5359P	64° @ 71 nm	Wheeler
2251	N5359P	RTB	

**Panhandle Groundwater Conservation District**

**SEEDING REPORT - August 25, 2024**

**SYNOPTIC/MESOSCALE CONDITIONS:**

The upper-level ridge moves slightly to the east for today with the center over eastern Oklahoma, but its influence still extends well to the west into the region. Therefore, another day with temperatures approaching 100°F is likely, although this is a few degrees cooler than previous days. Yesterday, Amarillo reached a high of 105°F, breaking the daily record for the fifth day in a row. Also, this marks the ninth consecutive day of 100+ degree days, breaking the all-time record. In addition to the heat, a slight chance of showers and storms will exist as a convergence zone forms over the northern part of the district due to a shortwave progressing through to the north and a leeward low-level trough east of the Rockies. As the convective temperature is reached, scattered airmass showers and storms may develop, but limited moisture (dewpoints near 50°F), CAPE (approximately 500 J/kg), and shear (less than 10 kts), will lead to short-lived activity, much like what we have been seeing. As sunset approaches, activity will gradually weaken and dissipate. The most likely areas to see convection look to be in our northern and western counties (Roberts, Carson, Potter). The "cooler" air will give way to lower bases with the CCL around 13.5 kft, making ops more possible.

**LIFTING MECHANISM:**

Shortwave

**THERMODYNAMIC INDICES (12Z NAM valid at 21Z KAMA)**

Freezing Level (m,MSL)	4877	LCL (m,MSL)	4572
-5°C Height (m,MSL)	5486	CCL (m,MSL)	4450
-10°C Height (m,MSL)	6187	ML CAPE (J/kg)	454
Cloud Base (m,MSL)	3871	SB CAPE (J/kg)	867
Warm Cloud Depth (m)	1006	CINH (J/kg)	0
Cloud Base Temp (°C)	7	LI (°C)	-5
Precipitable Water (in)	1.12	Shear 0-6 km	7

**Seeding Operations:**

Convection developed west of Claude shortly before 20Z with activity quickly becoming more widespread. Therefore, N5359P was put on alert at 1958Z and became airborne from TDW at 2059Z en route to Panhandle. As the aircraft approached the target, a workable base was found on the southeastern side of the cell where six AgI bips were lit between 2110Z-2127Z. It was decided to low dose seed because of the pulse nature of activity. Additional cells were investigated, but no seedable conditions were found. The aircraft then RTB at 2250Z due to weakening of cells and activity near the airport. N5359P landed at TDW at 2305Z.

**WATCHES/WARNINGS:**

None

**SEEDED CELL IDS:**

191/307	191/616	191/834
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**FLIGHT INFORMATION:**

TIME (Z)	Plane	Flare Location	County
2049	N5359P	IN AIR	

<b>2110</b>	<b>N5359P</b>	67° @ 18 nm	<b>Carson</b>
<b>2112</b>	<b>N5359P</b>	59° @ 18 nm	<b>Carson</b>
<b>2127</b>	<b>N5359P</b>	57° @ 19 nm	<b>Carson</b>
<b>2250</b>	<b>N5359P</b>	RTB	



Panhandle Groundwater Conservation District

SEEDING REPORT - August 29, 2024

SYNOPTIC/MESOSCALE CONDITIONS:

A strong low pressure system will move through southern Saskatchewan with a trailing cold front extending south into New Mexico. As this front starts to approach the Panhandle, moisture will be advected northwards with dew points reaching the lower 60s and Pwat values close to 1.5 inches. Heading into the afternoon hours, convection is expected to develop along and ahead of the front. As far as timing, isolated showers and storms may form as early as 19Z over the western areas (Potter). However, the best chance of convection will arrive along the front this evening after sunset. There may be enough instability for a few strong to severe storms, mainly northwest of the district. Due to most activity not entering until after sunset, the atmosphere will become more stable with less of a chance of strong storms.

LIFTING MECHANISM:

Front

THERMODYNAMIC INDICES (12Z NAM valid at 21Z KAMA)

Table with 4 columns: Parameter, Value 1, Value 2, Value 3. Rows include Freezing Level, -5°C Height, -10°C Height, Cloud Base, Warm Cloud Depth, Cloud Base Temp, and Precipitable Water.

Seeding Operations:

First Flight- A broken line of cells developed from Dumas southward around 18Z so N5359P was put on alert at 1823Z. Activity then merged into a line and approached the airport. Therefore, it was decided to delay takeoff until conditions improved over TDW. At 1940Z, the aircraft became airborne from TDW to northwest Carson County. The pilot found a good, workable base at 1957Z when 2 AgI bips were used. Activity then weakened so the aircraft RTB at 2016Z and landed at TDW at 2030Z. The pilot was instructed to remain on standby in case additional activity developed.

Second Flight- Additional cells then developed in southeast Armstrong County. Therefore, N5359P was launched at 2116Z and became airborne from TDW at 2120Z. At 2148Z, the pilot came under a rain free base that was just showing up on radar near Clarendon. Two AgI bips were lit at this time with four more AgI bips being lit over the next three minutes. One hygro was also lit at 2156Z. This cell quickly strengthened before weakening. This area then weakened so N5359P RTB 2235Z and landed at TDW at 2250Z.

WATCHES/WARNINGS:

None

SEEDED CELL IDS:

Table with 3 columns containing cell IDs: 108/344, 108/399, 851

FLIGHT INFORMATION:

Table with 4 columns: TIME (Z), Plane, Flare Location, County

1940	N5359P	IN AIR	
1957	N5359P	17° @ 21 nm	Carson
2016	N5359P	RTB	
2120	N5359P	IN AIR	
2148	N5359P	108° @ 40 nm	Donley
2149	N5359P	111° @ 42 nm	Donley
2151	N5359P	111° @ 42 nm	Donley
2156	N5359P	108° @ 42 nm	Donley
2235	N5359P	RTB	