

Site-Specific Probable Maximum Precipitation (PMP) Study for Nebraska

Appendix F Short Storm List Storm Analyses



Prepared for Lower Platte North NRD Wahoo, Nebraska

Prepared by Applied Weather Associates, LLC Monument, Colorado

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Appendix F:

Short Storm List Storm Analyses

Storm files were made for thirty-six storms (Table F.1). Ten of these storms were analyzed (or reanalyzed) for this study using SPAS (identified by an * in Table F.1), while storm analyses were performed for the other storms based on available data from previously published reports (HMR 51 and/or EPRI). The 1.50 limitation on in-place storm maximization as detailed in HMRs 51 and 55A was followed in the report and is noted in several of the storm spreadsheets. Note that in the storm analyses, only one example spreadsheet for one grid point is shown for each storm although a spreadsheet was constructed and analyzed for each grid point where that storm was transpositioned.

Table F.1 Nebraska Statewide PMP Short Storm List (alphabetical listing)

Station Name	St	Lat	Lon	Duration	Year	Month	Day	Max Precip
AURORA COLLEGE*	IL	41.75	-88.3333	1-day	1996	7	17	18.24
BEAULIEU	MN	47.3	-95.9	6hrs	1909	7	18	11.50
BONAPARTE	IA	40.7667	-91.75	6hrs	1905	6	10	12.10
BOYDEN	IA	43.19	-96.01	6hrs	1926	9	17	24.00
CHEYENNE	OK	35.61	-99.67	6hrs	1934	4	3	23.00
COLE CAMP	MO	38.46	-93.2027	3-day	1946	8	12	19.40
COLLINSVILLE	IL	38.6717	-90.5392	3-day	1946	8	12	18.70
COOPER	MI	42.376	-85.610	6hrs	1914	8	31	12.60
COUNCIL GROVE	KS	38.400	-96.300	3-day	1951	7	9	18.50
DAVID CITY*	NE	41.228	-97.109	6hrs	1963	6	24	16.50
EDGERTON	MO	39.5	-94.6167	1-day	1965	7	18	20.02
ENID*	OK	36.4	-97.8833	1-day	1973	10	10	20.00
FOREST CITY*	MN	45.206	-94.466	6hrs	1983	6	20	17.00
GRANT TOWNSHIP	NE	40.390	-99.850	6hrs	1940	6	3	13.00
GREELEY	NE	41.55	-98.5333	6hrs	1896	6	4	12.30
HALE*	CO	39.609	-102.246	6hrs	1935	5	30	18.00
HALLETT	OK	36.2	-96.6	6hrs	1940	9	2	24.00
HAYWARD	WI	46.013	-91.485	1-day	1941	8	28	15.00
HOKAH*	MN	43.812	-91.363	1-day	2007	8	19	18.93
HOLLY*	CO	38.05	-102.117	3-day	1965	6	16	15.54
IDA GROVE	IA	42.3167	-95.4667	1-day	1962	8	30	12.85
IRONWOOD	MI	46.45	-90.1833	3-day	1909	7	21	13.20
LAMBERT	MN	44.230	-95.260	3-day	1897	7	18	8.00
MEDFORD	WI	45.1333	-90.3333	3-day	1905	6	4	11.20
MEEKER	OK	35.503	-96.903	1-day	1908	10	19	16.23
MINNEAPOLIS	MN	44.8833	-93.2167	6hrs	1987	7	23	10.55
OGALLALA*	NE	41.125	-101.717	6hrs	2002	7	6	14.92
PARIS WATERWORKS	IN	39.05	-87.7	6hrs	1957	6	27	13.19
PAWNEE CREEK*	CO	40.67	-103.83	1-day	1997	7	28	13.70
PRAGUE*	NE	41.358	-96.879	6hrs	1959	8	1	13.09
RITTER	IA	43.244	-95.823	6hrs	1953	6	7	11.00
SAVAGETON	WY	43.88	-105.93	1-day	1923	9	27	17.10
SPRINGBROOK	MT	47.25	-104.52	1-day	1921	6	17	14.60
STANTON	NE	41.867	-97.05	6hrs	1944	6	10	17.30
ТОМАН	WI	43.98	-90.5	6hrs	1990	8	17	9.17
WARNER	OK	35.49	-95.31	3-day	1943	5	6	25.00

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Aurora College, IL July 17, 1996 6-Hour Analysis Storm Type: MCC

Storm Name: Aurora Coll	ege, IL		G	14.0	J	4 6 1	Johne al		Da!4 1	0
AWA Analysis Date: 12/2/2008			2	storm A	ajustm	ent for 1	Nebrash	a Gria	Point I	.0
Temporal Transposition Date	15 <u>-</u> Iul									
Temporar Transposition Date	l at	Long			Moisture Ir	flow Directi	on:	SSW @ 120	miles	
Stanne contan location	Lai 44 75 N	00 22 W			Dogin Flow	niow Directi		1 200	feet	
Storm center location	41.75 N	88.33 W			Basin Eleva	ition		1,500	reet	
Storm Rep dew point location	40.14 N	89.21 W			Storm Elev	ation		070	feet	
Transposition dewpoint location	37.63 N	100.91 W			Storm Dura	ation		6hr	feet	
Basin location	41.25 N	96.66 W								
	Anna a start in	75 A F		-1			c		2.95	to show
The in place manimum	dew point is	/5.0 F	with tot	al precipitad	le water abov	e sea level of	c c		2.85	inches.
The in-place maximum	dew point is	83.0 F	with tot	al precipitab	le water abov	ve sea level of	c c		4.00	inches.
The transpositioned maximum	dew point is	63.0 F	with tot	ich subtracts		inches of	l f precipitable	water at	4.00 75.0 F	menes.
The in-place storm	elevation is	670	whi	ich subtracts	0.10	inches of	f precipitable	water at	830F	
The transposition basin	elevation at	1 300	whi	ich subtracts	0.24	inches of	f precipitable	water at	83.0 F	
The inflow barrier/basin elevat	ion height is	1,300	whi	ich subtracts	0.41	inches of	f precipitable	water at	83.0 F	
	ion neight is	1,000	***	ien subtracts	0111	menes o	i precipitation	, water at	0010 1	
The in-place stor	m maximiza	tion factor is	1.44		Notes: DAI) values tak	en from SP	AS 1029		٦
The transposition/e	levation to b	asin factor is	0.96							
The ba	rrier adjustn	ent factor is	1.00							
	j									
The	total adjustn	nent factor is	1.37							
Observed Storm Depth-	Area-Durati	on								
	6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours	
10 sq miles	11.0	12.2	15.5	16.9	0.0	0.0	0.0	0.0	0.0	
100 sq miles	9.5	10.9	14.2	15.7	0.0	0.0	0.0	0.0	0.0	_
200 sq miles	8.9	10.4	13.6	15.0	0.0	0.0	0.0	0.0	0.0	
500 sq miles	7.8	9.7	12.0	13.5	0.0	0.0	0.0	0.0	0.0	
1000 sq miles	7.0	8.9	10.8	12.0	0.0	0.0	0.0	0.0	0.0	_
5000 sq miles	4.2	5.6	7.0	8.0	0.0	0.0	0.0	0.0	0.0	
10000 sq miles	2.6	3.8	4.9	5.6	0.0	0.0	0.0	0.0	0.0	_
20000 sq miles	1.5	2.3	3.0	3.0	0.0	0.0	0.0	0.0	0.0	
Adjusted Storm Deptn-A	4rea-Duration	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	18 Hours	60 Hours	72 Hours	-
10 sa miles	15.2	16.8	21.3	23 3	0.0	0.0	0.0	00110013	0.0	-
100 sq miles	13.1	15.0	19.6	23.5	0.0	0.0	0.0	0.0	0.0	-
200 sq miles	12.2	14.3	18.7	20.5	0.0	0.0	0.0	0.0	0.0	-
500 sq miles	10.7	13.3	16.5	18.5	0.0	0.0	0.0	0.0	0.0	-
1000 sq miles	9.6	12.3	14.9	16.5	0.0	0.0	0.0	0.0	0.0	
5000 sq miles	5.8	7.8	9.7	11.0	0.0	0.0	0.0	0.0	0.0	
10000 sq miles	3.6	5.2	6.7	7.7	0.0	0.0	0.0	0.0	0.0	
20000 sq miles	2.0	3.2	4.1	5.0	0.0	0.0	0.0	0.0	0.0	
										_
Storm or Storm Center N	ame		Aurora Col	lege, IL						
Storm Date(s)			17-Jul-1996							
Storm Type			Synoptic-Th	understorms						-
Storm Location			41.75 N	88.33 W						-
Storm Center Elevation			670		C 1020 IF 1		· · · · · · ·	16.01"		-
Precipitation Total & Dur	ration		18.24 in 24h	irs from SPA	S 1029, High	nest recorded	amount was	16.91"		-
Storm Doprosontative De	vnoint		75 0 F	Char arrest of	7 17 07 1400	CDT 07 17 0	()100CDT (VODI UDI U	KDEC	-
Storm Paprosentative De	wpoint Locat	ion	75.0 F 40.14 N	so 21 W	11-17-90 1400	CD1-0/-1/-90	5 2 100 CD 1 01	kori, Kdivil,	NDEC	-
Maximum Developet	wpoint Local		830F	07.21 W						-
Moisture Inflow Vector			SSW @ 120	Miles						
e de la contra de la										

100.91 W

1.44

15-Jul

1,300

1.00 1.37

37.63 N 83.0 F

In-place Maximization Factor

Temporal Transposition (Date)

Elevation Adjustment Factor Total Adjustment Factor

Basin Elevation

Transposition Dewpoint Location Transposition Maximum Dewpoint

Transposition to Basin Adjustment Factor0.96Higher of Basin Elevation - Inflow Barrier Height1,300



Aurora College, IL July 17, 1996 6-Hour Inflow Analysis

Storm 1029 - Aurora, IL July 17-18, 1996

21 2050200							Duration	(hours)		
Area (mP)	1	2	3	4	5	6	12	18	24	total (36-hr
1	5,37	5.74	7.26	9.05	10,76	11,97	12.93	16.03	17.33	18.04
10	4.83	5.47	6.69	8.55	9.93	11,04	12.24	15.51	16.94	17.06
20	4.54	5.30	6.61	8.32	9.65	10.66	11,94	15.23	16.67	16.77
30	4.33	5.18	6.48	8.15	9.45	10.43	11.75	14.98	16.51	16.59
40	4.16	5.07	6.37	7.98	9.27	10.24	11.57	14.82	16.37	16.45
50	3.98	5.00	6.28	7.84	9.10	10.09	11,42	14.68	16.27	16.33
60	3.83	4.94	6.19	7.72	8.96	9.95	11,29	14.54	16.15	16.22
70	3.68	4.87	6.11	7.61	8.83	9.83	11.18	14.48	16.04	16.10
100	3.34	4.74	5.84	7.34	8.51	9.52	10.92	14.23	15.73	15.80
200	2.76	4.42	5.53	6.79	7.85	8.89	10.39	13.57	14.95	15.08
500	2.29	3.64	4.94	6.07	7.04	7.81	9.67	12.02	13.45	13.52
1,000	1.85	3.11	4.39	5.43	6.33	6.98	8.92	10.84	12.04	12.15
5,000	0.89	1.64	2.38	3.13	3.72	4.22	5.64	7.04	8.02	8.19
10,000	0.36	0.98	1.45	1.94	2.33	2.60	3.80	4.90	5.60	5.90
20,000		0.49	0.77	1.04	1.28	1.45	2.33	2.99	3.63	3.83

MAXIMUM AVERAGE DEPTH OF PRECIPITATION (INCHES)

Total area size = 21,026 sq-mi



Storm Center (41.78, -88.31) Mass Curve SPAS Storm #1029 Aurora, IL Storm of July 17-18, 1996





Aurora College, IL July 17, 1996 24-Hour Analysis Storm Type: Hybrid

Storm Name:	Aurora Coll	ege, IL									
Storm Date:	17-Jul-1996			S	Storm A	djustme	e <mark>nt for</mark> l	Nebrask	a Grid	Point 1	.0
AWA Analysis Date:	12/2/2008					9					
Femporal Transpositio	n Date	15-Jul									
remporar rranspositio	in Dute	Lat	Long	1		Moisturo Ir	flow Direct	on:	SW @ 300	miles	
			Long				mow Direct	1011:	SW @ 300	innes	
Storm center location		41.75 N	88.33 W			Basin Eleva	ition		1,300	feet	
Storm Rep dew point l	ocation	38.63 N	92.24 W			Storm Eleva	ation		670	feet	
Fransposition dewpoin	t location	37.63 N	100.91 W			Storm Dura	tion		24hr	feet	
Basin location		41.25 N	96.66 W								
				-							
The storm r	epresentative	dew point is	74.0 F	with tot	al precipitab	le water aboy	ve sea level o	f		2.73	inches.
The in-pla	ce maximum	dew point is	79.5 F	with tot	al precipitab	le water aboy	e sea level o	f		3.52	inches
The transposition	ed maximum	dew point is	78.0 F	with tot	al precipitab	le water abov	e sea level o	f		3.29	inches
The it unisposition	n-place storm	elevation is	670	white	ich subtracts	0.17	inches o	f precipitable	water at	74.0 F	menes.
The i	n-place storm	elevation is	670	whi	ich subtracts	0 205	inches o	f precipitable	water at	795F	
The trans	nosition basin	elevation at	1 300	whi	ich subtracts	0.200	inches o	f precipitable	water at	79.0 F	
The inflow barrie	r/basin elevati	ion baight is	1,300	whi	ich subtracts	0.30	inches o	f precipitable	water at	780F	
		Ion neight is	1,500	WIL	icii subtracts	0.50	menes 0	i precipitable	water at	70.01	
											7
The	e in-place stor	m maximiza	tion factor is	1.29		Notes: DAL) values tak	en from SP	AS 1029		
The ti	ransposition/e	levation to ba	asin factor is	0.88							
	The ba	rrier adjustn	nent factor is	1.00							
	The	total adjustr	nent factor is	1.14							
					-						
Observed S	torm Depth-	Area-Durati	on								
		6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours	
	10 sq miles	11.0	12.2	15.5	16.9	0.0	0.0	0.0	0.0	0.0	-
	100 sq miles	9.5	10.9	14.2	15.7	0.0	0.0	0.0	0.0	0.0	-
	200 sq miles	8.9	10.4	13.6	15.0	0.0	0.0	0.0	0.0	0.0	-
	500 sq miles	7.8	9.7	12.0	13.5	0.0	0.0	0.0	0.0	0.0	-
10	000 sq miles	7.0	8.9	10.8	12.0	0.0	0.0	0.0	0.0	0.0	-
5	000 sq miles	4.2	5.6	7.0	8.0	0.0	0.0	0.0	0.0	0.0	-
10	00 sq miles	7.6	3.0	1.0	5.6	0.0	0.0	0.0	0.0	0.0	-
200	00 sq miles	2.0	2.0	4.9	3.0	0.0	0.0	0.0	0.0	0.0	-
200	Job sq miles	1.5	2.3	5.0	5.0	0.0	0.0	0.0	0.0	0.0	
											-
Adjusted S	torm Depth-A	Area-Duratio	on		I	I	1	I	1		
		6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours	_
	10 sq miles	12.6	14.0	17.8	19.4	0.0	0.0	0.0	0.0	0.0	_
	100 sq miles	10.9	12.5	16.3	18.0	0.0	0.0	0.0	0.0	0.0	_
	200 sq miles	10.2	11.9	15.5	17.1	0.0	0.0	0.0	0.0	0.0	_
	500 sq miles	8.9	11.1	13.8	15.4	0.0	0.0	0.0	0.0	0.0	
10	000 sq miles	8.0	10.2	12.4	13.8	0.0	0.0	0.0	0.0	0.0	
50	000 sq miles	4.8	6.5	8.1	9.2	0.0	0.0	0.0	0.0	0.0	
100	000 sq miles	3.0	4.3	5.6	6.4	0.0	0.0	0.0	0.0	0.0	
200	000 sq miles	1.7	2.7	3.4	4.2	0.0	0.0	0.0	0.0	0.0	
Storm or St	orm Center N	ame		Aurora Col	lege, IL						1
Storm Date	(s)			17-Jul-1996	8-,						
Storm Type	(5)			Synoptic-Th	understorms						-
Storm Loca	tion			41 75 N	88 33 W					-	-
Storm Cont	or Elevation			41.75 IN	00.55 ₩						-
Droginitation	n Total & Dur	otion		18 24 in 24h	re from SDA	S 1020 High	ant recorded	amount was	16.01 in abo		-
Precipitatio	n Total & Dur	auon		10.24 III 240	ns nom SPA	ь 1029, піді	iest recorded	amount was	10.91 menes	,	-
C4.0	acontation D	moint		74.0 E	24hr	a Td from 07	17.06.0000	CDT 40 07	7 06 2200 0	DT	-
Storm Repr	esentative Dev	wpoint		74.0 F	24nr averag	e 1a from 07	-1/-90 0000	CD1 to 0/-	17-90 2300 C	וע	-
Storm Repr	esentative Dev	wpoint Locat	ion	38.63 N	92.24 W						4
Maximum I	Jewpoint			/9.5 F							4
Moisture In	now Vector			SW @ 300							4
In-place Ma	aximization Fa	actor		1.29							4
											4
Temporal T	ransposition (Date)		15-Jul							4
Transpositio	on Dewpoint I	Location		37.63 N	100.91 W						4
Transpositio	on Maximum	Dewpoint		78.0 F							_

1,300

1.00 1.14

Basin Elevation

Elevation Adjustment Factor Total Adjustment Factor

 Transposition to Basin Adjustment Factor
 0.88

 Higher of Basin Elevation - Inflow Barrier Height
 1,300



Aurora College, IL July 17, 1996 24-Hour Inflow Analysis

Storm 1029 - Aurora, IL July 17-18, 1996

24.52225	13						Duration	hours)		
Area (mP)	1	2	3	4	5	6	12	18	24	total (36-hr
1	5,37	5.74	7.26	9.05	10.76	11,97	12.93	16.03	17.33	18.04
10	4.83	5.47	6.69	8.55	9.93	11.04	12.24	15.51	16.94	17.06
20	4.54	5.30	6.61	8.32	9.65	10.66	11,94	15.23	16.67	16.77
30	4.33	5.18	6.48	8.15	9.45	10.43	11.75	14.98	16.51	16.59
40	4.16	5.07	6.37	7.98	9.27	10.24	11.57	14.82	16.37	16.45
50	3.98	5.00	6.28	7.84	9.10	10.09	11,42	14.68	16.27	16.33
60	3.83	4.94	6.19	7.72	8.96	9.95	11,29	14.54	16.15	16.22
70	3.68	4.87	6.11	7.61	8.83	9.83	11.18	14.48	16.04	15.10
100	3.34	4.74	5.84	7.34	8.51	9.52	10.92	14.23	15.73	15.60
200	2.76	4.42	5.53	6.79	7.85	8.89	10.39	13.57	14.95	15.08
500	2.29	3.64	4.94	6.07	7.04	7.81	9.67	12.02	13.45	13.52
1,000	1.85	3.11	4.39	5.43	6.33	6.98	8.92	10.84	12.04	12.15
5,000	0.89	1.64	2.38	3.13	3.72	4.22	5.64	7.04	8.02	8.19
10,000	0.36	0.98	1.45	1.94	2.33	2.60	3.80	4.90	5.60	5.90
20,000	40.00	0.49	0.77	1.04	1.28	1.45	2.33	2.99	3.63	3.83

MAXIMUM AVERAGE DEPTH OF PRECIPITATION (INCHES)

Total area size = 21,026 sq-mi



Storm Center (41.78, -88.31) Mass Curve SPAS Storm #1029 Aurora, IL Storm of July 17-18, 1996





Beaulieu, MN July 18. 1909 Storm Type: MCC

Name:	18 Jul 1000				Sto	m Ad:	ustmore	t for C-	id Daint	10	
Analysis Date:	12/2/2008				510	rm Auj	usumen	101. GL	iu r ont	10	
ral Transposition	n Deto	15 1.1									
ral Transpositio	on Date	15-Jui	1	ł		N	a D' (.1	
		Lat	Long			Moisture In	flow Direct	ion:	55W @ 275	miles	
center location		47.35 N	95.80 W			Basin Eleva	ition		1,300	feet	
Rep dew point le	ocation	43.32 N	98.08 W			Storm Eleva	ation		1,300	feet	
osition dewpoin	t location	36.72 N	99.28 W			Storm Dura	ntion		6hr	feet	
cation		41.25 N	96.66 W								
The storm r	representative	e dew point is	78.0 F	with tot	al precipitab	le water abov	e sea level o	f		3.29	inches.
The in-pla	ice maximum	dew point is	83.0 F	with tot	al precipitab	le water abov	e sea level o	f		4.08	inches
The transposition	ed maximum	dew point is	82.5 F	with tot	al precipitab	le water abov	e sea level o	f		4.00	inches
The i	in-place storn	n elevation is	1,300	wh	ich subtracts	0.36	inches o	f precipitable	e water at	78.0 F	
The	in-place storn	n elevation is	1,300	wh	ich subtracts	0.41	inches o	f precipitable	e water at	83.0 F	
I he trans	position basir	n elevation at	1,300	wh	ich subtracts	0.405	inches o	f precipitable	e water at	82.5 F 82.5 F	
he inflow barrie	er/basin elevat	tion height is	1,300	wh	ich subtracts	0.405	inches o	f precipitable	e water at	82.5 F	
											7
The	e in-place stor	rm maximiza	tion factor is	1.25		Notes: DAD	values take	n from USAC	CE UMV 1-11		
The ti	ransposition/e	elevation to ba	asin factor is	0.98							
	The b	arrier adjustn	nent factor is	1.00							
				1.00							
	The	e total adjustn	ient factor is	1.23							
Observed S	Storm Depth-	-Area-Durati	on					1			
		6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours	
	10 sq miles	10.5	10.7	10.8	11.5	11.7	11.8	12.1	12.8	13.2	_
	100 sq miles	10.3	10.5	10.7	11.3	11.5	11.7	11.8	12.5	13.0	
	200 sq miles	10.1	10.4	10.5	11.1	11.3	11.5	11.6	12.1	12.5	_
	500 sq miles	9.7	10.1	10.2	10.6	11.0	11.2	11.2	11.5	11.6	_
10	000 sq miles	9.2	9.6	9.7	10.0	10.4	10.6	10.6	10.8	10.9	-
50	000 sq miles	4.8	5.9	6.0	6.1	7.1	7.3	7.5	8.5	8.9	-
100	000 sq miles	2.2	3.3	3.5	4.3	5.5	5.6	6.0	7.4	7.8	-
200	000 sq miles	1.5	2.1	2.4	2.1	3.7	4.0	4./	0.1	0.5	
Adjusted S	torm Depth-	Area-Duration	on								
		6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours	_
	10 sq miles	12.9	13.1	13.3	14.1	14.4	14.5	14.8	15.7	16.2	_
	100 sq miles	12.6	12.9	13.1	13.9	14.1	14.4	14.5	15.3	16.0	
	200 sq miles	12.4	12.8	12.9	13.6	13.9	14.1	14.2	14.8	15.3	
	500 sq miles	11.9	12.4	12.5	13.0	13.5	13.7	13.7	14.1	14.2	_
10	000 sq miles	11.3	11.8	11.9	12.3	12.8	13.0	13.0	13.3	13.4	_
50	000 sq miles	5.9	7.2	7.4	7.5	8.7	9.0	9.2	10.4	10.9	_
100	000 sq miles	2.7	4.0	4.3	5.3	6.7	6.9	7.4	9.1	9.6	_
200	000 sq miles	1.8	2.6	2.9	3.3	4.5	4.9	5.8	7.5	8.0	
											-
Storm or St	orm Center N	Jame		Beaulieu, M	IN						
Storm Date	(s)			18-Jul-1909							
Storm Type	•			MCC							
Storm Loca	tion			47.35 N	95.80 W						
Storm Center	er Elevation			1,300							
Precipitation	n Total & Du	ration		13.20 Inches	s 72-hours U	SACE UMV	1-11				
Storm Repr	esentative De	ewpoint		78.0 F	6hr average						1
Storm Repr	esentative De	wpoint Locat	ion	43.32 N	98.08 W						_
Maximum I	Dewpoint			83.0 F							
Moisture In	flow Vector			SSW @ 275							1
In-place Ma	aximization F	actor		1.25							1
		· ·									
Temporal T	ransposition	(Date)		15-Jul							
Transpositio	on Dewnoint	Location		36.72 N	99.28 W						
Transpositio	on Demponie	Location									1
Basin Eleve	on Maximum	Dewpoint		82.5 F							-
	on Maximum ation	Dewpoint		82.5 F 1,300							
Transpositio	on Maximum ation on to Basin A	Dewpoint djustment Fa	ctor	82.5 F 1,300 0.98							
Transposition Higher of B	on Maximum ation on to Basin A asin Elevatio	Dewpoint djustment Fa n - Inflow Ba	ctor rrier Height	82.5 F 1,300 0.98 1,300							
Transpositio Higher of B Elevation A	on Maximum ation on to Basin A Gasin Elevatio Adjustment Fa	Dewpoint djustment Fa n - Inflow Ba ictor	ctor rrier Height	82.5 F 1,300 0.98 1,300 1.00							









Bonaparte, IA June 10, 1905 Storm Type: MCC

Storm Name: Bonaparte,	IA				1.			a 11	D • 4 4	0
Storm Date: 09-Jun-1903 AWA Analysis Date: 12/2/2008	5		2	storm A	djustmo	ent for I	Nebrask	a Grid	Point I	.0
Temporal Transposition Date	30-Jun									
I I I I I I I I I I	Lat	Long			Moisture In	flow Directi	on:	S @ 150	miles	
Storm center location	40.70 N	91.80 W			Basin Eleva	tion		1,300	feet	
Storm Rep dew point location	38.52 N	91.81 W			Storm Eleva	ation		1,500	feet	
Transposition dewpoint location	39.03 N	96.43 W			Storm Dura	ntion		6hr	feet	
Basin location	41.25 N	96.66 W								
The storm representative	dev point is	77 O F	with tot	al precipitab	la watar abor	va saa laval o	f		3 14	inches
The in-place maximum	dew point is	81.5 F	with tot	al precipitab	le water abov	ve sea level o	f		3.84	inches
The transpositioned maximum	dew point is	82.5 F	with tot	al precipitab	le water aboy	ze sea level o	f		4.00	inches.
The in-place storr	n elevation is	1,500	whi	ich subtracts	0.39	inches of	f precipitable	water at	77.0 F	
The in-place storr	n elevation is	1,500	whi	ich subtracts	0.445	inches of	f precipitable	water at	81.5 F	
The transposition basis	n elevation at	1,300	whi	ich subtracts	0.405	inches of	f precipitable	water at	82.5 F	
The inflow barrier/basin eleva	tion height is	1,300	whi	ich subtracts	0.405	inches of	f precipitable	water at	82.5 F	
The transposition/ The b	elevation to ba arrier adjustn e total adjustn	asin factor is nent factor is nent factor is	1.06 1.00 1.31							
Observed Storm Depth	-Area-Durati	on								
	6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours	
10 sq miles	10.0	12.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
100 sq miles	9.2	11.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	_
200 sq miles	8.9	11.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
500 sq miles	8.5	10.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	_
5000 sq miles	5.0	7.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
10000 sq miles	<u> </u>	56	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
20000 sq miles	3.0	3.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Adjusted Storm Depth-	Area-Duratio	on								
	6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours	1
10 sq miles	13.1	15.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

	onours	12 110415	10 110 110	211100115	50 110415	50 110415	10 110 110	00 110415	72 110uis
10 sq miles	13.1	15.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100 sq miles	12.0	15.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
200 sq miles	11.6	14.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
500 sq miles	11.1	14.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1000 sq miles	10.5	13.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5000 sq miles	7.6	9.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10000 sq miles	5.8	7.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20000 sq miles	3.9	5.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Storm or Storm Center Name	Bonaparte,	IA
Storm Date(s)	9-Jun-1905	
Storm Type	MCC	
Storm Location	40.70 N	91.80 W
Storm Center Elevation	1,500	
Precipitation Total & Duration	12.10 Inche	s 12-hours USACE UMV 2-5
Storm Representative Dewpoint	77.0 F	6hr average
Storm Representative Dewpoint Location	38.52 N	91.81 W
Maximum Dewpoint	81.5 F	
Moisture Inflow Vector	S @ 150 M	iles
In-place Maximization Factor	1.23	
Temporal Transposition (Date)	30-Jun	
Transposition Dewpoint Location	39.03 N	96.43 W
Transposition Maximum Dewpoint	82.5 F	
Basin Elevation	1,300	
Transposition to Basin Adjustment Factor	1.06	
Higher of Basin Elevation - Inflow Barrier Height	1,300	
Elevation Adjustment Factor	1.00	
Total Adjustment Factor	1.31	

Bonaparte, IA June 10, 1905 Inflow



-LEGEND- Area covered I final isohystal 2-inch isohyst.	by by			MAP		R	Storm Assign Locati Study Uppe: Rook Part J of Reman Bonaj	of Jument on S.E Prepar Miss: D: Island Revie ather I Appro Engine Factua ks: () wart ()	UM V UM V Is. Is. red by issipp: ivision i Dist wwed by Bureau oved by ers for I Data Center iear), urpe,	E I = 10, 1905 2 = 5 and W.Cont.II : i Valley n riot Office y H. M. Sec. of t, 6/20/40 office, Chief Distribution , 6/22/14 s at: Ia., and III.
Preliminary iso Precipitation d Form 5001-0 Form 5001-1 Miscl. precip Form 5002 (Final isohyetal Data and comp Form S-10 (Form S-11 (Form S-12 (Maximum d Data relatin	DAT hyetal ata ar C (Hou B (24- D (" C. reco (Mass utatio (Data (Depth (Maxim uratio ng to	TA A map, i id man rly pro- hour rds, m rds, m rainfa s, in s, in s, in she from - area num de n - dep period	ND (in 1 ss currectp. d " ateorol il curv 1 sh ets: mass i data spth-d th-are s of r	COMPU PA shee ves: ata) ") ogical es) pAF eet , : rainfai from i uratio ia cur naximu	ATTI ATTI ATTI ATTI Adata, Ada	ONS ile 1 atc 1 : 1 res) tal mai)	<u>сом</u> ; 2,50 ,000,0	PILED (0,000 () () () () () () () () () () () () ()	Number	r of Sheets) 8 6 4 19 2 1 6 1 2
Area in Sq. Mi.	UM /	AVERA	GE	DEPT	I OF	RAI	NFAL In	Hour	INCI	HES
	1	2	3	4	5	6	7	8	10	12
Max. Station	2.0	4.0	6.0	8.0	9.9	10.2	10.8	11.4	11.9	12.1
10 100 200	2.0 1.9 1.8 1.8 1.7	4.0 3.7 3.6 3.5 3.4 3.1	5*6 5*52 5-4-9 5-4-9 5-4-9	7.9 7.0 6.6 5.6	9.7 8.7 8.4 7.8 7.4 6.7	10.0 9.2 8.9 8.5 8.0 7.2	10.5 9.8 9.5 9.1 8.6 7.8	11.2 10.5 10.2 9.7 9.0 8.1	11.8 11.3 11.1 10.5 9.8 8.8	12.0 11.5 11.3 10.7 10.0 9.1



Boyden, IA September 17, 1926 Storm Type: MCC

Storm Name: Boyden, IA Storm Date: 17-Sep-1926				Storm Adjustment for Nebraska Grid Point 10								
Temporal Transposition Date 3-Sep												
		Lat	Long	N	loisture Iı	nflow Direction:	SSE @ 175	miles				
Storm center location		43.19 N	96.01 W	В	Basin Elevation 1,300							
Storm Rep dew point location 40.87 N			94.74 W	Storm Elevation 1,400				feet				
Transposition dewpoint location 38.43 N			95.73 W	Storm Duration 12hr				feet				
Basin location		41.25 N	96.66 W									
The storm	representativ	e dew point is	77.0 F	with total precipitable v	3.14	inches.						
The in-pl	ace maximur	n dew point is	78.0 F	with total precipitable water above sea level of					inches.			
The transposition	ned maximur	n dew point is	78.0 F	with total precipitable water above sea level of					inches.			
The in-place storm elevation is			1,400	which subtracts	0.37	inches of precipit	able water at	77.0 F				
The in-place storm elevation is 1,400			1,400	which subtracts	0.38	inches of precipit	able water at	78.0 F				
The transposition basin elevation at 1,300				which subtracts	0.36	inches of precipit	able water at	78.0 F				
The inflow barrier/basin elevation height is 1,300				which subtracts	0.36	inches of precipit	able water at	78.0 F				

The in-place storm maximization factor is	1.05
The transposition/elevation to basin factor is	1.01
The barrier adjustment factor is	1.00
The total adjustment factor is	1.06

Notes: DAD values taken from USACE Storm Studies MR 4-24

Observed Storm Depth-Area-Duration									
	6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours
10 sq miles	15.1	20.7	21.7	21.7	21.7	21.7	21.7	0.0	0.0
100 sq miles	12.8	17.1	17.8	17.8	17.8	17.8	17.8	0.0	0.0
200 sq miles	11.7	15.8	16.6	16.6	16.6	16.6	16.6	0.0	0.0
500 sq miles	9.4	12.6	13.3	13.3	13.3	13.3	13.3	0.0	0.0
1000 sq miles	7.5	10.1	10.4	10.6	10.6	10.6	10.6	0.0	0.0
5000 sq miles	4.1	6.3	6.4	6.6	6.6	6.6	6.6	0.0	0.0
10000 sq miles	3.0	5.2	5.4	5.5	5.6	5.6	5.6	0.0	0.0
20000 sq miles	2.1	4.1	4.3	4.4	4.6	4.8	4.9	0.0	0.0

Adjusted Storm Depth-Area-Duration									
	6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours
10 sq miles	16.0	21.9	23.0	23.0	23.0	23.0	23.0	0.0	0.0
100 sq miles	13.5	18.1	18.8	18.8	18.8	18.8	18.8	0.0	0.0
200 sq miles	12.4	16.7	17.6	17.6	17.6	17.6	17.6	0.0	0.0
500 sq miles	9.9	13.3	14.1	14.1	14.1	14.1	14.1	0.0	0.0
1000 sq miles	7.9	10.7	11.0	11.2	11.2	11.2	11.2	0.0	0.0
5000 sq miles	4.3	6.7	6.8	7.0	7.0	7.0	7.0	0.0	0.0
10000 sq miles	3.2	5.5	5.7	5.8	5.9	5.9	5.9	0.0	0.0
20000 sq miles	2.2	4.3	4.5	4.7	4.9	5.1	5.2	0.0	0.0

Storm or Storm Center Name	Bovden, IA	
Storm Date(s)	17-Sep-1926	
Storm Type	MCC	
Storm Location	43.19 N	96.01 W
Storm Center Elevation	1,400	
Precipitation Total & Duration	24.00 Inches	18-hours USACE Storm Studies MR 4-24
Storm Representative Dewpoint	77.0 F	12hr average
Storm Representative Dewpoint Location	40.87 N	94.74 W
Maximum Dewpoint	78.0 F	
Moisture Inflow Vector	SSE @ 175	
In-place Maximization Factor	1.05	
Temporal Transposition (Date)	3-Sep	
Transposition Dewpoint Location	38.43 N	95.73 W
Transposition Maximum Dewpoint	78.0 F	
Basin Elevation	1,300	
Transposition to Basin Adjustment Factor	1.01	
Higher of Basin Elevation - Inflow Barrier Height	1,300	
Elevation Adjustment Factor	1.00	
Total Adjustment Factor	1.06	

Boyden, IA September 17, 1926 Inflow







F-27

Cheyenne, OK April 3, 1934 Storm Type: MCC

Storm Name: Cheyenne, OK					G4	1.		N. I		D /	-	
Storm Date:	AWA Analysis Date: 12/2/2008					Aajustm	ent for	Nebras	ka Grid	Point :	5	
A WA Anarysis I	Date: 12/2/2008	45										
Temporal Trans	sposition Date	15-Apr	Lana	1		Malatana Ta	Ø		SE @ 250			
_	_	Lat	Long			Moisture In	How Direct	ion:	SE @ 250	miles		
Storm center loc	cation	35.61 N	99.67 W			Basin Eleva	tion		1,300	feet		
Storm Rep dew	point location	33.04 N	96.62 W			Storm Eleva	ation		1,990	feet		
Transposition de	ewpoint location	38.18 N	93.95 W			Storm Dura	ation		12hr	feet		
Basin location		41.25 N	96.66 W									
The	storm representative	dew point is	72.0 F	with tot	al precipitab	le water abov	ve sea level of	f		2.47	inches.	
The	e in-place maximum	dew point is	73.0 F	with tot	al precipitab	le water abov	ve sea level of	f		2.60	inches.	
The transp	bositioned maximum	dew point is	69.5 F	with tot	al precipitab	le water abov	ve sea level o	[2.20	inches.	
	The in-place storm	n elevation is	1,990	wh	ich subtracts	0.44	inches o	f precipitable	e water at	72.0 F		
771	I ne in-place storm	elevation is	1,990	wn	ich subtracts	0.45	inches o	r precipitable	e water at	/3.0 F		
In The inflor	te transposition basin	i elevation at	1,300	wh	ich subtracts	0.27	inches o	f precipitable	e water at	09.5 F 60 5 F		
The innov	v barrier/basin elevat	ion neight is	1,300	WIL	ich subtracts	0.27	inches o	r precipitable	e water at	09.5 F		
	The in all second		· · · · · · · · · · ·	1.06				on from LIC		Studioo M	D 6 16	
	The in-place stor	m maximiza	tion factor is	1.00		Notes: DAL	J values lak	en nom US	ACE Storm	Studies IVI	R 0-15	
	The transposition/e	elevation to b	asin factor is	0.90								
	The ba	arrier adjusti	lient factor is	1.00								
	The	total adjustn	nent factor is	0.95								
	The	total adjusti	lient fuetor is	0.70								
Obs	erved Storm Denth-	Area-Durati	ion									
0.00		6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours		
	10 sq miles	17.3	20.8	21.3	0.0	0.0	0.0	0.0	0.0	0.0	-	
	100 sq miles	14.4	17.1	17.7	0.0	0.0	0.0	0.0	0.0	0.0		
	200 sq miles	13.3	15.7	16.4	0.0	0.0	0.0	0.0	0.0	0.0		
	500 sq miles	11.5	13.5	14.0	0.0	0.0	0.0	0.0	0.0	0.0		
	1000 sq miles	9.1	10.7	11.1	0.0	0.0	0.0	0.0	0.0	0.0		
	5000 sq miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	10000 sq miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	20000 sq miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
											_	
Adju	usted Storm Depth-A	Area-Durati	on		1	1	1		1	1		
		6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours		
	10 sq miles	16.4	19.8	20.3	0.0	0.0	0.0	0.0	0.0	0.0		
	100 sq miles	13.7	16.3	16.8	0.0	0.0	0.0	0.0	0.0	0.0	4	
	200 sq miles	12.6	14.9	15.6	0.0	0.0	0.0	0.0	0.0	0.0	4	
	500 sq miles	10.9	12.8	13.3	0.0	0.0	0.0	0.0	0.0	0.0	4	
	1000 sq miles	8.7	10.2	10.6	0.0	0.0	0.0	0.0	0.0	0.0	-	
	5000 sq miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	
	20000 sq miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	
	20000 sq miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1	
Stor	m or Storm Center N	ame		Chevenne	OK							
Stor	m Date(s)	ane		3-Apr-1934								
Stor	m Type			MCC								
Stor	m Location			35.61 N	99.67 W						1	
Storm Center Elevation				1,990							1	
Precipitation Total & Duration				23.00 Inches	23.00 Inches 12-hours USACE Storm Studies SW 2-11							
											1	
Stor	m Representative De	wpoint		72.0 F	12hr average ad	lded 7°F to Td as	accepted by EP	RI Michigan Wi	sconsin study			
Stor	m Representative De	wpoint Locat	ion	33.04 N	96.62 W							
Max	73.0 F											
Mois	sture Inflow Vector			SE @ 250							1	
In-pl	In-place Maximization Factor					1.06						

Temporal Transposition (Date)	15-Apr	
Transposition Dewpoint Location	38.18 N	93.95 W
Transposition Maximum Dewpoint	69.5 F	
Basin Elevation	1,300	
Transposition to Basin Adjustment Factor	0.90	
Higher of Basin Elevation - Inflow Barrier Height	1,300	
Elevation Adjustment Factor	1.00	
Total Adjustment Factor	0.95	







F-31


Cole Camp, MO August 12, 1946 Storm Type: Synoptic

Storm Name: Storm Date: AWA Analysis Date:	Cole Camp 12-Aug-194 12/2/2008	9, MO 16		Stor	Storm Adjustment for Nebraska Grid Po					
Temporal Transpositio	n Date	28-Jul								
		Lat	Long		M	oisture In	flow Direction:	S @ 225	miles	
Storm center location		38.46 N	93.20 W		Ba	sin Eleva	tion	1,300	feet	
Storm Rep dew point location 35.20 N 93.20 W		93.20 W		Ste	orm Eleva	tion	1,000	feet		
Transposition dewpoint location 37.49 N 97.0 W Basin location 41.25 N 96.66 W				Storm Duration				feet		
The storm r	representativ	e dew point is	76.0 F	with total prec	cipitable wa	ter above	sea level of		2.99	inches.
The in-pla	ce maximun	n dew point is	79.0 F	with total prec	cipitable wa	ter above	sea level of		3.44	inches.
The transposition	ed maximur	n dew point is	79.5 F	with total precipitable water above sea level of					3.52	inches.
The i	in-place stor	m elevation is	1,000	which su	ubtracts	0.26	inches of precipita	ble water at	76.0 F	
The i	in-place stor	m elevation is	1,000	which su	ubtracts	0.28	inches of precipita	ble water at	79.0 F	
The trans	position basi	n elevation at	1,300	which su	ubtracts	0.375	inches of precipita	ble water at	79.5 F	
The inflow barrie	r/basin eleva	ation height is	1,300	which su	ubtracts	0.375	inches of precipita	ble water at	79.5 F	
The	e in-place sto	orm maximizat	ion factor is	1.16	No	otes: DAD	values taken from US	ACE MR 7-2A		
The ti	ransposition	elevation to ba	sin factor is	1.00						
	The	oarrier adjustm	ent factor is	1.00						
	Th	e total adjustm	ent factor is	1.15						

Deserved Storm Depth-Area-Duration												
	6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours			
10 sq miles	10.6	11.0	11.1	15.0	17.4	18.5	19.0	19.4	19.4			
100 sq miles	9.0	9.9	10.0	13.4	16.0	17.0	18.3	18.6	18.6			
200 sq miles	8.3	8.2	9.4	12.4	15.0	16.1	17.4	17.7	17.7			
500 sq miles	7.0	7.9	8.0	10.4	12.9	14.1	15.5	15.9	15.9			
1000 sq miles	5.5	6.6	7.0	8.3	10.9	12.0	13.7	14.1	14.1			
5000 sq miles	3.3	5.5	5.6	5.9	7.8	8.6	9.6	10.0	10.1			
10000 sq miles	2.8	4.2	5.0	5.4	6.5	7.2	8.1	8.4	8.7			
20000 sq miles	2.3	3.4	4.2	4.5	5.1	5.7	6.6	6.9	7.2			

Adjusted Storm Depth-	Adjusted Storm Depth-Area-Duration												
	6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours				
10 sq miles	12.2	12.7	12.8	17.3	20.0	21.3	21.9	22.3	22.3				
100 sq miles	10.4	11.4	11.5	15.4	18.4	19.6	21.1	21.4	21.4				
200 sq miles	9.6	9.4	10.8	14.3	17.3	18.5	20.0	20.4	20.4				
500 sq miles	8.1	9.1	9.2	12.0	14.9	16.2	17.9	18.3	18.3				
1000 sq miles	6.3	7.6	8.1	9.6	12.6	13.8	15.8	16.2	16.2				
5000 sq miles	3.8	6.3	6.5	6.8	9.0	9.9	11.1	11.5	11.6				
10000 sq miles	3.2	4.8	5.8	6.2	7.5	8.3	9.3	9.7	10.0				
20000 sq miles	2.6	3.9	4.8	5.2	5.9	6.6	7.6	7.9	8.3				

Storm or Storm Center Name	Cole Camp, I	МО
Storm Date(s)	12-Aug-1946	
Storm Type	Synoptic	
Storm Location	38.46 N	93.20 W
Storm Center Elevation	1,000	
Precipitation Total & Duration	19.40 Inches	60-hours USACE MR 7-2A
Storm Representative Dewpoint	76.0 F	24hr average
Storm Representative Dewpoint Location	35.20 N	93.20 W
Maximum Dewpoint	79.0 F	
Moisture Inflow Vector	S @ 225 Mile	2S
In-place Maximization Factor	1.16	
Temporal Transposition (Date)	28-Jul	
Transposition Dewpoint Location	37.49 N	97.0 W
Transposition Maximum Dewpoint	79.5 F	
Basin Elevation	1,300	
Transposition to Basin Adjustment Factor	1.00	
Higher of Basin Elevation - Inflow Barrier Height	1,300	
Elevation Adjustment Factor	1.00	
Total Adjustment Factor	1.15	



Cole Camp, MO August 12, 1946 Inflow



Form S-2



Collinsville, IL August 12, 1946 Storm Type: Synoptic

Storm Name:	Collinsville,	IL									
Storm Date:	12-Aug-194	6		Storm Adjustment for Grid Point 10							
AWA Analysis Date:	12/2/2008					J •					
Temporal Transpositio	on Date	28-Jul									
		Lat	Long			Moisture In	flow Directi	ion:	S @ 225	miles	
Storm center location		38.67 N	89.98 W			Basin Eleva	tion		1,300	feet	
Storm Rep dew point l	ocation	35.41 N	89.98 W			Storm Eleva	ation		600	feet	
Transposition dewpoin	t location	37.49 N	96.20 W			Storm Dura	tion		24hr	feet	
Basin location		41.25 N	96.66 W								
The storm i	representative	dew point is	76.0 F	with total	l precipitable	water above	sea level of			2.99	inches.
The in-pla	ace maximum	dew point is	79.0 F	with total	l precipitable	water above	sea level of			3.44	inches.
The transposition	ed maximum	dew point is	79.5 F	with total	l precipitable	water above	sea level of			3.52	inches.
The	in-place storn	n elevation is	600	wh	ich subtracts	0.16	inches of	f precipitable	e water at	76.0 F	
The	in-place storn	n elevation is	600	wh	ich subtracts	0.17	inches of	f precipitable	e water at	79.0 F	
The trans	position basir	n elevation at	1,300	wh	ich subtracts	0.375	inches of	f precipitable	e water at	79.5 F	
The inflow barrie	er/basin elevai	tion neight is	1,300	wh	ich subtracts	0.375	inches of	r precipitable	e water at	79.5 F	
				1.17	1	DAD	(. 1 f)		D T-11. C(7
In The t	e in-place stor	rm maximiza	tion factor is			DAD values	taken from	HMK 51 DA	D Table Stor	m index N.	
Thet	ransposition/e	arrier adjustr	asin factor is	0.96		80-USACE	WIK /-2B				
	The D	arrier aujustri	lent factor is	1.00							
	The	total adjustm	ent factor is	1.11							
					8						4
Observed S	Storm Depth-	Area-Durati	on								
		6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours	
	10 sq miles	6.0	9.8	12.1	12.1	13.7	17.5	17.6	18.3	18.3	
	100 sq miles	5.6	8.8	10.9	11.1	13.2	16.6	16.7	17.5	17.6	
	200 sq miles	5.4	8.5	10.5	10.6	13.0	16.2	16.3	17.2	17.3	
	500 sq miles	5.2	7.7	9.7	9.9	12.8	15.5	15.6	16.7	16.9	
1	000 sq miles	4.9	7.0	8.9	9.0	12.6	14.7	14.8	15.9	16.0	
5	000 sq miles	3.3	4.8	5.9	6.0	8.6	10.4	10.6	11.3	11.4	
10	000 sq miles	2.4	3.7	4.5	4.6	6.6	8.0	8.2	8.7	8.8	_
20	000 sq miles	1.5	2.5	3.1	3.2	4.6	5.6	5.8	6.0	6.1	
											-
Adjusted S	torm Depth-	Area-Duratio	on	10.11	0.4 77	20.11	0.6 11	40.44	<0.11	50 XX	_
	10 11	6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours	-
	10 sq miles	6.7	10.9	13.4	13.4	15.2	19.4	19.0	20.3	20.3	-
	100 sq miles	6.2	9.8	12.1	12.3	14./	18.4	18.0	19.4	19.0	-
	200 sq miles	5.0	9.4	11./	11.8	14.4	17.0	10.1	19.1	19.2	-
1	000 sq miles	5.0	0.0 7 9	10.0	11.0	14.2	1/.4	17.5	10.0	10.0	-
1	000 sq miles	3.4	1.0	<u> </u>	67	0.4	10.5	10.4	1/./	1/.0	-
10	000 sq miles	27	5.5 4 1	5.0	5.1	9.0 7 3	8.0	0 1	0 7	0.8	-
20	000 sq miles	1.7	2.8	3.0	3.1	51	62	6.4	67	6.8	1
20	ood sy miles	1./	2.0	5.7	5.0	3.1	0.4	7.7	0.7	0.0	4

Storm or Storm Center Name	Collinsville, I	L
Storm Date(s)	12-Aug-1946	
Storm Type	Synoptic	
Storm Location	38.67 N	89.98 W
Storm Center Elevation	600	
Precipitation Total & Duration	18.30 Inches	72-hours USACE MR 7-2B, HMR 51 DAD Table N. 80
Storm Representative Dewpoint	76.0 F	24hr average
Storm Representative Dewpoint Location	35.41 N	89.98 W
Maximum Dewpoint	79.0 F	
Moisture Inflow Vector	S @ 225 Mile	S
In-place Maximization Factor	1.16	
Temporal Transposition (Date)	28-Jul	
Transposition Dewpoint Location	37.49 N	96.20 W
Transposition Maximum Dewpoint	79.5 F	
Basin Elevation	1,300	
Transposition to Basin Adjustment Factor	0.96	
Higher of Basin Elevation - Inflow Barrier Height	1,300	
Elevation Adjustment Factor	1.00	
Total Adjustment Factor	1.11	



Collinsville, IL August 12, 1946 Inflow

Cooper, MI August 31, 1914 Storm Type: MCC

Storm Name:Cooper, MIStorm Date:31-Aug-191AWA Analysis Date:12/2/2008	4		Storm Ad	oint 1	0			
Temporal Transposition Date	16-Aug							
	Lat	Long	1	Moisture In	flow Direction:	SW @ 250	miles	
Storm center location	42.38 N	85.61 W	1	Basin Eleva	tion	1,300	feet	
Storm Rep dew point location	39.78 N	88.94 W	S	Storm Eleva	ation	1,500	feet	
Transposition dewpoint location Basin location	37.51 N 41.25 N	98.34 W 96.66 W	S	Storm Duration 6hr				
The storm representative	e dew point is	77.0 F	with total precipitable y	vater above	sea level of		3.14	inches
The in-place maximum	dew point is	82.0 F	with total precipitable v	vater above	sea level of		3.92	inches.
The transpositioned maximum	dew point is	81.5 F	with total precipitable v	vater above	sea level of		3.84	inches.
The in-place storn	n elevation is	1,500	which subtracts	0.39	inches of precipita	able water at	77.0 F	
The in-place storn	n elevation is	1,500	which subtracts	0.45	inches of precipita	able water at	82.0 F	
The transposition basi	n elevation at	1,300	which subtracts	0.395	inches of precipita	able water at	81.5 F	
The inflow barrier/basin eleva	tion height is	1,300	which subtracts	0.395	inches of precipita	able water at	81.5 F	

The in-place storm maximization factor is	1.26
The transposition/elevation to basin factor is	0.99
The barrier adjustment factor is	1.00
The total adjustment factor is	1.25

Notes: DAD values taken from USACE GL 2-16

Observed Storm Depth-Area-Duration											
	6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours		
10 sq miles	12.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
100 sq miles	11.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
200 sq miles	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
500 sq miles	7.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
1000 sq miles	5.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
5000 sq miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
10000 sq miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
20000 sq miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		

Adjusted Storm Depth-	Adjusted Storm Depth-Area-Duration												
	6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours				
10 sq miles	15.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
100 sq miles	14.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
200 sq miles	12.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
500 sq miles	9.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
1000 sq miles	7.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
5000 sq miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
10000 sq miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
20000 sq miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				

Storm or Storm Center Name	Cooper, MI	
Storm Date(s)	31-Aug-1914	
Storm Type	MCS	
Storm Location	42.38 N	85.61 W
Storm Center Elevation	1,500	
Precipitation Total & Duration	12.60 Inches 6	5-hours USACE GL 2-16
Storm Representative Dewpoint	77.0 F	6hr average, added 7°F to storm rep Td as reported by USACE based on ERPI and Wanahoo guidance
Storm Representative Dewpoint Location	39.78 N	88.94 W
Maximum Dewpoint	82.0 F	
Moisture Inflow Vector	SW @ 250 M	iles
In-place Maximization Factor	1.26	
Temporal Transposition (Date)	16-Aug	
Transposition Dewpoint Location	37.51 N	98.34 W
Transposition Maximum Dewpoint	81.5 F	
Basin Elevation	1,300	
Transposition to Basin Adjustment Factor	0.99	
Higher of Basin Elevation - Inflow Barrier Height	1,300	
Elevation Adjustment Factor	1.00	
Total Adjustment Factor	1.25	

Cooper, MI August 31, 1914 Inflow







F-45

Council Grove, KS July 9, 1951 Storm Type: Synoptic

Storm Name:Council GrStorm Date:09-Jul-1951AWA Analysis Date:12/2/2008			Storm Adjustment for Grid Point 10						
Temporal Transposition Date	24-Jul								
	Lat	Long	N	loisture Ir	nflow Direction:	SSW @ 205	miles		
Storm center location	38.66 N	96.49 W	В	asin Eleva	ation	1,300	feet		
Storm Rep dew point location	35.91 N	97.90 W	S	torm Eleva	ation	1,200	feet		
Transposition dewpoint location	38.45 N	97.87 W	S	torm Dura	ation	24hr	feet		
The storm representative	dow point is	75 A F	with total precipitable	water abo	va san laval of		2 85	inches	
The in-place maximum	dew point is	73.0 F	with total precipitable	water abov	ve sea level of		3.29	inches.	
The transpositioned maximum	dew point is	78.5 F	with total precipitable	water abov	ve sea level of		3.37	inches.	
The in-place storn	n elevation is	1,200	which subtracts	0.3	inches of precipit	able water at	75.0 F		
The in-place store	n elevation is	1,200	which subtracts	0.33	inches of precipit	able water at	78.0 F		
The transposition basi	n elevation at	1,300	which subtracts	0.365	inches of precipit	able water at	78.5 F		
The inflow barrier/basin eleva	tion height is	1,300	which subtracts	0.365	inches of precipit	able water at	78.5 F		

The in-place storm maximization factor is	1.16
The transposition/elevation to basin factor is	1.02
The barrier adjustment factor is	1.00
The total adjustment factor is	1.18

Notes: DAD values taken from USACE MR 10-2

Observed Storm Depth-Area-Duration									
	6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours
10 sq miles	5.3	7.0	7.9	8.6	11.8	13.1	14.3	17.2	18.2
100 sq miles	4.7	6.4	7.4	7.9	10.6	12.4	13.8	16.3	17.5
200 sq miles	4.6	6.2	7.2	7.5	10.2	12.0	13.3	15.9	17.0
500 sq miles	4.3	5.8	6.7	7.0	9.5	11.3	12.4	15.0	16.2
1000 sq miles	4.0	5.5	6.3	6.6	9.0	10.5	11.5	14.2	15.5
5000 sq miles	3.4	4.5	5.1	5.4	7.2	8.4	9.3	11.7	13.0
10000 sq miles	2.9	3.9	4.4	4.8	6.2	7.3	8.2	10.4	11.4
20000 sq miles	2.4	3.2	3.7	4.1	5.1	6.1	6.9	8.6	9.4

Adjusted Storm Depth-Area-Duration									
	6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours
10 sq miles	6.2	8.2	9.3	10.1	13.9	15.4	16.9	20.3	21.4
100 sq miles	5.5	7.5	8.7	9.3	12.5	14.6	16.3	19.2	20.6
200 sq miles	5.4	7.3	8.5	8.8	12.0	14.1	15.7	18.7	20.0
500 sq miles	5.1	6.8	7.9	8.2	11.2	13.3	14.6	17.7	19.1
1000 sq miles	4.7	6.5	7.4	7.8	10.6	12.4	13.6	16.7	18.3
5000 sq miles	4.0	5.3	6.0	6.4	8.5	9.9	11.0	13.8	15.3
10000 sq miles	3.4	4.6	5.2	5.7	7.3	8.6	9.7	12.3	13.4
20000 sq miles	2.8	3.8	4.4	4.8	6.0	7.2	8.1	10.1	11.1

Storm or Storm Center Name	Council Gro	ove, KS
Storm Date(s)	9-Jul-1951	
Storm Type	Synoptic	
Storm Location	38.66 N	96.49 W
Storm Center Elevation	1,200	
Precipitation Total & Duration	18.50 Inches	s 72-hours USACE MR 10-2
Storm Representative Dewpoint	75.0 F	24hr average
Storm Representative Dewpoint Location	35.91 N	97.90 W
Maximum Dewpoint	78.0 F	
Moisture Inflow Vector	SSW @ 205	Miles
In-place Maximization Factor	1.16	
Temporal Transposition (Date)	24-Jul	
Transposition Dewpoint Location	38.45 N	97.87 W
Transposition Maximum Dewpoint	78.5 F	
Basin Elevation	1,300	
Transposition to Basin Adjustment Factor	1.02	
Higher of Basin Elevation - Inflow Barrier Height	1,300	
Elevation Adjustment Factor	1.00	
Total Adjustment Factor	1.18	



Council Grove, KS July 9, 1951 Inflow



Form S-2



F-50

David City, NE June 24, 1963 Storm Type: MCC

Storm Name:David City,Storm Date:24-Jun-196AWA Analysis Date:12/2/2008	Storm Name: David City, NE Storm Date: 24-Jun-1963 WA Analysis Date: 12/2/2008					ent for N	Nebrask	a Grid	Point 1	0
Temporal Transposition Date	9-Jul									
Storm center location Storm Rep dew point location Transposition dewpoint location Basin location	Lat 41.23 N 39.407 N 39.415 N 41.25 N	Long 97.11 W 94.829 W 94.432 W 96.66 W			Moisture In Basin Eleva Storm Eleva Storm Dura	nflow Direct ation ation ation	ion:	SE @ 175 N 1,300 1,630 6hr	feet feet feet	
The storm representative The in-place maximum The transpositioned maximum The in-place storr The in-place storr The in-place storr The transposition basi The inflow barrier/basin eleva	e dew point is a dew point is a dew point is a elevation is a elevation is a elevation at tion height is	73.5 F 83.0 F 82.5 F 1,630 1,630 1,300 1,300	with tota with tota with tota wh wh wh wh	al precipitable al precipitable al precipitable ich subtracts ich subtracts ich subtracts ich subtracts	e water above e water above e water above 0.375 0.49 0.405 0.405	e sea level of e sea level of e sea level of inches o inches o inches o inches o	f precipitable f precipitable f precipitable f precipitable	e water at e water at e water at e water at	2.67 4.08 4.00 73.5 F 83.0 F 82.5 F 82.5 F	inches. inches. inches.
The in-place sto The transposition/ The b The	1.50 1.00 1.00 1.50		In place of 55A guidar	1.56 adjust nce. DAD v	ed to 1.50 b alues taken	ased on HM from SPAS	IR 51 and 5 1030.]		
Observed Storm Depth	-Area-Durati	ion								
10 sq miles 100 sq miles 200 sq miles 500 sq miles 1000 sq miles 5000 sq miles 20000 sq miles	6 Hours 13.3 11.2 10.5 9.0 7.8 4.2 2.6 1.5	12 Hours 14.6 12.7 12.0 10.4 9.0 5.9 4.1 2.4	18 Hours 15.0 13.1 12.4 10.8 9.4 6.6 4.6 2.9	24 Hours 15.2 13.2 12.5 10.8 9.5 6.8 4.9 3.1	30 Hours 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	36 Hours 15.2 13.2 12.5 10.8 9.5 6.9 4.9 3.1	48 Hours 15.2 13.2 12.5 10.9 9.5 6.9 5.0 3.1	60 Hours 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	72 Hours 15.2 13.2 12.5 10.9 9.5 6.9 5.0 3.1	
Adjusted Storm Depth-	Area-Durati	on	1	1	1	1			1	
10 sq miles	6 Hours 20.0	12 Hours 22.0	18 Hours 22.5	24 Hours 22.8	30 Hours 0.0	36 Hours 22.8	48 Hours 22.8	60 Hours 0.0	72 Hours 22.8	-

10 sq miles	20.0	22.0	22.3	22.0	0.0	22.0	22.0	0.0	44.0
100 sq miles	16.9	19.1	19.7	19.9	0.0	19.9	19.9	0.0	19.9
200 sq miles	15.7	18.0	18.6	18.8	0.0	18.8	18.8	0.0	18.8
500 sq miles	13.5	15.7	16.2	16.3	0.0	16.3	16.3	0.0	16.3
1000 sq miles	11.7	13.5	14.1	14.2	0.0	14.2	14.2	0.0	14.3
5000 sq miles	6.3	8.9	9.9	10.2	0.0	10.3	10.3	0.0	10.3
10000 sq miles	4.0	6.2	6.9	7.4	0.0	7.4	7.5	0.0	7.5
20000 sq miles	2.3	3.7	4.3	4.7	0.0	4.7	4.7	0.0	4.7

Storm or Storm Center Name	David City, 1	NE		
Storm Date(s)	24-Jun-1963			
Storm Type	MCC			
Storm Location	41.23 N	97.11 W		
Storm Center Elevation	1,630			
Precipitation Total & Duration	16.50 Inches	24-hours USACE Bcket Survey Data		
Storm Representative Dewpoint	73.5 F	6hr average		
Storm Representative Dewpoint Location	39.407 N	94.829 W		
Maximum Dewpoint	83.0 F			
Moisture Inflow Vector	SE @ 175 Miles			
In-place Maximization Factor	1.50			
Temporal Transposition (Date)	9-Jul			
Transposition Dewpoint Location	39.415 N	94.432 W		
Transposition Maximum Dewpoint	82.5 F			
Basin Elevation	1,300			
Transposition to Basin Adjustment Factor	1.00			
Higher of Basin Elevation - Inflow Barrier Height	1,300			
Elevation Adjustment Factor	1.00			
Total Adjustment Factor	1.50			



David City, NE June 24, 1963 Inflow

Storm 1030 - Wahoo NE, June 22 - 24, 1963

Duration (hours) Area (ml²) 1 2 3 4 5 6 12 18 24 36 48 72 total 7.07 7.83 10.65 12.32 13.98 15.54 15.90 15.98 15.98 15.98 13.12 15.98 15.98 1 10 6.57 7.35 10.06 11.71 12.50 13.30 14.64 15.01 15.15 15.13 15.13 15.16 15.16 100 5.18 5.91 8.12 9.58 10.39 11.22 12.74 13.13 13.23 13.23 13.23 13.23 13.23 200 4.64 5.45 7.41 8.77 9.68 10.45 12.01 12.39 12.49 12.49 12.50 12.52 12.52 500 3.76 4.80 6.15 7.23 8.36 9.02 10.43 10.78 10.82 10.84 10.86 10.87 10.87 1,000 3.03 4.10 5.08 6.17 7.19 7.77 8.96 9.39 9.45 9.47 9.48 9.51 9.51 5,000 0.82 1.78 2.46 3.13 3.59 4.17 5.93 6.62 6.80 6.85 6.88 6.88 6.88 10,000 0.61 1.05 1.61 1.98 2.34 2.64 4.11 4.61 4.92 4.94 4.96 4.96 4.96 20,000 0.39 0.61 0.88 1.14 1.34 1.50 2.44 2.86 3.11 3.12 3.13 3.14 3.14

SPAS #1030 DAD Curves Wahoo NE, June 22 - 24, 1963 100,000 - 2-hour 10,000 - 3-hour +- 4-hour 1,000 Area (mi²) 5-hour - 5-hour 100 12-hour 10 - 18-hour Total storm (72hour) 1+ 7 10 13 0 1 2 3 4 5 6 8 9 11 12 14 15 16 17 18 Maximum Average Depth of Precipitation (Inches)

MAXIMUM AVERAGE DEPTH OF PRECIPITATION (INCHES)





Coordinate system: GCS North American 1983 Scale: 1.44,522,173 Automotive Mace 1, 2007

40

0 10 20

Kilometers

80

· Hourly · Supplemental

Edgerton, MO July 18, 1965 Storm Type: Hybrid

Storm Date:1AWA Analysis Date:1	17-Jul-1965	5		Storm Adjustment for Nebraska Grid Point 10					
Temporal Transposition	Date	16-Jul							
		Lat	Long	Ν	Moisture Ir	nflow Direction:	SW @ 60	miles	
Storm center location 39.51 N		39.51 N	94.63 W	I	Basin Elevation 1,300			feet	
Storm Rep dew point loo	cation	38.89 N	95.42 W	S	Storm Elev	ation	900	feet	
Transposition dewpoint Basin location	location	40.13 N 41.25 N	97.79 W 96.66 W	S	Storm Dura	ation	24hr	feet	
The storm re	presentative	e dew point is	71.0 F	with total precipitable	water abov	ve sea level of		2.36	inches.
The in-plac	e maximun	n dew point is	79.5 F	with total precipitable water above sea level of					inches.
The transpositione	d maximun	n dew point is	79.0 F	with total precipitable	water abov	ve sea level of		3.44	inches.
The in	-place stori	n elevation is	900	which subtracts	0.2	inches of precipita	able water at	71.0 F	
The in	-place stori	n elevation is	900	which subtracts	0.265	inches of precipita	able water at	79.5 F	
The transp	osition basi	n elevation at	1,300	which subtracts	0.37	inches of precipita	able water at	79.0 F	
The inflow barrier	/basin eleva	tion height is	1,300	which subtracts	0.37	inches of precipita	able water at	79.0 F	

The in-place storm maximization factor is	1.50
The transposition/elevation to basin factor is	0.94
The barrier adjustment factor is	1.00
The total adjustment factor is	1 41

Notes: DAD values taken from EPRI Storm Number 20

Observed Storm Depth-Area-Duration									
	6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours
10 sq miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100 sq miles	8.2	9.5	0.0	13.9	0.0	0.0	16.5	0.0	16.5
200 sq miles	7.7	8.9	0.0	12.7	0.0	0.0	15.1	0.0	15.1
500 sq miles	6.9	8.0	0.0	11.4	0.0	0.0	13.4	0.0	13.4
1000 sq miles	6.2	7.2	0.0	10.4	0.0	0.0	12.5	0.0	12.5
5000 sq miles	3.4	4.6	0.0	7.9	0.0	0.0	10.3	0.0	10.3
10000 sq miles	2.1	3.2	0.0	6.1	0.0	0.0	8.1	0.0	8.1
20000 sq miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Adjusted Storm Depth-Area-Duration									
	6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours
10 sq miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100 sq miles	11.6	13.4	0.0	19.7	0.0	0.0	23.3	0.0	23.3
200 sq miles	10.9	12.6	0.0	18.0	0.0	0.0	21.4	0.0	21.4
500 sq miles	9.8	11.3	0.0	16.1	0.0	0.0	19.0	0.0	19.0
1000 sq miles	8.8	10.2	0.0	14.7	0.0	0.0	17.7	0.0	17.7
5000 sq miles	4.8	6.5	0.0	11.2	0.0	0.0	14.6	0.0	14.6
10000 sq miles	3.0	4.5	0.0	8.6	0.0	0.0	11.5	0.0	11.5
20000 sq miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Storm or Storm Center Name	Edgerton, I	MO		
Storm Date(s)	17-Jul-1965			
Storm Type	Synoptic			
Storm Location	39.51 N	94.63 W		
Storm Center Elevation	900			
Precipitation Total & Duration	20.02 Inche	s 72-hours EPRI Storm Number 20		
Storm Representative Dewpoint	71.0 F	24hr average		
Storm Representative Dewpoint Location	38.89 N	95.42 W		
Maximum Dewpoint	79.5 F			
Moisture Inflow Vector	SW @ 60 Miles			
In-place Maximization Factor	1.50			
Temporal Transposition (Date)	16-Jul			
Transposition Dewpoint Location	40.13 N	97.79 W		
Transposition Maximum Dewpoint	79.0 F			
Basin Elevation	1,300			
Transposition to Basin Adjustment Factor	0.94			
Higher of Basin Elevation - Inflow Barrier Height	1,300			
Elevation Adjustment Factor	1.00			
Total Adjustment Factor	1.41			

Edgerton, MO July 18, 1965 Inflow



Enid, OK October 10, 1973 Storm Type: Hybrid

orm Name: Enid, OK												
n Date:	10-Oct-197.	3		Storm Adjustment for Grid Point 5								
Analysis Date:	12/2/2008											
ooral Transpositio	n Date	1-Oct	-									
		Lat	Long			Moisture Ir	nflow Direct	ion:	SSE @ 225	miles		
rm center location 36.38 N 97.87 W						Basin Eleva	ation		1,300	feet		
rm Rep dew point location 33.35 N 96.55 W			96.55 W			Storm Elev	ation		1,250	feet		
sposition dewpoin	t location	36.22 N	93.68 W			Storm Dura	ation		12hr	feet		
location		41.25 N	96.66 W									
The storm representative dew point is 75.0 F				with tota		2.85	inches.					
The in-pla	ce maximum	dew point is	76.5 F	with tota	with total precipitable water above sea level of							
The transposition	ed maximum	dew point is	75.0 F	with tota		2.92	inches.					
The i	n-place storn	n elevation is	1,250	wh	ich subtracts	0.31	inches o	f precipitable	water at	75.0 F		
The 1	n-place storr	n elevation is	1,250	wh	ich subtracts	0.325	inches o	f precipitable	e water at	76.5 F		
The trans	1,300	wh	ich subtracts	0.325	inches o	f precipitable	water at	75.0 F				
The inflow barrie	r/basin eleva	tion height is	1,300	wh	ich subtracts	0.325	inches o	f precipitable	e water at	75.0 F		
				1.00								
The	e in-place sto	rm maximizat	tion factor is	1.08		Notes: DAD	values taker	n from SPAS	1034.			
The tr	ansposition/	elevation to ba	asin factor is	0.95								
	The b	arrier adjustr	ient factor is	1.00								
	(T)	1 1 .		1.00								
	1 ne	e total adjustir	ient factor is	1.02	l							
											-	
Observed S	torm Depth	-Area-Durati	0 n	10 11	24 11	20 11	26 11	40.11	CO Harris	70 11		
	10 an miles	6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	12 Hours		
	10 sq miles	10.7	10.3	16.1	16.1	0.0	16.1	16.5	0.0	18.5	_	
	100 sq miles	9.7	14.0	10.2	10.2	0.0	10.2	10.4	0.0	10.0	_	
	200 sq miles	9.1 7.0	13.7	13.2	13.2	0.0	13.2	12.0	0.0	13.5	-	
	00 sq miles	67	0.5	10.5	10.5	0.0	10.5	12.5	0.0	12.9	_	
50	00 sq miles	3.0	5.2	5.6	56	0.0	56	57	0.0	57	-	
100	00 sq miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	_	
200	00 sq miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
200	Job sq miles	0.0	010	0.0	0.0	0.0	0.0	010	0.0	0.0		
Adjusted St	torm Denth.	Area-Duratio	m									
rujusteu b	iorin Depin-	6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours		
	10 sa miles	11.0	16.7	18.5	18.5	0.0	18.5	18.7	0.0	18.9		
1	100 sq miles	9.9	15.0	16.6	16.6	0.0	16.6	16.7	0.0	16.9		
2	200 sq miles	9.3	14.0	15.5	15.5	0.0	15.5	15.6	0.0	15.8		
4	500 sq miles	8.1	11.6	13.0	13.0	0.0	13.0	13.1	0.0	13.2		
10	000 sq miles	6.9	9.7	10.8	10.8	0.0	10.8	10.8	0.0	10.9		
50	000 sq miles	4.0	5.3	5.8	5.8	0.0	5.8	5.8	0.0	5.8		
100	000 sq miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
200	000 sq miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
											_	
Storm or Sto	orm Center N	Vame		Enid, OK								
Storm Date	(s)			10-Oct-1973								
Storm Type	Storm Type				MCC							
Storm Locat	Storm Location				97.87 W							
Storm Center	Storm Center Elevation				1,250							
Precipitation	Precipitation Total & Duration				20.00 Inches 15-hours NCDC Storm Data report							
Storm Repre	esentative De	ewpoint		75.0 F	12hr average take	n from KDFW and	WACO from 2100	CDT 10-9-73 to 09	00CDT10-10-73		_	
Storm Repre	Storm Representative Dewpoint Location				33.35 N 96.55 W							
Maximum Dewpoint				76.5 F								
Moisture Inflow Vector				SSE @ 225 1	Miles						1	
In-place Ma	ximization F	actor		1.08								
											_	
Temporal T	ransposition	(Date)		1-Oct							_	
Transpositio	Transposition Dewpoint Location				93.68 W						_	
Transpositio	on Maximum	Dewpoint		75.0 F							_	
Basin Eleva	1,300							_				

1.00 1.02

Transposition to Basin Adjustment Factor0.95Higher of Basin Elevation - Inflow Barrier Height1,300

Elevation Adjustment Factor Total Adjustment Factor



Enid, OK October 10, 1973 Inflow

	Duration (hours)													
Area (ml ²)	15 E	2	3	4	5	6	12	18	24	36	48	72	96	total
1	2.77	4.26	5.74	7.96	9.22	11.22	17.09	18.98	19.02	19.02	19.20	19.38	19.45	19.45
10	2.65	4.07	5.50	7.61	8.81	10.73	16.33	18.07	18.07	18.07	18.27	18.51	18.58	18.58
100	2.36	3.63	4.98	6.83	7.90	9.65	14.64	16,19	16.20	16.20	16.37	16.58	16.64	16.64
200	2.21	3.40	4.79	6.43	7.40	9.09	13.69	15.19	15.21	15.21	15.30	15.51	15.57	15.57
500	2.04	2.93	4.43	5.50	6.33	7.91	11.32	12.69	12.69	12.69	12.86	12.89	13.06	13.06
1,000	1.85	2.65	3.89	4.58	5.40	6.71	9.45	10.53	10.53	10.53	10.60	10.63	10.89	10.89
5,000	0.94	1.48	2.38	2.76	3.18	3.91	5.18	5.63	5.63	5.63	5.67	5.68	6.32	6.32

MAXIMUM AVERAGE DEPTH OF PRECIPITATION (INCHES)







Forest City, MN June 21, 1983 Storm Type: MCC

Name:														
Date:	21-Jun-198.	3		Storm Adjustment for Nebraska Grid Point 10										
Analysis Date:	12/2/2008													
oral Transpositio	n Date	6-Jul		-		-								
LatLata center location45.206 N94.4a Rep dew point location44.02 N92.sposition dewpoint location40.05 N94.Jocation41.25 N96		Long 94.466 W 92.94 W 94.95 W 96.66 W			Moisture Ir Basin Eleva Storm Elev Storm Dura	nflow Direct ation ation ation	ion:	SE @ 110 1,300 1,081 12hr	miles feet feet feet					
location		41.23 N	30.00 W											
The storm r The in-pla	epresentative ce maximum	dew point is dew point is	72.0 F 82.0 F	with tota with tota	al precipitabl al precipitabl	e water above e water above	e sea level of e sea level of			2.47 3.92	inches. inches.			
The transposition The i The i The trans The inflow barrie	ed maximum in-place storn in-place storn position basin pr/basin elevat	dew point is n elevation is n elevation is n elevation at tion height is	81.0 F 1,081 1,081 1,300 1,300	with tota wh wh wh wh	I precipitabl ich subtracts ich subtracts ich subtracts ich subtracts	e water above 0.25 0.34 0.39 0.39	e sea level of inches o inches o inches o inches o	f precipitable f precipitable f precipitable f precipitable	e water at e water at e water at e water at	3.76 72.0 F 82.0 F 81.0 F 81.0 F	inches.			
The in-place storm maximization factor is The transposition/elevation to basin factor is The barrier adjustment factor is The total adjustment factor is				1.50 0.94 1.00 1.41	1.501.61 calculated, but 1.50 used based on HMR 51 and0.94HMR 55A guidance. DAD values taken from SPAS1.001035.									
Observed S	Storm Depth	-Area-Durati	on											
		6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours				
-	10 sq miles	7.7	12.7	12.7	12.7	0.0	15.3	15.3	0.0	15.3				
	100 sq miles	6.2	10.2	10.2	10.2	0.0	12.8	12.8	0.0	12.8				
	200 sq miles	5.8	9.4	9.5	9.5	0.0	12.0	12.0	0.0	12.0	_			
1	500 sq miles	5.0	7.9	8.0	8.0	0.0	9.9	9.9	0.0	10.0	-			
5	000 sq miles	4.5	0.5	0.0	0.0	0.0	/.9	1.9	0.0	1.9	-			
10	000 sq miles	2.4	5.4	3.4	5.4	0.0	4.0	4.0	0.0	4.0	-			
20	000 sq miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
20	ooo se nines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	010	4			
Adjusted S	torm Donth	Aroo Duroti	on											
Aujusteu 5	torin Deptii-	6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours				
	10 sa miles	10.9	18.0	18.0	18.0	0.0	21.7	21.7	0.0	21.7	-			
	100 sq miles	8.8	14.4	14.4	14.4	0.0	18.1	18.1	0.0	18.1				
	200 sq miles	8.1	13.2	13.3	13.3	0.0	16.9	16.9	0.0	16.9				
	500 sq miles	7.1	11.2	11.3	11.3	0.0	14.0	14.0	0.0	14.1				
10	000 sq miles	6.3	9.2	9.2	9.2	0.0	11.1	11.1	0.0	11.2				
5	000 sq miles	3.4	4.7	4.8	4.8	0.0	5.6	5.6	0.0	5.6				
10	000 sq miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
20	000 sq miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Storm or St	orm Center N	lame		Forest City,	MN									
Storm Date	(s)			21-Jun-1983										
Storm Type				MCU-1 hunderstorm Complex										
Storm Loca	1.001 74.400 W													
Procipitatio	Precipitation Total & Duration					1,001 17.00 Inches 12-hours NCDC Storm Data report								
recipitatio		ration		17.00 menes	12-110013100	CDC Storin L								
Storm Repr	esentative De	wpoint		72.0 F	12hr average Td t	aken from KRST. N	ACW, and KMSP 9	hr ave from 06-20	83 22Z to 06-21-83	3 06Z				
Storm Repr	Storm Representative Dewpoint Location				44.02 N 92.94 W									
Maximum Dewpoint				82.0 F										
Moisture Inflow Vector				SE @ 110										
In-place Ma	aximization F	actor		1.50										
		~ `									4			
Temporal Transposition (Date)				6-Jul	04.07.***						4			
Transposition Dewpoint Location				40.05 N	94.95 W						-			
Iransposition Maximum Dewpoint				81.0 F							4			
Basin Eleva	1,300							-						
Higher of P	1 300							1						
Elevation Adjustment Eactor				1,00							1			
Total Adius	Total Adjustment Factor										1			
Jus														

Forest City, MN June 21, 1983 Inflow


- 10 - 10 - 10 - 10 - 10 - 10 - 10 - 10	Duration (hours)													
Area (mi²)	2.1	2	3	4	5	6	12	18	24	36	48	72	96	total
1	3.66	5.16	6.16	6.91	7.18	8.35	13.84	13.89	13.89	16.53	16.53	16.53	16.53	16.53
10	3.28	3.97	5.63	6.35	6.62	7.71	12.73	12.74	12.74	15.34	15.34	15.34	15.34	15.34
100	2.62	3.44	4.90	5.54	5.63	6.23	10.23	10.23	10.23	12.79	12.79	12.79	12.79	12.79
200	2.40	3.26	4.62	5.23	5.33	5.77	9.38	9.45	9.45	11.97	11.97	11.97	11.97	11.97
500	2.22	3.03	4.20	4.77	4.87	5.02	7.94	7.98	7.98	9.90	9.90	9.97	9.97	9.97
1,000	2.03	2,79	3.71	4.25	4.33	4,45	6.54	6.55	6.55	7.89	7.89	7.91	7.91	7.91
5,000	1.08	1.48	1.94	2.22	2.26	2.43	3.35	3.38	3.38	4.00	4.00	4.00	4.01	4.01

Storm 1035 - Forest City, MN June 19 - 22, 1983









Grant Township, NE June 3, 1940 Storm Type: MCC

Storm Name: Grant Tow										
Storm Date: 03-Jun-194	0		S	Storm A	djustm	ent for I	Nebrask	ka Grid	Point 1	0
AWA Analysis Date: 12/2/2008					ů					
Temporal Transposition Date	18-Jun		_							
	Lat	Long			Moisture In	flow Directi	ion:	S @ 120	miles	
Storm center location	42.24 N	96.59 W			Basin Eleva	tion		1,300	feet	
Storm Rep dew point location	40.51 N	96.59 W			Storm Eleva	ation		1,400	feet	
Transposition dewpoint location	39.02 N	97.00 W			Storm Dura	tion		6hr	feet	
Basin location	41.25 N	96.66 W								
The storm representative	e dew point is	74.0 F	with tot	al precipitab	le water abov	ve sea level o	f		2.73	inches.
The in-place maximum	dew point is	82.0 F	with tot	al precipitab	le water abov	ve sea level o	f		3.92	inches.
The transpositioned maximum	dew point is	82.0 F	with tot	al precipitab	le water abov	ve sea level o	f		3.92	inches.
The in-place storr	n elevation is	1,400	wh	ich subtracts	0.34	inches of	f precipitable	e water at	74.0 F	
The in-place storr	n elevation is	1,400	wh	ich subtracts	0.44	inches of	f precipitable	e water at	82.0 F	
The transposition basis	n elevation at	1,300	wh	ich subtracts	0.4	inches of	f precipitable	e water at	82.0 F	
The inflow barrier/basin eleva	tion height is	1,300	wh	ich subtracts	0.4	inches of	f precipitable	water at	82.0 F	
The in-place sto The transposition/ The b The	The in-place storm maximization factor is The transposition/elevation to basin factor is The barrier adjustment factor is The total adjustment factor is						en nom US	ACE Storm	Studies	
Observed Storm Depth	-Area-Durati	on								1
	6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours	
10 sq miles	13.0	13.0	13.0	0.0	0.0	0.0	0.0	0.0	0.0	
100 sq miles	10.6	11.7	11.7	0.0	0.0	0.0	0.0	0.0	0.0	
200 sq miles	9.6	11.2	11.2	0.0	0.0	0.0	0.0	0.0	0.0	-
500 sq miles	8.3	10.2	10.3	0.0	0.0	0.0	0.0	0.0	0.0	-
1000 sq miles	7.2	8.9	9.0	0.0	0.0	0.0	0.0	0.0	0.0	-
5000 sq miles	4.2	5.5	5.7	0.0	0.0	0.0	0.0	0.0	0.0	
10000 sq miles	3.1	4.4	4.6	0.0	0.0	0.0	0.0	0.0	0.0	
20000 sq miles	2.1	3.3	3.5	0.0	0.0	0.0	0.0	0.0	0.0	
Adjusted Storm Depth-	Area-Durati	on								
	6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours	
10 sq miles	19.1	19.1	19.1	0.0	0.0	0.0	0.0	0.0	0.0	
100 sq miles	15.6	17.2	17.2	0.0	0.0	0.0	0.0	0.0	0.0	
200 sq miles	14.1	16.5	16.5	0.0	0.0	0.0	0.0	0.0	0.0	

100 sq miles	15.6	17.2	17.2	0.0	0.0	0.0	0.0	0.0	0.0
200 sq miles	14.1	16.5	16.5	0.0	0.0	0.0	0.0	0.0	0.0
500 sq miles	12.2	15.0	15.2	0.0	0.0	0.0	0.0	0.0	0.0
1000 sq miles	10.6	13.1	13.3	0.0	0.0	0.0	0.0	0.0	0.0
5000 sq miles	6.2	8.1	8.4	0.0	0.0	0.0	0.0	0.0	0.0
10000 sq miles	4.6	6.5	6.8	0.0	0.0	0.0	0.0	0.0	0.0
20000 sq miles	3.1	4.9	5.2	0.0	0.0	0.0	0.0	0.0	0.0

Storm or Storm Center Name	Grant Tow	nship, NE
Storm Date(s)	3-Jun-1940	
Storm Type	MCC	
Storm Location	42.24 N	96.59 W
Storm Center Elevation	1,400	
Precipitation Total & Duration	13.00 Inche	es 6-hours USACE Storm Studies MR 4-5
Storm Representative Dewpoint	74.0 F	6hr average, 7° add to storm rep USACE Td based on EPRI and Wanahoo guidance
Storm Representative Dewpoint Location	40.51 N	96.59 W
Maximum Dewpoint	82.0 F	
Moisture Inflow Vector	S @ 120 M	iles
In-place Maximization Factor	1.46	
Temporal Transposition (Date)	18-Jun	
Transposition Dewpoint Location	39.02 N	97.00 W
Transposition Maximum Dewpoint	82.0 F	
Basin Elevation	1,300	
Transposition to Basin Adjustment Factor	1.01	
Higher of Basin Elevation - Inflow Barrier Height	1,300	
Elevation Adjustment Factor	1.00	
Total Adjustment Factor	1.47	

Grant Township, NE 1940

Grant Township, NE June 3, 1940 Inflow





Greeley, NE June 4, 1896 Storm Type: MCC

Storm Name:Greeley, NIStorm Date:6/4/1896AWA Assisting Date:6/2/2008	Ξ		S	Storm A	djustm	ent for l	Nebrasl	ka Grid	Point 1	0
AWA Analysis Date: 12/2/2008	10. lun									
Temporal Transposition Date	19-Jun	Long			Moisture Ir	flow Directi	ion•	SSF @ 145	miles	
Storm center location	41 55 N	98 53 W			Racin Flava	niow Direct		1 300	foot	
Storm Ben dew point location	30.61 N	07 /0 W			Storm Flow	ation		2,000	foot	
Transposition dewpoint location	38.81 N	95 96 W			Storm Durs	ation		-,000	feet	
Basin location	41.25 N	96.66 W				ition .		UIII	leet	
The storm representative	dew point is	76.0 F	with tot	al precipitab	le water abov	ve sea level o	f		2.99	inches.
The in-place maximum	dew point is	82.0 F	with tot	al precipitab	le water abov	ve sea level o	f		3.92	inches.
The transpositioned maximum	dew point is	82.0 F	with tot	al precipitab	le water abov	ve sea level o	f		3.92	inches.
The in-place storn	n elevation is	2,000	wh	ich subtracts	0.5	inches of	f precipitable	water at	76.0 F	
The in-place storn	n elevation is	2,000	wh	ich subtracts	0.61	inches of	f precipitable	water at	82.0 F	
The transposition basin	i elevation at	1,300	wh	ich subtracts	0.4	inches of	f precipitable	water at	82.0 F	
The Innow barrier/basin eleva	tion neight is	1,300	WIL	ich subtracts	0.4	inches o	r precipitable	e water at	82.0 F	
The in-place stor	rm mavimiza	tion factor is	1 33		Notes: DAD) values taker	from USA	TE MR 4-3		1
The transposition/	elevation to h	asin factor is	1.06		Notes. DAD	values takei	I II UIII USAC	2E WIX 4 -5		
The b	arrier adjustn	nent factor is	1.00							
The	e total adjustn	nent factor is	1.41							
										-
Observed Storm Depth	-Area-Durati	on		_				_		
	6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours	ļ
10 sq miles	12.0	12.0	12.2	12.3	12.3	12.3	12.3	12.3	12.3	-
100 sq miles	11.6	11.6	11.6	11.8	11.8	11.8	11.8	11.8	11.8	-
200 sq miles	11.2	11.2	11.2	11.5	11.5	11.5	11.5	11.5	11.5	-
500 sq miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
5000 sq miles	<u> </u>	0.9 4 3	9.0	9.2 5.1	9.4 5.2	5.3	53	5.3	9.4 5 3	-
10000 sq miles	2.4	2.8	3.7	4.0	4.1	4.2	4.2	4.4	4.5	-
20000 sq miles	1.3	1.8	2.6	3.0	3.1	3.2	3.2	3.7	3.8	-
· · · · · · · · · · · · · · · · · · ·						l.	ł			
Adjusted Storm Depth-	Area-Durati	on								1
	6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours	
10 sq miles	17.0	17.0	17.2	17.4	17.4	17.4	17.4	17.4	17.4	
100 sq miles	16.4	16.4	16.4	16.7	16.7	16.7	16.7	16.7	16.7	
200 sq miles	15.8	15.8	15.8	16.3	16.3	16.3	16.3	16.3	16.3	
500 sq miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
1000 sq miles	12.3	12.6	12.7	13.0	13.3	13.3	13.3	13.3	13.3	
5000 sq miles	5.7	6.1	6.9	7.2	7.4	7.5	7.5	7.5	7.5	
20000 sq miles	3.4	4.0	5.2	5.7	5.8	5.9	5.9	0.2 5.2	0.4 5.4	
20000 sq miles	1.0	2.3	3.1	4.2	4.4	4.3	4.3	5.4	5.4	

Storm or Storm Center Name	Greeley, N	E
Storm Date(s)	6/4/1896	
Storm Type	MCC	
Storm Location	41.55 N	98.53 W
Storm Center Elevation	2,000	
Precipitation Total & Duration	12.30 Inche	es 24-hours USACE MR 4-3
Storm Representative Dewpoint	76.0 F	6hr average, 7° added to USACE storm rep Td based on EPRI and Wanahoo guidance
Storm Representative Dewpoint Location	39.61 N	97.49 W
Maximum Dewpoint	82.0 F	
Moisture Inflow Vector	SSE @ 145	5 Miles
In-place Maximization Factor	1.33	
Temporal Transposition (Date)	19-Jun	
Transposition Dewpoint Location	38.81 N	95.96 W
Transposition Maximum Dewpoint	82.0 F	
Basin Elevation	1,300	
Transposition to Basin Adjustment Factor	1.06	
Higher of Basin Elevation - Inflow Barrier Height	1,300	
Elevation Adjustment Factor	1.00	
Total Adjustment Factor	1.41	

Greeley, NE June 4, 1896 Inflow







F-81

Hale, CO May 31, 1935 Storm Type: MCC

rm Name: Hale, CO										
rm Date: 30-May-1	935		S	torm A	djustme	nt for N	lebrask	a Grid I	Point 14	4
A Analysis Date: 12/2/2008										
nporal Transposition Date	31-May		1	1					.1	
		Long			Moisture In	flow Direct	ion:	SSE @ 280	miles	
rm center location	39.61 N	102.25 W			Basin Eleva	tion		1,300	feet	
rm Rep dew point location	35.88 N	100.22 W			Storm Eleva	ation		3,850	feet	
insposition dewpoint location	38.52 N	98.97 W			Storm Dura	ation		12hr	feet	
sin location	41.23 N	90.00 W								
The storm representati	ve dew point is	77 A F	with total	precipitable	water above	sea level of			3 14	inches
The in-place maximu	m dew point is	77.0 F	with total	precipitable	water above	sea level of			3.14	inches
The transpositioned maximu	m dew point is	76.5 F	with total	precipitable	water above	sea level of			3.07	inches.
The in-place sto	rm elevation is	3,856	wh	ich subtracts	0.935	inches o	f precipitable	e water at	77.0 F	
The in-place sto	rm elevation is	3,856	whi	ich subtracts	0.89	inches of	f precipitable	e water at	77.0 F	
The transposition bas	sin elevation at	1,300	whi	ich subtracts	0.335	inches o	f precipitable	e water at	76.5 F	
The inflow barrier/basin elev	ation height is	1,300	whi	ich subtracts	0.335	inches o	f precipitable	e water at	76.5 F	
										-
The in-place st	torm maximiza	tion factor is	1.00							
The transposition	n/elevation to b	asin factor is	1.22							
The	barrier adjustr	nent factor is	1.00							
1	he total adjustr	nent factor is	1.22							
Observed Storm Dept	n-Area-Durat	12 Union	10 11	24 11	20 11-11-1	26 11	10 LL	60 Hanne	72 11	-
10 cg mile	6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	30 Hours	48 Hours	00 Hours	72 Hours	
100 sq mile	s 13.0 s 13.3	13.7	13.0	13.0	0.0	0.0	0.0	0.0	0.0	
200 sq mile	s 11.9	12.1	12.1	12.1	0.0	0.0	0.0	0.0	0.0	
500 sq mile	s 10.0	10.2	10.2	10.2	0.0	0.0	0.0	0.0	0.0	
1000 sq mile	s 8.7	8.8	8.8	8.8	0.0	0.0	0.0	0.0	0.0	
5000 sq mile	s 5.2	5.8	5.8	5.8	0.0	0.0	0.0	0.0	0.0	
10000 sq mile	s 3.7	4.6	4.6	4.6	0.0	0.0	0.0	0.0	0.0	
20000 sq mile	<mark>s</mark> 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
										-
Adjusted Storm Dept	h-Area-Durati	on								
	6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours	
10 sq mile	s 19.0	19.0	18.9	18.9	0.0	0.0	0.0	0.0	0.0	
100 sq mile	s 16.1	16.2	16.2	16.2	0.0	0.0	0.0	0.0	0.0	
200 sq mile	s 14.5	14.7	14.7	14.7	0.0	0.0	0.0	0.0	0.0	
1000 sq mile	s 12.1 10.5	12.4	12.4	12.4	0.0	0.0	0.0	0.0	0.0	-
5000 sq mile	s 63	7.1	7.1	7.1	0.0	0.0	0.0	0.0	0.0	
10000 sq mile	s 4.5	5.5	5.6	5.6	0.0	0.0	0.0	0.0	0.0	
20000 sq mile	s 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
· · · · · · · · ·										
Storm or Storm Center	Name		Hale, CO							
Storm Date(s)			30-May-1935							
Storm Type			MCC-Thunde	rstorms						
Storm Location			39.61 N	102.25 W						
Storm Center Elevation	1		3,856	Based on sto	orm center m	ax isohyetal	location			
Precipitation Total & L	Duration		18.00" used as	stomr maxii	mum based o	on new analys	S			
Storm Representative I	Dewnoint		77 O F	12hs or	79E to T2	by EDD Mart	lissonsis 4 ***	o atudic-		-
Storm Representative I	Dewpoint Locat	tion	35.88 N	100 22 W	r to 1d as accepted	oy EPKI Michigan W	isconsin and Wanaho	oo studies		1
Maximum Dewpoint	zewpoint Local		77.0 F	100.22 11						1
Moisture Inflow Vector	r		SSE @ 280 M	iles						1
In-place Maximization	Factor		1.00]
Temporal Transpositio	n (Date)		31-May							1
Transposition Dewpoir	Transposition Dewpoint Location			98.97 W						1
Transposition Maximu	Transposition Maximum Dewpoint									4
Basin Elevation	Basin Elevation									-
Lighter of Design Electric	Adjustment Fa	uctor	1.22							-
Flevation Adjustment	Factor	unei neignt	1,00							1
Total Adjustment Factor)r		1.22							1
										-



Storm 1039 - Hale, CO May 29 - 31, 1935

29 INMAN						Du	ration (hou	176)					
Area (mi ²)	1.10	2	3	4	5	6	12	18	24	36	48	72	total
0.26	7.99	12.09	14.45	15.71	15.93	17.14	17.16	17.15	17.16	17,16	17.17	17.17	17.17
1	7.87	11.78	14.13	15.34	15.74	16.78	16.79	16.79	16.79	16.80	16,80	16.80	16.80
10	7.04	10.53	12.63	13.83	14.30	15.64	15.66	15.66	15.66	15.68	15.68	15.70	15.70
100	5.26	7.93	9.67	11.57	11.99	13.25	13.36	13.35	13.35	13.38	13.39	13.39	13.39
200	4.41	6.70	8.58	10.48	10.85	11.89	12.09	12.09	12.09	12.12	12.15	12.16	12.16
500	3.29	5.12	6.67	8,47	8.77	9.98	10.20	10.20	10.21	10.23	10.32	10.43	10.43
1,000	2.97	4.12	5,49	7.18	7.57	8.66	8.81	8.81	8.81	9.00	9.00	9.14	9,14
6,000	1.78	2.42	3.20	4.28	4.42	5.19	5.81	5.81	5.81	5.88	5.97	6.05	6.09
10,000	0.85	1.55	2.20	2.99	3.18	3.67	4.55	4.58	4.57	4.71	4.84	4.84	4.84

MAXIMUM AVERAGE DEPTH OF PRECIPITATION (INCHES)











Hallett, OK September 2, 1940 Storm Type: MCC

Storm Name: Hallett, OK						_				_
Storm Date: 02-Sep-1940				Storm A	Adjustm	ent for	Nebras	ka Grid	Point :	5
AWA Analysis Date: 12/2/2008										
Temporal Transposition Date	17-Aug									
	Lat	Long			Moisture In	flow Directi	on:	SSE @ 75	miles	
Storm center location	36.23 N	96.57 W			Basin Eleva	tion		1,300	feet	
Storm Rep dew point location	35.23 N	96.06 W	Storm Elevation				930	feet		
Transposition dewpoint location	38.25 N	94.49 W	Storm Duration					12hr	feet	
Basin location	41.25 N	96.66 W								
The storm representative	dew point is	78.0 F	with tot	al precipitab	3.29	inches.				
The in-place maximum	dew point is	79.5 F	with tot	al precipitab	le water abov	ve sea level o	f		3.52	inches.
The transpositioned maximum	dew point is	80.5 F	with tot	al precipitab	le water abov	ve sea level o	f		3.68	inches.
The in-place storm	The in-place storm elevation is		whi	ich subtracts	0.26	inches of	f precipitable	water at	78.0 F	
The in-place storm	The in-place storm elevation is 930		whi	ich subtracts	0.27	inches of	f precipitable	water at	79.5 F	
The transposition basin	elevation at	1,300	whi	ich subtracts	0.385	inches of	f precipitable	water at	80.5 F	
The inflow barrier/basin elevat	The inflow barrier/basin elevation height is 1,300			ich subtracts	0.385	inches of	precipitable	water at	80.5 F	
										-
The in-place stor	m maximiza	tion factor is	1.07		Notes: DAD	values taker	from USAC	E Storm Stu	dies SW 2-1	8
The transposition/e	The transposition/elevation to basin factor i									
The ba	arrier adjustn	ient factor is	1.00							
The	1.00									
The	1.07									
Observed Storm Depth-	Area-Durati	on								1
observed Storm Depth-	6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours	
10 sq miles	18.4	23.4	23.6	23.6	23.6	23.6	0.0	0.0	0.0	-
100 sq miles	14.7	19.2	19.4	19.6	19.7	19.8	0.0	0.0	0.0	-
200 sq miles	12.5	17.6	17.8	18.0	18.1	18.3	0.0	0.0	0.0	
500 sq miles	9.7	15.4	15.6	15.7	15.8	16.2	0.0	0.0	0.0	-
1000 sq miles	7.9	13.3	13.4	13.6	13.7	14.1	0.0	0.0	0.0	-
5000 sq miles	4.3	7.3	7.4	7.5	7.7	7.8	0.0	0.0	0.0	
10000 sq miles	3.0	5.3	5.4	5.5	5.6	5.7	0.0	0.0	0.0	
20000 sq miles	2.0	3.9	4.1	4.2	4.3	4.4	0.0	0.0	0.0	
										-
Adjusted Storm Depth-A	Area-Durati	on								
	6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours	
10 sq miles	20.0	25.4	25.7	25.7	25.7	25.7	0.0	0.0	0.0	_
100 sq miles	16.0	20.9	21.1	21.3	21.4	21.5	0.0	0.0	0.0	-
200 sq miles	13.6	19.1	19.4	19.6	19.7	19.9	0.0	0.0	0.0	
500 sq miles	10.5	16.7	17.0	17.1	17.2	17.6	0.0	0.0	0.0	
1000 sq miles	8.6	14.5	14.6	14.8	14.9	15.3	0.0	0.0	0.0	
5000 sq miles	4.7	7.9	8.0	8.2	8.4	8.5	0.0	0.0	0.0	_
10000 sq miles	3.3	5.8	5.9	6.0	6.1	6.2	0.0	0.0	0.0	-
20000 sq miles	2,2	4.2	4.5	4.6	4. 7	4.8	0.0	0.0	0.0	J
										-

Storm or Storm Center Name	Hallett, OK	ζ.
Storm Date(s)	2-Sep-1940	
Storm Type	MCC	
Storm Location	36.23 N	96.57 W
Storm Center Elevation	930	
Precipitation Total & Duration	24.00 Inche	s 12-hours USACE Storm Studies SW 2-18
Storm Representative Dewpoint	78.0 F	12hr average, added 7° to the USACE storm rep Td based on EPRI and Wanahoo guidance
Storm Representative Dewpoint Location	35.23 N	96.06 W
Maximum Dewpoint	79.5 F	
Moisture Inflow Vector	SSE @ 75 N	Miles
In-place Maximization Factor	1.07	
Temporal Transposition (Date)	17-Aug	
Transposition Dewpoint Location	38.25 N	94.49 W
Transposition Maximum Dewpoint	80.5 F	
Basin Elevation	1,300	
Transposition to Basin Adjustment Factor	1.01	
Higher of Basin Elevation - Inflow Barrier Height	1,300	
Elevation Adjustment Factor	1.00	
Total Adjustment Factor	1.09	



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-LEGEND- Area covered b final isohyetal Area inclosed t 2-inch isohyet.	map.	SCALE SCALE THE SCALE THE SCAL			A	Storm Assign Locatic Study Tul Part I Wez Part II of F Remark Hallet	of Sep ment n Okla Prepar thweat sa Dis Review ather B Appro- Enginee Sactual ks: Ce t, Okla	tember S W . Kans ed by: ern Di trict wed by ureau, ved by rrs for Data, nters . and	2 = 6 2 = 16 • Mo. vision Office / H. M. 8/16 Office Distril 3/25 at; Labo,	5, 194 3 & Ark 1 5 Sec. c 3/41 5/43 Kans.
	DATA	AND	сомр	UTATI	ONS	COMF	PILED			
1.1.1			PA	RTI				-1		
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Form S-12 (Maximum d	MI GETTOTI	riods of	f maxim	um rai	infall_				2	
Form S-12 (Maximum di Data relatir	ng to pe								IES	
Form S-12 (Maximum di Data relatir MAXIM	ng to pe UM AV	ERAGE	DEPT	H OF	RAI	NFAL	_ IN	INCH	1 64 44	
Form S-12 (Maximum d Data relatin MAXIM Area in Sq. Mi.	ng to pe UM AV	ERAGE	DEPT	H OF	Rainf	NFALI	- IN Hours	INCH		
Form S-11 Form S-12 (Maximum di Data relatir MAXIM Area in Sq. Mi.	UM AV	ERAGE	DEPT Duratio	H OF n of 30	RAI Rainfo 36	NFALI all in 48	Hours	90		



F-94

Hayward, WI August 28, 1941 Storm Type: Synoptic

Storm Name: Hayward, WI Storm Date: 28-Aug-1941 AWA Analysis Date: 12/2/2008		Storm Adjustment for	r Nebraska Grid Point 10
Temporal Transposition Date 15-Aug			
LatStorm center location46.04 NStorm Rep dew point location42.99 NTransposition dewpoint location37.70 NBasin location41.20 N	Long 91.48 W 89.78 W 95.30 W 96.42 W	Moisture Inflow Dir Basin Elevation Storm Elevation Storm Duration Notes: DAD values	sse @ 225 miles 1,300 feet 1,250 feet 24hr feet taken from USACE UMV 1-22 1.22
The storm representative dew point is The in-place maximum dew point is The transpositioned maximum dew point is The in-place storm elevation is The in-place storm elevation is The transposition basin elevation at The inflow barrier/basin elevation height is	73.0 F 78.5 F 78.5 F 1,250 1,250 1,300 1,300	with total precipitable water above sea level with total precipitable water above sea level with total precipitable water above sea level which subtracts 0.29 inch which subtracts 0.35 inch which subtracts 0.36 inch which subtracts 0.36 inch	I of2.60inches.l of3.37inches.l of3.37inches.l of3.37inches.les of precipitable water at73.0 Fles of precipitable water at78.5 Fles of precipitable water at78.5 Fles of precipitable water at78.5 F
The in-place storm maximization The transposition/elevation to base The barrier adjustme The total adjustme	on factor is in factor is nt factor is ent factor is	1.30Notes: DAD values t1.00max factor calculated1.00produces a total adju1.30	aken from USACE UMV 1-22. In-place d at 1.31, however rounding of values astment value of 1.30.

	6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours
10 sq miles	8.5	11.5	12.4	12.4	13.3	13.8	14.4	15.0	15.0
100 sq miles	8.1	11.0	11.8	11.8	12.7	13.3	13.8	14.3	14.5
200 sq miles	7.8	10.6	11.3	11.3	12.3	13.0	13.4	13.9	14.1
500 sq miles	6.8	9.5	10.2	10.3	11.2	12.0	12.5	12.9	13.1
1000 sq miles	5.6	8.2	9.0	9.1	10.0	10.9	11.5	11.9	12.0
5000 sq miles	3.0	5.2	5.9	6.3	7.2	8.1	8.9	9.3	9.5
10000 sq miles	2.1	3.8	4.6	5.1	5.9	6.0	7.8	8.2	8.4
20000 sq miles	1.5	2.7	3.4	3.8	4.7	5.5	6.5	7.1	7.3

Adjusted Storm Depth-	Area-Durati	on							
	6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours
10 sq miles	11.0	14.9	16.1	16.1	17.2	17.9	18.7	19.4	19.4
100 sq miles	10.5	14.3	15.3	15.3	16.5	17.2	17.9	18.5	18.8
200 sq miles	10.1	13.7	14.6	14.6	15.9	16.8	17.4	18.0	18.3
500 sq miles	8.8	12.3	13.2	13.3	14.5	15.5	16.2	16.7	17.0
1000 sq miles	7.3	10.6	11.7	11.8	13.0	14.1	14.9	15.4	15.5
5000 sq miles	3.9	6.7	7.6	8.2	9.3	10.5	11.5	12.0	12.3
10000 sq miles	2.7	4.9	6.0	6.6	7.6	7.8	10.1	10.6	10.9
20000 sq miles	1.9	3.5	4.4	4.9	6.1	7.1	8.4	9.2	9.5

Storm or Storm Center Name	Hayward, W	I
Storm Date(s)	28-Aug-1941	
Storm Type	Synoptic	
Storm Location	46.04 N	91.48 W
Storm Center Elevation	1,250	
Precipitation Total & Duration	15.00 Inches	72-hours USACE UMV 1-22
Storm Representative Dewpoint	73.0 F	24hr average
Storm Representative Dewpoint Location	42.99 N	89.78 W
Maximum Dewpoint	78.5 F	
Moisture Inflow Vector	SSE @ 225 N	Ailes
In-place Maximization Factor	1.30	
Temporal Transposition (Date)	15-Aug	
Transposition Dewpoint Location	37.70 N	95.30 W
Transposition Maximum Dewpoint	78.5 F	
Basin Elevation	1,300	
Transposition to Basin Adjustment Factor	1.00	
Higher of Basin Elevation - Inflow Barrier Height	1,300	
Elevation Adjustment Factor	1.00	
Total Adjustment Factor	1.30	



Hayward, WI August 28, 1941 Inflow





Hokah, MN August 18-21, 2007 Storm Type: Hybrid

Storm Name: Hokah, MN	N		G		1 • /			a		0
Storm Date: 18-Aug-200)7		S	torm A	djustme	nt for N	lebrask	a Grid	Point I	U
AWA Analysis Date: 12/2/2008										
Temporal Transposition Date	3-Aug		l .							
	Lat	Long			Moisture In	flow Direct	ion:	SSW @ 360	miles	
Storm center location	43.81 N	91.52 W			Basin Eleva	ition		1,300	feet	
Storm Rep dew point location	38.91 N	93.85 W			Storm Eleva	ation		1,000	feet	
Transposition dewpoint location	35.85 N	99.33 W			Storm Dura	tion		24hr ave	feet	
Basin location	41.25 N	96.66 W								
The storm representative	e dew point is	74.0 F	with total	precipitable	water above	sea level of			2.73	inches.
The in-place maximum	n dew point is	79.0 F	with total	precipitable	water above	sea level of			3.44	inches.
The transpositioned maximum	n dew point is	78.0 F	with total	precipitable	water above	sea level of			3.29	inches.
The in-place store	m elevation is	1,000	wh	ich subtracts	0.14	inches of	f precipitable	e water at	74.0 F	
The in-place store	m elevation is	1,000	wh	ich subtracts	0.16	inches of	f precipitable	e water at	79.0 F	
The transposition basi	in elevation at	1,300	wh	ich subtracts	0.36	inches of	f precipitable	e water at	78.0 F	
The inflow barrier/basin eleva	ation height is	1,300	wh	ich subtracts	0.36	inches of	f precipitable	e water at	78.0 F	
	· · · · · · · · · · · · · · · · · · ·		1.07		Netes DAD		from CDAC	1049		٦
The in-place sto	orm maximization	on factor is	1.27		Notes: DAD	values taker	1 Irom SPAS	1048		
The transposition/	barrier adjustme	ant factor is	1.09							
	barrier aufustine	int fuetor 13	1.00							
Th	e total adjustme	ent factor is	1.13							
	5									
Observed Storm Depth	-Area-Duration	n								
	6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours	
10 sq miles	7.5	11.1	13.9	16.0	0.0	16.3	17.0	0.0	17.2	
100 sq miles	6.3	9.4	11.5	13.3	0.0	13.9	14.8	0.0	15.1	4
200 sq miles	6.0	8.9	11.0	12.6	0.0	13.4	14.2	0.0	14.5	_
500 sq miles	5.5	8.1	10.1	11.6	0.0	12.3	13.0	0.0	13.3	-
1000 sq miles	5.0	1.3	9.2	10.5	0.0	11.1	11.8	0.0	12.1	-
10000 sq miles	3.5	5.Z 4.0	5.0	6.1	0.0	6.8	0.8	0.0	9.0	-
20000 sq miles	1.8	3.0	4.0	4.5	0.0	5.1	5.6	0.0	5.9	-
20000 sq miles		010	-110	110	0.0		010	0.0	0.0	

Adjusted Storm Depth-	Area-Duration	on							
	6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours
10 sq miles	8.5	12.6	15.7	18.1	0.0	18.5	19.3	0.0	19.4
100 sq miles	7.2	10.6	13.0	15.0	0.0	15.8	16.7	0.0	17.1
200 sq miles	6.8	10.0	12.4	14.3	0.0	15.1	16.1	0.0	16.4
500 sq miles	6.2	9.2	11.4	13.1	0.0	13.9	14.7	0.0	15.0
1000 sq miles	5.6	8.3	10.4	11.9	0.0	12.6	13.4	0.0	13.7
5000 sq miles	3.9	5.9	7.4	8.6	0.0	9.3	9.9	0.0	10.1
10000 sq miles	3.0	4.5	6.1	6.9	0.0	7.7	8.3	0.0	8.5
20000 sq miles	2.1	3.4	4.5	5.1	0.0	5.8	6.4	0.0	6.6

Storm or Storm Center Name	Hokah, MN	
Storm Date(s)	18-Aug-2007	
Storm Type	Synoptic/Thu	nderstorms
Storm Location	43.81 N	91.52 W
Storm Center Elevation	1,000	
Precipitation Total & Duration	18.93 Inches	72-hours-SPAS 1048
Storm Representative Dewpoint	74.0 F	24hr ave KIXD, KLXT, KMCI, KMKC, KOJC, KSTJ, KSZL-17th 00Z to 18 00Z
Storm Representative Dewpoint Location	38.91 N	93.85 W
Maximum Dewpoint	79.0 F	
Moisture Inflow Vector	SSW @ 360	
In-place Maximization Factor	1.27	
Temporal Transposition (Date)	3-Aug	
Transposition Dewpoint Location	35.85 N	99.33 W
Transposition Maximum Dewpoint	78.0 F	
Basin Elevation	1,300	
Transposition to Basin Adjustment Factor	0.89	
Higher of Basin Elevation - Inflow Barrier Height	1,300	
Elevation Adjustment Factor	1.00	
Total Adjustment Factor	1.13	



Hokah, MN August 18-21, 2007 Inflow

Storin 1040 - Nokan, mit August 10 - August 21, 200	Storm	1048 - Hokah,	MN August	t 18 - Au	gust 21, 200
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					Duration	n (hours)									
Area (mi ²)	1	3	6	12	18	24	36	48	72	Total					
0.24	2.45	4,77	7.85	11.89	14.88	17.31	17.55	18.19	18.26	18.26					
1	2.12	4.53	7.56	11.64	14.59	17.05	17.31	17.95	18.02	18.02					
10	2.12	4.53	7.49	11.10	13.88	15.96	16.31	17.03	17.15	17.17					
25	2.12	4.53	6.92	10.42	12.86	14.89	15.34	16.23	16.45	16.46					
50	2.11	4.40	6.64	9.65	12.13	14.05	14.46	15.49	15.79	15,79					
100	2.09	4.10	6.33	9.37	11.52	13.27	13,93	14.76	15.14	15.14					
200	2.03	3.79	6.00	8,87	10.96	12.62	13.37	14.22	14.52	14.52					
300	1.95	3.61	5.74	8.55	10.64	12.06	12.99	13.74	14.04	14.04					
500	1.79	3.35	5.47	8.13	10.11	11.60	12.27	13.01	13.29	13.30					
1,000	1.53	2.99	4.95	7.33	9.17	10.51	11.13	11.84	12.07	12.07					
2,000	0.95	2.55	4.36	6.18	8.09	9.30	9.85	10.54	10.75	10.76					
5,000	0.87	2.02	3.45	5.19	6.53	7.61	8.18	8.79	8.96	8.98					
10,000	0.63	1.54	2.69	4.02	5.39	6.09	6.78	7.31	7.53	7.55					
20,000	0.41	0.95	1.84	3.02	3.97	4.53	5.13	5.63	5.87	5.90					

MAXIMUM AVERAGE DEPTH OF PRECIPITATION (INCHES)






Holly, CO June 17, 1965 Storm Type: Hybrid

Storm Name: Hol	lly, CO			c	14 .	1.			C • 1	D • 4 1	4
Storm Date: 6/17	7-18/1965	5			storm A	djustm	ent for I	Nebrask	ka Grid	Point I	4
AWA Analysis Date: 12/2	2/2008										
Temporal Transposition Da	ate	3-Jul		1							
		Lat	Long			Moisture Ir	flow Directi	on:	SSE @ 280	miles	
Storm center location		38.05 N	102.12 W			Basin Eleva	tion		1,300	feet	
Storm Rep dew point locati	ion	34.31 N	100.22 W			Storm Eleva	ation		3,400	feet	
Transposition dewpoint loc	ation	38.51 N	99.10 W			Storm Dura	tion		12hr	feet	
Basin location		41.25 N	96.66 W								
The storm repre	sentative	dew point is	76.0 F	with tot	al precipitab	le water abov	e sea level o	f		2.99	inches.
The in-place m	naximum	dew point is	79.5 F	with tot	al precipitab	le water abov	e sea level o	t c		3.52	inches.
The transpositioned m	naximum	dew point is	80.0 F	with tot	al precipitab	le water abov	e sea level o	t c · · · · · ·		3.60 76.0 F	inches.
The in-pl	ace storm	elevation is	3,400	whi	ch subtracts	0.81	inches of	f precipitable	water at	76.0 F	
The in-pi	tion bosin	elevation is	3,400	with	ich subtracts	0.915	inches o	f precipitable	e water at	79.5 F 80.0 F	
The inflow herrior/her	tion basin	elevation at	1,300	whi	ch subtracts	0.38	inches of	f precipitable	water at	80.0 F 80.0 F	
The mnow barner/bas	sili elevati	ion neight is	1,300	WIL	ch subtracts	0.38	filches 0	i precipitable	water at	00.0 F	
The in-	nlace stor	m mavimiza	tion factor is	1 10		Notes: DAI) values tak	en from HR	M 51		1
The trans	position/el	levation to b	asin factor is	1.1		Notes. D/ L					
The transj	The ha	rrier adjustn	ashi factor is	1.00							
	The ba	irrici adjusti	ient factor is	1.00							
	The	total adjustn	nent factor is	1.48							
Observed Storr	n Depth-	Area-Durati	on								1
		6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours	
10 :	sq miles	7.4	7.5	9.1	12.6	0.0	12.8	13.6	0.0	0.0	
100 s	sq miles	6.7	6.8	7.9	11.1	0.0	11.2	12.0	0.0	0.0	_
200 :	sq miles	6.1	6.3	7.1	10.0	0.0	10.2	10.9	0.0	0.0	_
500 :	sq miles	5.4	5.6	5.9	8.4	0.0	8.6	9.0	0.0	0.0	_
1000 :	sq miles	4.9	5.1	5.4	7.2	0.0	7.5	7.8	0.0	0.0	-
5000 s	sq miles	2.9	3.4	3.6	4.8	0.0	5.3	5.6	0.0	0.0	-
10000 :	sq miles	2.1	2.5	2.7	3.8	0.0	4.3	4.4	0.0	0.0	-
20000 s	sq miles	1.4	1.7	1.9	2.6	0.0	3.2	3.2	0.0	0.0	
Adjusted Storn	n Depth-A	Area-Duratio	on .	10.77	A 1 7 7	00 TT		10.77	10 77	FA 11	
		6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours	
10 :	sq miles	11.0	11.1	13.5	18.7	0.0	18.8	20.1	0.0	0.0	
100 s	sq miles	9.9	10.1	11.7	16.4	0.0	16.6	17.7	0.0	0.0	
200 s	sq miles	9.1	9.3	10.5	14.8	0.0	15.1	16.0	0.0	0.0	
500 5	sq miles	8.0	8.3	8.7	12.3	0.0	12.7	13.3	0.0	0.0	
1000 5	sq miles	1.2	7.5	7.9	10.0	0.0	11.1	11.0	0.0	0.0	
5000 9	sq miles	4.3	5.0	5.3	7.1	0.0	7.9	8.2	0.0	0.0	-
20000	sq miles	<u> </u>	3.1	3.9 2 Q	3.0	0.0	0.3	0.5	0.0	0.0	-
20000	sy miles	4.1	4.3	4.0	3.0	0.0	4./	4./	0.0	0.0	1
Storm or Storm	Center M	ame		Holly CO							1
Storm Date(s)	Center Na	unit		6/17-18/106	5						1

Storm of Storm Center Hume	nony, co		
Storm Date(s)	6/17-18/196	55	
Storm Type	MCC-Thun	derstorms	
Storm Location	38.05 N	102.12 W	
Storm Center Elevation	3,400	Based on stor	m center isohyetal pattern location
Precipitation Total & Duration	15.54 inche	s in 50 hours,	15.17 inches in 24 hours
Storm Representative Dewpoint	76.0 F	12hr average a	dded 7°F to Td as accepted by EPRI Michigan Wisconsin and Wanahoo studies
Storm Representative Dewpoint Location	34.31 N	100.22 W	
Maximum Dewpoint	79.5 F		
Moisture Inflow Vector	SSE @ 280	Miles	
In-place Maximization Factor	1.19		
Temporal Transposition (Date)	3-Jul		
Transposition Dewpoint Location	38.51 N	99.10 W	
Transposition Maximum Dewpoint	80.0 F		
Basin Elevation	1,300		
Transposition to Basin Adjustment Factor	1.24		
Higher of Basin Elevation - Inflow Barrier Height	1,300		
Elevation Adjustment Factor	1.00		
Total Adjustment Factor	1.48		





storm 1009 - nony, CO June 14-19, 1905	Storm	1009 -	Holly,	co	June	14-19,	1965
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MAXIMUM AVERAGE DEPTH OF PRECIPITATION (INCHES)

	Duration (hours)															
Area (mi ²)		2	3	4	5	6	12	18	24	36	48	72	96	120	144	total (144-hr)
1	2.30	3.35	4.52	5.67	6.55	7,55	7.64	9.29	12.88	12.99	13.87	13.87	15,40	15.51	15.51	15.51
10	2.22	3:42	4.53	5.56	0.40	7,44	7.53	9.12	12.64	12.76	12.62	13.62	10.13	15.24	15.24	15.24
20	2.20	3.22	4.44	5.45	6.37	7.33	7.44	8.95	12.42	12.53	13.27	13.38	14.85	14.98	14.98	14.98
30	2.17	3.11	4.36	5.35	6.28	7.24	7.35	8.79	12.20	12.32	13.14	13.17	14.61	14.74	14.74	14.74
40	2.12	3.11	4.28	5.26	6.20	7.84	7.26	9.64	12.01	12.13	12.95	12.96	14.38	14.51	14.51	14.51
50	2.09	3.04	4.21	5.18	6.12	7.05	7.17	8.51	11.83	11.95	12.78	12.78	14.15	14.30	14.31	14.31
80	2.07	2.95	4.15	5.10	6.05	5.97	7.09	8.38	11.65	11.75	12.58	12.59	13.96	14.11	14.11	14.11
70	2.04	2.97	4.09	5.02	5.98	6.89	7.02	8.26	11.50	11.64	12.33	12.43	23.77	13.92	13.93	13.93
100	1.98	2.86	3.92	4.82	5.90	6.67	6.81	7.94	11.08	11.22	11.95	12.01	13.27	13.43	13.44	13.44
200	1.74	2.58	3.36	4.37	5.33	6,13	6.27	7.13	10.03	10.21	10.85	10.87	12.03	12.24	12.27	12.27
500	1.51	2.33	3.01	3.79	4.73	5.44	5.59	5.90	8.35	8.57	9.03	9.56	10.05	10.48	10.61	10.61
1,000	1.47	2.08	2.62	3.28	4.22	4.85	5.07	5.37	7.16	7.49	7.83	8,47	8.64	9.23	9.39	9.39
5,000	0.94	1.22	1.54	2,00	2.57	2.92	3.36	3.62	4.78	5.32	5.58	6.15	6.33	6.62	6.79	6.79
10,000	0.69	0.92	1.27	1.51	1.91	2.14	2.49	2.65	3.76	4.29	4.41	4.95	5.20	5,41	5.59	5.59
20,000	0.27	0.59	0.86	1.05	1.30	1.43	1.70	1,92	2.55	3.15	3.21	3.67	3.94	3.97	4.25	4.25

Total area size = 36,273,4 sq-ml







Ida Grove, IA August 30, 1962 Storm Type: Hybrid

Storm Name:	Ida Grove,	IA								
Storm Date:	30-Aug-196	2			Storm Ad	ljustme	nt for Nebra	ska Grid H	Point 1	0
AWA Analysis Date:	12/2/2008					9				
Temporal Transpositio	n Date	15-Aug			_					
		Lat	Long			Moisture In	flow Direction:	S @ 180	miles	
Storm center location		42.35 N	95.47 W			Basin Eleva	tion	1,300	feet	
Storm Rep dew point le	ocation	39.74 N	95.47 W			Storm Eleva	ation	1,200	feet	
Transposition dewpoin Basin location	t location	38.14 N 41.25 N	97.0 W 96.66 W			Storm Dura	tion	24hr	feet	
The storm r	epresentative	e dew point is	71.0 F	with to	tal precipitable	water above	sea level of		2.36	inches.
The in-pla	ce maximum	dew point is	79.0 F	with to	tal precipitable	water above	sea level of		3.44	inches.
The transposition	ed maximum	dew point is	78.5 F	with to	tal precipitable	water above	sea level of		3.37	inches.
The	n-place stori	n elevation is	1,200	v	which subtracts	0.26	inches of precipita	able water at	71.0 F	
The i	n-place stori	n elevation is	1,200	v	which subtracts	0.34	inches of precipita	able water at	79.0 F	
The trans	position basi	n elevation at	1,300	v	which subtracts	0.365	inches of precipita	able water at	78.5 F	
The inflow barrie	r/basin eleva	tion height is	1,300	v	which subtracts	0.365	inches of precipita	able water at	78.5 F	
The	e in-place sto	rm maximizat	ion factor is	1.48		Notes: DAD	values taken from EF	PRI Storm Numbe	er 19	
The transposition/elevation to basin factor is			sin factor is	0.97						
	The b	arrier adjustm	ent factor is	1.00						

bserved Storm Depth-Area-Duration												
	6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours			
10 sq miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
100 sq miles	5.7	8.0	0.0	12.2	0.0	12.9	0.0	0.0	0.0			
200 sq miles	5.4	7.6	0.0	11.7	0.0	12.3	0.0	0.0	0.0			
500 sq miles	4.8	7.0	0.0	10.8	0.0	11.3	0.0	0.0	0.0			
1000 sq miles	4.2	6.3	0.0	9.8	0.0	10.3	0.0	0.0	0.0			
5000 sq miles	2.6	4.3	0.0	7.0	0.0	7.6	0.0	0.0	0.0			
10000 sq miles	2.1	3.5	0.0	5.8	0.0	6.6	0.0	0.0	0.0			
20000 sq miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			

The total adjustment factor is 1.43

Adjusted Storm Depth-Area-Duration												
	6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours			
10 sq miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
100 sq miles	8.2	11.4	0.0	17.5	0.0	18.5	0.0	0.0	0.0			
200 sq miles	7.7	10.9	0.0	16.7	0.0	17.6	0.0	0.0	0.0			
500 sq miles	6.9	10.0	0.0	15.5	0.0	16.2	0.0	0.0	0.0			
1000 sq miles	6.0	9.0	0.0	14.0	0.0	14.7	0.0	0.0	0.0			
5000 sq miles	3.7	6.2	0.0	10.0	0.0	10.9	0.0	0.0	0.0			
10000 sq miles	3.0	5.0	0.0	8.3	0.0	9.4	0.0	0.0	0.0			
20000 sq miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			

Storm or Storm Center Name	Ida Grove, L	4
Storm Date(s)	30-Aug-1962	•
Storm Type	Synoptic	
Storm Location	42.35 N	95.47 W
Storm Center Elevation	1,200	
Precipitation Total & Duration	12.85 Inches	48-hours EPRI Storm Number 19
Storm Representative Dewpoint	71.0 F	24hr average
Storm Representative Dewpoint Location	39.74 N	95.47 W
Maximum Dewpoint	79.0 F	
Moisture Inflow Vector	S @ 180 Mile	25
In-place Maximization Factor	1.48	
Temporal Transposition (Date)	15-Aug	
Transposition Dewpoint Location	38.14 N	97.0 W
Transposition Maximum Dewpoint	78.5 F	
Basin Elevation	1,300	
Transposition to Basin Adjustment Factor	0.97	
Higher of Basin Elevation - Inflow Barrier Height	1,300	
Elevation Adjustment Factor	1.00	
Total Adjustment Factor	1.43	



Ida Grove, IA August 30, 1962 Inflow

Ironwood, MI July 21, 1909 Storm Type: Synoptic

Storm Name: Ironwood, M	AI I			Storm A	diustm	ont for	Nobrach	o Crid	Doint 1	0
AWA Analysis Date: 12/2/2008			L L	Storm A	ujusuno		Neurasi	a Griu	r onne 1	.0
Tomporal Transposition Data	15 <u>-</u> lul									
Storm center location Storm Rep dew point location Transposition dewpoint location Basin location	Lat 47.35 N 42.76 N 37.05 N 41.25 N	Long 95.80 W 92.44 W 99.08 W 96.66 W			Moisture Ir Basin Eleva Storm Eleva Storm Dura	nflow Direct ation ation ation	ion:	SSW @ 275 1,300 1,500 24hr	miles feet feet feet	
The storm representative The in-place maximum The transpositioned maximum The in-place storn The in-place storn The transposition basin The inflow barrier/basin elevat	dew point is dew point is dew point is n elevation is n elevation at tion height is	72.0 F 79.5 F 78.5 F 1,500 1,500 1,300 1,300	with tot with tot with tot whi whi whi	al precipitab al precipitab al precipitab ich subtracts ich subtracts ich subtracts ich subtracts	le water abov le water abov 0.34 0.425 0.365 0.365	ve sea level o ve sea level o ve sea level o inches o inches o inches o	f f f f precipitable f precipitable f precipitable f precipitable	e water at e water at e water at e water at	2.47 3.52 3.37 72.0 F 79.5 F 78.5 F 78.5 F	inches. inches. inches.
										-
The in-place stor The transposition/c The b The b	rm maximiza elevation to ba arrier adjustn e total adjustn	tion factor is asin factor is nent factor is nent factor is	1.45 0.97 1.00 1.41		Notes: DAD) values taker	n from USAC	CE UMV 1-11	lb	
										-
Observed Storm Depth-	Area-Durati	12 Hours	10 Hours	24 Hours	20 Hours	26 Hours	40 Hauna	60 Hours	70 Hours	
10 sq miles	5 2	6 3	67	24 Hours 9 6	11 1	11 7	12.1	12.8	13.2	
100 sq miles	5.1	6.2	6.6	9.4	10.8	11.7	11.8	12.5	12.9	-
200 sq miles	4.6	6.0	6.3	9.0	10.5	11.1	11.5	12.1	12.5	
500 sq miles	3.9	5.5	5.8	7.9	9.8	10.1	10.7	11.2	11.5	-
1000 sq miles	3.2	5.0	5.3	6.9	9.0	9.3	9.7	10.3	10.5	
5000 sq miles	2.3	3.6	3.8	5.0	6.5	6.8	7.2	7.8	8.0	
10000 sq miles	2.1	3.2	3.4	4.2	5.4	5.6	6.0	6.5	6.7	_
20000 sq miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
A director d Sterrere Derecht	Amer Derect									
Adjusted Storm Depui-	6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours	
10 sq miles	7.3	8.9	9.5	13.5	15.7	16.5	17.1	18.1	18.6	
100 sq miles	7.2	8.7	9.3	13.3	15.2	16.1	16.6	17.6	18.2	-
200 sq miles	6.5	8.5	8.9	12.7	14.8	15.7	16.2	17.1	17.6	
500 sq miles	5.5	7.8	8.2	11.1	13.8	14.2	15.1	15.8	16.2	
1000 sq miles	4.5	7.1	7.5	9.7	12.7	13.1	13.7	14.5	14.8	
5000 sq miles	3.2	5.1	5.4	7.1	9.2	9.6	10.2	11.0	11.3	
20000 sq miles	3.0	4.5	4.8	5.9	7.6	7.9	8.5	9.2	9.5	_
20000 sq miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Storm or Storm Center N	lame		Ironwood, M	MI						
Storm Date(s)			18-Jul-1909							-
Storm Logation			Synoptic	05 80 11						-
Storm Conton Elevation			47.33 N	93.80 W						-
Storin Center Elevation Precipitation Total & Du	ration		1,300 13.20 Inches	s 72-hours II	SACELIMV	1-11b				1
	iution		13.20 mener	<i>, 2</i> -nouis U		1 110				1
Storm Representative De	wpoint		72.0 F	24hr averag	e					
Storm Representative De	wpoint Locat	ion	42.76 N	92.44 W						
Maximum Dewpoint			79.5 F							
Moisture Inflow Vector			SSW @ 275							-
In-place Maximization F	actor		1.45							1

A		
Temporal Transposition (Date)	15-Jul	
Transposition Dewpoint Location	37.05 N	99.08 W
Transposition Maximum Dewpoint	78.5 F	
Basin Elevation	1,300	
Transposition to Basin Adjustment Factor	0.97	
Higher of Basin Elevation - Inflow Barrier Height	1,300	
Elevation Adjustment Factor	1.00	
Total Adjustment Factor	1.41	

Ironwood, MI July 21, 1909 Inflow







Lambert, MN July 18, 1897 Storm Type: Synoptic

Storm Name:Lambert, MStorm Date:7/18/1897AWA Analysis Date:12/2/2008			Storm Adjustment for Nebraska Grid Point 10						
Temporal Transposition Date	15-Jul								
	Lat	Long	Ν	Moisture Ir	nflow Direction:	SSE @ 300	miles		
Storm center location	44.23 N	95.26 W	F	Basin Eleva	ation	1,300	feet		
Storm Rep dew point location	40.20 N	93.09 W	S	Storm Eleva	ation	1,500	feet		
Transposition dewpoint location Basin location	36.72 N 41.25 N	94.83 W 96.66 W	s	Storm Dura	ation	24hr	feet		
The storm representative	dew point is	71.0 F	with total precipitable	water aboy	ve sea level of		2.36	inches	
The in-place maximum	dew point is	80.0 F	with total precipitable	water abov	ve sea level of		3.60	inches.	
The transpositioned maximum	dew point is	79.5 F	with total precipitable	water abov	ve sea level of		3.52	inches.	
The in-place storm	n elevation is	1,500	which subtracts	0.32	inches of precipit	able water at	71.0 F		
The in-place storn	n elevation is	1,500	which subtracts	0.43	inches of precipit	able water at	80.0 F		
	1	1 300	which subtracts	0.375	inches of precipit	able water at	79.5 F		
The transposition basin	elevation at	1,500	winen buoti detb						

The in-place storm maximization factor is	1.50
The transposition/elevation to basin factor is	0.99
The barrier adjustment factor is	1.00
The total adjustment factor is	1.49

Notes: DAD values taken from USACE UMV 1-2. Inplace maximization factor of 1.55, although a factor of 1.50 was adopted as the upper limit for this study through guidance from HMRs 55A and 51.

Observed Storm Depth-Area-Duration												
	6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours			
10 sq miles	3.2	5.2	6.2	6.5	6.5	6.5	6.9	8.0	8.0			
100 sq miles	3.1	4.8	6.0	6.3	6.3	6.3	6.8	7.9	7.9			
200 sq miles	3.0	4.6	5.9	6.2	6.2	6.2	6.7	7.8	7.8			
500 sq miles	2.9	4.4	5.7	6.0	6.0	6.0	6.5	7.6	7.6			
1000 sq miles	2.7	4.2	5.5	5.8	5.8	5.8	6.3	7.3	7.3			
5000 sq miles	2.3	3.4	4.3	4.5	4.7	4.7	5.2	6.1	6.2			
10000 sq miles	1.9	3.0	3.8	4.0	4.2	4.2	4.5	5.4	5.5			
20000 sq miles	1.7	2.8	3.5	3.7	3.8	3.8	4.2	4.8	5.0			

Adjusted Storm Depth-	Adjusted Storm Depth-Area-Duration												
	6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours				
10 sq miles	4.8	7.7	9.2	9.7	9.7	9.7	10.3	11.9	11.9				
100 sq miles	4.6	7.1	8.9	9.4	9.4	9.4	10.1	11.8	11.8				
200 sq miles	4.5	6.8	8.8	9.2	9.2	9.2	10.0	11.6	11.6				
500 sq miles	4.3	6.5	8.5	8.9	8.9	8.9	9.7	11.3	11.3				
1000 sq miles	4.0	6.3	8.2	8.6	8.6	8.6	9.4	10.9	10.9				
5000 sq miles	3.4	5.1	6.4	6.7	7.0	7.0	7.7	9.1	9.2				
10000 sq miles	2.8	4.5	5.7	6.0	6.3	6.3	6.7	8.0	8.2				
20000 sq miles	2.5	4.2	5.2	5.5	5.7	5.7	6.3	7.1	7.4				

Storm or Storm Center Name	Lambert, N	IN
Storm Date(s)	7/18/1897	
Storm Type	Synoptic	
Storm Location	44.23 N	95.26 W
Storm Center Elevation	1,500	
Precipitation Total & Duration	8.00 Inches	72-hours USACE UMV 1-2
Storm Representative Dewpoint	71.0 F	24hr average
Storm Representative Dewpoint Location	40.20 N	93.09 W
Maximum Dewpoint	80.0 F	
Moisture Inflow Vector	SSE @ 300	
In-place Maximization Factor	1.50	
Temporal Transposition (Date)	15-Jul	
Transposition Dewpoint Location	36.72 N	94.83 W
Transposition Maximum Dewpoint	79.5 F	
Basin Elevation	1,300	
Transposition to Basin Adjustment Factor	0.99	
Higher of Basin Elevation - Inflow Barrier Height	1,300	
Elevation Adjustment Factor	1.00	
Total Adjustment Factor	1.49	

Lambert, MN July 18, 1897 Inflow



STOP	M	STU	DIES	- P	FRT	NENT	T DATA SHEET (SEV.)					
STOP	STORM STUDIES - PERTINENT DATA SH Storm of 18 - 22 Assignment UAV Location Minn, a Study Prepared M Upper Mississip Division St. Faul Distri. Part I Reviewed Weather Burea Part II Approved of Engineers for of Factual Data Remarks: Center LOCATION MAP								SHE 3 = 22 UAV 1 mm. an ured by issipp istrict ewed by bers for al Data lenter Minn. - Ref.	ET (July 1 -2 d N. D : Vall t Offic y Offic Distri , 7-15 at: . Pt. :	REV.) 897 . Sec. of ?-40 e. Chief bution 2-45 300 S	
	047	-	NO					.Gr	id A-16	i		
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Form 5001- Form 5001- Miscl. preciy Form 5092	B (24- D (" D, reco (Mass	nds, m rainfa	eteoroi il curv	*) *) logical res) PAI	data, RT II	etc				5 6 13	•	
Final isohyeta	1 maps	s, in	1 sh	eet,	scale	1: 1,	000,00	0				
Data and comp Form S-10	outatio /Dete	n she	ets:	rainfa		(20)				2		
Form S-II	(Depth	-area	data	from	isohye	tal ma	p)			1		
Furm S-12	(Maxia	num de	pth-d	luratio	n dat	a)				9		
Data relati	ng to	n - dep period	s of	naxim	ves	infall				1		
MAXIM	UM	AVERA	GE	DEPT	H O	F RAI	NEAL	IN	INC	HES		
Area in Sq. Mi.			D	uratio	n of	Rainf	all in	Hour	5			
	6	12	18	24	30	36	1,8	60	72	96	102	
10 100 200 500 1,000 2,000 5,000 10,000	3.2 3.1 3.0 2.9 2.7 2.6 2.3 1.9 1.7	286429408	209754985	66665544507	6.52085728	6.5 6.32 0.8 5.7 2.8 5.7 2.8	9.8.7.5.3.9.2.5.2 6.6.6.6.5.5.4.4	8.0 7.9 7.8 7.6 7.3 6.9 6.1 5.4 5.4	8.0 7.9 7.8 7.6 7.3 6.9 6.2 5.5	8.2 8.2 8.1 7.9 7.6 7.2 6.4 5.7 5.3	8.2 8.2 8.1 7.9 7.6 7.2 6.4 5.7 5.3	

Form S-2

1



Medford, WI June 4, 1905 Storm Type: Synoptic

WA Analysis blat: Description emporal Transposition Date 15-Jun form center location 45.14 N 90.34 W mark pote point location 38.67 N 99.80 W and nearbin 38.67 N 99.80 W The storm representative dew point is 70.5 F with total precipitable water above sea level of 3.07 The inplace storm levation is 1.500 with total precipitable water above sea level of 3.07 The inplace storm levation is 1.500 with total precipitable water above sea level of 3.07 The inplace storm levation is 1.500 with total precipitable water above sea level of 3.07 The inplace storm levation is 1.500 with total precipitable water above sea level of 3.07 The inplace storm levation is 1.500 which subtracts 0.33 inches of precipitable water at 70.6 F The induce barrier-basin elevation is 1.500 which subtracts 0.33 inches of precipitable water at 76.5 F The induce barrier-basin elevation is 1.500 which subtracts 0.33 inches of precipitable water at 76.5 F The induce barrier-basin elevation is 1.500 which subtracts 0.33	Storm Name: Medford, W Storm Date: 03-Jun-1905	/I5		(Storm A	diustm	ent for l	Nebrask	a Grid	Point 1	0	
Image: second	AWA Analysis Date: 12/2/2008			2)tor in 73	ujusum				I UIIIt I	U	
LatLong torm center location45.14 N90.34 Wform Rep dev point location45.14 N90.34 Wransposition devpoint location38.67 N99.80 Wain location38.67 N99.80 Wsin location38.67 N99.80 Wsin location12.50 N98.60 WThe in-place maximum dev point is70.0 Fwith total precipitable water above sea level of3.07The in-place storm devation is1,500with total precipitable water above sea level of3.07The in-place storm devation is1,500with total precipitable water above sea level of3.07The in-place storm devation is1,500which subtracts0.335Inches of precipitable water at76.5 FThe in-place storm maximization factor is1.41Description basin elevation is1.500Which subtracts0.335Inches of precipitable water at76.5 FThe in-place storm maximization factor is1.00The in-place storm maximization factor is1.00The in-place storm maximization factor is1.01 <td colspa<="" th=""><th>Temporal Transposition Date</th><th>15-Jun</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></td>	<th>Temporal Transposition Date</th> <th>15-Jun</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>	Temporal Transposition Date	15-Jun									
$ \begin{array}{c} \mbox{transposition} \mbox{trans} \mbox{transposition} \mbox{trans} \mbox{transposition} \mbox{trans} \mbox{transposition} \mbox{transposition} \mbox{trans} \mbox{trans} \mbox{trans} \mbox{transposition} \mbox{trans} \mbox{transposition} \mbox{trans} \mbox{trans} \mbox{transposition} \mbox{trans} \mbox{transposition} \mbox{transposition} \mbox{transposition} \mbox{transposition} \mbox{trans} \mbox{trans} \mbox{transposition} \mbox{trans} \mbox{trans} \mbox{transposition} \mbox{trans} \mbox{trans} \mbox{trans} \mbox{transposition} \mbox{trans} \mbox{trans} \mbox{transposition} $	* *	Lat	Lona			Moisture Ir	nflow Directi	ion:	SW @ 200	miles		
$\frac{\operatorname{Kerr} \operatorname{Kep} \operatorname{Kew} \operatorname{point} \operatorname{Kearting} \frac{43.06 \ N}{36.67 \ N} \frac{93.14 \ W}{98.06 \ W} \qquad $	Storm center location	45.14 N	90.34 W			Basin Eleva	ation		1.300	feet		
In the place storm maximum day point is 3.65 r N 3.86	Storm Don dow point location	42.06 N	02 14 W			Storm Flow	ation		1,500	foot		
Distriction devipant location 38.3 / N 93.8 with the probability of the probability o		43.06 N	93.14 W			Storm Elev			1,500	reet		
Name 41.2 N 90.00 M The storm representative dew point is 70.0 F with total precipitable water above sea level of 3.07 inches. The in-place maximum dew point is 76.5 F with total precipitable water above sea level of 3.07 inches. The in-place storm elevation is 1.500 which subtracts 0.315 inches of precipitable water at 76.5 F The in-place storm levation is 1.300 which subtracts 0.325 inches of precipitable water at 76.5 F The in-place storm maximization factor is 1.320 which subtracts 0.335 inches of precipitable water at 76.5 F The in-place storm maximization factor is 1.300 which subtracts 0.335 inches of precipitable water at 76.5 F The transposition basis factor is 1.41 Discreted Storm Depth-Arce-Duration 0.310 Discreted Storm USACE GL 2-12 Discreted Storm Store of Precipitable water at 76.5 F Obioon spinile 6.6 7.0 7.1 7.6 8.1 8.0 arc 9.1 9.9 10.5 11.2 10.0 sq miles 5.4	Pagin location	38.07 N	99.80 W			Storm Dura	ation		24nr	ieet		
The storm representative dew point is 70.0 F The in-place maximum dew point is 76.5 F the transpositioned maximum dew point is 76.5 F the in-place storm elevation is 1.500 the in-place storm elevation is 1.300 The in-place storm elevation is 1.300 The in-place storm maximization factor is 1.38 The transposition/elevation to basin factor is 1.38 The transposition/elevation to basin factor is 1.30 The in-place storm maximization factor is 1.41 The transposition/elevation to basin factor is 1.40 The total adjustment factor is 1.41 Notes: DAD values taken from USACE GL 2-12 Notes: DAD values from factor value from factor value factor v	Basin location	41.23 N	90.00 W									
The in-place nation deep doin is 700 F The in-place nation deep doin is 765 F the transposition basis netwation is 1.500 The in-place storm elevation is 1.500 thick subtracts 0.335 inches of precipitable water at 76.5 F the transposition basis netwation at 1.300 which subtracts 0.335 inches of precipitable water at 76.5 F The in-place storm naximization factor is 1.30 The in-place storm maximization factor is 1.00 The in-place storm maximization factor is 1.00 The total adjustment factor is 1.41 Netwice Subtract 0.335 inches of precipitable water at 76.5 F The transposition store is 1.41 Netwice Subtract 0.335 inches of precipitable water at 76.5 F The transposition store is 1.41 Netwice Subtract 0.335 inches of precipitable water at 76.5 F The transposition store is 1.41 Netwice Subtract 0.335 inches of precipitable water at 76.5 F The transposition store is 1.41 Netwice Subtract 0.335 inches of precipitable water at 76.5 F Netwice Subtract 0.35 inches of precipitable water at 76.5 F The transposition store is 1.41 Netwice Subtract 0.335 inches of precipitable water at 76.5 F Netwice Subtract 0.35 inches of precipitable water at 76.5 F Netwice Subtract 0.35 inches of precipitable water at 76.5 F Netwice Subtract 0.35 inches of precipitable water at 76.5 F Netwice Subtract 0.35 inches of precipitable water at 76.5 F Netwice Subtract 0.35 inches of precipitable water at 76.5 F Netwice Subtract 0.35 inches of precipitable water at 76.5 F Netwice Subtract 0.35 inches 0 frecipitable water at 76.5 F Netwice Subtract 0.35 inches 0 frecipitable water at 76.5 F Netwice Subtract 0.35 inches 0 frecipitable water at 76.5 F Netwice Subtract 0.35 inches 0 frecipitable water at 76.5 F Netwice Subtract 0.35 inches 0 frecipitable water at 76.5 F Netwice Subtract 0.35 inches 0 frecipitable water at 76.5 F Netwice Subtract 0.35 inches 0 frecipitable water at 76.5 F Netwice Subtract 0.35 inches 0 frecipitable water at 76.5 F Netwise Subtract 0.35 inches 0 frecipitable water at 76.5 F Netwise		1	70 0 E		-1	1		c		2.25	· 1	
The in-place storm elevation is 1.500 with total precipitable water above sea level of 3.01° inches. The in-place storm elevation is 1.500 which subtracts 0.33 inches of precipitable water at 70.0 F The in-place storm elevation is 1.500 which subtracts 0.335 inches of precipitable water at 76.5 F The in-place storm maximization factor is 1.38 The transposition/elevation to basin factor is 1.02 The barrier/basin elevation basin factor is 1.02 The barrier/basin elevation basin factor is 1.02 The barrier adjustment factor is 1.04 The total adjustment factor is 1.04 The total adjustment factor is 1.04 The total adjustment factor is 1.04 Storm Storm Depth-Area-Duration 10 sq miles 6.4 8.1 8.3 8.5 8.7 9.6 10.1 10.7 10.7 10 sq miles 6.4 6.2 6.4 7.0 7.6 8.1 8.6 9.3 9.9 9.9 9.9 10.00 sq miles 5.4 6.2 2 6.4 7.0 7.6 8.1 8.6 8.7 9.2 9.9 10.5 11.2 11.2 10.00 sq miles 5.4 6.2 6.4 7.0 7.6 8.1 8.6 8.7 9.3 9.3 5000 sq miles 5.4 6.2 6.4 7.0 7.6 8.1 8.6 8.7 9.2 6.9 7.0 20000 sq miles 5.4 6.2 6.4 7.0 7.6 8.1 8.6 8.7 9.3 9.3 5000 sq miles 5.4 6.2 6.4 7.0 7.6 8.1 8.6 8.7 7.0 7.6 7.7 10 sq miles 5.4 6.2 6.8 7.1 7.6 8.1 8.6 0.8 7.7 9.3 9.3 5000 sq miles 5.4 6.2 6.8 7.1 8.100 13.0 14.0 14.8 15.8 15.8 10.00 sq miles 5.4 6.2 6.8 7.0 7.6 7.7 20000 sq miles 3.1 1.3 11.6 11.3 11.6 12.0 11.3 15.8 15.8 15.3 6.1 6.2 Adjusted Storm Depth-Area-Duration Adjusted Storm Deptharea-Duration Adjusted Storm Depth	The in place movimum	dew point is	70.0 F	With tot	al precipitat	le water abov	ve sea level o	r c		2.25	inches.	
In the transposition back maximum dew point is 70.5 F 3.50 inches 70.5 F The in-place storm elevation is 1.500 which subtracts 0.335 inches of precipitable water at 70.5 F The in-place storm elevation is 1.300 which subtracts 0.335 inches of precipitable water at 70.5 F The in-place storm maximization factor is 1.30 which subtracts 0.335 inches of precipitable water at 70.5 F The in-place storm maximization factor is 1.00 The in-place storm maximization factor is 1.01 Notes: DAD values taken from USACE GL 2-12 Observed Storm Depth-Arce-Duration 10 sg miles 72 84 8.5 8.7 9.9 10.5 11.2 11.2 10 sg miles 6.6 7.1 7.6 8.1 8.6 9.3 9.9 9.9 10.5 10.5 200 sg miles 6.6 7.0 7.1 7.6 8.1 8.6 9.3 9.9 9.9 10.5 10.5 200 sg miles 3.4 4.4 5.4 5.4 6.2 6.4 7.0 7.6 7.0 7.0	The in-place maximum	dew point is	70.5 F	with tot	al precipitat	le water abov	ve sea level o	1 C		3.07	inches.	
The in-place storm deviation is 1,500 which subtracts 0.335 inches of precipitable water at 76.5 F The transposition basin elevation at 1,500 which subtracts 0.335 inches of precipitable water at 76.5 F The in-place storm maximization factor is 1.38 1.300 which subtracts 0.335 inches of precipitable water at 76.5 F The in-place storm maximization factor is 1.00 The transposition/elevation to basin factor is 1.00 The transposition/elevation to basin factor is 1.00 The total adjustment factor is 1.41 Notes: DAD values taken from USACE GL 2-12 Diserved Storm Depth-Area-Duration 1000 sq miles 6.8 8.1 8.3 8.5 8.9 9.1 9.9 10.5 11.2 11.2 1000 sq miles 6.8 8.1 8.3 8.5 8.9 9.1 9.9 10.5 11.2 11.2 1000 sq miles 6.6 7.8 8.0 8.2 8.5 9.2 9.9 10.5 10.5 10000 sq miles 3.8 4.5 4.8 5.4 6.5 6.1 6.2 6.1 6.2 6.1 6.2 6.1 6.2 6.1 6.2 6.1 6.6	The transpositioned maximum	dew point is	70.5 F	with tot	al precipitat	a a a a	ve sea level o	I fanosinitabla		5.07 70.0 E	inches.	
The implace statile deviation is 1,300 which subtracts 0.335 inches of precipitable water at 76.5 F The inflow barrier/basin elevation height is 1,300 which subtracts 0.335 inches of precipitable water at 76.5 F The inflow barrier/basin elevation height is 1,300 which subtracts 0.335 inches of precipitable water at 76.5 F The inflow barrier adjustment factor is 1.00 1.20 The barrier adjustment factor is 1.00 The total adjustment factor is 1.41 Notes: DAD values taken from USACE GL 2.12 Observed Storm Depth-Area-Duration 0.41 10 sq miles 6.6 7.8 8.0 st 2.8 9.9 1000 sq miles 6.6 7.8 9.000 sq miles 3.8 4.5 4.5 4.8 5.5 9.000 sq miles 3.1 3.8 4.0 4.8 9.000 sq miles 3.1 3.8 4.0 4.8 5.4 5.8 6.2 6.9 7.0 20000 sq miles 3.1 3.8 4.0 4.8 5.4 5.8 6.2 6.9 7.0 20000 sq miles 3.1 3.4	The in-place storm	a elevation is	1,500	wit	ich subtracts	0.31	inches o	f precipitable	e water at	70.0 F 76 5 F		
The inflow barrier/basin leval in 1,300 which subtracts 0.335 inches of precipitable water at 76.5 F The inflow barrier/basin leval in the basin factor is 1.38 1.02 inches of precipitable water at 76.5 F The inflow barrier/basin leval in the basin factor is 1.00 The in-place storm maximization factor is 1.00 The transposition/elevation to basin factor is 1.00 The barrier adjustment factor is 1.41 Notes: DAD values taken from USACE GL 2-12 Observed Storm Depth-Area-Duration 10 sg miles 7.2 8.4 8.5 8.7 9.6 10.1 10.7 10.7 10 sg miles 6.8 8.1 8.3 8.5 8.7 9.6 10.1 10.7 10.7 200 sg miles 6.6 7.0 7.1 7.6 8.1 8.6 9.3 9.9 9.9 1000 sg miles 5.4 6.2 6.4 7.0 7.6 8.0 8.1 5.3 6.1 6.2 2000 sg miles 3.1 3.8 4.0 4.8 5.4 5.8 6.1 6.5 7.0 7.0	The menoplace storn	a elevation is	1,500	wit	ich subtracts	0.385	inches o	f precipitable	e water at	70.5 F		
The innov ontervash elevation negatist 1,300 which statusts 0.333 incluses of precipitation with a line of the statust of the	The inflow harriar/hasin alayat	i elevation at	1,300	wn	ich subtracts	0.335	inches o	f precipitable	e water at	70.5 F 76 5 F		
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$ \frac{6 \text{ Hours}}{2} \frac{12 \text{ Hours}}{2} \frac{18 \text{ Hours}}{2} \frac{24 \text{ Hours}}{2} \frac{30 \text{ Hours}}{2} \frac{30 \text{ Hours}}{2} \frac{48 \text{ Hours}}{2} \frac{48 \text{ Hours}}{2} \frac{10 \text{ Hours}}{2} \frac{12 \text{ Hours}}{2} \frac{10 \text{ Hours}}{2} 10 \text{ Hou$	Observed Storm Depth-	Area-Durati	on	10 11	24.11	20.11	26.11	40.11	(0 H	70.11	-	
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$\frac{100 \text{ sq miles}}{200 \text{ sq miles}} = \frac{6.8}{6.6} = \frac{8.1}{7.8} = \frac{8.5}{8.0} = \frac{8.7}{8.2} = \frac{9.0}{9.10.1} = \frac{10.7}{10.1} = \frac{10.7}{10.5} = \frac{10.5}{10.5}$ $\frac{500 \text{ sq miles}}{500 \text{ sq miles}} = \frac{6.0}{7.0} = \frac{7.1}{7.1} = \frac{7.6}{7.6} = \frac{8.1}{8.0} = \frac{8.7}{9.3} = \frac{9.9}{9.9} = \frac{9.9}{9.9}$ $\frac{1000 \text{ sq miles}}{5.4} = \frac{6.2}{6.4} = \frac{6.4}{7.0} = \frac{7.6}{7.6} = \frac{8.0}{8.0} = \frac{8.7}{8.7} = \frac{9.3}{9.3} = \frac{9.3}{9.3}$ $\frac{5000 \text{ sq miles}}{1000 \text{ sq miles}} = \frac{3.4}{3.1} = \frac{4.8}{3.8} = \frac{4.8}{5.5} = \frac{6.1}{6.5} = \frac{6.2}{7.0} = \frac{7.6}{7.6} = \frac{7.7}{7.0} = \frac{7.6}{7.0} = \frac{7.6}{7.0} = \frac{7.6}{7.6} = \frac{7.7}{7.0} = \frac{7.6}{7.0} = \frac{7.6}{7.6} = \frac{7.6}{7.0} = \frac{7.6}{7.0} = \frac{7.6}{7.0} = \frac{7.6}{7.0} = \frac{7.6}{7.0} = \frac{7.6}{7.0} = \frac{7.6}{7.6} = \frac{7.6}{7.0} = \frac{7.6}{7.6} = \frac{7.6}{7.0} = \frac{7.6}{7.0} = \frac{7.6}{7.0} = \frac{7.6}{7.0} = \frac{7.6}{7.0} = \frac{7.6}{7.0} = \frac{7.6}{7.6} = \frac{7.6}{7.0} = \frac{7.6}$	10 sq miles	1.2	8.4	8.5	8.9	9.1	9.9	10.5	11.2	11.2	-	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	100 sq miles	0.8	ð.1	8.3	8.5	8./	9.6	10.1	10.7	10.7	-	
$\frac{300 \text{ sq} \text{ miles}}{54} = \frac{6.2}{6.2} = \frac{6.4}{7.0} = \frac{7.0}{7.6} = \frac{7.0}{6.8} = \frac{8.0}{8.7} = \frac{9.3}{9.3} = \frac{9.3}{9.3}$ $\frac{5000 \text{ sq} \text{ miles}}{3.8} = \frac{3.8}{4.5} = \frac{4.8}{4.8} = \frac{5.5}{5.5} = \frac{6.1}{6.1} = \frac{6.5}{6.5} = \frac{7.0}{7.0} = \frac{7.6}{7.6} = \frac{7.7}{7.0}$ $\frac{10000 \text{ sq} \text{ miles}}{2.4} = \frac{3.1}{3.0} = \frac{3.3}{3.3} = \frac{4.1}{4.1} = \frac{4.8}{4.8} = \frac{5.1}{5.8} = \frac{6.2}{6.2} = \frac{6.9}{7.0} = \frac{7.0}{20000 \text{ sq}}$ $\frac{6 \text{ Hours}}{12 \text{ Hours}} = \frac{12 \text{ Hours}}{18 \text{ Hours}} = \frac{30 \text{ Hours}}{3.0 \text{ Hours}} = \frac{36 \text{ Hours}}{3.6 \text{ Hours}} = \frac{48 \text{ Hours}}{6.1} = \frac{6.1}{6.2} = \frac{6.1}{2.10000 \text{ sq}}$ $\frac{6 \text{ Hours}}{12 \text{ Hours}} = \frac{12 \text{ Hours}}{18 \text{ Hours}} = \frac{12 \text{ Hours}}{3.0 \text{ Hours}} = \frac{36 \text{ Hours}}{3.6 \text{ Hours}} = \frac{48 \text{ Hours}}{4.8 \text{ Hours}} = \frac{60 \text{ Hours}}{72 \text{ Hours}}$ $\frac{72 \text{ Hours}}{10 \text{ sq} \text{ miles}} = \frac{10.2}{11.8} = \frac{12.0}{12.5} = \frac{12.8}{12.8} = \frac{14.0}{14.0} = \frac{14.8}{15.8} = \frac{15.8}{15.8}$ $\frac{100 \text{ sq}}{1000 \text{ sq}} \text{ miles} = \frac{9.6}{11.4} = \frac{11.7}{12.0} = \frac{12.3}{12.3} = \frac{13.5}{13.0} = \frac{14.2}{14.2} = \frac{15.1}{15.1} = \frac{15.1}{15.1} = \frac{15.1}{200 \text{ sq}} \text{ miles} = \frac{9.6}{11.4} = \frac{11.7}{11.3} = \frac{11.6}{12.0} = \frac{12.3}{13.0} = \frac{14.0}{14.0} = \frac{14.8}{14.0} = \frac{14.0}{10.00 \text{ sq}} \text{ miles} = \frac{7.6}{8.5} = \frac{9.9}{9.9} = \frac{10.0}{10.0} = \frac{10.7}{11.4} = \frac{12.1}{12.1} = \frac{13.1}{13.1} = \frac{14.0}{14.0} = \frac{14.0}{10.00 \text{ sq}} \text{ miles} = \frac{7.6}{8.7} = \frac{9.0}{9.0} = \frac{9.9}{10.7} = \frac{11.3}{10.9} = \frac{11.4}{10.000 \text{ sq}} \text{ miles} = \frac{7.6}{5.4} = \frac{6.8}{6.8} = \frac{7.8}{7.2} = \frac{8.6}{9.2} = \frac{9.9}{9.0} = \frac{10.7}{10.9} = \frac{10.9}{20000 \text{ sq}} \text{ miles} = \frac{3.4}{4.2} = \frac{4.7}{4.7} = \frac{5.8}{5.8} = \frac{6.8}{6.8} = \frac{7.2}{7.2} = \frac{7.5}{8.6} = \frac{8.7}{8.7} = \frac{9.9}{20000 \text{ sq}} \text{ miles} = \frac{3.4}{4.2} = \frac{4.7}{4.7} = \frac{5.8}{5.8} = \frac{6.8}{6.8} = \frac{7.2}{7.2} = \frac{7.5}{8.6} = \frac{8.7}{8.7} = \frac{7.0}{9.9} = \frac{7.0}{20000 \text{ sq}} \text{ miles} = \frac{4.4}{4.2} = \frac{4.7}{4.7} = \frac{5.8}{5.8} = \frac{6.8}{6.8} = \frac{7.2}{7.5} = \frac{7.5}{8.6} = \frac{8.7}{1.2} = \frac{7.0}{1.20} = \frac{7.0}{1.20} = \frac{7.0}{2.4} = \frac{7.0}{2.4} =$	200 sq miles	6.0	7.8	<u>0.0</u> 7.1	8. <u>4</u> 7.6	8.5 8.1	9.2	9.9	10.5	10.5	-	
1000 sq miles 3.4 0.2 0.4 7.0 7.0 5.7 7.3 9.3 9.3 5000 sq miles 3.8 4.5 4.8 5.5 6.1 6.5 7.0 7.6 7.7 10000 sq miles 3.1 3.8 4.0 4.8 5.4 5.8 6.2 6.9 7.0 20000 sq miles 2.4 3.0 3.3 4.1 4.8 5.1 5.3 6.1 6.2 Adjusted Storm Depth-Area-Duration 6 Hours 12 Hours 18 Hours 24 Hours 30 Hours 36 Hours 48 Hours 60 Hours 72 Hours 10 sq miles 9.6 11.4 11.7 12.0 12.3 13.5 14.2 15.1 15.1 200 sq miles 9.4 10.0 10.7 11.4 12.1 13.1 14.0 14.8 500 sq miles 8.5 9.9 10.0 10.7 11.3 12.3 13.1 13.1 5000 sq miles	1000 sq miles	5.4	6.2	6.4	7.0	0.1 7.6	0.0 8.0	9.3	9.9	9.9	-	
$\frac{3000 \text{ sq miles}}{10000 \text{ sq miles}} = \frac{3.6}{3.1} = \frac{4.6}{3.0} = \frac{3.3}{3.3} = \frac{4.1}{4.1} = \frac{6.2}{4.8} = \frac{7.0}{5.8} = \frac{7.0}{6.2} = \frac{7.0}{7.0} = \frac{7.0}{20000 \text{ sq miles}} = \frac{3.1}{2.4} = \frac{3.8}{3.0} = \frac{4.8}{3.3} = \frac{4.1}{4.8} = \frac{6.2}{5.1} = \frac{6.2}{5.3} = \frac{6.1}{6.2} = \frac{6.2}{5.3} = \frac{6.1}{5.3} $	5000 sq miles	3.4	0.2	1.4	7.0	6.1	6.5	0.7 7.0	9.3	9.3	-	
10000 sq miles 3.1 3.0 4.0 4.0 3.4 3.3 6.2 6.9 7.0 20000 sq miles 2.4 3.0 3.3 4.1 4.8 5.1 5.3 6.1 6.2 Adjusted Storm Depth-Area-Duration 6 Hours 12 Hours 18 Hours 24 Hours 30 Hours 36 Hours 48 Hours 60 Hours 72 Hours 10 sq miles 10.2 11.8 12.0 12.5 12.8 14.0 14.8 15.8 15.8 10 og miles 9.6 11.4 11.7 12.0 12.3 13.5 14.2 15.1 15.1 200 og miles 9.3 11.0 11.3 11.6 12.0 13.0 14.0 14.8 14.8 500 sq miles 5.4 6.3 6.8 7.8 8.6 9.2 9.9 10.7 10.9 10000 sq miles 5.4 6.6 6.8 7.6 8.2 8.7 9.7 9.9 10000 sq mi	10000 sq miles	3.0	3.8	4.0	3.3 48	5.4	5.8	6.2	6.9	7.7	-	
Adjusted Storm Depth-Area-Duration Adjusted Storm Depth-Area-Duration Adjusted Storm Depth-Area-Duration 10 sq miles 10.2 11.8 12.0 12.5 12.8 14.0 14.8 15.8 15.8 10 sq miles 9.6 11.4 11.7 12.0 12.3 13.5 14.2 15.1 15.1 2000 sq miles 9.6 11.4 11.7 12.0 12.3 13.5 14.2 15.1 15.1 200 sq miles 9.3 11.0 11.3 11.6 12.0 13.0 14.0 14.8 14.8 500 sq miles 7.6 8.7 9.0 9.9 10.7 11.3 12.3 13.1 13.1 5000 sq miles 5.4 6.3 6.8 7.8 8.6 9.2 9.9 10.7 10.9 10000 sq miles 3.4 4.2 4.7 5.8 6.8 7.2 7.5 8.6 8.7 20000 sq miles 3.4 4.2 4.7 5.8 6.8 7.2 7.5 8.6 8.7 Storm Or Storm Center Name Medford, WI	20000 sq miles	2.4	3.0	33	4.0	48	5.0	53	6.1	6.2	-	
Adjusted Storm Depth-Area-Duration 6 Hours 12 Hours 18 Hours 24 Hours 30 Hours 36 Hours 48 Hours 60 Hours 72 Hours 10 sq miles 10.2 11.8 12.0 12.5 12.8 14.0 14.8 15.8 15.8 100 sq miles 9.6 11.4 11.7 12.0 12.3 13.5 14.2 15.1 15.1 200 sq miles 9.3 11.0 11.3 11.6 12.0 13.0 14.0 14.8 14.8 500 sq miles 7.6 8.7 9.0 9.9 10.7 11.3 12.3 13.1 13.1 14.0 1000 sq miles 5.4 6.3 6.8 7.8 8.6 9.2 9.9 10.7 10.9 10000 sq miles 3.4 4.2 4.7 5.8 6.8 7.2 7.5 8.6 8.7 20000 sq miles 3.4 4.2 4.7 5.8 6.8 7.2 7.5 8.6 8.7	20000 34 miles	2.4	5.0	5.5	1.1	4.0	5.1	5.5	0.1	0.2		
Solution by the Area but alour 12 Hours 18 Hours 24 Hours 30 Hours 36 Hours 48 Hours 60 Hours 72 Hours 10 sq miles 10.2 11.8 12.0 12.5 12.8 14.0 14.8 15.8 15.8 100 sq miles 9.6 11.4 11.7 12.0 12.3 13.5 14.2 15.1 15.1 200 sq miles 9.3 11.0 11.3 11.6 12.0 13.0 14.0 14.8 14.8 500 sq miles 8.5 9.9 10.0 10.7 11.4 12.1 13.1 14.0 14.0 1000 sq miles 7.6 8.7 9.9 10.7 11.3 12.3 13.1 13.1 5000 sq miles 5.4 6.3 6.8 7.8 8.6 9.2 9.9 10.7 10.9 10000 sq miles 3.4 4.2 4.7 5.8 6.8 7.2 7.5 8.6 8.7 Storm Center Name Medford, WI	Adjusted Storm Donth	Aroo Duroti	on a								1	
Storm or Storm Center Name Medford, WI Storm or Storm Center Name Medford, WI Storm Or Storm Center Name Medford, WI Storm Date(s) 3.4 Storm Date(s) 3.4 Storm Or Storm Center Name Medford, WI Storm Type Synppic Storm Center Name Medford, WI Storm Type Synpic Storm Center Name Medford, WI Storm Center Name Medford, WI Storm Type Synpic Storm Center Name Medford, WI Storm Type Synppic Storm Center Name Medford, WI Storm Center Elevation 1,500 Precipitation Total & Duration 11.20 Inches 72-hours USACE GL 2-12 Storm Representative Dewpoin	Aujusteu Storin Depui-	6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours		
Storm or Storm Center Name Medford, WI Storm Center Elevation 1,500 Precipitation Total & Duration 11.20 Storm Representative Dewpoint 70.0 F 24hr average Storm Representative Dewpoint 70.0 F 24hr average	10 sa milas	10.2	11 8	12 0	12.5	12.8	14.0	14 8	15.8	15 g		
100 og miles 100 11.0 11.1 11.0 12.0 12.0 13.0 14.0 14.8 14.8 200 sq miles 9.3 11.0 11.3 11.6 12.0 13.0 14.0 14.8 14.8 500 sq miles 8.5 9.9 10.0 10.7 11.4 12.1 13.1 14.0 14.0 1000 sq miles 7.6 8.7 9.0 9.9 10.7 11.3 12.3 13.1 13.1 5000 sq miles 5.4 6.3 6.8 7.8 8.6 9.2 9.9 10.7 10.9 10000 sq miles 3.4 4.2 4.7 5.8 6.8 7.2 7.5 8.6 8.7 20000 sq miles 3.4 4.2 4.7 5.8 6.8 7.2 7.5 8.6 8.7 Storm Date(s) 3-Jun-1905 5 </td <td>100 sq miles</td> <td>9.6</td> <td>11.0</td> <td>11.0</td> <td>12.0</td> <td>12.0</td> <td>13.5</td> <td>14.0</td> <td>15.0</td> <td>15.0</td> <td></td>	100 sq miles	9.6	11.0	11.0	12.0	12.0	13.5	14.0	15.0	15.0		
Storm or Storm Center Name Medford, WI Storm or Storm Center Name Medford, WI Storm Type Synoptic Storm Center Elevation 45.14 N 90.34 W Storm Center Elevation 1.100 1.100 11.4 1.101 11.4 1.102 11.4 1.114 12.1 1.114	200 sq miles	9.3	11.0	11.3	11.6	12.0	13.0	14.0	14.8	14.8		
Storm or Storm Center Name Medford, WI Storm Or Storm Center Name Medford, WI Storm Or Storm Center Name Medford, WI Storm Date(s) 3-Jun-1905 Storm Center Elevation 45.14 N 90.34 W 90.34 W Storm Center Elevation 1,500 90.35 M 90.34 W Storm Representative Dewpoint 70.0 F 24hr average 24hr average Storm Representative Dewpoint Location 43.06 N	500 sq miles	8.5	9.9	10.0	10.7	11.4	12.1	13.1	14.0	14.0	1	
Storm or Storm Center Name Medford, WI Storm Or Storm Center Name Medford, WI Storm Date(s) 3-Jun-1905 Storm Center Elevation 45.14 N 90.34 W Storm Center Elevation 45.14 N 90.34 W Storm Center Elevation 1.20 Inches 72-hours USACE GL 2-12 Storm Representative Dewpoint 70.0 F 24hr average Storm Representative Dewpoint Location 43.06 N 93.14 W	1000 sq miles	7,6	8.7	9.0	9.9	10.7	11.3	12.3	13.1	13.1	1	
Storm or Storm Center Name Medford, WI Storm Date(s) 3-Jun-1905 Storm Type Synoptic Storm Center Elevation 45.14 N 90.34 W Storm Center Elevation 1,500 Precipitation Total & Duration 11.20 Inches 72-hours USACE GL 2-12 Storm Representative Dewpoint 70.0 F 24hr average Storm Representative Dewpoint Location 43.06 N 93.14 W	5000 sq miles	5.4	6.3	6.8	7.8	8.6	9.2	9.9	10.7	10.9	1	
Storm or Storm Center NameMedford, WIStorm Date(s)3-Jun-1905Storm TypeSynopticStorm Location45.14 N90.34 WStorm Center Elevation1,500Precipitation Total & Duration11.20 Inches 72-hours USACE GL 2-12Storm Representative Dewpoint70.0 F24hr averageStorm Representative Dewpoint70.0 F24hr averageStorm Representative Dewpoint43.06 N93.14 W	10000 sq miles	4.4	5.4	5.6	6.8	7.6	8.2	8.7	9.7	9.9		
Storm or Storm Center Name Medford, WI Storm Date(s) 3-Jun-1905 Storm Type Synoptic Storm Location 45.14 N 90.34 W Storm Center Elevation 1,500 Precipitation Total & Duration 11.20 Inches 72-hours USACE GL 2-12 Storm Representative Dewpoint 70.0 F 24hr average Storm Representative Dewpoint Location 43.06 N 93.14 W	20000 sq miles	3.4	4.2	4.7	5.8	6.8	7.2	7.5	8.6	8.7	1	
Storm or Storm Center NameMedford, WIStorm Date(s)3-Jun-1905Storm TypeSynopticStorm Location45.14 N90.34 WStorm Center Elevation1,500Precipitation Total & Duration11.20 Inches 72-hours USACE GL 2-12Storm Representative Dewpoint70.0 F24hr averageStorm Representative Dewpoint Location43.06 N93.14 W											4	
Storm or Storm Center NameMedford, WIStorm Date(s)3-Jun-1905Storm TypeSynopticStorm Location45.14 N90.34 WStorm Center Elevation1,500Precipitation Total & Duration11.20 Inches 72-hours USACE GL 2-12Storm Representative Dewpoint70.0 F24hr averageStorm Representative Dewpoint Location43.06 N93.14 W												
Storm Date(s) 3-Jun-1905 Storm Type Synoptic Storm Location 45.14 N 90.34 W Storm Center Elevation 1,500 Precipitation Total & Duration 11.20 Inches 72-hours USACE GL 2-12 Storm Representative Dewpoint 70.0 F 24hr average Storm Representative Dewpoint Location 43.06 N 93.14 W	Storm or Storm Center N	lame		Medford, V	VI						1	
Storm Type Synoptic Storm Location 45.14 N 90.34 W Storm Center Elevation 1,500 Precipitation Total & Duration 11.20 Inches 72-hours USACE GL 2-12 Storm Representative Dewpoint 70.0 F 24hr average Storm Representative Dewpoint Location 43.06 N 93.14 W	Storm Date(s)			3-Jun-1905							1	
Storm Location 45.14 N 90.34 W Storm Center Elevation 1,500 Precipitation Total & Duration 11.20 Inches 72-hours USACE GL 2-12 Storm Representative Dewpoint 70.0 F 24hr average Storm Representative Dewpoint Location 43.06 N 93.14 W	Storm Type			Synoptic							1	
Storm Center Elevation 1,500 Precipitation Total & Duration 11.20 Inches 72-hours USACE GL 2-12 Storm Representative Dewpoint 70.0 F 24hr average Storm Representative Dewpoint Location 43.06 N 93.14 W	Storm Location			45.14 N	90.34 W						1	
Precipitation Total & Duration 11.20 Inches 72-hours USACE GL 2-12 Storm Representative Dewpoint 70.0 F 24hr average Storm Representative Dewpoint Location 43.06 N 93.14 W	Storm Center Elevation			1,500							1	
Storm Representative Dewpoint 70.0 F 24hr average Storm Representative Dewpoint Location 43.06 N 93.14 W	Precipitation Total & Du	ration		11.20 Inche	s 72-hours U	SACE GL 2-	-12				1	
Storm Representative Dewpoint70.0 F24hr averageStorm Representative Dewpoint Location43.06 N93.14 W											1	
Storm Representative Dewpoint Location 43.06 N 93.14 W	Storm Representative De	wpoint		70.0 F	24hr averag	e]	
	Storm Representative De	wpoint Locat	ion	43.06 N	93.14 W							

Maximum Dewpoint	76.5 F
Moisture Inflow Vector	SW @ 200 Miles
In-place Maximization Factor	1.38
Temporal Transposition (Date)	15-Jun
Transposition Dewpoint Location	38.67 N 99.80 W
Transposition Maximum Dewpoint	76.5 F
Basin Elevation	1,300
Transposition to Basin Adjustment Factor	1.02
Higher of Basin Elevation - Inflow Barrier Height	1,300
Elevation Adjustment Factor	1.00
Total Adjustment Factor	1.41



Medford, WI June 4, 1905 Inflow





Meeker, OK October 19, 1908 Storm Type: Hybrid

Storm Name: Meeker, OI	<u>X</u>			Storm A	diustm	ont for	Nobros	zo Crid	Doint 5	-
AWA Analysis Date: 12/2/2008)		k	Stor III A	lujusiin		INCUI ASI	Na GITU	I OIIIt S	,
Temporal Transposition Date	4-Oct									
	Lat	Long			Moisture In	flow Directi	ion:	SE @ 200	miles	
Storm center location	35.50 N	96.90 W			Basin Eleva	tion		1,300	feet	
Storm Rep dew point location	33.43 N	94.45 W			Storm Eleva	ation		900	feet	
Transposition dewpoint location	37.18 N	92.55 W			Storm Dura	tion		24hr	feet	
Basin location	41.25 N	96.66 W								
The storm representative	dew point is	68.0 F	with tota	al precipitabl	e water above	e sea level of			2.05	inches.
The in-place maximum	dew point is	75.5 F	with tota	al precipitabl	e water above	e sea level of			2.92	inches.
The transpositioned maximum	dew point is	73.5 F	with tota	al precipitabl	e water above	e sea level of	c · · · · · · · · · · · · · · · · · · ·		2.67	inches.
The in-place storm	n elevation is	900	whi	ich subtracts	0.18	inches of	f precipitable	e water at	68.0 F 75 5 F	
The transposition basis	elevation at	1 300	whi	ich subtracts	0.25	inches of	f precipitable	water at	73.5 F	
The inflow barrier/basin elevat	ion height is	1,300	whi	ich subtracts	0.215	inches of	f precipitable	e water at	73.5 F	
		, *					- FF			
The in-place stor	rm maximiza	tion factor is	1.44		Notes: DAD	values taker	n from USAC	CE Storm Stu	dies SW 1-	
The transposition/	elevation to ba	asin factor is	0.91		11					
The b	arrier adjustn	nent factor is	1.00							
The		ant fastan ia	1 21							
116	e total adjusti	lent factor is	1.51							
Observed Storm Depth	Area-Durati	on								1
	6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours	
10 sq miles	9.4	10.0	10.0	11.4	11.8	12.0	14.5	14.9	15.2	
100 sq miles	8.2	9.3	9.4	10.3	11.3	11.5	13.6	14.4	14.9	
200 sq miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
500 sq miles	7.1	8.4	8.5	9.2	10.5	10.7	13.2	13.8	14.2	-
1000 sq miles	6.3	7.5	7.7	8.6	9.9	10.2	12.7	13.3	13.7	-
10000 sq miles	4.4	5.4	5.7	0.0	/.0	8.2	10.5	11.3	11./	-
20000 sq miles	<u> </u>	4.5	4.0	5.0 4.6	5.3	5.0	9.2	8.6	9.0	
20000 sc miles	2.1	5.0	5.7	4.0	0.0	5.7	7.7	0.0	7.0	
Adjusted Storm Depth-	Area-Duratio	m								1
	6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours	
10 sq miles	12.3	13.1	13.1	15.0	15.5	15.8	19.0	19.6	20.0	
100 sq miles	10.8	12.2	12.3	13.5	14.8	15.1	17.9	18.9	19.6	
200 sq miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
500 sq miles	9.3	11.0	11.2	12.1	13.8	14.0	17.3	18.1	18.6	
1000 sq miles	8.3	9.8	10.1	11.3	13.0	13.4	16.7	17.5	18.0	
5000 sq miles	5.8	7.1	7.5	8.7	10.0	10.8	13.8	14.8	15.4	
20000 sq miles	4.0	5.9	0.3 5 1	6.0	8.4	9.3	12.1	13.1	13.9	
20000 sq filles	3.3	-1. /	3.1	0.0	/.0	1.1	10.1	11.3	11.0	1
Storm or Storm Center N	lame		Meeker, OK							1
Storm Date(s)			19-Oct-1908							
Storm Type			Synoptic							
Storm Location			35.50 N	96.90 W						

Storm Center Elevation	900	
Precipitation Total & Duration	16.23 Inche	s 126-hours USACE Storm Studies SW 1-11
Storm Representative Dewpoint	68.0 F	24hr average
Storm Representative Dewpoint Location	33.43 N	94.45 W
Maximum Dewpoint	75.5 F	
Moisture Inflow Vector	SE @ 200 N	Ailes
In-place Maximization Factor	1.44	
Temporal Transposition (Date)	4-Oct	
Transposition Dewpoint Location	37.18 N	92.55 W
Transposition Maximum Dewpoint	73.5 F	
Basin Elevation	1,300	
Transposition to Basin Adjustment Factor	0.91	
Higher of Basin Elevation - Inflow Barrier Height	1,300	
Elevation Adjustment Factor	1.00	
Total Adjustment Factor	1.31	



Meeker, OK October 19, 1908 Inflow





Minneapolis, MN July 23, 1987 Storm Type: MCC

torm Name: M	linneapolis	s, MN			м. н	-			~		•
torm Date: 23	3-Jul-1987				Storm A	djustm	ent for 1	Nebrask	ka Grid	Point 1	.0
WA Analysis Date: 12	2/2/2008										
emporal Transposition l	Date	15-Jul			i						
		Lat	Long			Moisture In	nflow Direct	ion:	WSW @ 90	miles	
torm center location		44.97 N	93.28 W			Basin Eleva	ation		1,300	feet	
torm Rep dew point loca	ation	44.46 N	94.90 W			Storm Elev	ation		850	feet	
ransposition dewpoint lo	ocation	40.24 N	98.62 W			Storm Dura	ation		6hr	feet	
asin location		41.25 N	96.66 W								
The storm rep	resentative	dew point is	78.0 F	with tot	al precipitab	le water abov	ve sea level o	f		3.29	inche
The in-place	maximum	dew point is	82.5 F	with tot	al precipitab	le water abov	ve sea level o	f		4.00	inche
The transpositioned	maximum	dew point is	83.0 F	with tot	al precipitab	le water abov	ve sea level of	f 		4.08	inche
I he in-j	place storm	n elevation is	850	wh	ich subtracts	0.235	inches o	f precipitable	e water at	78.0 F	
I ne in-j	place storm	1 elevation 1s	850	wh	ich subtracts	0.28	inches o	f precipitable	e water at	82.5 F	
The inflow homion/h	sition basin	i elevation at	1,300	wn	ich subtracts	0.41	inches o	f precipitable	e water at	83.0 F	
The liniow barrier/u	Jasin elevat	ton neight is	1,500	WII	icii subtracts	0.41	filches 0	i precipitable	e water at	0 5. 0 I	
The ir	n-nlace stor	m maximiza	tion factor is	1 22		Notes: DAD) values taker	from FPRI	Storm 23		٦
The tran	sposition/e	levation to b	asin factor is	0.99		Holes. Ditle	values takei		Storm 25		
The train	The h	arrier adjustr	ent factor is	1.00							
	1110 01	arrer aajasar	ionit incitor is	1.00							
	The	total adjustm	nent factor is	1.20							
		ř									
Observed Sto	rm Depth-	Area-Durati	on								
		6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours	
10	0 sq miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
100	0 sq miles	10.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	_
200	0 sq miles	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
500	0 sq miles	8.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
1000	0 sq miles	7.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	_
5000	0 sq miles	4.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
20000	0 sq miles	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
2000	o sq iiiies	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
A divisted Stor	m Donth	Area Durati									1
Aujusteu Stol	m Deptil-A	6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours	
1(0 sa miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
100	0 sq miles	12.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
200	0 sq miles	12.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1
500	0 sq miles	10.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1
1000	0 sq miles	8.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1
5000	0 sq miles	4.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
10000	0 sq miles	3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
20000	0 sq miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
											-
Storm or Storr	m Center N	lame		Minneapoli	s, MN						
Storm Date(s)				23-Jul-1987							1

Storm of Storm Center Hune	minicapon	5, 1111
Storm Date(s)	23-Jul-1987	
Storm Type	MCC	
Storm Location	44.97 N	93.28 W
Storm Center Elevation	850	
Precipitation Total & Duration	10.55 Inches	s 3-hours EPRI Warm Season Storm Number 23
Storm Representative Dewpoint	78.0 F	6hr average
Storm Representative Dewpoint Location	44.46 N	94.90 W
Maximum Dewpoint	82.5 F	
Moisture Inflow Vector	WSW @ 90	
In-place Maximization Factor	1.22	
Temporal Transposition (Date)	15-Jul	
Transposition Dewpoint Location	40.24 N	98.62 W
Transposition Maximum Dewpoint	83.0 F	
Basin Elevation	1,300	
Transposition to Basin Adjustment Factor	0.99	
Higher of Basin Elevation - Inflow Barrier Height	1,300	
Elevation Adjustment Factor	1.00	
Total Adjustment Factor	1.20	



Minneapolis, MN July 23, 1987 Inflow

Ogallala, NE July 6, 2002 Storm Type: MCC

Data: Ogaliala, N			C	Storm A	dington	ont for	Vobroal	Crid	Doint 1	1
Date: 00-Jul-2002			L.	ыогш А	ajusun	ent for 1	Nedrash		Point 1	4
	45 1.1									
ral Transposition Date	15-Jul		1							
	Lat	Long			Moisture In	flow Direct	ion:	S @ 125	miles	
center location	41.03 N	101.78 W			Basin Eleva	ation		3,117	feet	
Rep dew point location	39.34 N	101.97 W			Storm Eleva	ation		3,428	feet	
osition dewpoint location	40.56 N	101.00 W			Storm Dura	ation		6hr	feet	
ocation	41.25 N	96.66 W								
The storm representative	e dew point is	74.5 F	with tot	al precipitab	le water abov	ve sea level o	f		2.79	inches.
The in-place maximum	dew point is	81.5 F	with tot	al precipitab	le water abov	ve sea level o	f		3.84	inches.
The transpositioned maximum	dew point is	82.0 F	with tot	al precipitab	le water abov	ve sea level o	f		3.92	inches.
The in-place storn	n elevation is	3,428	whi	ich subtracts	0.775	inches of	f precipitable	water at	74.5 F	
The in-place storn	n elevation is	3,428	whi	ich subtracts	0.99	inches of	f precipitable	water at	81.5 F	
The transposition basi	n elevation at	3,117	whi	ich subtracts	0.9	inches of	f precipitable	water at	82.0 F	
'he inflow barrier/basin eleva	tion height is	3,117	whi	ich subtracts	0.9	inches of	f precipitable	e water at	82.0 F	
										-
The in-place sto	rm maximiza	tion factor is	1.41		Notes: DAI	O values take	n from SPAS	5 1033		
The transposition/	elevation to ba	asin factor is	1.06							
The b	arrier adjustn	nent factor is	1.00							
Th	e total adjustn	nent factor is	1.50							
Observed Storm Depth	-Area-Durati	on								
	6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours	
10 sq miles	12.5	14.4	14.4	14.5	0.0	0.0	0.0	0.0	0.0	
100 sq miles	10.1	11.7	11.7	11.8	0.0	0.0	0.0	0.0	0.0	
200 sq miles	8.8	10.2	10.3	10.5	0.0	0.0	0.0	0.0	0.0	-
500 sq miles	6.7	8.1	8.3	8.5	0.0	0.0	0.0	0.0	0.0	_
1000 sq miles	5.1	6.2	6.6	6.8	0.0	0.0	0.0	0.0	0.0	-
5000 sq miles	2.0	2.7	3.1	3.2	0.0	0.0	0.0	0.0	0.0	-
10000 sq miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
20000 sq miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Adjusted Storm Depth-	Area-Duratio	on	10.77		A 3 X		10.77	10 TT	50 T	-
10 11	6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours	-
10 sq miles	18.8	21.6	21.6	21.8	0.0	0.0	0.0	0.0	0.0	-
200 sq miles	15.1	17.5	17.5	1/./	0.0	0.0	0.0	0.0	0.0	-
200 sq miles	13.2	15.5	15.4	15./	0.0	0.0	0.0	0.0	0.0	-
500 sq miles	10.0	12.2	12.5	12./	0.0	0.0	0.0	0.0	0.0	-
5000 sq miles	2.0	9.4 4 0	9.9 16	10.1	0.0	0.0	0.0	0.0	0.0	-
10000 sq miles	5.0	4.0	4.0	4.0	0.0	0.0	0.0	0.0	0.0	-
20000 sq miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
20000 sq illites	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Storm on Storm Carton N	Jama		Ogellala M	F						1
Storm Deta(a)	name		6 Jul 2002	L						
Storm Ture			Cumontia Th	undorston						-
Storm Logetice			JUDIC-Th	101 79 W						-
Storm Contor Elevation			41.03 IN 3.429	101./8 W						-
Precipitation Total & D	iration		3,420 14 02 in 244	re from CDA	\$ 1022					-
r recipitation rotat & Di	u ati Oli		14.72 111 241	ns nom SPA	ID 1000					
Storm Representative De	wpoint		74 5 F	Ghe organica Tal + 1	from KCDC	PT from 07.04 2002	M7 local to 07 06 20	0117		
Storm Representative De	wpoint Locat	ion	39 34 N	101 07 W/	a nom KGDC and KI	к i irom 07-06-2002 (,++z. iocal to 0/-06-200	14 11Z		1
Maximum Deuroint	mponn Local	1011	815F	101.77 44						
Moisture Inflow Vector			S @ 125							1
In-place Maximization F	Factor		141							
Temporal Transposition	(Date)		15-Jul							
Transposition Dewpoint	Location		40.56 N	101.00 W						1
Transposition Maximum	Dewnoint		82.0 F	101.00 11						1
Basin Elevation	point		3.117							1
Transposition to Basin A	djustment Fa	ctor	1.06							1
Higher of Basin Elevation	on - Inflow Ba	rrier Height	3,117							1
Elevation Adjustment Fa	actor		1.00							1
Total Adjustment Factor			1.50							1

Ogallala, NE July 6, 2002 Inflow


Storm 1030 - Wahoo NE, June 22 - 24, 1963

						Du	ration (hou	IIS)					
Area (ml ²)	1	2	3	4	5	6	12	18	24	36	48	72	total
1	7.07	7.83	10.65	12.32	13.12	13.98	15.54	15.90	15.98	15.98	15.98	15.98	15.98
10	6.57	7.35	10.06	11.71	12.50	13.30	14.64	15.01	15.15	15.13	15.13	15.16	15.16
100	5.18	5.91	8,12	9.58	10.39	11.22	12.74	13.13	13.23	13.23	13.23	13.23	13.23
200	4.64	5.45	7.41	8.77	9.68	10.45	12.01	12.39	12.49	12.49	12.50	12.52	12.52
500	3.76	4.80	6.15	7.23	8.36	9.02	10.43	10.78	10.82	10.84	10.86	10.87	10.87
1,000	3.03	4.10	5.08	6.17	7.19	7,77	8.96	9.39	9.45	9.47	9.48	9.51	9.51
5,000	0.82	1.78	2,45	3.13	3.59	4.17	5.93	6.62	6.80	6.85	6.88	6.88	6.88
10,000	0.61	1.05	1.61	1.98	2.34	2.64	4.11	4.61	4.92	4.94	4.96	4.96	4.96
20,000	0.39	0.61	0.88	1.14	1.34	1.50	2.44	2.86	3.11	3.12	3.13	3.14	3.14

MAXIMUM AVERAGE DEPTH OF PRECIPITATION (INCHES)







SPAS Storm #1030 - June 22 to 24, 1963 Total Rainfall (72-hours) - Wahoo, Nebraska





Coordinate system: GCS North American 1983 Scale: 1:44,522,173 Metstat/AWA March 1, 2007

Paris Waterworks, IN June 27. 1957 Storm Type: MCC

Storm Name: Paris Waterworks, IN											
Storm Date:	27-Jun-1957	7		S	Storm A	djustme	ent for N	Nebrask	a Grid	Point 1	0
AWA Analysis Date:	12/2/2008					U					
Temporal Transpositio	n Date	13-Jul		_							
		Lat	Long			Moisture In	nflow Directi	ion:	SSW @ 200	miles	
Storm center location		39.61 N	87.90 W			Basin Eleva	ntion		1,300	feet	
Storm Rep dew point le	ocation	36.92 N	89.09 W			Storm Eleva	ation		700	feet	
Transposition dewpoin	t location	38.06 N	98.19 W			Storm Dura	ation		12hr	feet	
Basin location		41.25 N	96.66 W								
The storm r	epresentative	e dew point is	73.0 F	with tota	al precipitabl	e water above	e sea level of			2.60	inches.
The in-pla	ce maximum	dew point is	80.5 F	with tota	al precipitabl	e water above	e sea level of			3.68	inches.
The transposition	ed maximum	dew point is	80.5 F	with tota	al precipitabl	e water above	e sea level of			3.68	inches.
The	n-place storn	n elevation is	700	whi	ich subtracts	0.14	inches of	f precipitable	e water at	73.0 F	
The	n-place storn	n elevation is	700	whi	ich subtracts	0.215	inches o	f precipitable	e water at	80.5 F	
The trans	position basii	n elevation at	1,300	whi	ich subtracts	0.395	inches o	f precipitable	e water at	80.5 F	
The inflow barrie	r/basin eleva	tion height is	1,300	wh	ich subtracts	0.395	inches of	f precipitable	e water at	80.5 F	
				4.44	6			(55		1 10	1
The	e in-place sto	rm maximiza	tion factor is	1.41		Notes: DAL	J values tak	en from EP	'RI Storm N	umber 18,	
The ti	ransposition/e	elevation to ba	asin factor is	0.95		HIMB V-18					
	The b	arrier adjustn	ient factor is	1.00							
	The		ant faatan ia	1 24							
	116	e total aujustii	lent factor is	1.34	l						
Observed	town Donth	A neg Dungt									1
Observed S	storm Deptn	6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours	
	10 sa miles	0 10013	0.0	0.0	0.0	0.0	0.0	0.0		0.0	_
	100 sq miles	8.0	10.9	0.0	11.5	0.0	0.0	0.0	0.0	0.0	-
	200 sq miles	7.6	10.3	0.0	11.1	0.0	0.0	0.0	0.0	0.0	-
	500 sq miles	6.8	9.3	0.0	10.2	0.0	0.0	0.0	0.0	0.0	-
10	000 sq miles	6.2	8.4	0.0	9.4	0.0	0.0	0.0	0.0	0.0	-
50	000 sq miles	4.4	5.9	0.0	7.1	0.0	0.0	0.0	0.0	0.0	1
100	000 sq miles	3.6	4.7	0.0	6.0	0.0	0.0	0.0	0.0	0.0	-
200	000 sq miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
-											
Adjusted S	torm Depth-	Area-Duration	on								
		6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours	
	10 sq miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	100 sq miles	10.7	14.6	0.0	15.4	0.0	0.0	0.0	0.0	0.0	
	200 sq miles	10.1	13.8	0.0	14.8	0.0	0.0	0.0	0.0	0.0	
	500 sq miles	9.1	12.4	0.0	13.6	0.0	0.0	0.0	0.0	0.0	
10	000 sq miles	8.3	11.2	0.0	12.6	0.0	0.0	0.0	0.0	0.0	
50	000 sq miles	5.9	7.9	0.0	9.5	0.0	0.0	0.0	0.0	0.0	
100	000 sq miles	4.8	6.3	0.0	8.0	0.0	0.0	0.0	0.0	0.0	
200	000 sq miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	J

Storm or Storm Center Name	Paris Water	works, IN
Storm Date(s)	27-Jun-1957	
Storm Type	Synoptic	
Storm Location	39.61 N	87.90 W
Storm Center Elevation	700	
Precipitation Total & Duration	12.40 Inches	24-hours HMB V-18
Storm Representative Dewpoint	73.0 F	12hr average, 7° added to USACE storm rep Td based on ERPI and Wanahoo guidance
Storm Representative Dewpoint Location	36.92 N	89.09 W
Maximum Dewpoint	80.5 F	
Moisture Inflow Vector	SSW @ 2001	Miles
In-place Maximization Factor	1.41	
Temporal Transposition (Date)	13-Jul	
Transposition Dewpoint Location	38.06 N	98.19 W
Transposition Maximum Dewpoint	80.5 F	
Basin Elevation	1,300	
Transposition to Basin Adjustment Factor	0.95	
Higher of Basin Elevation - Inflow Barrier Height	1,300	
Elevation Adjustment Factor	1.00	
Total Adjustment Factor	1.34	



Paris Waterworks, IN June 27. 1957 Inflow

Pawnee Creek, CO July 28, 1997 Storm Type: MCC

Image: 12/2/2008 Units Use of the second	Date: 28			S	Storm A	diustm	ent for 1	Nebrasł	ka Grid	Point 1	3	
Interpretation Date 15-Jul Value Joseph Location 39.20 N 100.55 W Specified Market Location 39.20 N 100.55 W Specified Market Location 4.43 D feet The specified Market Location 4.43 D feet The incluse specified Market Location 4.43 D feet The incluse specified Market Location 4.43 D which subtracts 1.02 incluses of precipitable water at two seal local of 3.34 in the transposition location is 4.500 which subtracts 1.12 incluses of precipitable water at 82.5 The transposition basin devation is 4.500 which subtracts 1.23 incluse of precipitable water at 82.5 1.5 incluse of precipitable water at 82.5 The transposition location factor is 1.38 1.00 The basin factor is 1.30 The basin factor is 1.30 The basin factor is 1.38 1.00 The basin factor is 1.38 Observed Storm Begith-Area-Duration 5.5 0 0.00 0.00 0.00 0.00 0.00 0.00 0.0	nalysis Date: 12	2/2/2008			~		ujustin				1 01110 1	
	al Transposition I	Date	15-Jul									
Carter Learning 40.78 N 103.63 W (solid) Basis Elevation 4.30 Solid Storm Elevation 4.31 Solid Storm Elevation 4.31 Solid Storm Elevation 4.32 Solid Storm Elevation 4.31 Solid Storm Elevation 4.32 Solid Storm Elevation 4.32 Solid Storm Elevation 3.31 Solid Storm Storm Store 3.31 Solid Storm Store 3.32 Solid Storm Store 3.32 Solid Store	•		Lat	Long			Moisture Ir	flow Direct	ion:	SE @ 215 N	M miles	
Space op point location 3.20 N 100.15 W (station Starm Duration 4.30 (state) 3.31 (state) 3.31 (state) 3.31 (state) 3.32 (state) 3.32 (state) 3.33 (state)	enter location		40.78 N	103.63 W			Basin Eleva	ation		4,432	feet	
Sitem Duration 41.43 N 98.66 W Storm Duration 61.7 N 98.66 W Storm Duration 61.7 N 98.66 W The storm representative dee yoan is 75.5 F with total presipitable water above sea level of 3.76 min. The in-place maximum dee yoan is 82.5 with call presipitable water above sea level of 3.76 min. The in-place storm elevation is 4.500 with call presipitable water above sea level of 3.76 min. The in-place storm elevation is 4.500 with call presipitable water above sea level of 3.76 min. The in-place storm maximization factor is 4.500 with call presipitable water at 82.5 The transposition object in call adjustment factor is 1.00 1.215 incheo of precipitable water at 82.5 The transposition object in call adjustment factor is 1.38 1.00 0.0	Rep dew point loca	tion	39.20 N	100.15 W		Storm Elevation 4,500						
eation 41.25 N 96.66 W The score representative dow point is 75.5 F with total presipitable water above sea level of 3.76 ind The in place atorn extramed we point is 82.5 with total presipitable water above sea level of 3.84 ind The in place atorn extrame at we point is 82.5 with total presipitable water above sea level of 3.84 ind The in place atorn extrame at 4.432 with out presipitable water at 82.5 inches of precipitable water at 82.5 The in place atorn extrame at 4.432 with out presipitable water at 82.5 inches of precipitable water at 82.5 The in-place storm maximization fastor is 1.38 inches of precipitable water at 82.5 The transposition devation is 4.500 with subtracts 1.21 is inches of precipitable water at 82.5 The transposition devation is 1.300 The transposition devation is 1.300 1.33 The transposition devation is 1.500 1.34 1.35 101 sq miles 9.5 11.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	sition dewpoint lo	ocation	41.43 N	98.96 W		Storm Duration 6hr						
The storm representative dew point is 75.5 F with total precipitable water above sea level of 2.92 ind The in-place maximum dew point is 81.0 F with total precipitable water above sea level of 3.76 ind The in-place storm elevation is 4.500 with total precipitable water one sea level of 3.84 ind The in-place storm elevation is 4.500 which subtracts 1.02 inches of precipitable water at 82.5 The in-place storm maximization factor is 1.03 The barrier adjustment factor is 1.03 The starsposition basin elevation to basin factor is 1.04 The transposition/elevation to basin factor is 1.03 The barrier adjustment factor is 1.34 The transposition/elevation to basin factor is 1.38 Netse: DAD values taken from SPAS 1036. Observed Sterm Depth-Arce-Duration 1.38 Netse: DAD values taken from SPAS 1036. Observed Sterm Depth-Arce-Duration 1.38 Netse: DAD values taken from SPAS 1036. Observed Sterm Depth-Arce-Duration 1.38 Netse: DAD values taken from SPAS 1036. Observed Sterm Depth-Arce-Duration 0.00 0.00 0.00 0.00 0.00<	cation		41.25 N	96.66 W								
The storn regresentitive dev point is 75.5 F with total precipitable water above sea level of 2.12 inft The in-place storn elevation is 4.500 with total precipitable water above sea level of 3.76 india The in-place storn elevation is 4.500 which subtracts 1.22 inches of precipitable water at 8.75.5 F The in-place storn elevation at 4.432 which subtracts 1.21 inches of precipitable water at 82.5 the inflow burrier/basin elevation height is 4.432 which subtracts 1.21 inches of precipitable water at 82.5 The in-place storm maximization factor is 1.00 The barrier adjustment factor is 1.03 Note: DAD values taken from SFAS 1035. Observed Storm Deptition water at 82.5 Observed Storm Deptition water at 1.1 Observed Storm Deptition water at 1.2 Observed Storm Deptitin waterestat Obs												
The in-place maximum dev point is 81.0 F with total precipitable water above sea level of 3.76 indh the in-transpositioned maximum dev point is 82.50 with total precipitable water above sea level of 3.84 indh The in-place storm elevation is 4.500 which subtracts 1.02 inches of precipitable water at 82.5 The in-place storm elevation is 4.432 which subtracts 1.215 inches of precipitable water at 82.5 The in-place storm maximization factor is 1.33 The transposition devation to basin factor is 1.33 The transposition devation to basin factor is 1.34 The transposition devation to basin factor is 1.33 The transposition devation to basin factor is 1.34 Notes: DAD values taken from SPAS 1036. Observed Storm Depth-Arcen-Duration 0 Hours 12 Hours 18 Hours 20 Hours 16 Hours 12 Hours 10 sq miles 2.5 1.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 20 sq miles 8.0 9.5 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 <td>The storm repr</td> <td>resentative</td> <td>dew point is</td> <td>75.5 F</td> <td>with tot</td> <td>al precipitab</td> <td>le water abov</td> <td>ve sea level o</td> <td>f</td> <td></td> <td>2.92</td> <td>inch</td>	The storm repr	resentative	dew point is	75.5 F	with tot	al precipitab	le water abov	ve sea level o	f		2.92	inch
he transpositioned maximum dew point is 82.5 with total precipitable water above sea level of 3.84 intel The in-place store relevation is 4,500 which subtracts 1.22 inches of precipitable water at 81.0 F The transposition basic networks 4,432 which subtracts 1.21 inches of precipitable water at 82.5 he inflow harrier/basin elevation height is 4,432 which subtracts 1.21 inches of precipitable water at 82.5 the inflow harrier/basin elevation height is 4,432 which subtracts 1.21 inches of precipitable water at 82.5 The transposition (sector to basin factor is 1.04) The transposition (sector to basin factor is 1.04) The total adjustment factor is 1.04 The total adj	The in-place	maximum	dew point is	81.0 F	with tot	al precipitab	le water abov	ve sea level o	f		3.76	inch
The in-place storm elevation is 4,500 which subtracts 1.02 inches of precipitable water at 75.5 F is transposition basin elevation at 4,432 which subtracts 1.215 inches of precipitable water at 82.5 inches 10.0 in 0.0 inches 10.0 inches 10.0 inches 10.0 inches 10.0 inc	he transpositioned	maximum	dew point is	82.5	with tot	al precipitab	le water abov	ve sea level o	f		3.84	inch
The in-place storm elevation is 4,500 which subtracts 1.21 inches of precipitable water at 81.0 F inches of precipitable water at 82.5 which subtracts 1.21 inches of precipitable water at 82.5 inches of precipitable water at 81.0 F is 100 The transposition destination is 1.03 The barrier adjustment factor is 1.03 The barrier adjustment factor is 1.04 The transposition destination is 1.03 The barrier adjustment factor is 1.00 The total adjustment factor is 1.04 The total adjustment factor is 1.05 The total adjustment factor is 1.04 The total adjustment factor is 1.04 The total adjustment factor is 1.04 The total	The in-p	place storn	n elevation is	4,500	whi	ich subtracts	1.02	inches o	f precipitable	e water at	75.5 F	
The transposition basis elevation height is 4.432 which subtracts 1.215 inches of precipitable water at 82.5 Inches of precipitable water at 82.5 Inches of precipitable water at 82.5 The in-place storm maximization factor is 1.43 The total adjustment factor is 1.00 The total adjustment factor is 1.34 Observed Storm Depth-Area-Duration 6 Hours 12 Hours 18 Hours 24 Hours 30 Hours 36 Hours 48 Hours 60 Hours 72 Hours 10 sq miles 12.3 13.2 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	The in-p	place storn	n elevation is	4,500	whi	ich subtracts	1.22	inches o	f precipitable	e water at	81.0 F	
le inflow barrier/basin elevation height is 4.432 which subtracts 1.215 inches of precipitable water at 82.5 The in-place storm maximization factor is 1.34 The transposition/elevation to basin factor is 1.00 The total adjustment factor is 1.00 The total adjustment factor is 1.38 Observed Storm Depth-Area-Duration 6 Hours 12 Hours 18 Hours 24 Hours 30 Hours 36 Hours 48 Hours 60 Hours 72 Hours 10 og miles 9.5 11.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	The transpos	sition basir	n elevation at	4,432	whi	ich subtracts	1.215	inches o	f precipitable	e water at	82.5	
The in-place storm maximization factor is 1.34 1.03 The barrier adjustment factor is 1.04 1.09 1.00 The barrier adjustment factor is 1.38 Observed Storm Depth-Area-Duration 1.38 Observed Storm Depth-Area-Duration 3.18 Observed Storm Depth-Area-Duration 1.38 Observed Storm Depth-Area-Duration 0.0 1.03 q miles 1.2.3 1.00 q miles 0.0 1.00 q miles 1.0 1.00 q miles 1.0 1.00 q miles 0.0 1.00 q miles 1.0 1.00 q miles 1.0 1.0 q miles 1.0 <td>ne inflow barrier/b</td> <td>asin elevat</td> <td>tion height is</td> <td>4,432</td> <td>whi</td> <td>ich subtracts</td> <td>1.215</td> <td>inches o</td> <td>f precipitable</td> <td>e water at</td> <td>82.5</td> <td></td>	ne inflow barrier/b	asin elevat	tion height is	4,432	whi	ich subtracts	1.215	inches o	f precipitable	e water at	82.5	
The in-place storm maximization factor is 1.34 The transposition (eVentation to basin factor is 1.00 The transposition (eVentation to basin factor is 1.00 The transposition (eVentation to basin factor is 1.38 Observed Storm Depth-Area-Duration 6 Hours 12 Hours 6 Hours 12 Hours 30 Hours 30 Hours 48 Hours 60 Hours 72 Hours 10 sq miles 9.5 11.1 0.0 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>.<u> </u></td> <td></td> <td></td> <td></td> <td></td> <td></td>							. <u> </u>					
The transposition deviation to basin factor is 1.03 The barrier adjustment factor is 1.38 Observed Storm Depth-Area-Duration 0 sq miles 12.3 13.2 0.0 sq miles 12.3 13.2 0.0 0.0 0.0 0.0 0.0 0.0 10 sq miles 12.3 13.2 0.0 <	The in	i-place stor	rm maximiza	tion factor is	1.34		Notes: DAD	values take	n from SPAS	1036.		
The barrier adjustment factor is 1.00 The total adjustment factor is 1.38 Observed Storm Depth-Arce-Duration in total space 1.31 0.0	The tran	sposition/e	elevation to ba	asin factor is	1.03							
Description Description <thdescription< th=""> <thdescription< th=""></thdescription<></thdescription<>		The b	arrier adjustn	ient factor is	1.00							
Observed Storm Depth-Area-Duration 6 0 6 Hours 12 Hours 30 Hours 30 Hours 36 Hours 48 Hours 72 Hours 10 sg miles 12.3 13.2 0.0 <th></th> <th>The</th> <th>total adjustm</th> <th>ent factor is</th> <th>1 38</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>		The	total adjustm	ent factor is	1 38							
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Other Rel Join Register Relation I B Hours 14 Hours 30 Hours 36 Hours 48 Hours 60 Hours 72 Hours 10 sq miles 12.3 13.2 0.0 <	Observed Stor	rm Denth.	Area-Durati	on								
10 sq miles 12.3 13.2 0.0 0.0 0.0 0.0 0.0 0.0 200 sq miles 8.0 9.5 11.1 0.0	Observed Stor	in Depui	6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours	
100 sq miles 9.5 11.1 0.0 <	10) sa miles	12.3	13.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	100) sq miles	9.5	11.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
500 sq miles 6.0 7.3 0.0 <	200) sq miles	8.0	9.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
1000 sq miles 4.7 6.0 0.0 <	500) sq miles	6.0	7.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
5000 sq miles 1.7 2.6 0.0 <	1000) sq miles	4.7	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
10000 sq miles 0.0	5000) sq miles	1.7	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	_
2000 sq miles 0.0	10000) sq miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Adjusted Storm Depth-Area-Duration 6 Hours 12 Hours 18 Hours 24 Hours 30 Hours 36 Hours 48 Hours 60 Hours 72 Hours 10 sq miles 16.9 18.3 0.0 <td>20000</td> <td>) sq miles</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td></td>	20000) sq miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Adjusted Storm Depth-Area-Duration 6 Hours 12 Hours 18 Hours 24 Hours 30 Hours 36 Hours 48 Hours 60 Hours 72 Hours 10 sq miles 16.9 18.3 0.0 0												-
Storm Storm Payme Creek, CO Storm Storm 0.0 0.0 0.0 0.0 0.0 0.0 Storm Storm Creek, CO 0.0 0.0 0.0 0.0 0.0 0.0 0.0 Storm Storm Creek, CO 0.0 <t< th=""><th>Adjusted Stor</th><th>m Depth-</th><th>Area-Duratio</th><th>12 Hours</th><th>19 Hours</th><th>24 Hours</th><th>20 Hours</th><th>26 Hours</th><th>49 Hours</th><th>60 Hours</th><th>72 Hours</th><th></th></t<>	Adjusted Stor	m Depth-	Area-Duratio	12 Hours	19 Hours	24 Hours	20 Hours	26 Hours	49 Hours	60 Hours	72 Hours	
It is is is is is is is it is is is is it is is is is it is	10) sa milas	16.0	12 Hours								-
1000 sq miles 11.1 13.2 0.0	100) sa miles	13.2	15.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	200) sq miles	11.1	13.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	500) sq miles	8.3	10.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
5000 sq miles 2.3 3.6 0.0 <	1000) sq miles	6.5	8.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
10000 sq miles0.00.00.00.00.00.00.00.00.020000 sq miles0.00.00.00.00.00.00.00.00.0Storm Or Storm Center NamePawnee Creek, COStorm Date(s)28-Jul-1997Storm TypeMCC-ThunderstormsStorm Center Elevation40.78 N103.63 WStorm Center Elevation4,500Precipitation Total & Duration13.58" from SPAS 1037, 13.7 Inches 12-hours Colorado Climate Center report,Storm Representative Dewpoint75.5 F6hr averageStorm Representative Dewpoint Location39.20 N100.15 WStorm Rep Td Ave of KHLC 19Z/28th-01Z/29th, KHYSMaximum Dewpoint81.0 F21Z/28th-02Z/29th, KGLD 00Z-05Z/29th, original stormMoisture Inflow VectorSE @ 215 Milesanalysis used 24hr average from KGLDIn-place Maximization Factor1.34Transposition (Date)15-JulTransposition Maximum Dewpoint82.5Basin Elevation4.432Transposition to Basin Adjustment Factor1.03Higher of Basin Elevation - Inflow Barrier Height4.432Elevation Adjustment Factor1.00Total Adjustment Factor1.00Total Adjustment Factor1.38	5000) sq miles	2.3	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
20000 sq miles0.00.00.00.00.00.00.00.00.0Storm Of Storm Center NamePawnee Creek, COStorm Date(s)28-Jul-1997Storm TypeMCC-ThunderstormsStorm Location40.78 N103.63 WStorm Center Elevation4,500Precipitation Total & Duration13.58" from SPAS 1037, 13.7 Inches 12-hours Colorado Climate Center report,Storm Representative Dewpoint75.5 F6hr averageStorm Representative Dewpoint Location39.20 N100.15 WStorm Rep Td Ave of KHLC 19Z/28th-01Z/29th, KHYSMaximum Dewpoint81.0 F21Z/28th-02Z/29th, KGLD 00Z-05Z/29th, original stormMoisture Inflow VectorSE @ 215 Milesanalysis used 24hr average from KGLDIn-place Maximization Factor1.34Transposition (Date)15-JulTransposition Dewpoint82.5Basin Elevation4.432Transposition to Basin Adjustment Factor1.03Higher of Basin Elevation - Inflow Barrier Height4.432Elevation Adjustment Factor1.00Total Adjustment Factor1.38	10000) sq miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Storm or Storm Center NamePawnee Creek, COStorm Date(s)28-Jul-1997Storm TypeMCC-ThunderstormsStorm Location40.78 NStorm Center Elevation4,500Precipitation Total & Duration13.58" from SPAS 1037, 13.7 Inches 12-hours Colorado Climate Center report,Storm Representative Dewpoint75.5 F6hr averageStorm Representative Dewpoint39.20 N100.15 WMaximum Dewpoint81.0 F21Z/28th-02Z/29th, KGLD 00Z-05Z/29th, original stormMoisture Inflow VectorSE @ 215 Milesanalysis used 24hr average from KGLDIn-place Maximization Factor1.34Temporal Transposition (Date)15-JulTransposition Dewpoint82.5Basin Elevation4,432Transposition to Basin Adjustment Factor1.03Higher of Basin Elevation - Inflow Barrier Height4,432Elevation Adjustment Factor1.00Total Adjustment Factor1.38	20000) sq miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Storm or Storm Center NamePawnee Creek, COStorm Date(s)28-Jul-1997Storm TypeMCC-ThunderstormsStorm Location40.78 NStorm Center Elevation4,500Precipitation Total & Duration13.58" from SPAS 1037, 13.7 Inches 12-hours Colorado Climate Center report,Storm Representative Dewpoint75.5 F6hr averageStorm Representative Dewpoint81.0 F21Z/28th-01Z/29th, KHYSMaximum Dewpoint81.0 F21Z/28th-02Z/29th, KGLD 00Z-05Z/29th, original stormMoisture Inflow VectorSE @ 215 Milesanalysis used 24hr average from KGLDIn-place Maximization Factor1.34Temporal Transposition (Date)15-JulTransposition Dewpoint Location41.43 N98.96 WTransposition Dewpoint Basin Adjustment Factor1.03Higher of Basin Adjustment Factor1.03Higher of Basin Elevation - Inflow Barrier Height4.432Elevation Adjustment Factor1.00Total Advinstment Factor1.00												
Storm or Storm Center Name Pawnee Creek, CO Storm Date(s) 28-Jul-1997 Storm Type MCC-Thunderstorms Storm Location 40.78 N Storm Center Elevation 4,500 Precipitation Total & Duration 13.58" from SPAS 1037, 13.7 Inches 12-hours Colorado Climate Center report, Storm Representative Dewpoint 75.5 F Storm Representative Dewpoint Location 39.20 N Maximum Dewpoint 81.0 F 21Z/28th-02Z/29th, KGLD 00Z-05Z/29th,original storm Moisture Inflow Vector SE @ 215 Miles analysis used 24hr average from KGLD In-place Maximization Factor 1.34 Temporal Transposition (Date) 15-Jul Transposition Maximum Dewpoint 82.5 Basin Elevation 4.432 Transposition to Basin Adjustment Factor 1.03 Higher of Basin Elevation - Inflow Barrier Height 4.432 Elevation Adjustment Factor 1.38			_									-
Storm Date(s) 28-Jul-1997 Storm Type MCC-Thunderstorms Storm Location 40.78 N Storm Center Elevation 4,500 Precipitation Total & Duration 13.58" from SPAS 1037, 13.7 Inches 12-hours Colorado Climate Center report, Storm Representative Dewpoint 75.5 F 6hr average Storm Representative Dewpoint Location 39.20 N 100.15 W Storm Rep Td Ave of KHLC 19Z/28th-01Z/29th, KHYS Maximum Dewpoint 81.0 F 21Z/28th-02Z/29th, KGLD 00Z-05Z/29th, original storm Moisture Inflow Vector SE @ 215 Miles analysis used 24hr average from KGLD In-place Maximization Factor 1.34 Transposition (Date) 15-Jul Transposition Maximum Dewpoint 82.5 Basin Elevation 4,432 Transposition to Basin Adjustment Factor 1.03 Higher of Basin Adjustment Factor 1.03 Higher of Basin Adjustment Factor 1.00 1.38 1.38	Storm or Storm	n Center N	lame		Pawnee Cre	eek, CO						
Storm Type MCC-Infunderstorms Storm Location 40.78 N 103.63 W Storm Center Elevation 4,500 Precipitation Total & Duration 13.58" from SPAS 1037, 13.7 Inches 12-hours Colorado Climate Center report, Storm Representative Dewpoint 75.5 F 6hr average Storm Representative Dewpoint Location 39.20 N 100.15 W Maximum Dewpoint 81.0 F 21Z/28th-02Z/29th, KGLD 00Z-05Z/29th, original storm Moisture Inflow Vector SE @ 215 Miles analysis used 24hr average from KGLD In-place Maximization Factor 1.34 15-Jul Transposition (Date) 15-Jul 15-Jul Transposition Maximum Dewpoint 82.5 8asin Elevation Basin Elevation 4,432 103 Higher of Basin Adjustment Factor 1.03 11.432 Higher of Adjustment Factor 1.00 1.34	Storm Date(s)				28-Jul-1997	1 /						-
Storm Location 40.78 N 105.65 W Storm Center Elevation 4,500 Precipitation Total & Duration 13.58" from SPAS 1037, 13.7 Inches 12-hours Colorado Climate Center report, Storm Representative Dewpoint 75.5 F 6hr average Storm Representative Dewpoint Location 39.20 N 100.15 W Storm Rep Td Ave of KHLC 19Z/28th-01Z/29th, KHYS Maximum Dewpoint 81.0 F 21Z/28th-02Z/29th, KGLD 00Z-05Z/29th, original storm Moisture Inflow Vector SE @ 215 Miles analysis used 24hr average from KGLD In-place Maximization Factor 1.34 Temporal Transposition (Date) 15-Jul Transposition Dewpoint 82.5 Basin Elevation 4,432 Transposition to Basin Adjustment Factor 1.03 Higher of Basin Elevation - Inflow Barrier Height 4,432 Elevation Adjustment Factor 1.00 Total Adjustment Factor 1.00	Storm Logetion	_			MCC-Thund	102 62 W						-
Storm Center Elevation 4,300 Precipitation Total & Duration 13.58" from SPAS 1037, 13.7 Inches 12-hours Colorado Climate Center report, Storm Representative Dewpoint 75.5 F 6hr average Storm Representative Dewpoint Location 39.20 N 100.15 W Storm Representative Dewpoint Location 39.20 N 100.15 W Storm Representative Dewpoint Location 39.20 N 100.15 W Storm Representative Dewpoint Location 81.0 F 21Z/28th-02Z/29th, KGLD 00Z-05Z/29th, original storm Moisture Inflow Vector SE @ 215 Miles analysis used 24hr average from KGLD In-place Maximization Factor 1.34 1.34 Temporal Transposition (Date) 15-Jul Transposition Dewpoint Location 41.43 N 98.96 W Transposition Maximum Dewpoint 82.5 Basin Elevation 4,432 Transposition to Basin Adjustment Factor 1.03 Higher of Basin Elevation - Inflow Barrier Height 4,432 Elevation Adjustment Factor 1.00 Total Adjustment Factor 1.00	Storm Location	n Florestion			40.78 N	103.63 W						-
Storm Representative Dewpoint 75.5 F 6hr average Storm Representative Dewpoint Location 39.20 N 100.15 W Storm Representative Dewpoint Location 39.20 N 100.15 W Storm Representative Dewpoint Location 39.20 N 100.15 W Storm Representative Dewpoint Location 81.0 F 21Z/28th-02Z/29th, KGLD 00Z-05Z/29th, original storm Moisture Inflow Vector SE @ 215 Miles analysis used 24hr average from KGLD In-place Maximization Factor 1.34 Temporal Transposition (Date) 15-Jul Transposition Dewpoint Location 41.43 N 98.96 W Transposition to Basin Adjustment Factor In-glace Maximum Dewpoint 82.5 Basin Elevation 4,432 Transposition to Basin Adjustment Factor 1.03 Higher of Basin Elevation - Inflow Barrier Height 4,432 Elevation Adjustment Factor 1.00 Total Adjustment Factor 1.00	Precipitation T	Cotal & Du	ration		4,500 13.58" from	SPAS 1037	13.7 Inches	12-hours Co	lorado Clima	te Center rei	port	-
Storm Representative Dewpoint 75.5 F 6hr average Storm Representative Dewpoint Location 39.20 N 100.15 W Storm Rep Td Ave of KHLC 19Z/28th-01Z/29th, KHYS Maximum Dewpoint 81.0 F 21Z/28th-02Z/29th, KGLD 00Z-05Z/29th, original storm Moisture Inflow Vector SE @ 215 Miles analysis used 24hr average from KGLD In-place Maximization Factor 1.34		otal & Du	ration		15.56 11011	SI AS 1057,	15.7 menes	12-110013 CO				-
Storm Representative Dewpoint Location 39.20 N 100.15 W Storm Rep Td Ave of KHLC 19Z/28th-01Z/29th, KHYS Maximum Dewpoint 81.0 F 21Z/28th-02Z/29th, KGLD 00Z-05Z/29th, original storm Moisture Inflow Vector SE @ 215 Miles analysis used 24hr average from KGLD In-place Maximization Factor 1.34 Temporal Transposition (Date) 15-Jul Transposition Dewpoint Location 41.43 N 98.96 W Transposition Maximum Dewpoint 82.5 Basin Elevation 4,432 Transposition to Basin Adjustment Factor 1.03 Higher of Basin Elevation - Inflow Barrier Height 4,432 Elevation Adjustment Factor 1.00 Total Adjustment Factor 1.00	Storm Represe	ntative De	wpoint		75.5 F	6hr average						
Maximum Dewpoint 81.0 F 21Z/28th-02Z/29th, KGLD 00Z-05Z/29th, original storm Moisture Inflow Vector SE @ 215 Miles analysis used 24hr average from KGLD In-place Maximization Factor 1.34 Temporal Transposition (Date) 15-Jul Transposition Dewpoint Location 41.43 N 98.96 W Transposition Maximum Dewpoint 82.5 Basin Elevation 4,432 Transposition to Basin Adjustment Factor 1.03 Higher of Basin Elevation - Inflow Barrier Height 4,432 Elevation Adjustment Factor 1.00 Total Adjustment Factor 1.38	Storm Represe	ntative De	wpoint Locat	ion	39.20 N	100.15 W	Storm Rep 7	۲d Ave of Kł	ILC 19Z/28t	h-01Z/29th,	KHYS	
Moisture Inflow Vector SE @ 215 Miles analysis used 24hr average from KGLD In-place Maximization Factor 1.34 Temporal Transposition (Date) 15-Jul Transposition Dewpoint Location 41.43 N 98.96 W Transposition Maximum Dewpoint 82.5 Basin Elevation 4.432 Transposition to Basin Adjustment Factor 1.03 Higher of Basin Elevation - Inflow Barrier Height 4.432 Elevation Adjustment Factor 1.00 Total Adjustment Factor 1.38	Maximum Dev	vpoint	•		81.0 F		21Z/28th-02	Z/29th, KGI	LD 00Z-05Z/	29th,origina	l storm	
In-place Maximization Factor 1.34 Temporal Transposition (Date) 15-Jul Transposition Dewpoint Location 41.43 N 98.96 W Transposition Maximum Dewpoint 82.5 Basin Elevation 4.432 Transposition to Basin Adjustment Factor 1.03 Higher of Basin Elevation - Inflow Barrier Height 4.432 Elevation Adjustment Factor 1.00 Total Adjustment Factor 1.38	Moisture Inflo	w Vector			SE @ 215 N	files	analysis use	d 24hr avera	ge from KGI	D		
Temporal Transposition (Date) 15-Jul Transposition Dewpoint Location 41.43 N 98.96 W Transposition Maximum Dewpoint 82.5 Basin Elevation 4.432 Transposition to Basin Adjustment Factor 1.03 Higher of Basin Elevation - Inflow Barrier Height 4.432 Elevation Adjustment Factor 1.00 Total Adjustment Factor 1.38	In-place Maxin	mization F	actor		1.34							
Temporal Transposition (Date) 15-Jul Transposition Dewpoint Location 41.43 N 98.96 W Transposition Maximum Dewpoint 82.5 Basin Elevation 4,432 Transposition to Basin Adjustment Factor 1.03 Higher of Basin Elevation - Inflow Barrier Height 4,432 Elevation Adjustment Factor 1.00 Total Adjustment Factor 1.38												_
Transposition Dewpoint Location 41.43 N 98.96 W Transposition Maximum Dewpoint 82.5 Basin Elevation 4.432 Transposition to Basin Adjustment Factor 1.03 Higher of Basin Elevation - Inflow Barrier Height 4.432 Elevation Adjustment Factor 1.00 Total Adjustment Factor 1.38	Temporal Tran	sposition	(Date)		15-Jul	0000						-
Transposition Maximum Dewpoint 82.5 Basin Elevation 4.432 Transposition to Basin Adjustment Factor 1.03 Higher of Basin Elevation - Inflow Barrier Height 4.432 Elevation Adjustment Factor 1.00 Total Adjustment Factor 1.38	Transposition	Dewpoint	Location		41.43 N	98.96 W						-
Basin Elevation 4,432 Transposition to Basin Adjustment Factor 1.03 Higher of Basin Elevation - Inflow Barrier Height 4,432 Elevation Adjustment Factor 1.00 Total Adjustment Factor 1.38	Transposition	Maximum	Dewpoint		82.5							-1
Transposition to Basin Adjustment Factor 1.05 Higher of Basin Elevation - Inflow Barrier Height 4,432 Elevation Adjustment Factor 1.00 Total Adjustment Factor 1.38	Basin Elevatio	Basin Elevation										-
Elevation Adjustment Factor 1.00 Total Adjustment Factor 1.38	I ransposition	ю Basin A	ajustment Fa	rrior Usight	1.05							-
Total Adjustment Factor 1 38	Flevation Adia	istment E	n - mnow Ba	mei neight	1.00							-
	Total Adjustm	ent Factor			1.00							-1

Pawnee Creek, CO July 28, 1997 Inflow



Storm 1036 - Pawnee	Creek,	co	July	29 - 3	0, 1	1997

				Du	ration (hor	ura))									
Area (ml ²)	1	2	3	4	5	6	12	17	total							
1	5.20	8.02	9.60	10.90	12.12	12.83	13.58	13,58	13.58							
10	4.72	7.51	9.03	10.43	11.61	12.26	13.22	13.23	13.23							
100	3.05	5.09	6.46	7.46	8.70	9.53	11.06	11.07	11.07							
200	2.41	4.07	5.20	6.13	7.21	8.00	9.54	9.55	9.55							
500	1.91	3.04	3.57	4.62	5.28	6.02	7.31	7.42	7.42							
1,000	1.45	2.29	2.78	3.72	4.18	4.69	5.97	6.01	6.01							
5,000	0.53	0.76	0.95	1.24	1.48	1.67	2.63	2.67	2.67							

MAXIMUM AVERAGE DEPTH OF PRECIPITATION (INCHES)







Prague, NE August 1, 1959 Storm Type: MCC

Storm Name: Prague, NE Storm Date: 01-Aug-195	orm Name: Prague, NE orm Date: 01-Aug-1959				diustme	nt for N	Vehrack	a Grid	Point 1	0
AWA Analysis Date: 12/2/2008	-		2		ujusun		(CDI don			U
Temporal Transposition Date	1-Aug		_							
Storm center location Storm Rep dew point location Transposition dewpoint location Basin location	Lat 41.36 N 39.22 N 38.61 N 41.25 N	Long 96.88 W 95.71 W 95.83 W 96.66 W			Moisture In Basin Eleva Storm Eleva Storm Dura	nflow Directi ation ation ation	ion:	SSE @ 160 1,300 1,500 12hr	miles feet feet feet	
The storm representative The in-place maximum The transpositioned maximum The in-place storr The in-place storr The transposition basin The inflow barrier/basin eleva	e dew point is a dew point is a dew point is a dew point is a elevation is a elevation is a elevation at tion height is	72.5 F 81.0 F 81.0 F 1,500 1,500 1,300 1,300	with tota with tota with tota wh wh wh	al precipitabl al precipitabl al precipitabl ich subtracts ich subtracts ich subtracts ich subtracts	e water above e water above 0.345 0.44 0.385 0.385	e sea level of e sea level of e sea level of inches o inches o inches o inches o	f precipitable f precipitable f precipitable f precipitable	e water at water at water at water at	2.54 3.76 3.76 72.5 F 81.0 F 81.0 F 81.0 F	inches. inches. inches.
The in-place sto The transposition/ The b The	rm maximiza elevation to ba arrier adjustm e total adjustm	tion factor is asin factor is nent factor is nent factor is	1.50 1.02 1.00 1.52		Notes: In-p factor of 1. study throu values take	blace maxin 50 was ado gh guidance en from SPA	nization fact pted as the e from HMR AS 1031.	tor of 1.51, a upper limit f ts 55A and t	although a for this 51. DAD]
Observed Storm Depth	-Area-Durati	on								
10 sq miles 100 sq miles 200 sq miles 500 sq miles 1000 sq miles 5000 sq miles 10000 sq miles 20000 sq miles 20000 sq miles	6 Hours 6.8 5.5 5.0 4.5 4.0 2.2 1.3 0.0	12 Hours 9.3 7.8 7.3 6.6 5.8 3.3 2.0 0.0	18 Hours 9.7 8.4 7.9 7.1 6.4 3.8 2.4 0.0	24 Hours 10.0 8.6 8.3 7.4 6.8 4.1 2.6 0.0	30 Hours 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	36 Hours 10.0 8.6 8.3 7.4 6.8 4.1 2.6 0.0	48 Hours 10.5 9.0 8.7 7.9 7.3 4.6 3.0 0.0	60 Hours 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	72 Hours 10.5 9.1 8.7 8.0 7.4 4.6 3.0 0.0	
Adjusted Stown Douth	Anon Duroth									1
Aujusted Storm Depth-	6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours	

	6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours
10 sq miles	10.4	14.1	14.8	15.3	0.0	15.3	16.0	0.0	16.0
100 sq miles	8.4	11.8	12.8	13.1	0.0	13.1	13.7	0.0	13.9
200 sq miles	7.6	11.2	12.1	12.6	0.0	12.6	13.2	0.0	13.3
500 sq miles	6.9	10.0	10.8	11.3	0.0	11.3	12.1	0.0	12.2
1000 sq miles	6.1	8.8	9.7	10.4	0.0	10.4	11.2	0.0	11.3
5000 sq miles	3.4	5.0	5.8	6.2	0.0	6.2	7.0	0.0	7.1
10000 sq miles	2.0	3.1	3.6	3.9	0.0	3.9	4.6	0.0	4.6
20000 sq miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Storm or Storm Center Name	Prague, NE	
Storm Date(s)	1-Aug-1959	
Storm Type	MCC	
Storm Location	41.36 N	96.88 W
Storm Center Elevation	1,500	
Precipitation Total & Duration	13.09 Inches	24-hours USACE Bucket Survey Data
Storm Representative Dewpoint	72.5 F	12hr average taken from KMCK and KTOP from 8-1 8Z to 8-1 20Z
Storm Representative Dewpoint Location	39.22 N	95.71 W
Maximum Dewpoint	81.0 F	
Moisture Inflow Vector	SSE @ 160 N	Miles
In-place Maximization Factor	1.50	
Temporal Transposition (Date)	1-Aug	
Transposition Dewpoint Location	38.61 N	95.83 W
Transposition Maximum Dewpoint	81.0 F	
Basin Elevation	1,300	
Transposition to Basin Adjustment Factor	1.02	
Higher of Basin Elevation - Inflow Barrier Height	1,300	
Elevation Adjustment Factor	1.00	
Total Adjustment Factor	1.52	

Prague, NE August 1, 1959 Inflow



Storm 1031 - Wahoo NE, Jul 31 - Aug 3, 1959

	Duration (hours)													
Area (ml ²)	- 32	2	3	- 4	5	6	12	18	24	36	48	72	96	sotal
1	3.01	4.18	5.52	5.95	6.39	7.07	9.60	10.09	10.43	10.43	10.83	10.87	11.27	11.27
10	2.87	4.03	5.32	5.73	6.14	6.80	9.26	9.71	10.01	10.01	10.49	10.49	10.90	10.90
100	2.15	3.39	4.41	4.71	4.89	5.51	7.75	8.37	8.60	8.60	8.99	9.12	9.52	9.52
200	1.77	3.05	4.04	4.33	4.59	4.98	7.33	7.93	8.25	8.25	8.67	8.73	9,10	9.10
500	1.32	2.43	3.45	3.90	4.15	4.51	6.55	7.09	7.39	7.39	7.94	7.98	8.45	8.45
1,000	1.07	2.00	2.92	3.41	3.68	4.02	5.80	6.39	6.82	6.82	7.32	7.38	7.83	7.83
5,000	0.54	0.99	1.31	1.72	1.95	2.22	3.27	3.78	4.05	4.05	4.56	4.63	4.96	4.95
10,000	0.29	0.56	0.77	0.99	1.15	1.30	2.04	2.39	2.57	2.57	2.99	3.01	3.27	3.27









Ritter, IA June 7, 1953Storm Type:MCC

Storm Name: Ritter, IA		Storm A	diustra	ont for	Nobroal	o Crid	Doint 1	0		
AWA Analysis Date: 12/2/2008	,		L L	Storm A	ujusun	ent for 1	Neurasi	a Griu	FOIIIU I	U
Temporal Transposition Data	20. Jun									
Temporal Transposition Date	30-Jun	Lawa		1	M	el		R @ 255		
		Long				mow Direct	1011;	3 @ 3/3	miles	
Storm center location	43.24 N	95.82 W			Basin Eleva	ition		1,300	feet	
Storm Rep dew point location	37.82 N	95.82 W			Storm Elev	ation		1,400	feet	
Transposition dewpoint location	35.33 N	97.00 W			Storm Dura	ation		6hr	feet	
Basin location	41.25 N	96.66 W								
	1	540 E	14.1.1	1	1 . 1	1 1	C		0.50	• •
The storm representative	dew point is	74.0 F	with tot	al precipitab	le water abov	e sea level o	I c		2.73	inches.
The transmission of maximum	dew point is	82.0 F 81 5 F	with tot	al precipitad	le water abov	e sea level o	I c		3.92	inches.
The transpositioned maximum	dew point is	о1.5 Г 1 400	with tot	al precipitad	ne water abov	e sea level o	I f proginitable	water of	5.04 74.0 F	inches.
The in-place storm	a elevation is	1,400	with	ich subtracts	0.34	inches o	f precipitable	water at	74.0 F 82.0 F	
The transposition basis	elevation at	1 300	whi	ich subtracts	0.44	inches o	f precipitable	water at	81 5 F	
The inflow barrier/basin elevat	tion height is	1,300	whi	ich subtracts	0.395	inches o	f precipitable	water at	81.5 F	
	lion neight is	1,000		en sustatus	01020	inteneo o	. prooipituoit	mater at	01101	
The in-place stor	rm maximiza	tion factor is	1 46		Notes: DAI) values tak	en from US	ACE MR 10)-8 (HMB	1
The transposition/	elevation to b	asin factor is	0.99		20)				0 (11111)	
The h	arrier adjustn	ent factor is	1.00		20)					
	urrier uujustii	ient fuetor is	1.00							
The	e total adjustn	nent factor is	1.44							
										1
Observed Storm Depth	Area-Durati	on								
	6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours	
10 sq miles	9.1	10.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
100 sq miles	7.4	9.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
200 sq miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
500 sq miles	6.5	8.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
1000 sq miles	6.1	7.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
5000 sq miles	4.4	5.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
10000 sq miles	3.5	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	_
20000 sq miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
										-
Adjusted Storm Depth-	Area-Durati	on		1					1	
	6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours	
10 sq miles	13.1	15.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
100 sq miles	10.7	13.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	_
200 sq miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
500 sq miles	9.4	12.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
1000 sq miles	8.8	11.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
5000 sq miles	0.5 5.0	8.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
20000 sq miles	5.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
20000 sq miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Storm or Storm Center Name	Ritter, IA	
Storm Date(s)	7-Jun-1953	
Storm Type	MCS	
Storm Location	43.24 N	95.82 W
Storm Center Elevation	1,400	
Precipitation Total & Duration	11.00 Inche	es 12-hours USACE MR 10-8 (HMB 20)
Storm Representative Dewpoint	74.0 F	6hr average, 7° added to USACE storm rep Td based on EPRI and Wanahoo guidance
Storm Representative Dewpoint Location	37.82 N	95.82 W
Maximum Dewpoint	82.0 F	
Moisture Inflow Vector	S @ 375 M	iles
In-place Maximization Factor	1.46	
Temporal Transposition (Date)	30-Jun	
Transposition Dewpoint Location	35.33 N	97.00 W
Transposition Maximum Dewpoint	81.5 F	
Basin Elevation	1,300	
Transposition to Basin Adjustment Factor	0.99	
Higher of Basin Elevation - Inflow Barrier Height	1,300	
Elevation Adjustment Factor	1.00	
Total Adjustment Factor	1.44	



Ritter, IA June 7, 1953 Inflow

Savageton, WY September 27, 1923 Storm Type: Synoptic

Storm Name:Savageton,Storm Date:27-Sep-192AWA Analysis Date:12/2/2008	WY 3	Storm Adjustment for Nebraska Grid Point 13								
Temporal Transposition Date Storm center location Storm Rep dew point location Transposition dewpoint location Basin location	15-Sep Lat Long 43.88 N 105.93 W 38.23 N 98.90 W 36.60 N 95.97 W 41.25 N 96.66 W	Moisture Inflow Direction:SE @ 530 NBasin Elevation1,300Storm Elevation4,800Storm Duration24hr	miles feet feet feet							
The storm representativ The in-place maximur The transpositioned maximur The in-place stor The in-place stor The transposition basi The inflow barrier/basin eleva	e dew point is 74.0 F n dew point is 74.5 F n dew point is 75.0 F m elevation is 4,800 m elevation is 4,800 n elevation at 1,300 ation height is 1,300	with total precipitable water above sea level of with total precipitable water above sea level of with total precipitable water above sea level of which subtracts 1.02 inches of precipitable water at which subtracts 1.03 inches of precipitable water at which subtracts 0.32 inches of precipitable water at	2.73 inches. 2.79 inches. 2.85 inches. 74.0 F 74.5 F 75.0 F 75.0 F							
The in-place sto The transposition. The I The I	orm maximization factor is /elevation to basin factor is parrier adjustment factor is e total adjustment factor is	1.03Notes: DAD values taken from USACE Storm Stud1.44231.001.48	lies MR 4-							

Observed Storm Depth-Area-Duration										
	6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours	
10 sq miles	6.0	9.1	9.3	9.5	13.0	16.5	16.9	16.9	16.9	
100 sq miles	5.1	8.4	8.7	9.0	12.2	15.5	15.9	15.9	15.9	
200 sq miles	4.9	8.0	8.4	8.6	11.7	14.8	15.2	15.2	15.2	
500 sq miles	4.3	7.1	7.5	7.7	10.4	13.2	13.4	13.6	13.7	
1000 sq miles	3.7	6.2	6.4	6.6	9.0	11.4	11.6	11.7	11.8	
5000 sq miles	2.2	3.6	3.8	4.0	5.6	7.0	7.2	7.4	7.6	
10000 sq miles	1.6	2.5	2.7	3.0	4.2	5.3	5.7	6.1	6.3	
20000 sq miles	1.2	1.8	2.1	2.5	3.2	3.9	4.7	5.1	5.5	

Adjusted Storm Depth-Area-Duration										
	6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours	
10 sq miles	8.9	13.5	13.8	14.1	19.2	24.4	25.0	25.0	25.0	
100 sq miles	7.5	12.4	12.9	13.3	18.1	22.9	23.5	23.5	23.5	
200 sq miles	7.2	11.8	12.4	12.7	17.3	21.9	22.5	22.5	22.5	
500 sq miles	6.4	10.5	11.1	11.4	15.4	19.5	19.8	20.1	20.3	
1000 sq miles	5.5	9.2	9.5	9.8	13.3	16.9	17.2	17.3	17.5	
5000 sq miles	3.3	5.3	5.6	5.9	8.3	10.4	10.7	10.9	11.2	
10000 sq miles	2.4	3.7	4.0	4.4	6.2	7.8	8.4	9.0	9.3	
20000 sq miles	1.8	2.7	3.1	3.7	4.7	5.8	7.0	7.5	8.1	

Storm or Storm Center Name	Savageton, V	WY						
Storm Date(s)	27-Sep-1923							
Storm Type	Synoptic-Thunderstorms-Low Pressure, Moist Southeast Flow							
Storm Location	43.88 N	105.93 W						
Storm Center Elevation	4,800							
Precipitation Total & Duration	17.1 Inches 4	48-hours USACE Storm Studies MR 4-23						
Storm Representative Dewpoint	74.0 F	24hr average Added 2° to Td in accordance with EPRI accepted procedures for Synoptic storm events						
Storm Representative Dewpoint Location	38.23 N	98.90 W						
Maximum Dewpoint	74.5 F							
Moisture Inflow Vector	SE @ 530 Miles							
In-place Maximization Factor	1.03							
Temporal Transposition (Date)	15-Sep							
Transposition Dewpoint Location	36.60 N	95.97 W						
Transposition Maximum Dewpoint	75.0 F							
Basin Elevation	1,300							
Transposition to Basin Adjustment Factor	1.44							
Higher of Basin Elevation - Inflow Barrier Height	1,300							
Elevation Adjustment Factor	1.00							
Total Adjustment Factor	1.48							

Savageton, WY September 27, 1923 Inflow







Springbrook, MT June 17, 1921 Storm Type: Synoptic

Storm Name: Springbroo											
Storm Date: 17-Jun-1921			Storm Adjustment for Nebraska Grid Point 10								
AWA Analysis Date: 12/2/2008											
Temporal Transposition Date	30-Jun										
	Lat	Long			Moisture In	nflow Direct	ion:	ESE @ 500	miles		
Storm center location	47.25 N	104.52 W			Basin Eleva	ation		1,300	feet		
Storm Rep dew point location	44.090 N	95.196 W			Storm Elev	ation		2,327	feet		
Transposition dewpoint location	35.59 N	87.68 W			Storm Dura	ation		Added 2°	feet		
Basin location	41.25 N	96.66 W									
The storm representative	e dew point is	73.0 F	with tota	al precipitabl	e water abov	e sea level of			2.60	inches.	
The in-place maximum	n dew point is	78.0 F	with tota	al precipitabl	e water abov	e sea level of			3.29	inches.	
The transpositioned maximum	n dew point is	78.0 F	with tota	al precipitabl	e water abov	e sea level of			3.29	inches.	
The in-place storr	n elevation is	2,327	wh	ich subtracts	0.52	inches o	f precipitable	e water at	73.0 F		
The in-place storr	n elevation is	2,327	wh	ich subtracts	0.61	inches o	f precipitable	e water at	78.0 F		
The transposition basis	n elevation at	1,300	wh	ich subtracts	0.36	inches o	f precipitable	e water at	78.0 F		
The inflow barrier/basin eleva	tion height is	1,300	wh	ich subtracts	0.36	inches o	f precipitable	e water at	78.0 F		
				_	_					_	
The in-place sto	rm maximiza	tion factor is	1.29		Notes: DAD) values take	n from USAC	CE Storm Stu	dies MR 4-		
The transposition/	elevation to b	asin factor is	1.09		21						
The b	arrier adjustn	nent factor is	1.00								
The	e total adjustn	nent factor is	1.41								
				-							
Observed Storm Depth	-Area-Durat	ion									
	6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours		
10 sq miles	10.5	11.7	12.9	13.3	13.4	13.4	14.2	14.5	14.6		
100 sq miles	8.5	11.1	12.6	13.0	13.3	13.3	14.1	14.2	14.4		
200 sq miles	8.3	10.8	12.3	12.7	13.0	13.0	13.8	13.9	14.2		
500 sq miles	7.9	10.3	11.6	12.0	12.3	12.3	13.0	13.2	13.4		
1000 sq miles	7.4	9.6	10.8	11.3	11.5	11.5	12.1	12.3	12.5	_	
5000 sq miles	4.9	6.2	7.3	7.7	8.0	8.0	9.0	9.3	9.5		
10000 sq miles	3.0	4.3	5.1	5.6	5.8	5.8	7.3	7.6	7.7		
20000 sq miles	1.6	2.7	3.4	3.9	4.1	4.2	5.2	5.5	5.8		
										_	
Adjusted Storm Depth-	Area-Durati	on									
	6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours	_	
10 sq miles	14.8	16.5	18.2	18.7	18.9	18.9	20.0	20.4	20.6		
100 sq miles	12.0	15.6	17.7	18.3	18.7	18.7	19.9	20.0	20.3		
200 sq miles	11.7	15.2	17.3	17.9	18.3	18.3	19.4	19.6	20.0		
500 sq miles	11.1	14.5	16.3	16.9	17.3	17.3	18.3	18.6	18.9		
1000 sq miles	10.4	13.5	15.2	15.9	16.2	16.2	17.0	17.3	17.6		
5000 sq miles	6.9	8.7	10.3	10.8	11.3	11.3	12.7	13.1	13.4	-	
10000 sq miles	4.2	6.1	7.2	7.9	8.2	8.2	10.3	10.7	10.8	-	
20000 sq miles	2.3	3.8	4.8	5.5	5.8	5.9	7.3	7.7	8.2		
Storm or Storm Center N	Name		Springbrook	K, MT							

Storm or Storm Center Name	Springbrool	K, MT	
Storm Date(s)	17-Jun-1921		
Storm Type	Synoptic		
Storm Location	47.25 N	104.52 W	
Storm Center Elevation	2,327		
Precipitation Total & Duration	14.6 Inches	72-hours US	ACE Storm Studies MR 4-21
Storm Representative Dewpoint	73.0 F	24hr average	Added 2° to Td in accordance with EPRI accepted procedures
Storm Representative Dewpoint Location	44.090 N	95.196 W	for Synoptic storm events for 24hr ave
Maximum Dewpoint	78.0 F		
Moisture Inflow Vector	ESE @ 500	Miles	
In-place Maximization Factor	1.29		
Temporal Transposition (Date)	30-Jun		
Transposition Dewpoint Location	35.59 N	87.68 W	
Transposition Maximum Dewpoint	78.0 F		
Basin Elevation	1,300		
Transposition to Basin Adjustment Factor	1.09		
Higher of Basin Elevation - Inflow Barrier Height	1,300		
Elevation Adjustment Factor	1.00		
Total Adjustment Factor	1.41		



Springbrook, MT June 17, 1921 Inflow



F-170



F-171

Stanton, NE June 10, 1944 Storm Type: MCC

Storm Name: Stanton, NI	E										
Storm Date: 10-Jun-1944			S	torm A	djustme	ent for N	Nebrask	a Grid	Point 1	0	
AWA Analysis Date: 12/2/2008					ů						
Temporal Transposition Date	30-Jun		-								
	Lat	Long			Moisture In	nflow Directi	ion:	SSE @ 125	miles		
Storm center location	41.87 N	97.05 W			Basin Eleva	ation		1,300	feet		
Storm Rep dew point location	40.18 N	96.14 W			Storm Eleva	ation		1,700	feet		
Transposition dewpoint location	39.06 N	96.091 W			Storm Dura	ation		6hr	feet		
Basin location	41.25 N	96.66 W									
The storm representative	e dew point is	77.0 F	with tota	al precipitabl	e water above	e sea level of			3.14	inches.	
The in-place maximum	n dew point is	82.5 F	with tota	al precipitabl	e water above	e sea level of			4.00	inches.	
The transpositioned maximum	n dew point is	82.5 F	with tota	al precipitabl	e water above	e sea level of			4.00	inches.	
The in-place storr	n elevation is	1,700	wh	ich subtracts	0.44	inches o	f precipitable	e water at	77.0 F		
The in-place storr	n elevation is	1,700	wh	ich subtracts	0.525	inches of	f precipitable	e water at	82.5 F		
The transposition basis	n elevation at	1,300	wh	ich subtracts	0.405	inches o	f precipitable	e water at	82.5 F		
The inflow barrier/basin eleva	tion height is	1,300	wh	ich subtracts	0.405	inches of	f precipitable	e water at	82.5 F		
								~ ~ ~		7	
The in-place sto	The in-place storm maximization factor is			1.29 Notes: DAD values taken from USACE Storm Studies MR 6-							
The transposition/	elevation to b	asin factor is	1.03		15						
I he b	The barrier adjustment factor is										
Th	The data had been and for data in										
110	e total aujusti	lient factor is	1.33	J							
Observed Storm Depth	A man Dumot	on								1	
Observed Storm Depth	6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours		
10 sq miles	13.4	15.3	15 3	15.3	15.3	15.3	16.2	16.4	16.7	_	
100 sq miles	11.7	13.6	13.6	13.6	13.6	13.5	14.8	14.9	15.1	-	
200 sq miles	11.1	12.9	12.9	12.9	12.9	13.1	14.1	14.3	14.4	-	
500 sq miles	9.8	11.3	11.5	11.5	11.5	11.6	12.5	12.7	12.8	-	
1000 sq miles	7.8	9.0	9.3	9.3	9.3	9.4	10.1	10.4	10.4	-	
5000 sq miles	3.4	4.0	4.2	4.6	4.7	4.9	5.3	5.5	5.7	-	
10000 sq miles	2.2	2.5	2.7	3.5	3.9	4.1	4.5	4.7	4.9	-	
20000 sq miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
-											
Adjusted Storm Depth-	Area-Durati	on									
	6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours		
10 sq miles	17.8	20.4	20.4	20.4	20.4	20.4	21.6	21.8	22.2		
100 sq miles	15.6	18.1	18.1	18.1	18.1	18.2	19.7	19.8	20.1		
200 sq miles	14.8	17.2	17.2	17.2	17.2	17.4	18.8	19.0	19.2		
500 sq miles	13.0	15.0	15.3	15.3	15.3	15.4	16.6	16.9	17.0		
1000 sq miles	10.4	12.0	12.4	12.4	12.4	12.5	13.4	13.8	13.8		
5000 sq miles	4.5	5.3	5.6	6.1	6.3	6.5	7.1	7.3	7.6		
10000 sq miles	2.9	3.3	3.6	4.7	5.2	5.5	6.0	6.3	6.5	-	
20000 sq miles					~ ~ ~						

Storm or Storm Center Name	Stanton, NE	
Storm Date(s)	10-Jun-1944	
Storm Type	MCC	
Storm Location	41.87 N	97.05 W
Storm Center Elevation	1,700	
Precipitation Total & Duration	17.3 Inches	50-hours USACE Storm Studies MR 6-15
Storm Representative Dewpoint	77.0 F	6hr average, 7º added to USACE storm rep Td based on EPRI and Wanahoo guidance
Storm Representative Dewpoint Location	40.18 N	96.14 W
Maximum Dewpoint	82.5 F	
Moisture Inflow Vector	SSE @ 125 1	Miles
In-place Maximization Factor	1.29	
Tamparal Transposition (Data)	20 Iun	
Temporal Transposition (Date)	30-Jun	07 001 W
Transposition Dewpoint Location	39.06 N	96.091 W
Transposition Maximum Dewpoint	82.5 F	
Basin Elevation	1,300	
Transposition to Basin Adjustment Factor	1.03	
Higher of Basin Elevation - Inflow Barrier Height	1,300	
Elevation Adjustment Factor	1.00	
Total Adjustment Factor	1.33	

Stanton, NE 1944 Grid Point 10 Ner Iorado Springs

Stanton, NE June 10, 1944 Inflow

DEPARTMENT OF THE ARMY SORPS OF ENGINEERS STORM STUDIES - PERTINENT DATA SHEET Storm of 10-13 June 1944 MILES SCALE OF 644 Assignment MR 6-15 Location Ia., Nebr., S. Dak. Study Prepared by: Missouri River Division Omaha District Office 1885 Part I Reviewed by H. M. Sec. of Weather Bureau, 8/7/46 Part II Approved by Office, Chief of Engineers for Distribution -LEGEND of Factual Data, 2/10/48 Area covered by Remarks: Center near final isohyetal map. Stanton, Nebr. S-inch isohyet. Dewpt. 70°- Ref. Pt. 125 SSE LOCATION MAP Grid D-16 DATA AND COMPUTATIONS COMPILED PART I Preliminary Isohyetal map, in 2 sheets, scale 11500,000 Precipitation data and mass curves: (Number of Sheets) Form 5001-C (Hourly precip. data)_ 56 Form 5001-B (24-hour * *)_____ -*)-----Form 5001-D (* 24 19 Misci, precip. records, meteorological data, etc._____ 11 Form 5002 (Mass rainfall curves)_____ 34 PART II Final isobyetal maps, in 1 sheet, scale 500,000 Data and computation sheets: Form S-10 (Data from mass rainfall curves) _____ Form S-II (Depth-area data from Isohyetal map)_____ 2 Furm S-12 (Maximum depth-duration data)_____ 13 Maximum duration-depth-area curves_____ 1 Data relating to periods of maximum rainfall_____ 5 MAXIMUM AVERAGE DEPTH OF RAINFALL IN INCHES Area in Sq. Mi. Duration of Rainfall In Hours 6 12 18 24 48 30 36 60 72 78 15.5 15.8 Max.Sta. 15.8 15.8 15.8 15.8 16.8 17.3 17.3 17.3 15.3 13.6 12.9 10 15.3 15.3 15.3 16.2 16.4 13.4 15.3 16.7 16.7 11.7 100 13.6 13.6 13.6 14.8 14.9 15.1 13.7 15.1 200 13.1 14.1 11.6 12.5 11.1 12.9 12.9 12.9 14.3 14.4 14-4 9.8 11.3 500 11.5 11.5 11.5 12.7 11.6 12.8 12.8 1,000 7.8 9.3 9.0 9.3 9.3 9.4 10.1 10.4 10.4 10.4 6.9 7.1 2,000 5.9 7.1 8.1 7.3 7.8 8.1 8.1 5,000 3.4 4.0 4.2 4.7 5.5 4.6 4.9 5.3 5.7 5.8 10,000 2.2 2.5 2.7 3.5 4.7 3.9 4.1 4.5 4.9 5.0 16,000 1.8 2.0 2.2 2.9 3.5 3.7 4.1 4.3 4+5 4.6 Form S-2



F-176
Tomah, WI August 17, 1990 Storm Type: MCC

Storm Name: Tomah, WI Storm Date: 17-Aug-1990 AWA Analysis Date: 12/2/2008				Storm Adjustment for Nebraska Grid Point 10							
Temporal Transpositio	n Date	1-Aug			_						
		Lat	Long			Moisture I	nflow Direction:	SW @ 150	miles		
Storm center location		43.98 N	90.50 W			Basin Eleva	ation	1,300	feet		
Storm Rep dew point lo	ocation	42.42 N	92.59 W			Storm Elev	ation	1,000	feet		
Transposition dewpoin Basin location	t location	39.19 N 41.25 N	99.09 W 96.66 W			Storm Dur	ation	6hr	feet		
The storm r	epresentative	e dew point is	81.0 F	with total	precipitable	water above	e sea level of		3.60	inches.	
The in-pla	ce maximum	dew point is	82.0 F	with total	precipitable	water above	sea level of		3.92	inches.	
The transposition	ed maximum	dew point is	82.5 F	with total	precipitable	water above	e sea level of		4.00	inches.	
The i	n-place storr	n elevation is	1,000	whi	ich subtracts	0.3	inches of precipit	able water at	81.0 F		
The i	n-place storr	n elevation is	1,000	whi	ich subtracts	0.31	inches of precipit	able water at	82.0 F		
The transposition basin elevation at 1,300		1,300	whi	ich subtracts	0.405	inches of precipitable water at		82.5 F			
The inflow barrie	r/basin eleva	tion height is	1,300	whi	ich subtracts	0.405	inches of precipit	able water at	82.5 F		
The The t	e in-place sto	rm maximizat	ion factor is	1.09		Notes: DAI	D values taken from EI	PRI Storm 25		1	

The in-place storm maximization factor is	1.09
The transposition/elevation to basin factor is	1.00
The barrier adjustment factor is	1.00
The total adjustment factor is	1.09

Observed Storm Depth-Area-Duration									
	6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours
10 sq miles	9.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100 sq miles	7.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
200 sq miles	7.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
500 sq miles	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1000 sq miles	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5000 sq miles	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10000 sq miles	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20000 sq miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Adjusted Storm Depth-Area-Duration									
	6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours
10 sq miles	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100 sq miles	8.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
200 sq miles	7.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
500 sq miles	6.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1000 sq miles	5.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5000 sq miles	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10000 sq miles	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20000 sq miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Storm or Storm Center Name	Tomah, WI					
Storm Date(s)	17-Aug-1990					
Storm Type	MCC					
Storm Location	43.98 N	90.50 W				
Storm Center Elevation	1,000					
Precipitation Total & Duration	9.17 Inches 4-	hours EPRI Warm Season Storm Number 25				
Storm Representative Dewpoint	81.0 F	6hr average, 7° added to USACE storm rep Td based on ERPI and Wanahoo guidance				
Storm Representative Dewpoint Location	42.42 N	92.59 W				
Maximum Dewpoint	82.0 F					
Moisture Inflow Vector	SW @ 150 Miles					
In-place Maximization Factor	1.09					
Temporal Transposition (Date)	1-Aug					
Transposition Dewpoint Location	39.19 N	99.09 W				
Transposition Maximum Dewpoint	82.5 F					
Basin Elevation	1,300					
Transposition to Basin Adjustment Factor	1.00					
Higher of Basin Elevation - Inflow Barrier Height	1,300					
Elevation Adjustment Factor	1.00					
Total Adjustment Factor	1.09					

Tomah, WI August 17, 1990 Inflow



Warner, OK May 6, 1943 Storm Type: Synoptic

Storm Date: AWA Analysis Date:	Warner, O 06-May-19 12/2/2008	K 43		Storm A	djustm	ent for Nebra	aska Grid I	Point :	5	
Temporal Transpositio	n Date	24-May		_						
		Lat	Long	Ν	Moisture In	flow Direction:	SSE @ 225	miles		
Storm center location		35.49 N	95.30 W	I	Basin Elevation 1,300			feet		
Storm Rep dew point location 32.48 N		93.83 W	S	Storm Eleva	ation	600	feet			
Transposition dewpoin Basin location	t location	36.24 N 41.20 N	93.53 W 96.42 W	S	Storm Dura	ation	24hr	feet		
The storm r	epresentativ	e dew point is	72.0 F	with total precipitable	water above	e sea level of		2.47	inches.	
The in-pla	ce maximun	n dew point is	76.5 F	with total precipitable water above sea level of				3.07	inches.	
The transposition	ed maximun	n dew point is	75.0 F	with total precipitable water above sea level of				2.85	inches.	
The i	n-place stori	m elevation is	600	which subtracts	0.14	inches of precipit	able water at	72.0 F		
The in-place storm elevation is		600	which subtracts	0.16	inches of precipit	able water at	76.5 F			
The trans	position basi	n elevation at	1,300	which subtracts	0.32	inches of precipit	able water at	75.0 F		
		tion haight is	1 300	which subtracts	0.32	inches of precipit	able water at	75.0 F		

The in-place storm maximization factor is	1.25
The transposition/elevation to basin factor is	0.87
The barrier adjustment factor is	1.00
The total adjustment factor is	1.09

Notes: DAD values taken from USACE SW 2-20

Dbserved Storm Depth-Area-Duration									
	6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours
10 sq miles	9.9	12.3	14.6	17.2	19.5	21.5	24.4	24.9	24.9
100 sq miles	8.7	10.8	12.4	14.9	17.1	19.3	21.8	22.5	22.5
200 sq miles	7.4	9.5	11.4	13.8	16.0	18.3	20.6	21.3	21.3
500 sq miles	5.4	7.6	10.0	12.3	14.5	16.7	18.6	19.4	19.4
1000 sq miles	4.3	6.3	9.0	11.1	13.3	15.4	17.1	18.0	18.0
5000 sq miles	3.0	4.5	6.8	8.3	10.5	12.1	13.4	14.4	14.4
10000 sq miles	2.6	3.9	5.8	7.2	9.1	10.4	11.7	12.6	12.6
20000 sq miles	2.1	3.3	4.9	6.1	7.6	8.7	10.0	10.7	10.8

Adjusted Storm Depth-Area-Duration									
	6 Hours	12 Hours	18 Hours	24 Hours	30 Hours	36 Hours	48 Hours	60 Hours	72 Hours
10 sq miles	10.7	13.4	15.9	18.7	21.2	23.3	26.5	27.0	27.0
100 sq miles	9.4	11.7	13.5	16.2	18.6	21.0	23.7	24.4	24.4
200 sq miles	8.0	10.3	12.4	15.0	17.4	19.9	22.4	23.1	23.1
500 sq miles	5.9	8.3	10.9	13.4	15.7	18.1	20.2	21.1	21.1
1000 sq miles	4.7	6.8	9.8	12.1	14.4	16.7	18.6	19.5	19.5
5000 sq miles	3.3	4.9	7.4	9.0	11.4	13.1	14.6	15.6	15.6
10000 sq miles	2.8	4.2	6.3	7.8	9.9	11.3	12.7	13.7	13.7
20000 sq miles	2.3	3.6	5.3	6.6	8.3	9.4	10.9	11.6	11.7

Storm or Storm Center Name	Warner, OK	
Storm Date(s)	6-May-1943	
Storm Type	Synoptic	
Storm Location	35.49 N	95.30 W
Storm Center Elevation	600	
Precipitation Total & Duration	25.00 Inches	72-hours USACE SW 2-20
Storm Representative Dewpoint	72.0 F	24hr average
Storm Representative Dewpoint Location	32.48 N	93.83 W
Maximum Dewpoint	76.5 F	
Moisture Inflow Vector	SSE @ 225 N	files
In-place Maximization Factor	1.25	
Temporal Transposition (Date)	24-May	
Transposition Dewpoint Location	36.24 N	93.53 W
Transposition Maximum Dewpoint	75.0 F	
Basin Elevation	1,300	
Transposition to Basin Adjustment Factor	0.87	
Higher of Basin Elevation - Inflow Barrier Height	1,300	
Elevation Adjustment Factor	1.00	
Total Adjustment Factor	1.09	





DEPARTMENT OF THE ARMY CORPS OF ENGINEERS STORM STUDIES - PERTINENT DATA SHEET Storm of 6-12 May 1943 SCALE OF MILES 640 Assignment SW 2-20 Location N. Texas to Great Lakes Study Prepared by: Southwestern Division Tulsa District Office Part I Reviewed by H. M. Sec. of Weather Bureau, 4-14-45 Part II Approved by Office, Chief of Engineers for Distribution of Factual Data, 7-17-117 -LEGEND-Area covered by Remarks: Center at Warner, I final isohyetal map. oklahoma 3 -inch isohyet. Dewpt. 700 - Ref. Pt. 225 SSE LOCATION MAP Grid G-15 DATA AND COMPUTATIONS COMPILED PART I Preliminary isohyetal map, in 1 sheet , scale 1:1,000,000 Precipitation data and mass curves: (Number of Sheets) Form 5001-C (Hourly precip. data) _. ---- 553 Form 5001-B (24-hour * н -----Form 5001-D (* . . *)-----178 Miscl. precip. records, meteorological data, etc._____ 80 Form 5002 (Mass rainfall curves)_____ 281 PART II Final isohyetal maps, in 1 sheet , scale 1;1,000,000 Data and computation sheets: Form S-10 (Data from mass rainfall curves)_____ 15 Form S-II (Depth-area data from isohyetal map)_____ 12 Furm S-12 (Maximum depth-duration data)_____ 12 Maximum duration-depth-area curves_____ 1 Data relating to periods of maximum rainfall_____ 2 MAXIMUM AVERAGE DEPTH OF RAINFALL IN INCHES Area in Sq. Mi. Duration of Rainfall in Hours 120/ 6 12 24 18 30 36 48 60 72 96 144 12.5 15.0 21.8 24.6 Max. Station 10.0 17.6 20.0 25.0 25.0 25.0 25.0 10 9.9 12.3 14.6 17.2 19.5 21.5 24.4 24.9 24.9 24.9 24.9 100 8.7 12.4 10.8 17.1 21.8 22.5 14.9 19.3 22.5 22.5 22.5 200 7.4 9.5 11.4 13.8 16.0 18.3 20.6 21.3 21.3 21.3 21.3 7.6 500 10.0 5.4 16.7 12.3 14.5 18.6 19.4 19.4 19.4 19.4 1,000 4.3 6.3 9.0 11.1 13.3 15.4 17.1 18.0 18.0 18.0 18.0 2,000 8.0 3.6 5.4 9.9 12.1 14.0 15.5 16.5 16.5 16.5 16.5 5.8 8.3 5,000 3.0 4.5 10.5 12.1 13.4 14.4 14.4 14.4 14.4 2.6 10,000 5.8 12.8 3.9 7.2 9.1 10.4 11.7 12.6 12.6 12.8 20,000 2.1 3.3 4.9 6.1 7.6 . 8.7 10.0 10.7 10.8 11.1 11.1 50,000 2.5 3.7 5.7 7.7 8.1 8.3 1.6 4.6 6.5 8.8 8.9 1.1 3.4 4.9 7.3 7.0 4.2 212,000 0.6 1.1 1.7 2.2 2.6 3.0 3.7 4.4 5.5 5.0 Form S-2 ×50938 (F -10 --- 17 Martine - -

