

Panhandle Groundwater Conservation District

SEEDING REPORT - September 5, 2024

SYNOPTIC/MESOSCALE CONDITIONS:

A large synoptic trough is moving through central Canada with a cold front trailing southwest all the way into the Texas Panhandle. This front will be the focal point for a few showers and thunderstorms as we head into the afternoon. Overall dynamics will be lacking with this system as precipitation is expected to be post frontal. MLCAPE values look to be less than 500 J/kg with shear near 25 kts. In addition, Pwat will be meager with values around an inch, although moisture does increase through the evening and into the overnight hours. Therefore, only isolated, light activity is anticipated. The best chances of convection will likely remain west of the district closer to a shortwave where better forcing resides.

LIFTING MECHANISM:

Front

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

Freezing Level (m,MSL)	4633	LCL (m,MSL)	3231
-5°C Height (m,MSL)	5395	CCL (m,MSL)	3048
-10°C Height (m,MSL)	6005	ML CAPE (J/kg)	408
Cloud Base (m,MSL)	2783	SB CAPE (J/kg)	672
Warm Cloud Depth (m)	1850	CINH (J/kg)	0
Cloud Base Temp (°C)	8	LI(°C)	-4
Precipitable Water (in)	1.16	Shear 0-6 km	29

Seeding Operations:

As daytime heating commenced across the district, weak convection started to develop just north of Wheeler County. A few of these cells then became stronger, longer lived, and moved southward into the district. Therefore, N5359P was put on alert at 2107Z and became airborne from TDW at 22Z. On approach, the targeted cell progressed south and out of the district, so the aircraft was redirected to Clarendon where two AgI bips were lit. Another area of interest was then seen west of this location near the Donley/Armstrong County border. A good, workable base was quickly found where three AgI bips and one hygro were lit at 2307Z. Then, at 2317Z, the pilot reported that rain was falling out of the seeded area. A few miles to the southwest, a new target was discovered where six AgI bips were lit between 2319Z-2326Z. Due to the cell closing in on the district border, the aircraft was redirected to the north of Clarendon where two AgI bips were lit at 2338Z. The last cell that was seeded was northeast of Groom at 0030Z with two AgI bips. No other seedable targets were then seen across the district, so N5359P RTB at 0045Z and landed at TDW at 01Z.

WATCHES/WARNINGS:

None

SEEDED CELL IDS:

398	439	460
-----	-----	-----

FLIGHT INFORMATION:

TIME (Z)	Plane	Flare Location	County
2200	N5359P	IN AIR	

2255	N5359P	102° @ 43 nm	Donley
2307	N5359P	113° @ 34 nm	Armstrong
2319	N5359P	123° @ 36 nm	Armstrong
2323	N5359P	127° @ 33 nm	Armstrong
2326	N5359P	123° @ 27 nm	Armstrong
2338	N5359P	94° @ 33 nm	Donley
0030	N5359P	71° @ 36 nm	Gray
2235	N5359P	RTB	

Panhandle Groundwater Conservation District

SEEDING REPORT - September 14, 2024

SYNOPTIC/MESOSCALE CONDITIONS:

High pressure continues to build over the Panhandle with temperatures approaching the triple digit mark once again. At the surface, a trough will move through during the afternoon which may give way to a few showers and storms over the area as there will be enough moisture and instability in place, although only modest amounts. Shear looks to be on the low side which should limit the organization of cells. Therefore, activity will likely remain short-lived and non-severe. As far as timing is concerned, isolated activity could develop as early as 19Z as readings approach the convective temperature. The best chance of rainfall appears to be over the eastern half of the district where the better forcing will be located.

LIFTING MECHANISM:

Surface Trough

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

Freezing Level (m,MSL)	4633	LCL (m,MSL)	4420
-5°C Height (m,MSL)	5212	CCL (m,MSL)	4359
-10°C Height (m,MSL)	5700	ML CAPE (J/kg)	616
Cloud Base (m,MSL)	3396	SB CAPE (J/kg)	982
Warm Cloud Depth (m)	1237	CINH (J/kg)	0
Cloud Base Temp (°C)	9	LI(°C)	-6
Precipitable Water (in)	0.89	Shear 0-6 km	16

Seeding Operations:

Flight 1- Convection developed around 19Z over southern Armstrong County so N5359P was put on alert at 1906Z. At 1940Z, the aircraft was airborne from TDW en route to this area; however, several OFBs initially prevented seeding. Therefore, the aircraft was redirected towards White Deer where seeding started with two AgI bips at 2027Z. Two more AgI bips were then lit at 2029Z. After seeding here, the aircraft flew back to the south, but no suitable targets were found. At 2115Z, the aircraft was directed to Roberts County where convection was quickly forming. Seeding commenced over northwest Roberts County with two AgI bips at 2134Z. Eight additional AgI bips were used over the next seven minutes. The aircraft then RTB at 2146Z due to fuel and landed at TDW at 2210Z. The pilot was instructed to refuel for a potential relaunch as activity remained within the district.

Flight 2- N5359P became airborne from TDW at 2310Z en route to northern Wheeler County where seeding started at 2359Z near the Mobeetie area. 14 total AgI bips and one hygro were used between 2359Z-0010Z. The aircraft was then redirected towards Lefors at 0011Z to investigate another target, but this cell weakened on approach. Therefore, N5359P RTB at 0020 due to sunset and landed at TDW at 0040Z.

WATCHES/WARNINGS:

None

SEEDED CELL IDS:

68/130	68/389	68/414	68/452	68/474	501/702	501/727
501/736	501/763					

FLIGHT INFORMATION:

TIME (Z)	Plane	Flare Location	County
1940	N5359P	IN AIR	
2027	N5359P	51° @ 23 nm	Carson
2029	N5359P	51° @ 25 nm	Carson
2134	N5359P	34° @ 53 nm	Roberts
2135	N5359P	35° @ 54 nm	Roberts
2137	N5359P	33° @ 53 nm	Roberts
2139	N5359P	34° @ 55 nm	Roberts
2141	N5359P	31° @ 50 nm	Roberts
2146	N5359P	RTB	
2310	N5359P	IN AIR	
2359	N5359P	65° @ 67 nm	Roberts
0000	N5359P	65° @ 68 nm	Roberts
0002	N5359P	64° @ 67 nm	Roberts
0004	N5359P	66° @ 68 nm	Roberts
0006	N5359P	66° @ 69 nm	Roberts
0008	N5359P	66° @ 73 nm	Roberts
0010	N5359P	65° @ 69 nm	Roberts
0020	N5359P	RTB	

Panhandle Groundwater Conservation District

SEEDING REPORT - September 18, 2024

SYNOPTIC/MESOSCALE CONDITIONS:

The country is characterized by two pronounced troughs over the Mid Atlantic and over the West/Northwest. Between these two, a ridge of high pressure extends from southern Texas north into Minnesota with the center over Mexico. One of the upper-level lows embedded in the flow will continue to move east of the Dakotas through the afternoon. This will bring a surface trough into the Panhandle which will set the stage for showers and thunderstorms. As daytime heating commences, activity will develop after 3 pm over the central portions of the district and then move east. It is likely that they will be isolated at first and then grow upscale into a line. Early on, storms will have a large hail threat with more of a wind threat once merge into a line. Also, there may be a low tornado threat initially as 0-6 km bulk shear is forecast to be near 35 kts, along with MLCAPE of 1,500 J/kg.

LIFTING MECHANISM:

Surface Trough

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

Freezing Level (m,MSL)	4877	LCL (m,MSL)	3414
-5°C Height (m,MSL)	5913	CCL (m,MSL)	3322
-10°C Height (m,MSL)	6706	ML CAPE (J/kg)	1316
Cloud Base (m,MSL)		SB CAPE (J/kg)	1698
Warm Cloud Depth (m)		CINH (J/kg)	0
Cloud Base Temp (°C)		LI (°C)	-5
Precipitable Water (in)	1.14	Shear 0-6 km	32

Seeding Operations:

Weak activity developed near Groom after 22Z. Therefore, N5359P was put on alert and launched at 2255Z. However, on approach, the targeted cell east of Groom showed signs of weakening. The pilot continued to recon this area as it was reported that there may be a workable base. At 2345Z, the pilot found a base with inflow in excess of 600 fpm. Four bips were lit at this time with another four at 00Z. Initially, the cell weakened to the point that it was no longer a TITAN cell, but after seeding (at 0012Z), the cell restrengthened and became a TITAN cell once again. Two more bips and one hygro were then used at 0017Z. The seeded cell continued to strengthen as it moved to the east towards Mobeetie. Due to sunset approaching, N5359P RTB at 0026Z and landed at TDW at 0055Z.

WATCHES/WARNINGS:

None

SEEDED CELL IDS:

59

FLIGHT INFORMATION:

TIME (Z)	Plane	Flare Location	County
2305	N5359P	IN AIR	
2345	N5359P	74° @ 45 nm	Gray
0000	N5359P	71° @ 47 nm	Gray
0017	N5359P	69° @ 49 nm	Gray
0026	N5359P	RTB	

