



FPAW Spring 2024

Perspectives on Aviation Weather Information and Education Gaps

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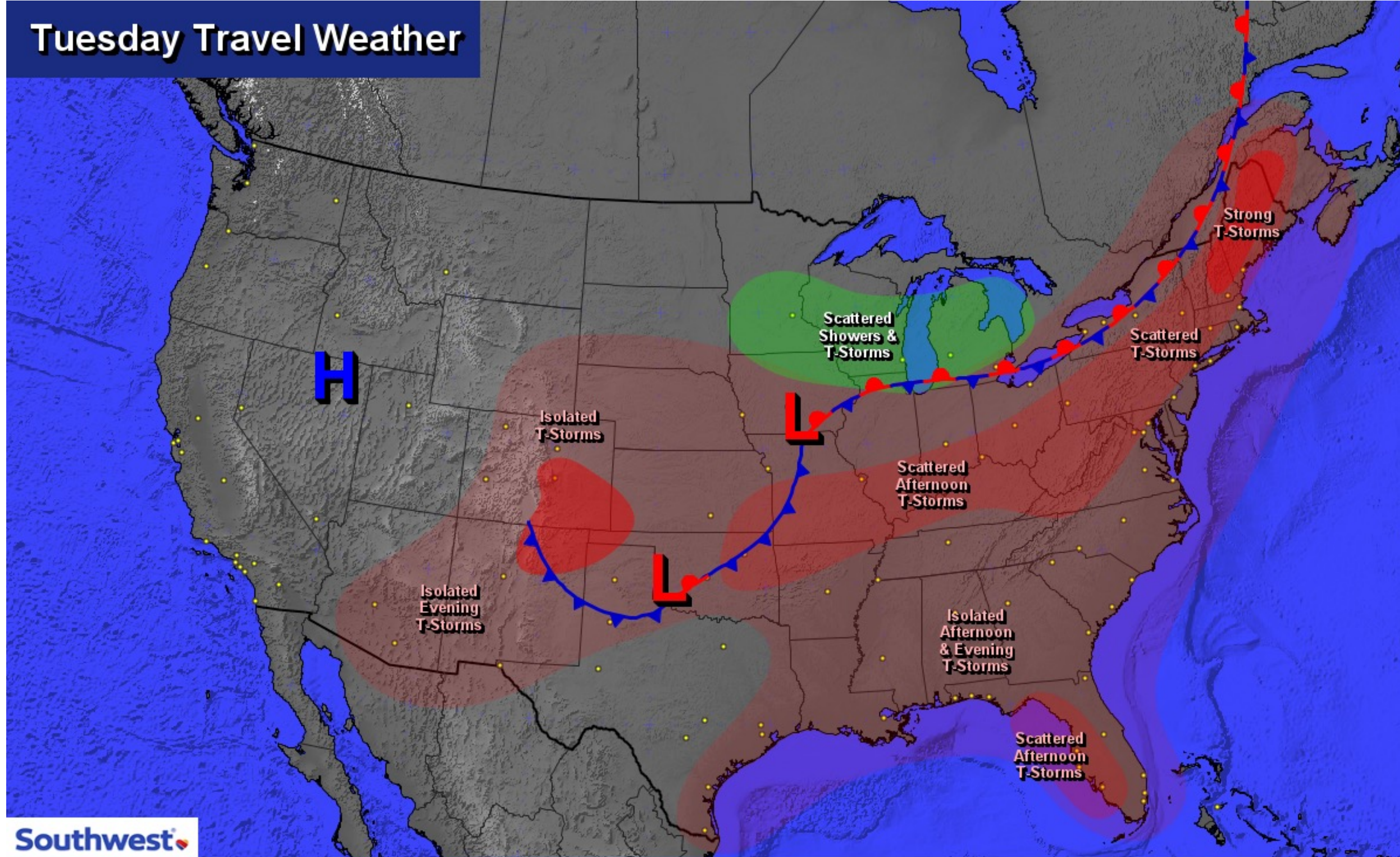
April 29, 2024

Probability vs Confidence

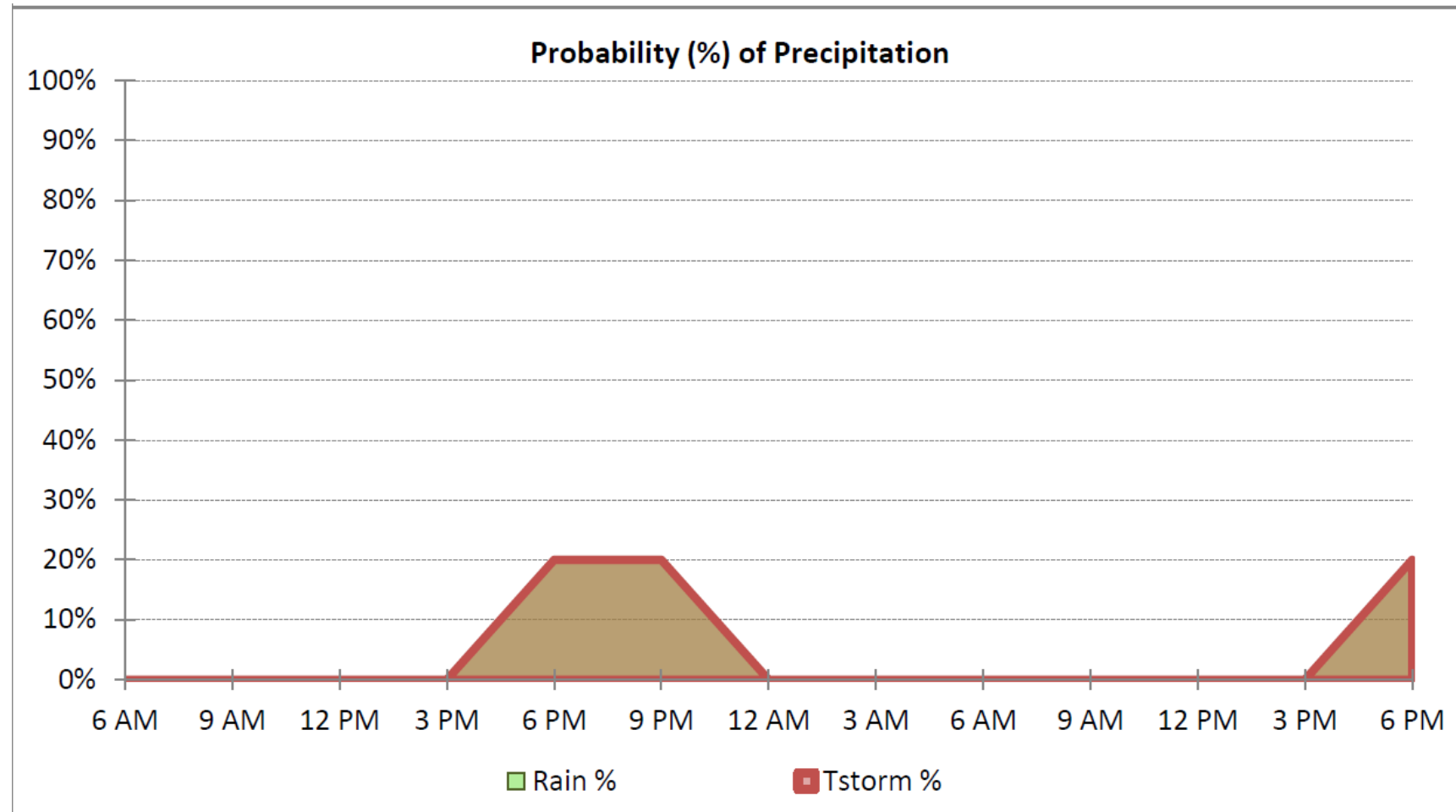
- Probability – How likely is it weather will occur?
 - Low probability – station is unlikely to see station impacts
 - High probability – station is likely to see station impact
- Confidence – How forecast “feels” about weather occurring
 - Low confidence – unsure how a forecast will pan out – weather models vary
 - High confidence – know how a forecast will pan out – weather models consistent

Denver Severe Thunderstorm

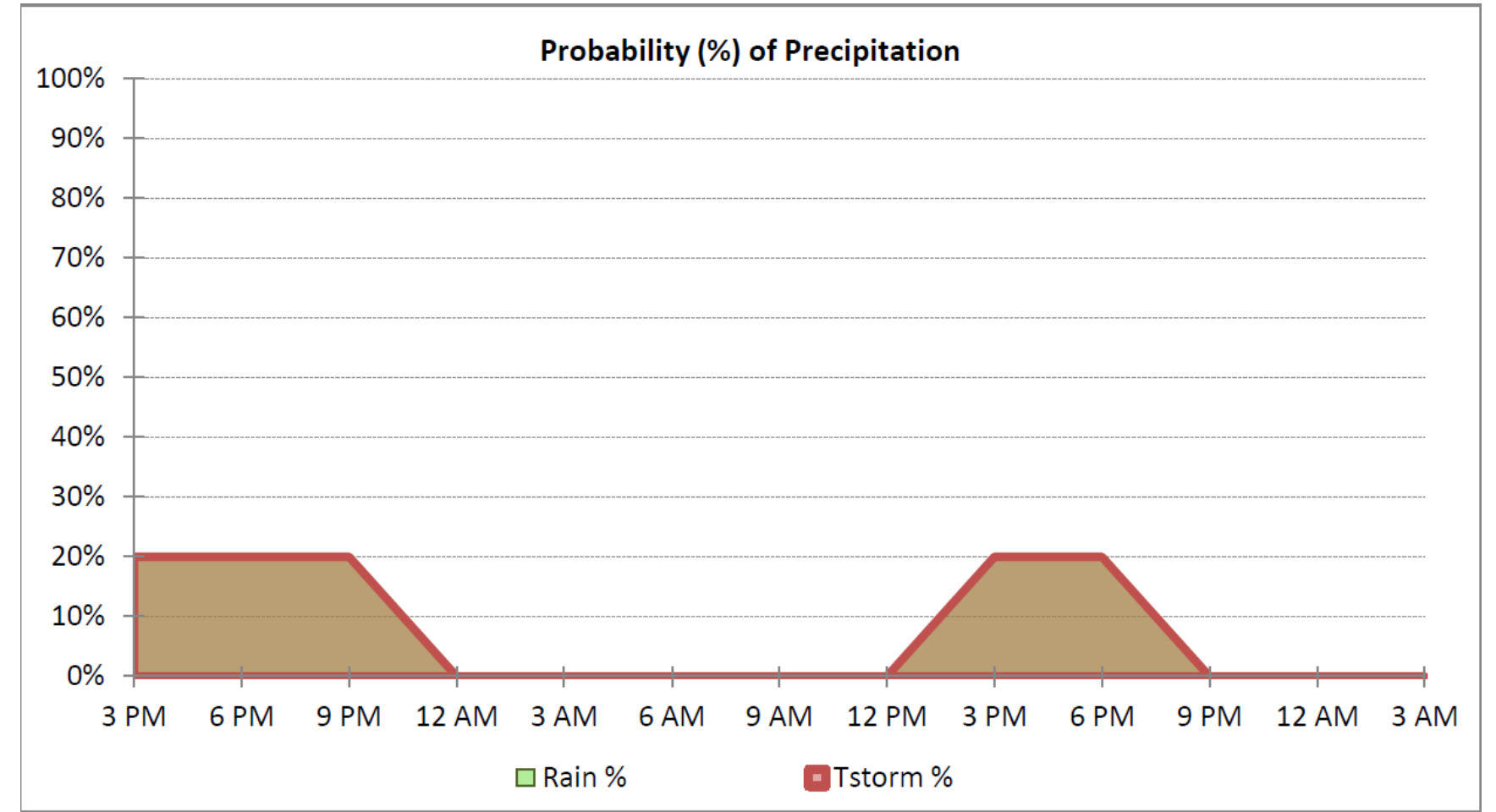
Tuesday Travel Weather



Denver Severe Thunderstorm



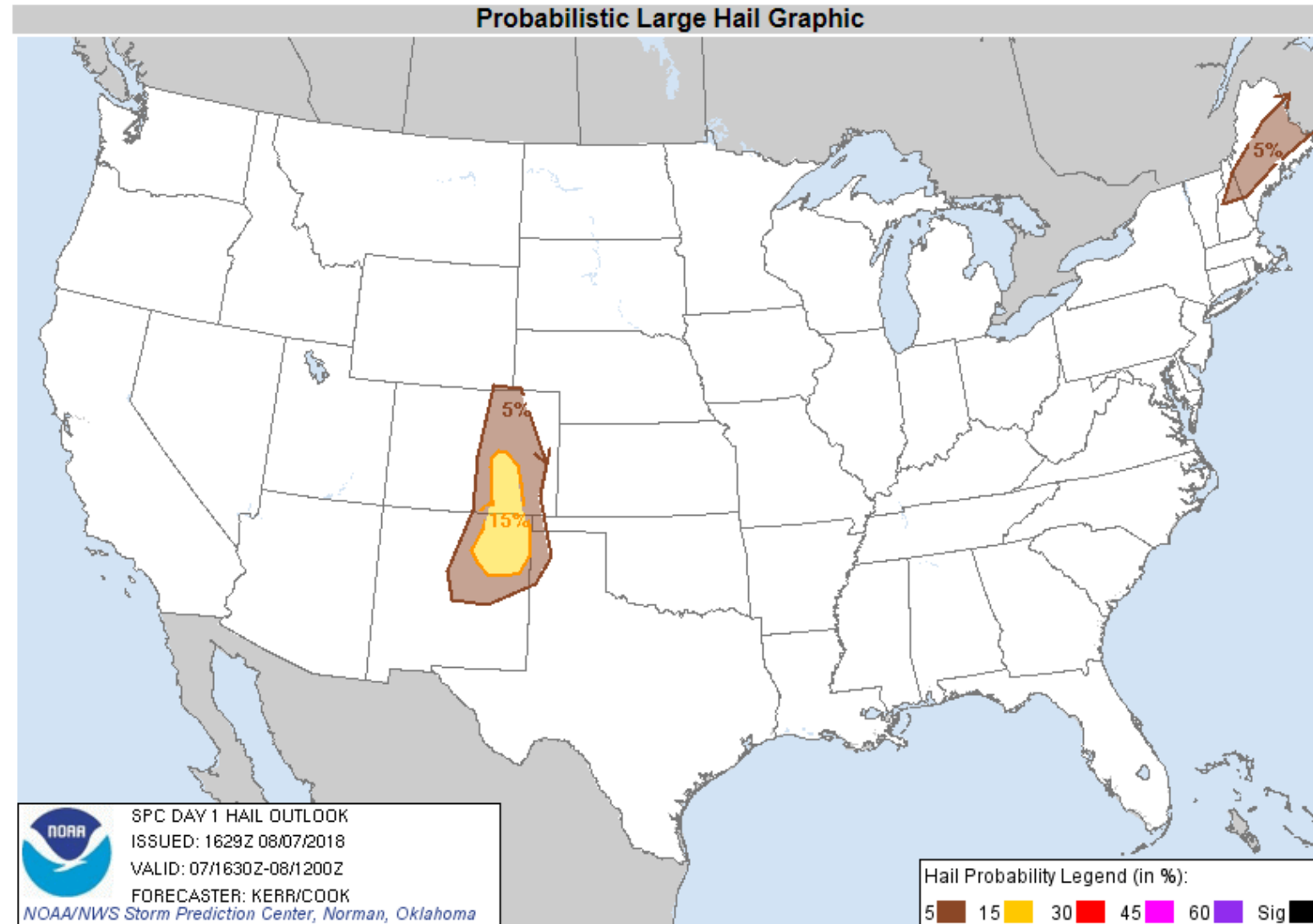
AM Forecast



PM Forecast

Hail Probability

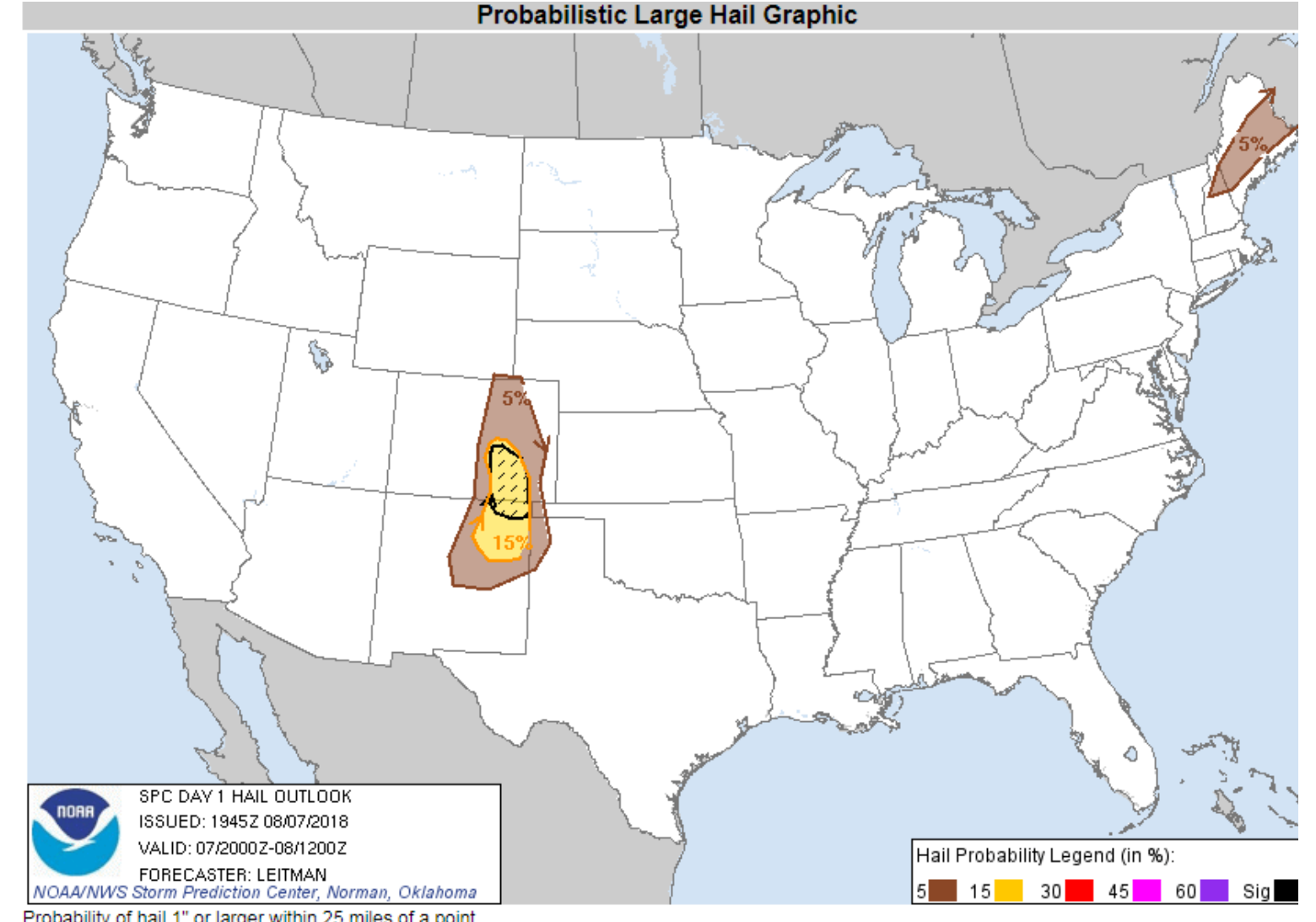
Valid 1630Z



Probability of hail 1" or larger within 25 miles of a point.
 Hatched Area: 10% or greater probability of hail 2" or larger within 25 miles of a point.

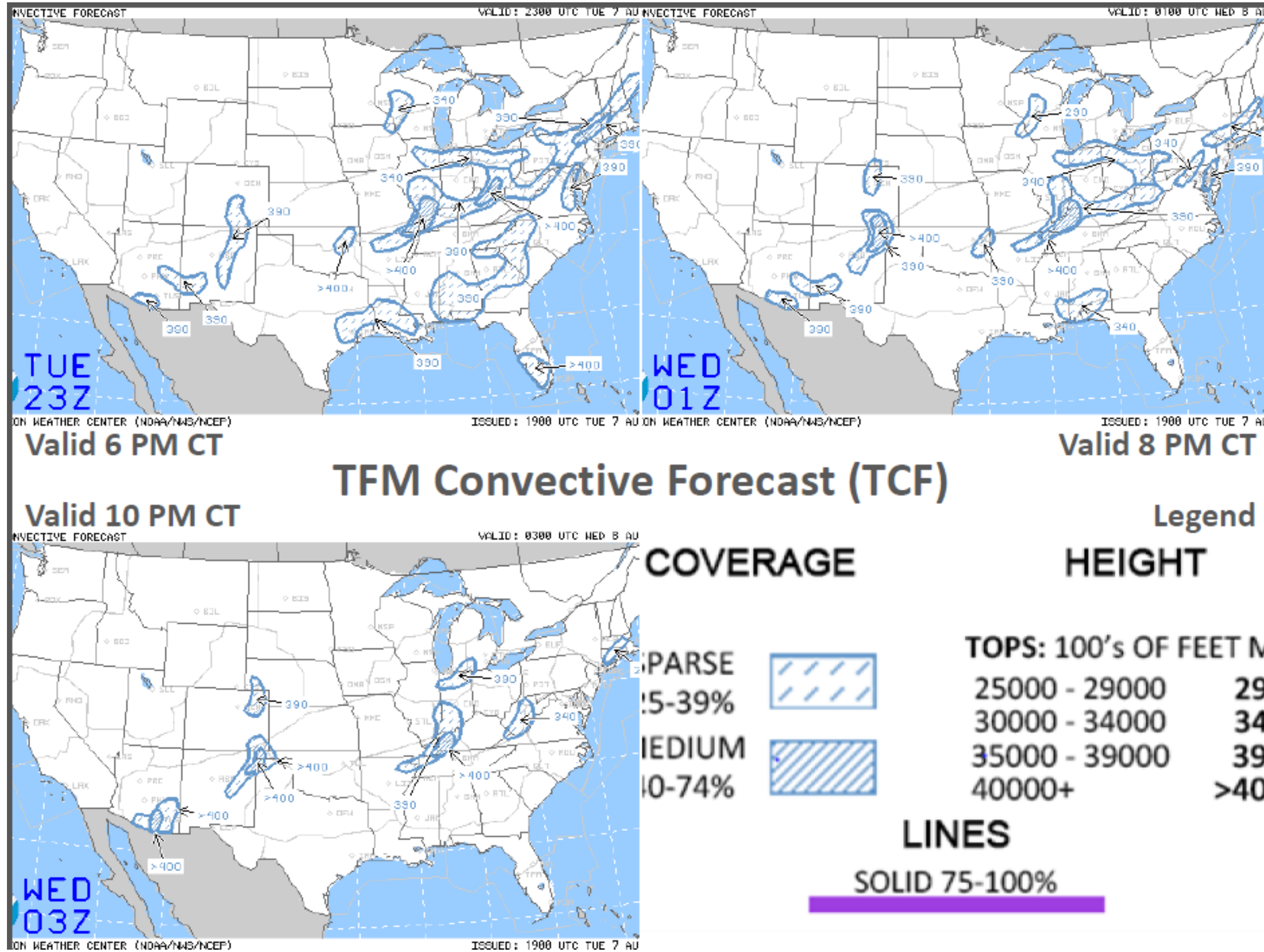
Day 1 Hail Risk	Area (sq. mi.)	Area Pop.	Some Larger Population Centers in Risk Area
15 %	23,365	313,875	Pueblo, CO...Cimarron Hills, CO...Fountain, CO...Las Vegas, NM...Trinidad, CO...
5 %	65,311	3,931,062	Denver, CO...Colorado Springs, CO...Aurora, CO...Lakewood, CO...Thornton, CO...

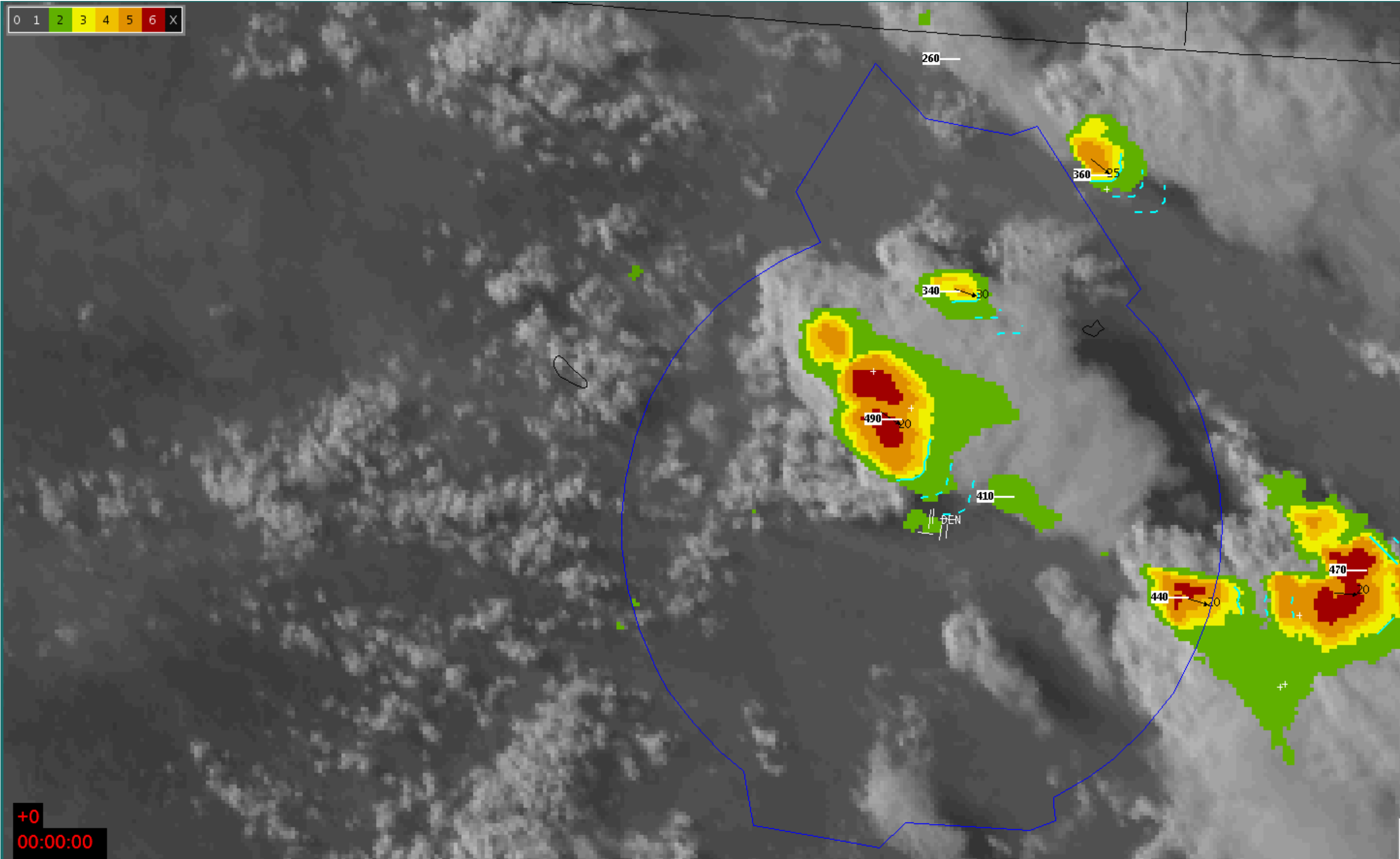
Valid 1945Z



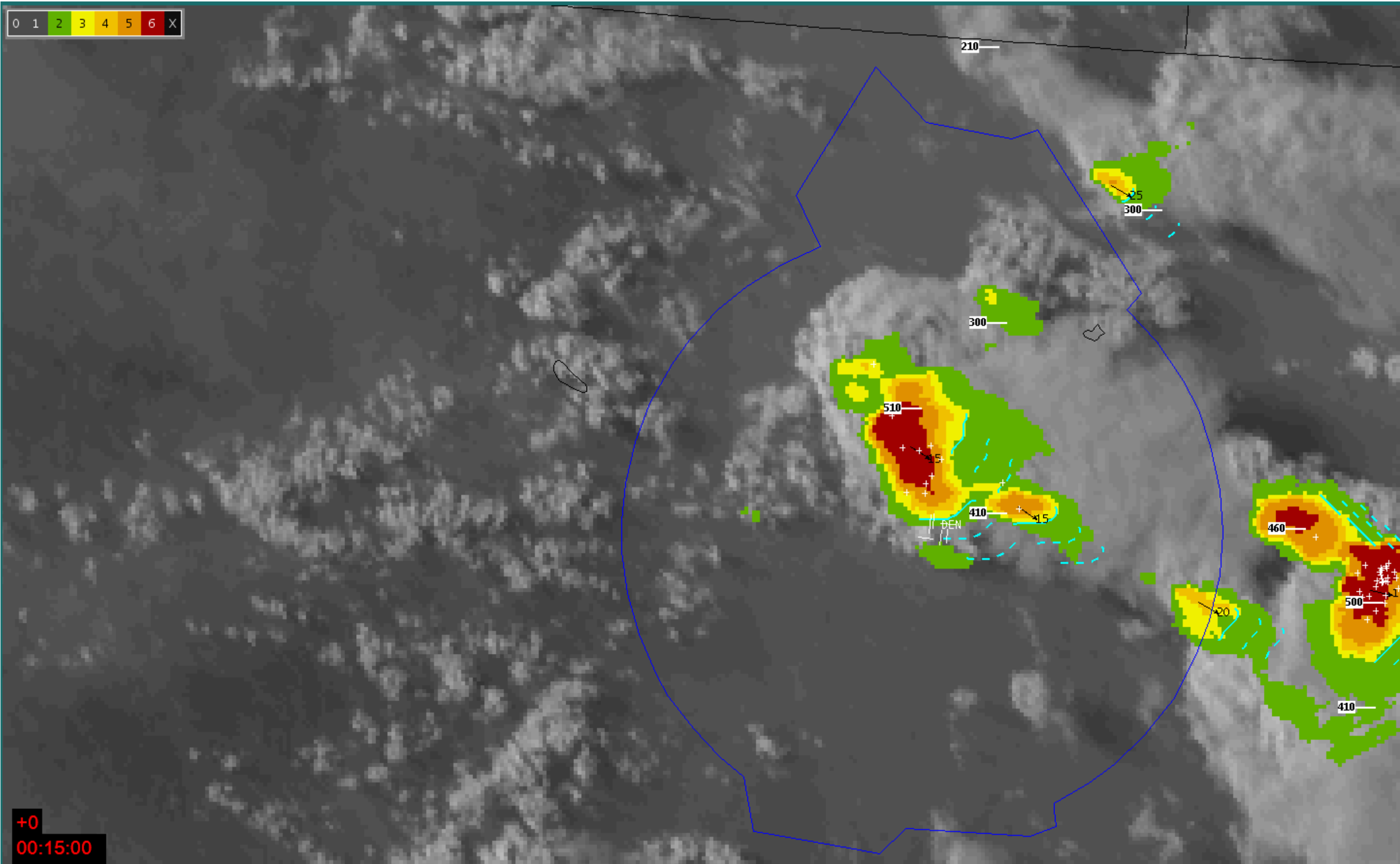
Probability of hail 1" or larger within 25 miles of a point.
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Day 1 Hail Risk	Area (sq. mi.)	Area Pop.	Some Larger Population Centers in Risk Area
SIG SEVERE	12,190	247,738	Pueblo, CO...Fountain, CO...Trinidad, CO...Raton, NM...
15 %	25,873	662,523	Colorado Springs, CO...Pueblo, CO...Cimarron Hills, CO...Fountain, CO...Las Vegas, NM...
5 %	62,804	3,582,414	Denver, CO...Aurora, CO...Lakewood, CO...Thornton, CO...Westminster, CO...



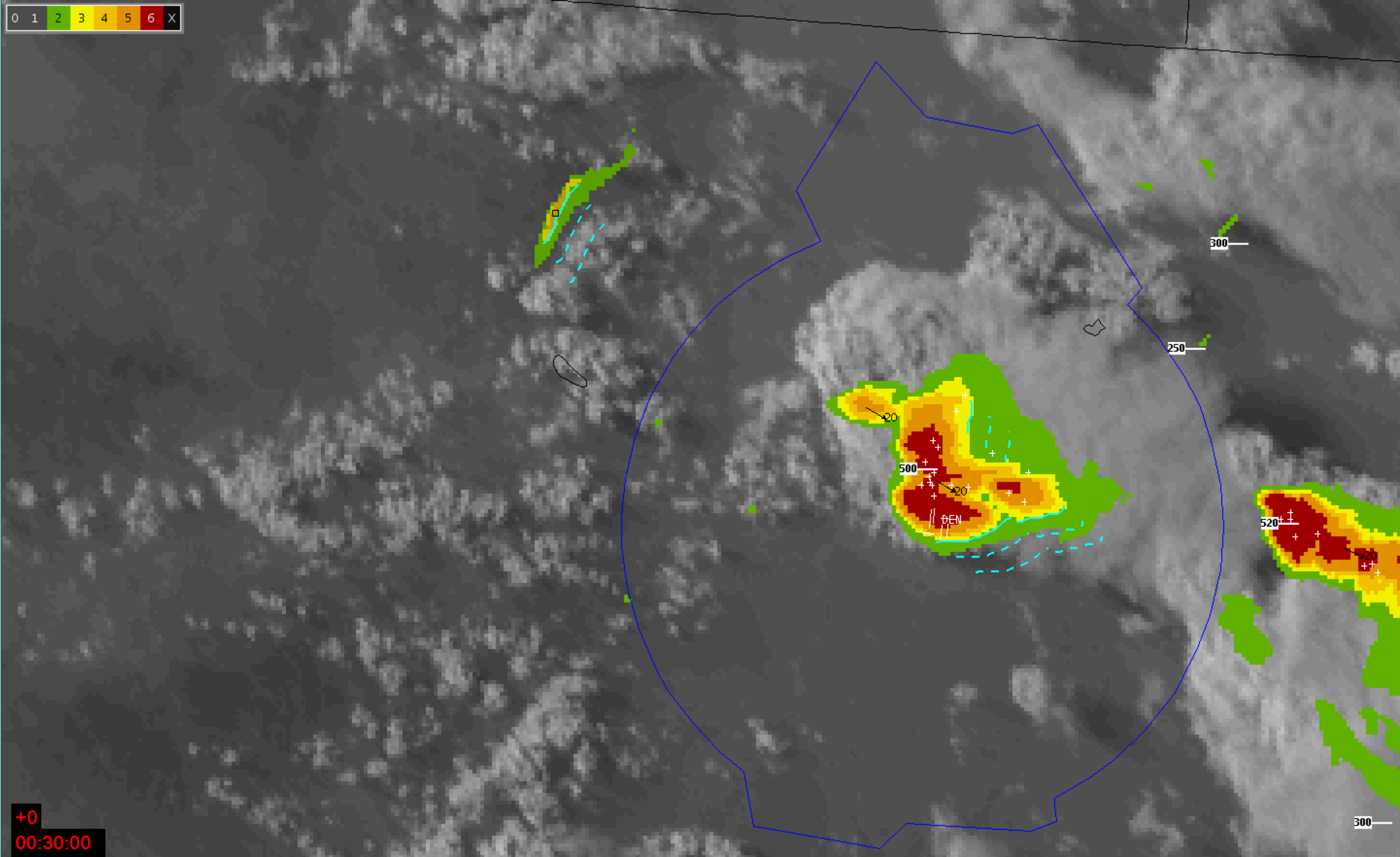


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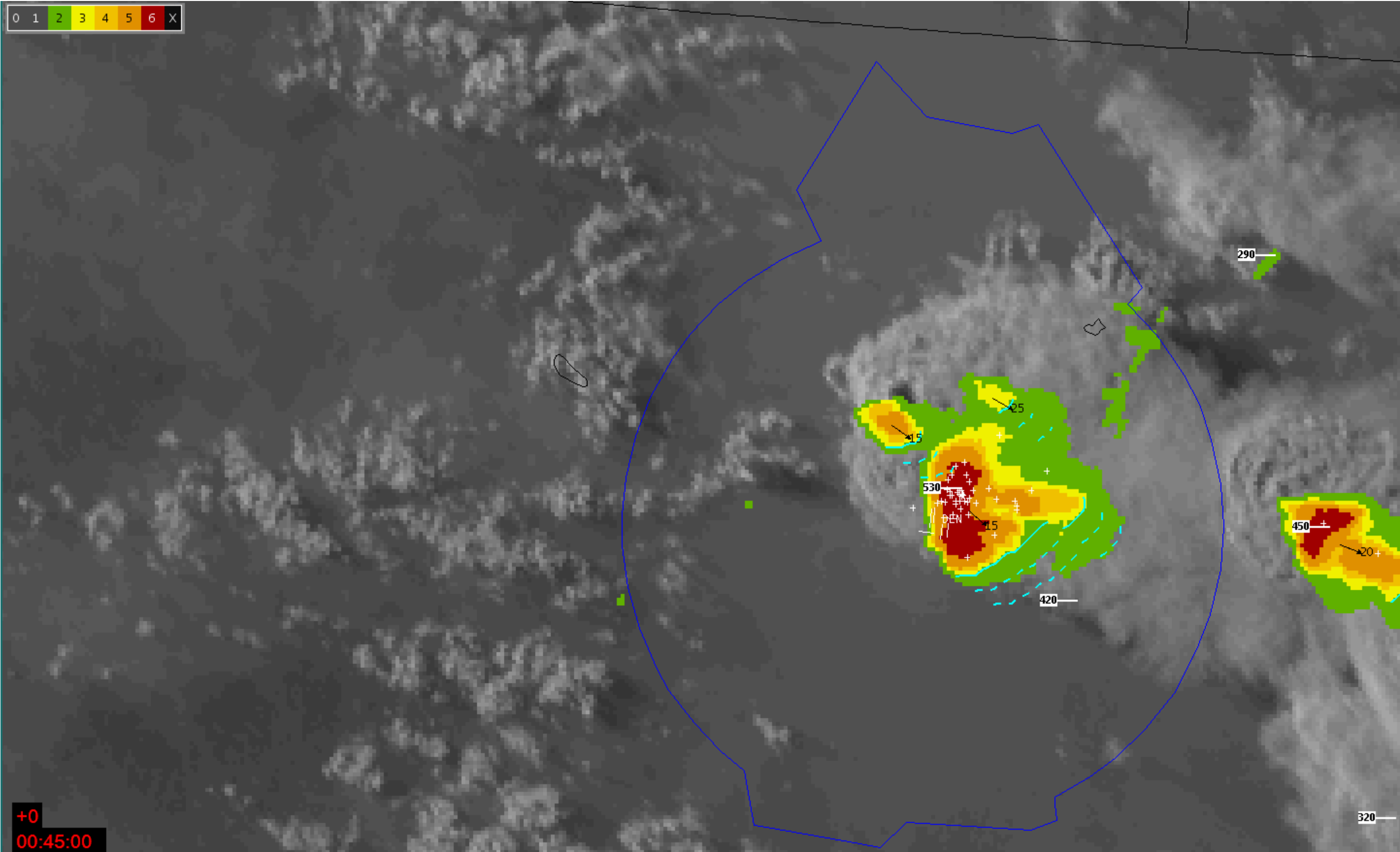
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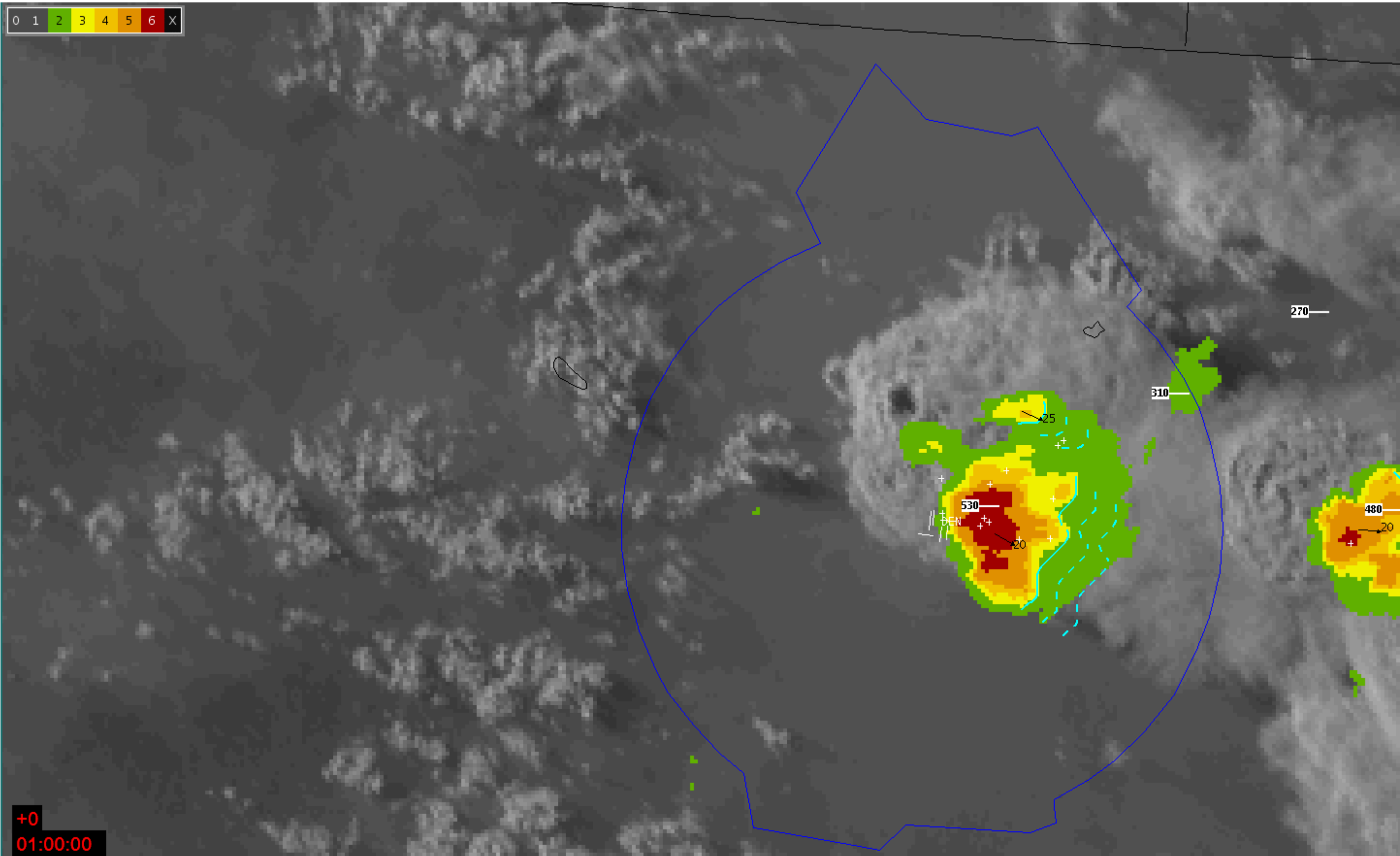
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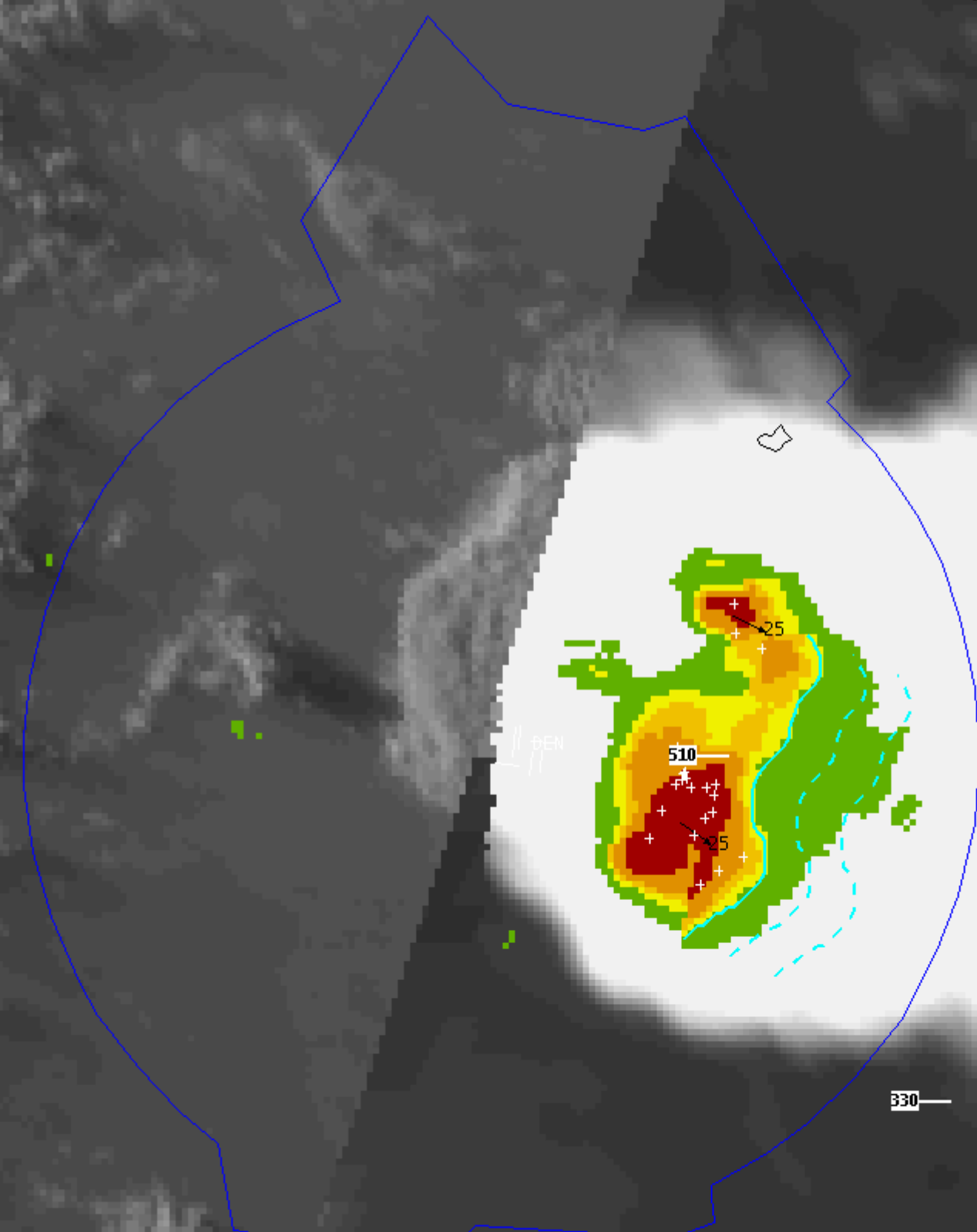
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0 1 2 3 4 5 6 X

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Results

System A14	>80%	70.5%
International A14	>80%	84.1%
System A15-17 (Just late)		2.1%
A0 (Inbound Arrival)		51.3%
D0 (Outgate)	>50%	47.8%
Originators (EMO)	>88%	81.9%
Turn Compliance	>66%	57.6%
Completion Factor	>98.5%	96.9%
Cancelled Count		119
Load Factor		82.2%
Block Time Hit Rate		73.4%
Flight Count		3,876
SWORD Counts		4
Avg Daily UAD (Hours)	< 229	289
Air Returns		2
Overflies		0
Diversions		25
Gate Returns >60 Mins		18
Customer Holds		67
Holds >10 Min (wo FIM)	<25%	46%
Overnight Passengers	<100	22
Domestic (DOT) MBR	<2.89	3.48
Taxi IN (>45 Minutes)		7
Taxi OUT (>120)		1

Diversions										
Flight	Orig	Dest	Divert	A/C 1	A/C 2	Reason	TOG	Sched Arrival	Act Arrival	Mins Late
1364	PHX	DEN	SLC	N424WN		THUNDERSTORMS	51	00:15	03:28	193
2305	HOU	DEN	ABQ	N8640D		THUNDERSTORMS	46	00:45	03:25	160
1898	SNA	DEN	AMA	N558WN		THUNDERSTORMS	38	00:45	02:57	132
2260	SAN	DEN	SLC	N206WN		THUNDERSTORMS	38	00:50	03:14	144
1289	ONT	DEN	SLC	N229WN		THUNDERSTORMS	38	00:50	03:18	148
934	SEA	DEN	SLC	N786SW		THUNDERSTORMS	100	00:55	05:03	248
6655	PDX	DEN	SLC	N296WN		THUNDERSTORMS	42	01:00	03:22	142
1428	MDW	DEN	MCI	N8606C		THUNDERSTORMS	33	01:15	03:31	136
1341	BNA	DEN	ICT	N8540V		THUNDERSTORMS	67	01:20	03:44	144
2138	SFO	DEN	LAS	N942WN		THUNDERSTORMS	47	01:35	03:52	137
1485	EWR	PHX	LAS	N8631A		THUNDERSTORMS	62	02:40	07:46	306
452	MCI	PHX	LAS	N446WN		THUNDERSTORMS	76	02:55	08:06	311
439	BWI	PHX	LAS	N498WN		THUNDERSTORMS	54	03:10	07:37	267
1540	SLC	PHX	ONT	N236WN		THUNDERSTORMS	79	05:05	08:25	200
1389	LAX	PHX	ONT	N8574Z		THUNDERSTORMS	59	05:20	08:13	173
2088	SFO	PHX	LAS	N8532S		THUNDERSTORMS	43	05:25	07:19	114
791	ONT	PHX	LAS	N912WN		THUNDERSTORMS	51	05:30	08:05	155
851	MDW	PHX	ABQ	N8659D		THUNDERSTORMS	52	05:50	08:05	135
222	BNA	BWI	RDU	N7709A		THUNDERSTORMS	48	19:45	21:46	121
1773	MSY	DCA	BWI	N449WN		THUNDERSTORMS	125	19:50	22:25	155
276	OMA	DCA	PIT	N443WN		THUNDERSTORMS	122	20:00	22:36	156
1695	DEN	LGA	ALB	N271LV		THUNDERSTORMS	226	20:15	01:28	313
1237	TPA	LGA	IAD	N8529Z		THUNDERSTORMS	209	21:05	01:46	281
2331	PHL	DEN	OMA	N8323C		THUNDERSTORMS	55	23:25	03:43	258
427	STL	BDL	ALB	N707SA		THUNDERSTORMS	113	23:50	03:30	220

10 Diversions

Summary - Misconceptions

- Scattered vs isolated storm coverage
- Isolated doesn't mean low probability
- Low probability doesn't mean minimal impacts