Conditional Climatology - Rocky Mount-Wilson Regional Airport (RWI)

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Rocky Mount-Wilson Regional Airport (RWI) Conditional Climatology

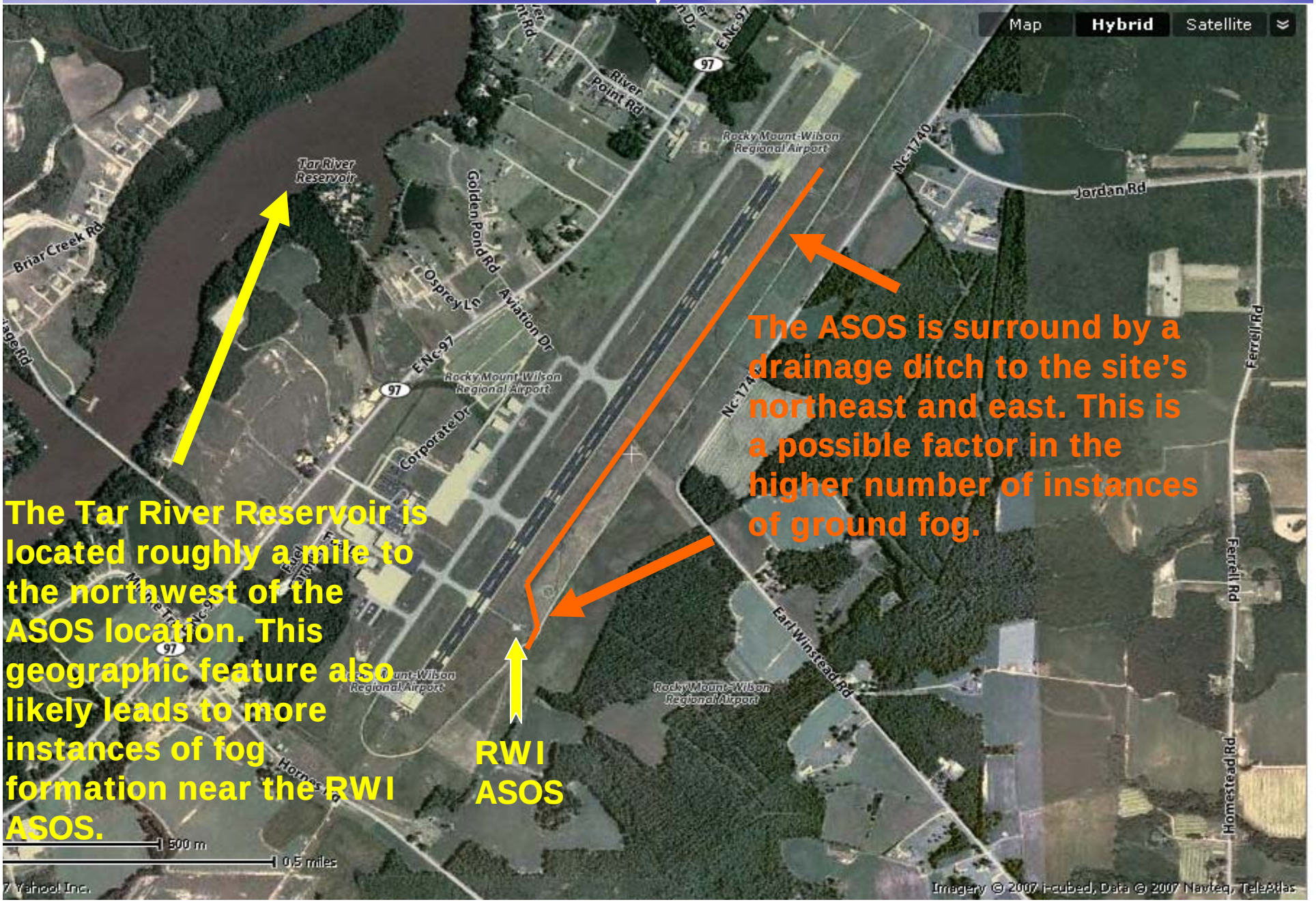
The climatology graphs presented show the percentage of time that visibility and ceiling for varying flight categories occur at RWI.

The flight categories are defined as:

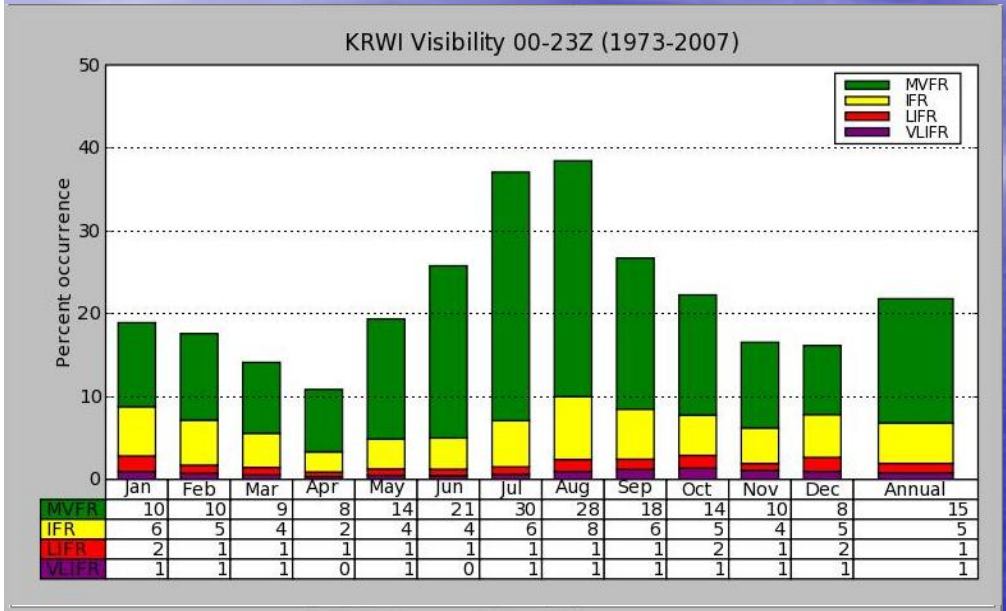
MVFR GTE 1,000 to LTE 3,000ft and/or GTE 3 to LTE 5SM
IFR GTE 500 to LT 1,000ft and/or GTE 1 to LT 3SM
LIFR GTE 200 to LT 500ft and/or GTE 1/2 to LT 1SM
VLIFR LT 200ft and/or LT 1/2SM

The period of record for this review at RWI is 1973-2007.

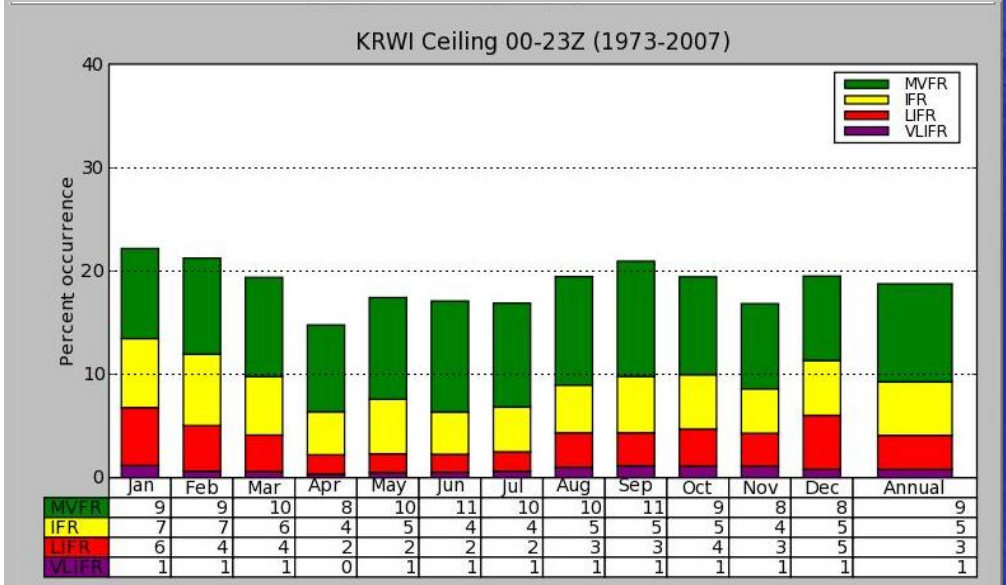
RWI Site Information



RWI Annual Conditional Climatology



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
MVFR	10	10	9	8	14	21	30	28	18	14	10	8	15
IFR	6	5	4	2	4	4	6	8	6	5	4	5	5
LIFR	2	1	1	1	1	1	1	1	1	2	1	2	1
VLIFR	1	1	1	0	1	0	1	1	1	1	1	1	1



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
MVFR	9	9	10	8	10	11	10	10	11	9	8	8	9
IFR	7	7	6	4	5	4	4	5	5	5	4	5	5
LIFR	6	4	4	2	2	2	2	3	3	4	3	5	3
VLIFR	1	1	1	0	1	1	1	1	1	1	1	1	1

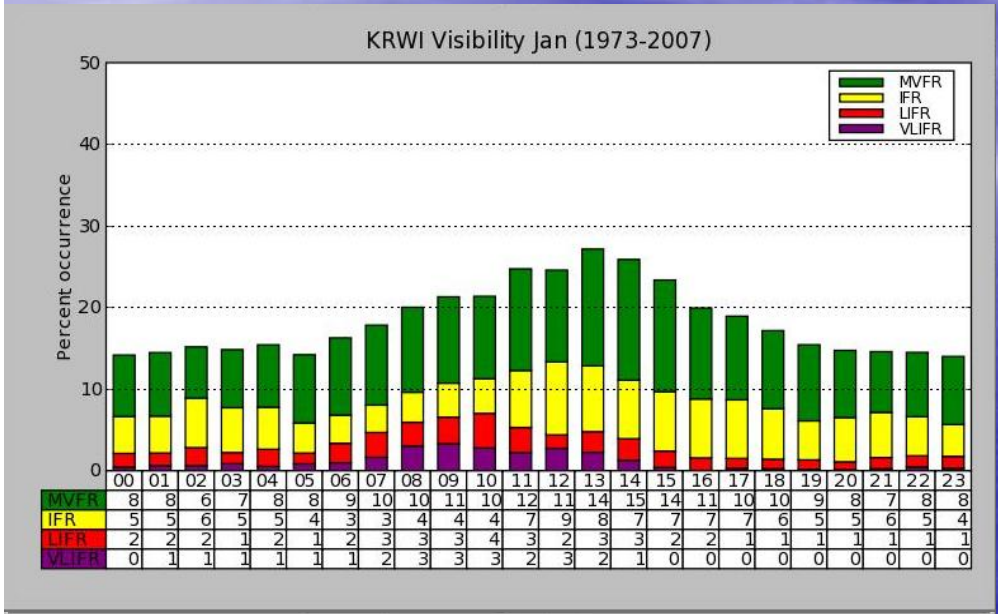
Annual percent of occurrence of IFR or worse visibilities is 7%

Highest probability of IFR or worse visibility in August (10%) with the least chance occurring in April (3%).

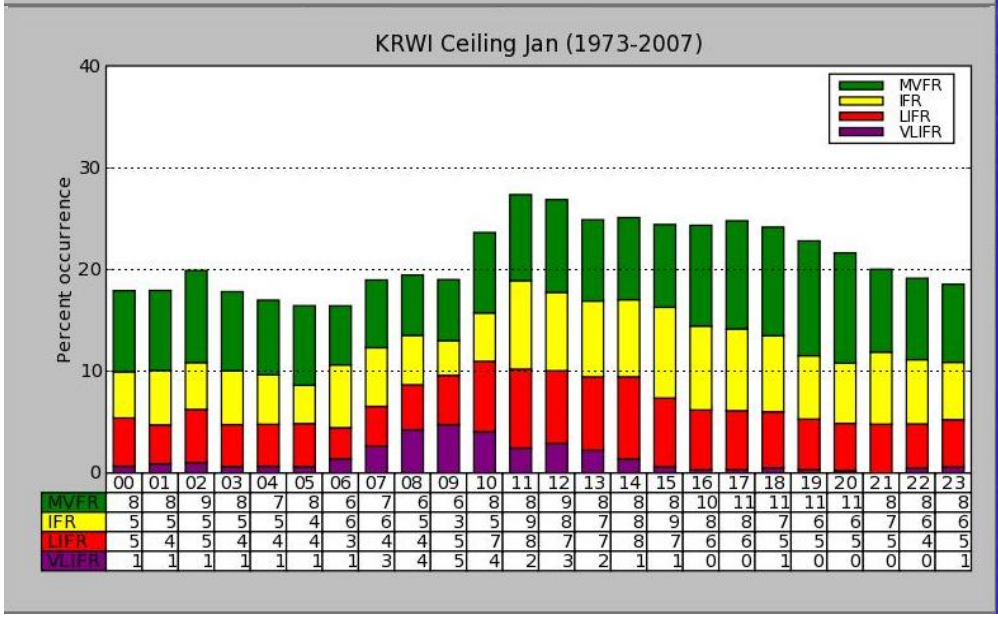
Annual percent of occurrence of IFR or worse ceilings is 9%.

The chances of IFR or worse ceilings more uniformly distributed compared to visibility. However, slightly higher probabilities are noted in the favored cold air damming months of Dec/Jan/Feb (11-14%). The percent of occurrence is lowest in April (6%), with an overall relative minimum from April to July.

RWI January Conditional Climatology



	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
MVFR	8	8	6	7	8	8	9	10	10	11	10	12	11	14	15	14	11	10	10	9	8	7	8	8
IFR	5	5	6	5	5	4	3	3	4	4	4	7	9	8	7	7	7	7	6	5	5	6	5	4
LIFR	2	2	2	1	2	1	2	3	3	3	4	3	2	3	3	2	2	1	1	1	1	1	1	1
VLIFR	0	1	1	1	1	1	1	2	3	3	3	2	3	2	1	0	0	0	0	0	0	0	0	0



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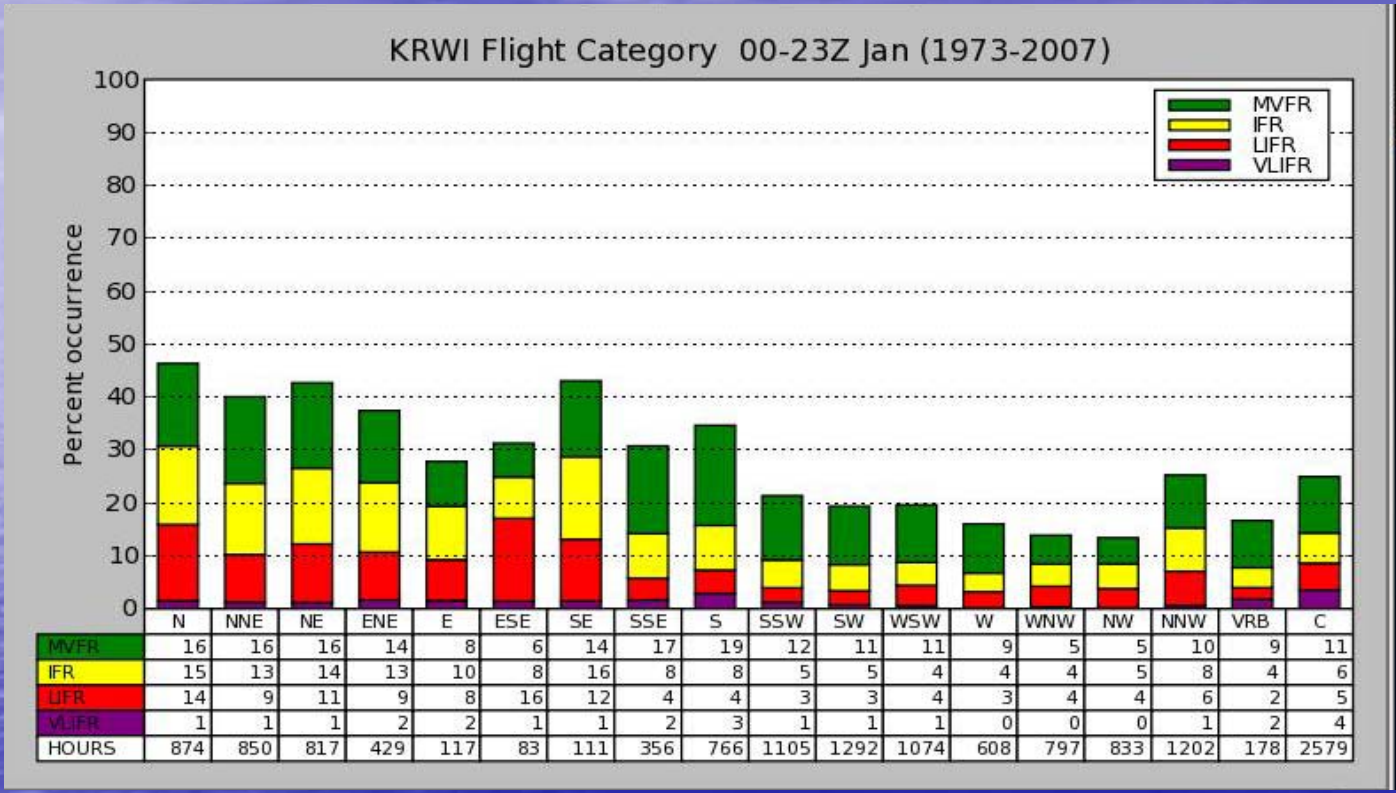
MVFR	8	8	9	8	7	8	6	7	6	6	8	8	9	8	8	8	10	11	11	11	11	8	8	8
IFR	5	5	5	5	5	4	6	6	5	3	5	9	8	7	8	9	8	8	7	6	6	7	6	6
LIFR	5	4	5	4	4	4	3	4	4	5	7	8	7	7	8	7	6	6	5	5	5	5	4	5
VLIFR	1	1	1	1	1	1	1	3	4	5	4	2	3	2	1	1	0	0	1	0	0	0	0	1

Rather uniform distribution in IFR or worse conditions, with a relative maximum of 10 % or greater occurrence between 08z and 14z.

All hours of the day in Januray hold a 10 % or higher occurrence of IFR conditions. Highest occurrence rates can be found during the early to mid morning hours. Ceilings below 500 ft occur nearly 10 % of the time between 09z and 14z.

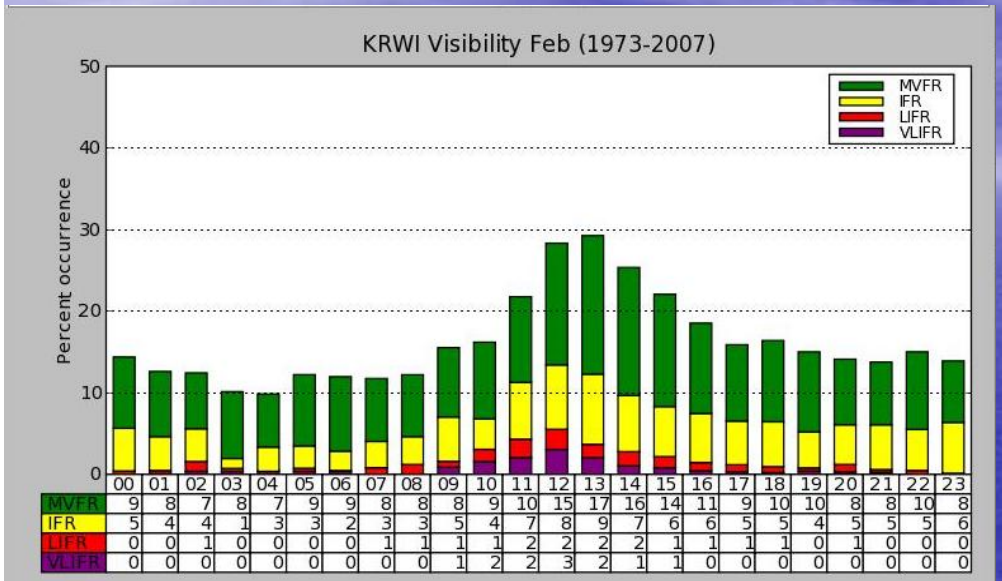
RWI January Conditional Climatology
Effects of Wind Direction



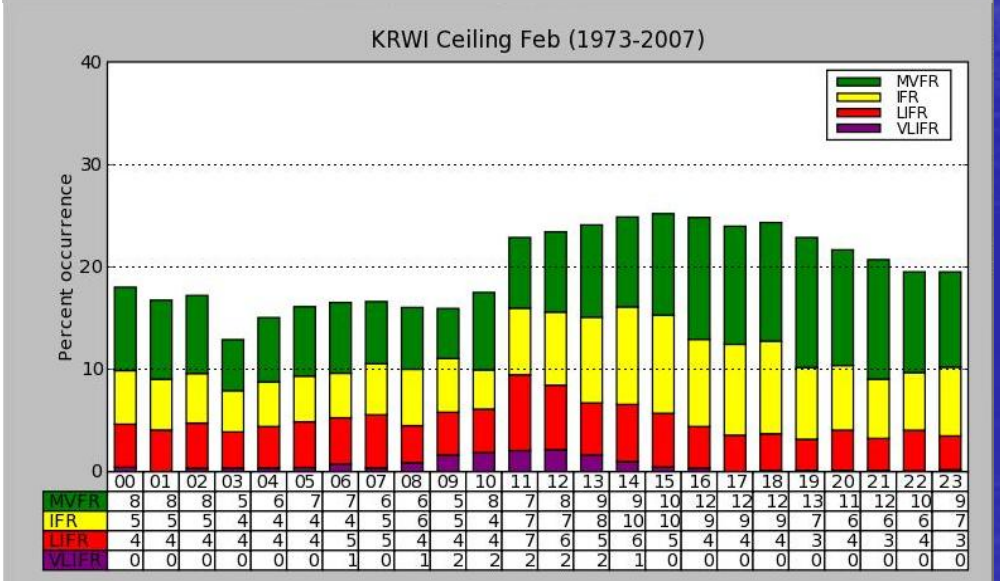
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	VRB	C
MVFR	16	16	16	14	8	6	14	17	19	12	11	11	9	5	5	10	9	11
IFR	15	13	14	13	10	8	16	8	8	5	5	4	4	4	5	8	4	6
LIFR	14	9	11	9	8	16	12	4	4	3	3	4	3	4	4	6	2	5
VLIFR	1	1	1	2	2	1	1	2	3	1	1	1	0	0	0	1	2	4
HOURS	874	850	817	429	117	83	111	356	766	1105	1292	1074	608	797	833	1202	178	2579

Winds out of the NNW, SSW, SW, and WSW are the most prevalent at RWI in January, but are not associated with the highest occurrences of IFR conditions. Winds from the N veering to SE contain the highest rate of occurrence. While an E to SE is rather infrequent, it does produce some of the highest occurrences of IFR conditions.

RWI February Conditional Climatology



	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
MVFR	9	8	7	8	7	9	9	8	8	8	9	10	15	17	16	14	11	9	10	10	8	8	10	8
IFR	5	4	4	1	3	3	2	3	3	5	4	7	8	9	7	6	6	5	5	4	5	5	5	6
LIFR	0	0	1	0	0	0	0	1	1	1	1	2	2	2	2	1	1	1	1	0	1	0	0	0
VLIFR	0	0	0	0	0	0	0	0	0	1	2	2	3	2	1	1	0	0	0	0	0	0	0	0

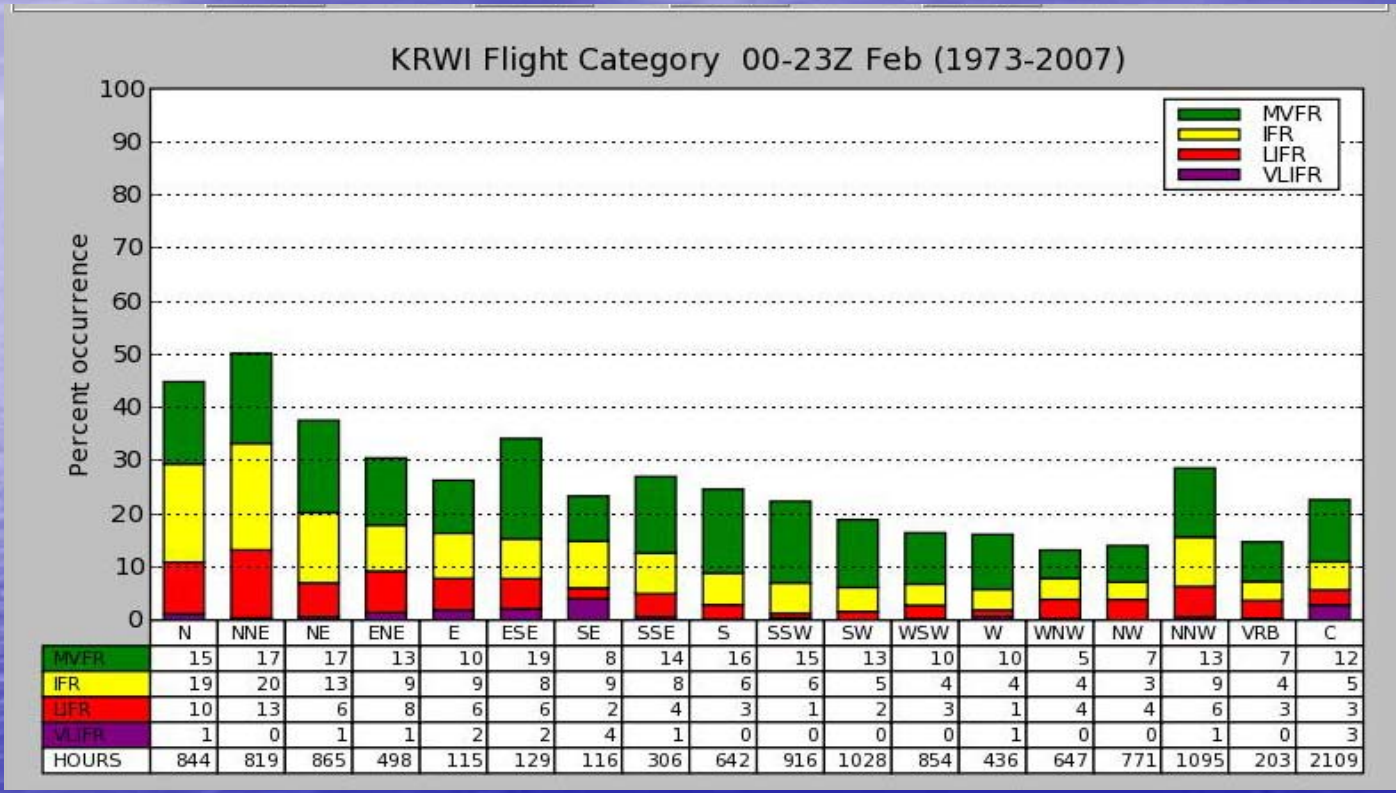


	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
MVFR	8	8	8	5	6	7	7	6	6	5	8	7	8	9	9	10	12	12	12	13	11	12	10	9
IFR	5	5	5	4	4	4	4	5	6	5	4	7	7	8	10	10	9	9	9	7	6	6	6	7
LIFR	4	4	4	4	4	4	5	5	4	4	4	7	6	5	6	5	4	4	4	3	4	3	4	3
VLIFR	0	0	0	0	0	0	1	0	1	2	2	2	2	2	1	0	0	0	0	0	0	0	0	0

10% or greater occurrence of IFR conditions between 11z and 14z. A less than 5% occurrence in the 01z to 08z time frame.

Much like January, each hour of February has a 10% occurrence rate of IFR conditions, with the peak hours being 11z-18z. The overall occurrence of LIFR conditions is not quite as high as compared to January.

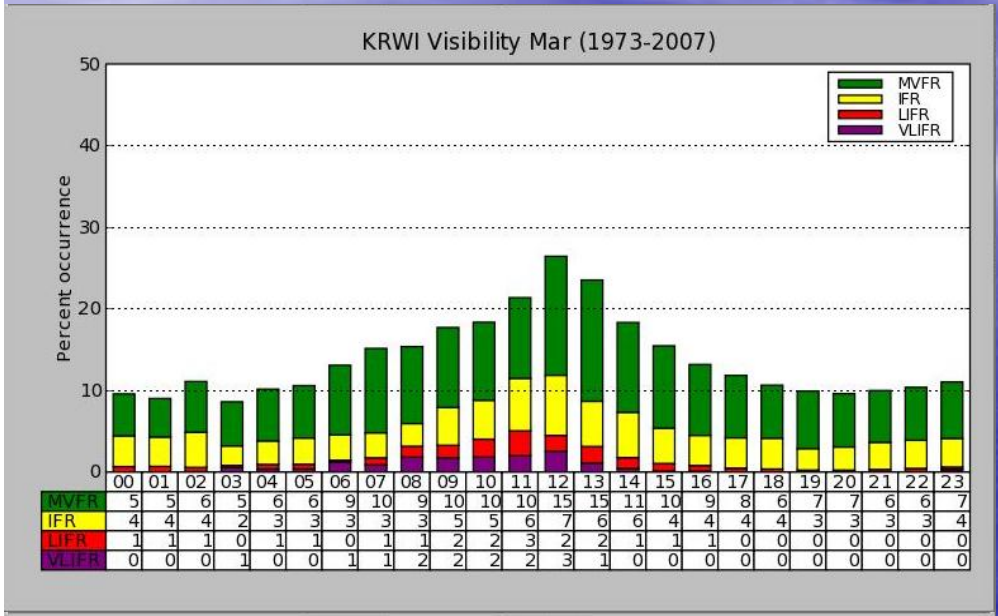
RWI February Conditional Climatology
Effects of Wind Direction



	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	VRB	C
MVFR	15	17	17	13	10	19	8	14	16	15	13	10	10	5	7	13	7	12
IFR	19	20	13	9	9	8	9	8	6	6	5	4	4	4	3	9	4	5
LIFR	10	13	6	8	6	6	2	4	3	1	2	3	1	4	4	6	3	3
VLIFR	1	0	1	1	2	2	4	1	0	0	0	0	1	0	0	1	0	3
HOURS	844	819	865	498	115	129	116	306	642	916	1028	854	436	647	771	1095	203	2109

Winds out of the NNW, SW, along with calm conditions are the most prevalent at RWI in February, but are not associated with the highest occurrences of IFR conditions. Winds from the N to NE contain the highest rate of occurrence.

RWI March Conditional Climatology



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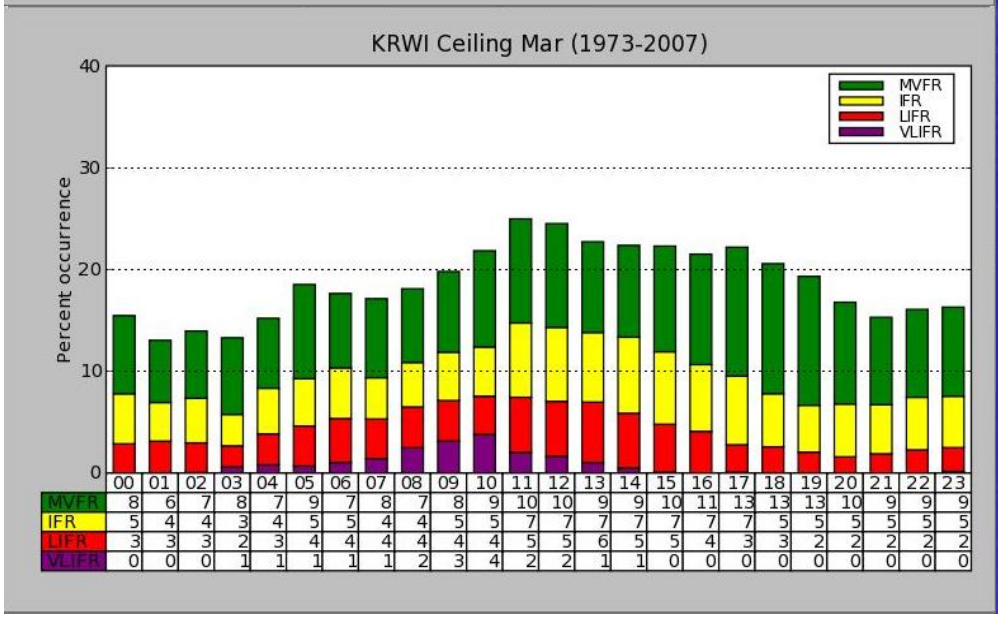
MVFR	5	5	6	5	6	6	9	10	9	10	10	10	15	15	11	10	9	8	6	7	7	6	6	7
IFR	4	4	4	2	3	3	3	3	3	5	5	6	7	6	6	4	4	4	4	3	3	3	3	4
LIFR	1	1	1	0	1	1	0	1	1	2	2	3	2	2	1	1	1	0	0	0	0	0	0	0
VLIFR	0	0	0	1	0	0	1	1	2	2	2	2	3	1	0	0	0	0	0	0	0	0	0	0

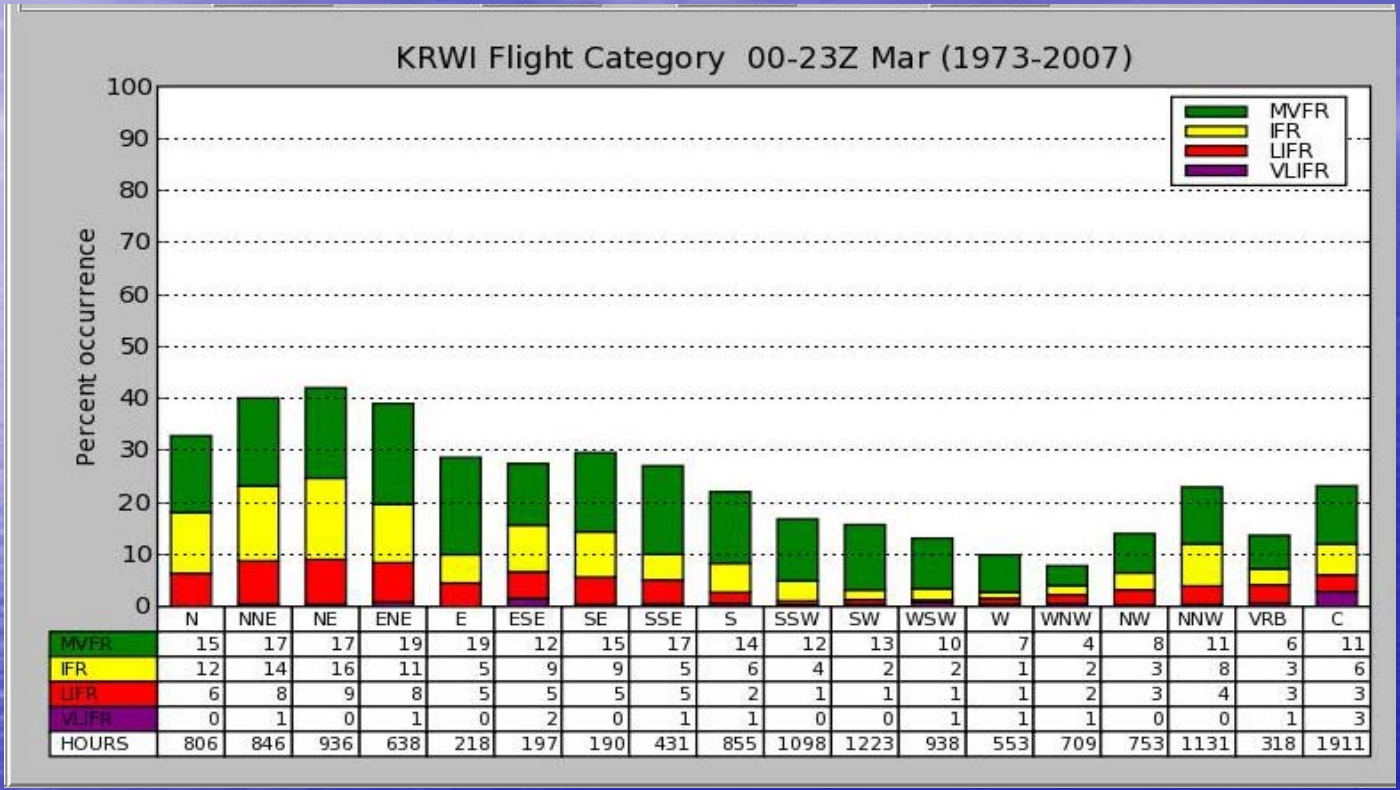


	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
MVFR	8	6	7	8	7	9	7	8	7	8	9	10	10	9	9	10	11	13	13	13	10	9	9	9
IFR	5	4	4	3	4	5	5	4	4	5	5	7	7	7	7	7	7	7	5	5	5	5	5	5
LIFR	3	3	3	2	3	4	4	4	4	4	4	5	5	6	5	5	4	3	3	2	2	2	2	2
VLIFR	0	0	0	1	1	1	1	1	2	3	4	2	2	1	1	0	0	0	0	0	0	0	0	0

Only the hours of 11z and 12z display a 10 % or greater occurrence of IFR visibility.

While most hours still show a 10 % or higher IFR occurrence as Jan and Feb does, a decline in occurrence is seen during the late afternoon and early evening hours.

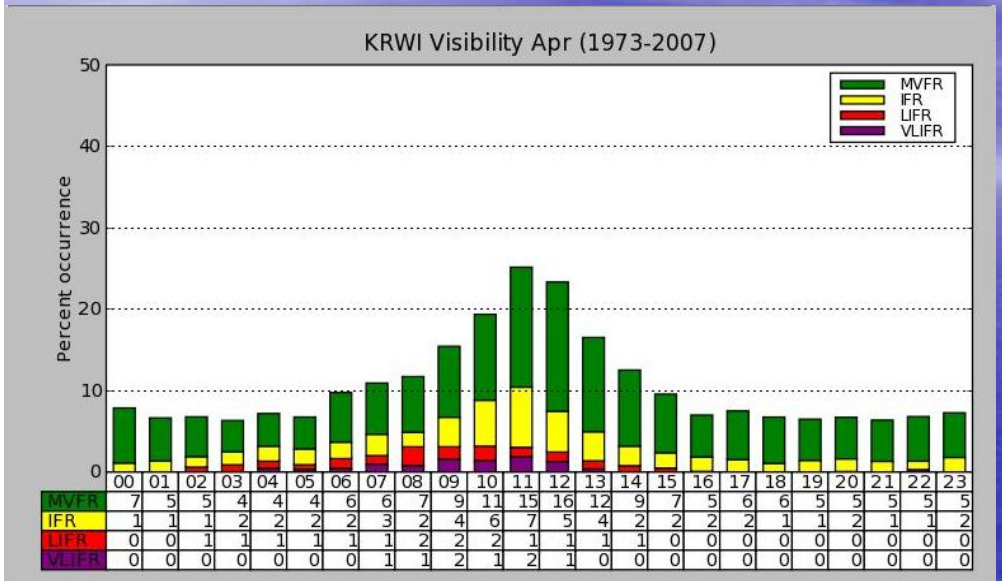
RWI March Conditional Climatology
Effects of Wind Direction



	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	VRB	C
MVFR	15	17	17	19	19	12	15	17	14	12	13	10	7	4	8	11	6	11
IFR	12	14	16	11	5	9	9	5	6	4	2	2	1	2	3	8	3	6
LIFR	6	8	9	8	5	5	5	5	2	1	1	1	1	2	3	4	3	3
VLIFR	0	1	0	1	0	2	0	1	1	0	0	1	1	1	0	0	1	3
HOURS	806	846	936	638	218	197	190	431	855	1098	1223	938	553	709	753	1131	318	1911

Winds out of the NNW, SW, and SSW, along with calm conditions are the most prevalent at RWI in March, but are not associated with the highest occurrences of IFR conditions. Winds from the N to ENE contain the highest rate of occurrence. A ESE to SE are the least frequent wind directions, but do produce more IFR conditions than the predominate winds.

RWI April Conditional Climatology



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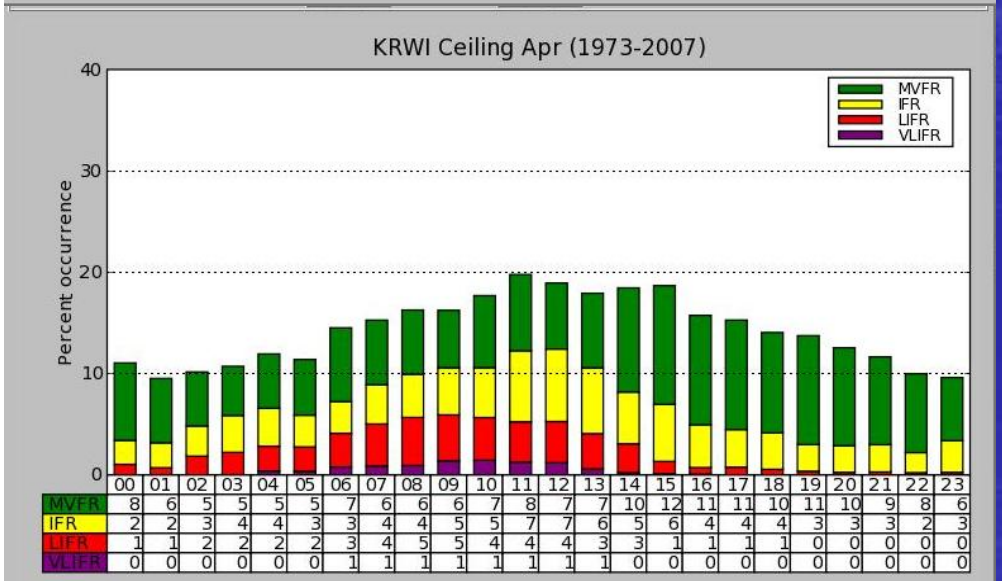
MVFR	7	5	5	4	4	4	6	6	7	9	11	15	16	12	9	7	5	6	6	5	5	5	5	5
IFR	1	1	1	2	2	2	2	3	2	4	6	7	5	4	2	2	2	2	1	1	2	1	1	2
LIFR	0	0	1	1	1	1	1	1	2	2	2	1	1	1	1	0	0	0	0	0	0	0	0	0
VLIFR	0	0	0	0	0	0	0	1	1	2	1	2	1	0	0	0	0	0	0	0	0	0	0	0



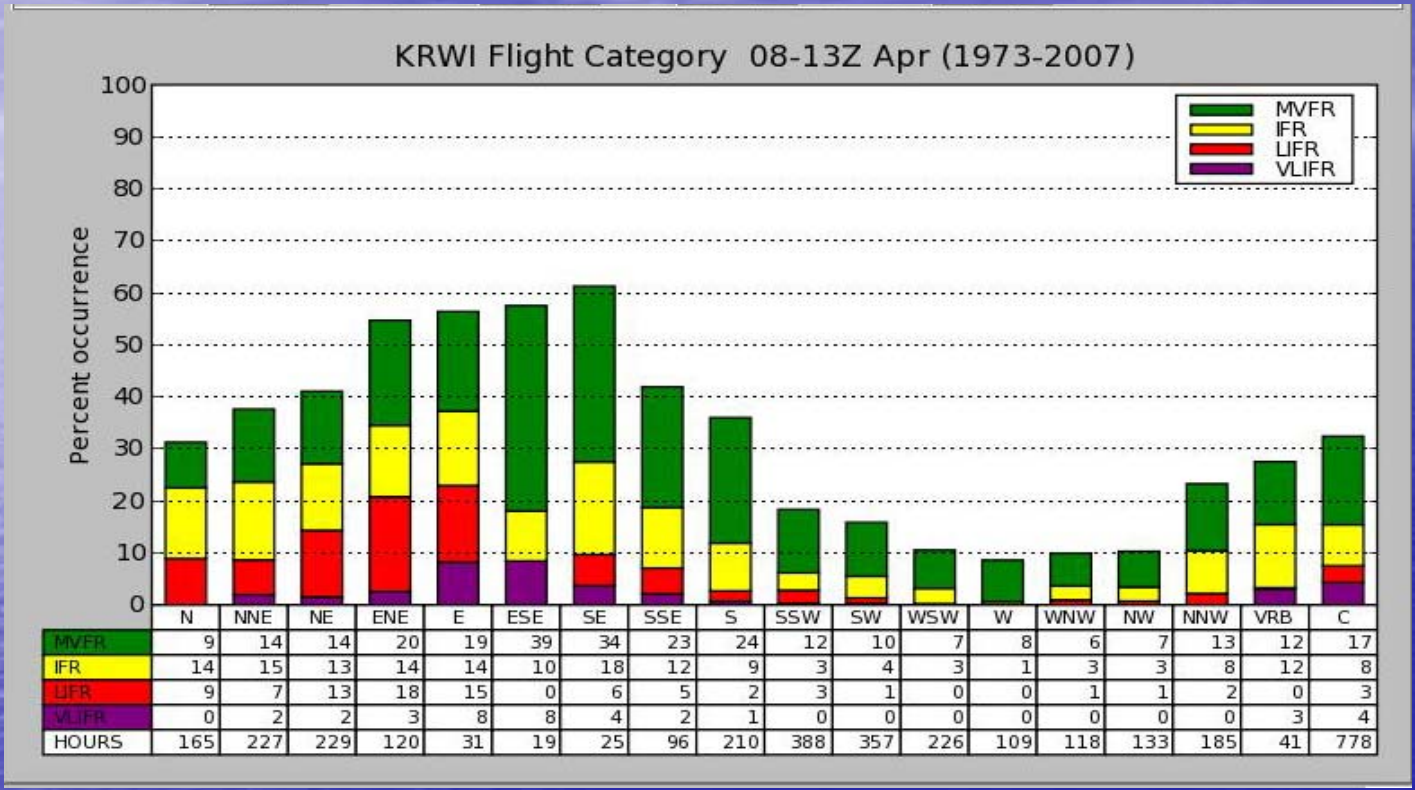
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
MVFR	8	6	5	5	5	5	7	6	6	6	7	8	7	7	10	12	11	11	10	11	10	9	8	6
IFR	2	2	3	4	4	3	3	4	4	5	5	7	7	6	5	6	4	4	4	3	3	3	2	3
LIFR	1	1	2	2	2	2	3	4	5	5	4	4	4	3	3	1	1	1	1	0	0	0	0	0
VLIFR	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0

Annual climatology says April has the least chance of IFR visibility conditions. This is reflected in the hourly data for the month.

Only the hour of 11z has a 10% IFR occurrence. While 14z-06z has a 3% or less occurrence rate.

As the year progresses into the spring and fewer cold air damming events, the occurrence of IFR ceilings continue to fall with April showing the lowest occurrence rate of all the months. Overnight hours carry the best chance of IFR ceilings, with percentages tailing off in the afternoon hours.

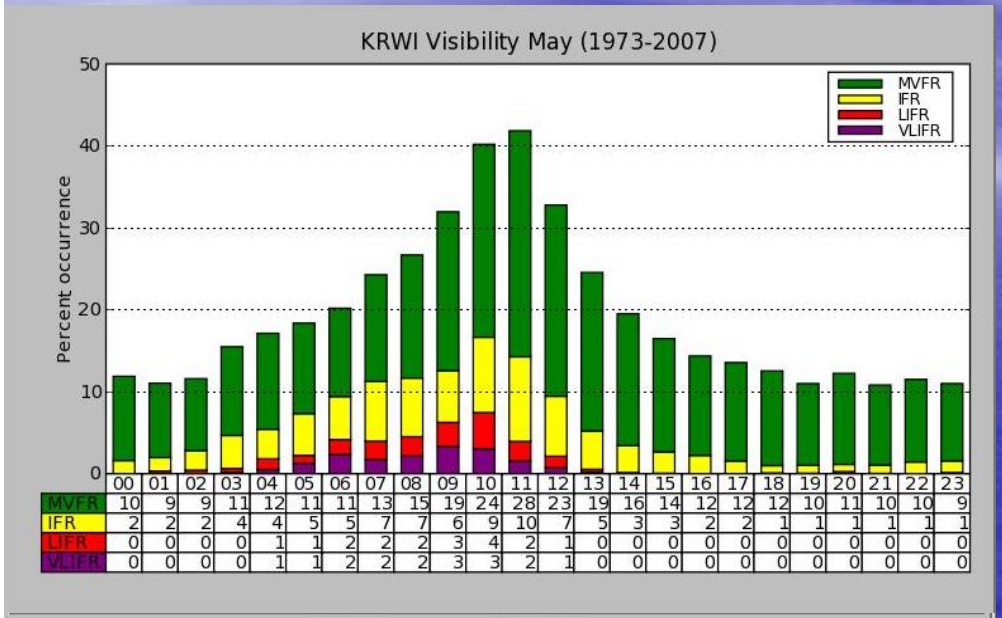
RWI April Conditional Climatology
Effects of Wind Direction



	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	VRB	C
MVFR	9	14	14	20	19	39	34	23	24	12	10	7	8	6	7	13	12	17
IFR	14	15	13	14	14	10	18	12	9	3	4	3	1	3	3	8	12	8
LIFR	9	7	13	18	15	0	6	5	2	3	1	0	0	1	1	2	0	3
VLIFR	0	2	2	3	8	8	4	2	1	0	0	0	0	0	0	0	3	4
HOURS	165	227	229	120	31	19	25	96	210	388	357	226	109	118	133	185	41	778

The combined ceiling and visibility peak of 08z-13z was analyzed for the month of April. During this time, SSW to SW winds along with calm conditions are the most prevalent. However, the least frequent directions of ENE, E, and SE carry some of the highest percentages of IFR conditions. Winds out of the N to NE also carry a high occurrence rate.

RWI May Conditional Climatology



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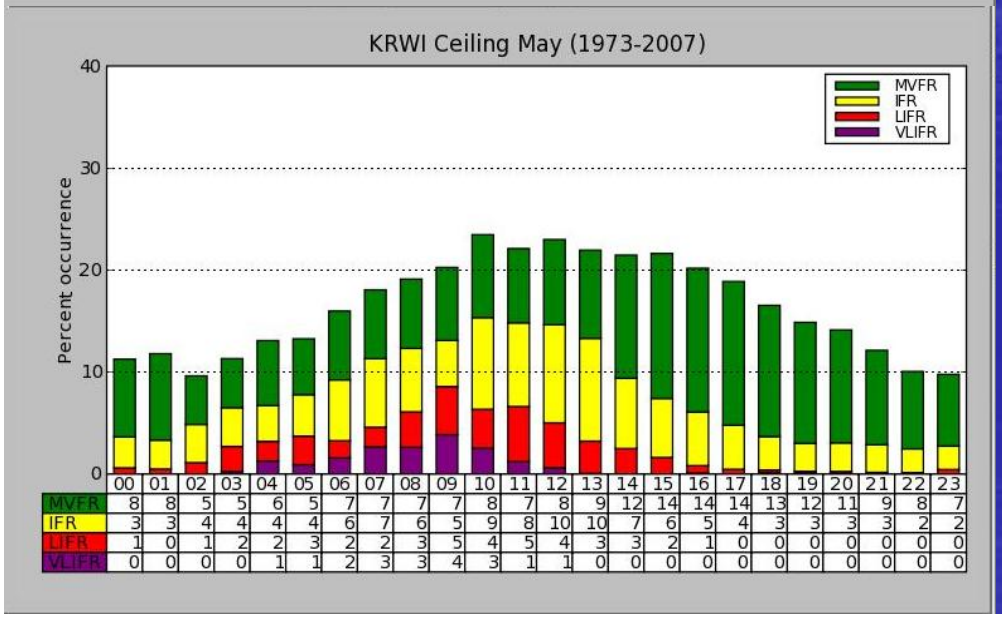
MVFR	10	9	9	11	12	11	11	13	15	19	24	28	23	19	16	14	12	12	12	10	11	10	10	9
IFR	2	2	2	4	4	5	5	7	7	6	9	10	7	5	3	3	2	2	1	1	1	1	1	1
LIFR	0	0	0	0	1	1	2	2	2	3	4	2	1	0	0	0	0	0	0	0	0	0	0	0
VLIFR	0	0	0	0	1	1	2	2	2	3	3	2	1	0	0	0	0	0	0	0	0	0	0	0

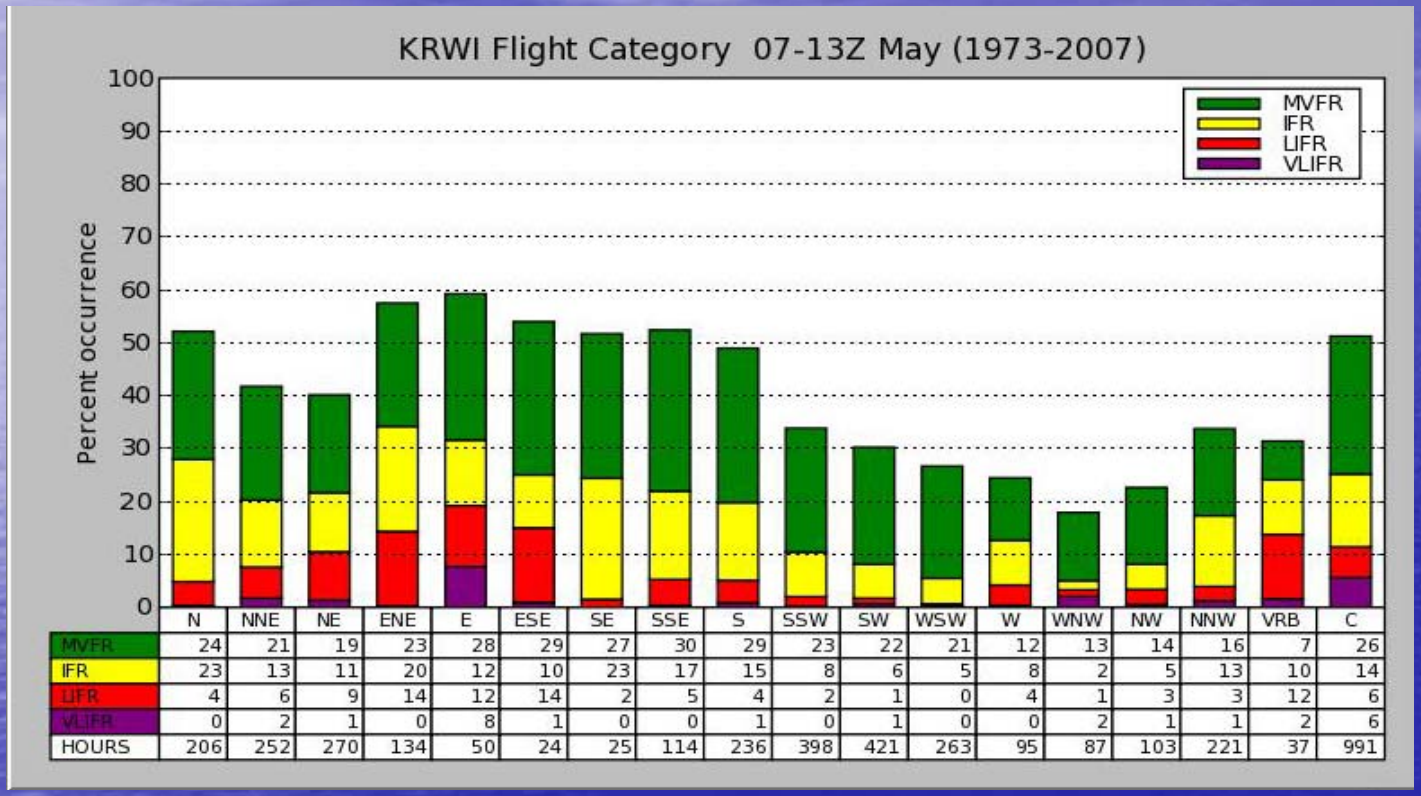


	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
MVFR	8	8	5	5	6	5	7	7	7	7	8	7	8	9	12	14	14	14	13	12	11	9	8	7
IFR	3	3	4	4	4	4	6	7	6	5	9	8	10	10	7	6	5	4	3	3	3	3	2	2
LIFR	1	0	1	2	2	3	2	2	3	5	4	5	4	3	3	2	1	0	0	0	0	0	0	0
VLIFR	0	0	0	0	1	1	2	3	3	4	3	1	1	0	0	0	0	0	0	0	0	0	0	0

Diurnal instances of IFR fog begin to show up in May. The hours of 07z-11z favored, while the daytime and early evening have less than a 2% chance of occurrence.

The peak for IFR ceilings in May occur between 10z-13z. However, the peak for LIFR ceilings is at 09z. A relative minimum appears again in the late afternoon and early evening.

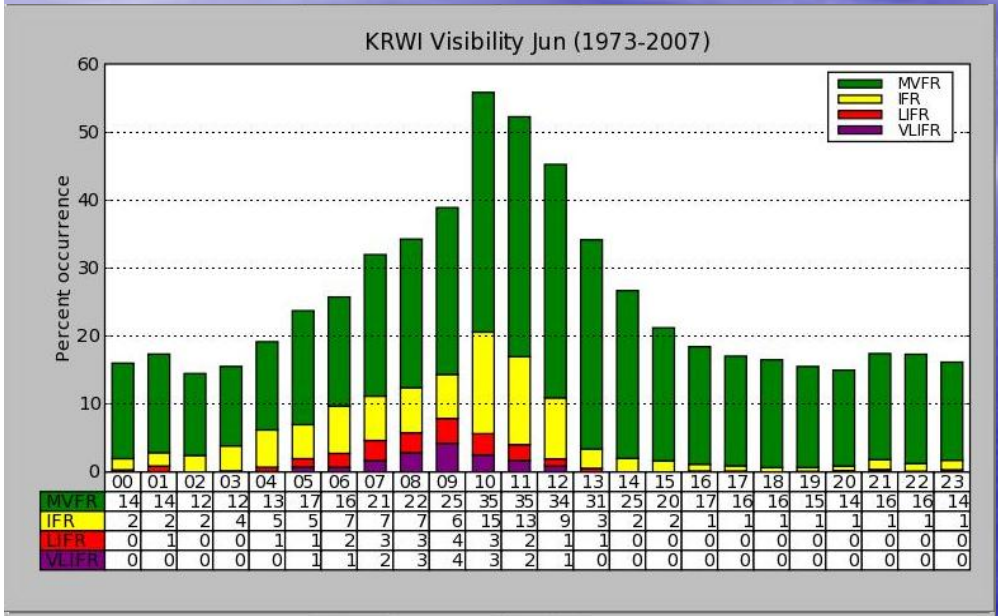
RWI May Conditional Climatology
Effects of Wind Direction



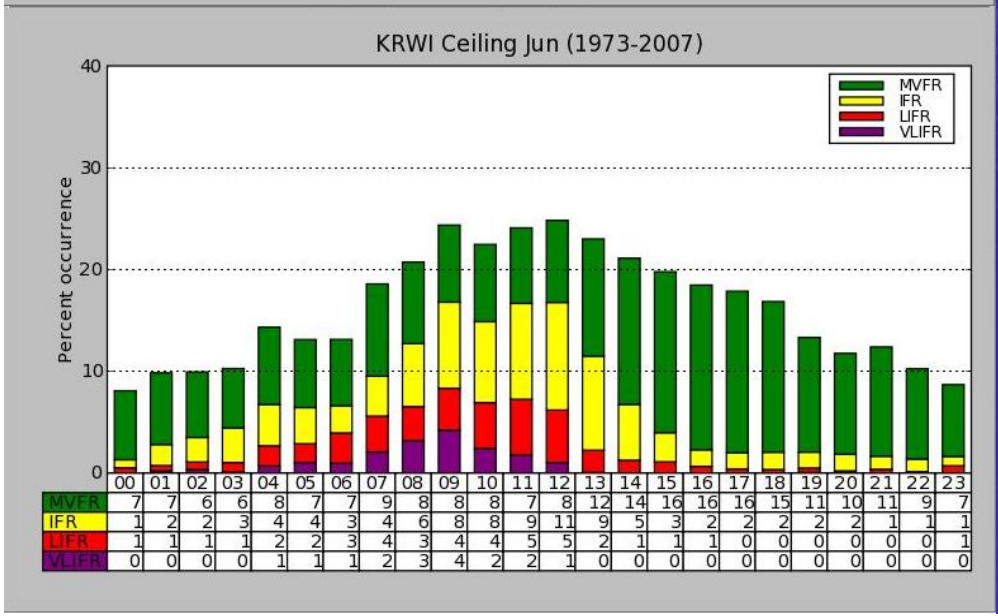
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	VRB	C
MVFR	24	21	19	23	28	29	27	30	29	23	22	21	12	13	14	16	7	26
IFR	23	13	11	20	12	10	23	17	15	8	6	5	8	2	5	13	10	14
LIFR	4	6	9	14	12	14	2	5	4	2	1	0	4	1	3	3	12	6
VLIFR	0	2	1	0	8	1	0	0	1	0	1	0	0	2	1	1	2	6
HOURS	206	252	270	134	50	24	25	114	236	398	421	263	95	87	103	221	37	991

The combined ceiling and visibility peak of 07z-13z was analyzed for the month of May. A wide range of wind directions (N veering to S) contained a relatively high occurrence of IFR conditions. Calm and variable winds also had a greater than 20 % occurrence rate. ESE & SE winds are very infrequent during this time, but they do produce a rather large percentage of IFR conditions when they are present.

RWI June Conditional Climatology



	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
MVFR	14	14	12	12	13	17	16	21	22	25	35	35	34	31	25	20	17	16	16	15	14	16	16	14
IFR	2	2	2	4	5	5	7	7	7	6	15	13	9	3	2	2	1	1	1	1	1	1	1	1
LIFR	0	1	0	0	1	1	2	3	3	4	3	2	1	1	0	0	0	0	0	0	0	0	0	0
VLIFR	0	0	0	0	0	1	1	2	3	4	3	2	1	0	0	0	0	0	0	0	0	0	0	0

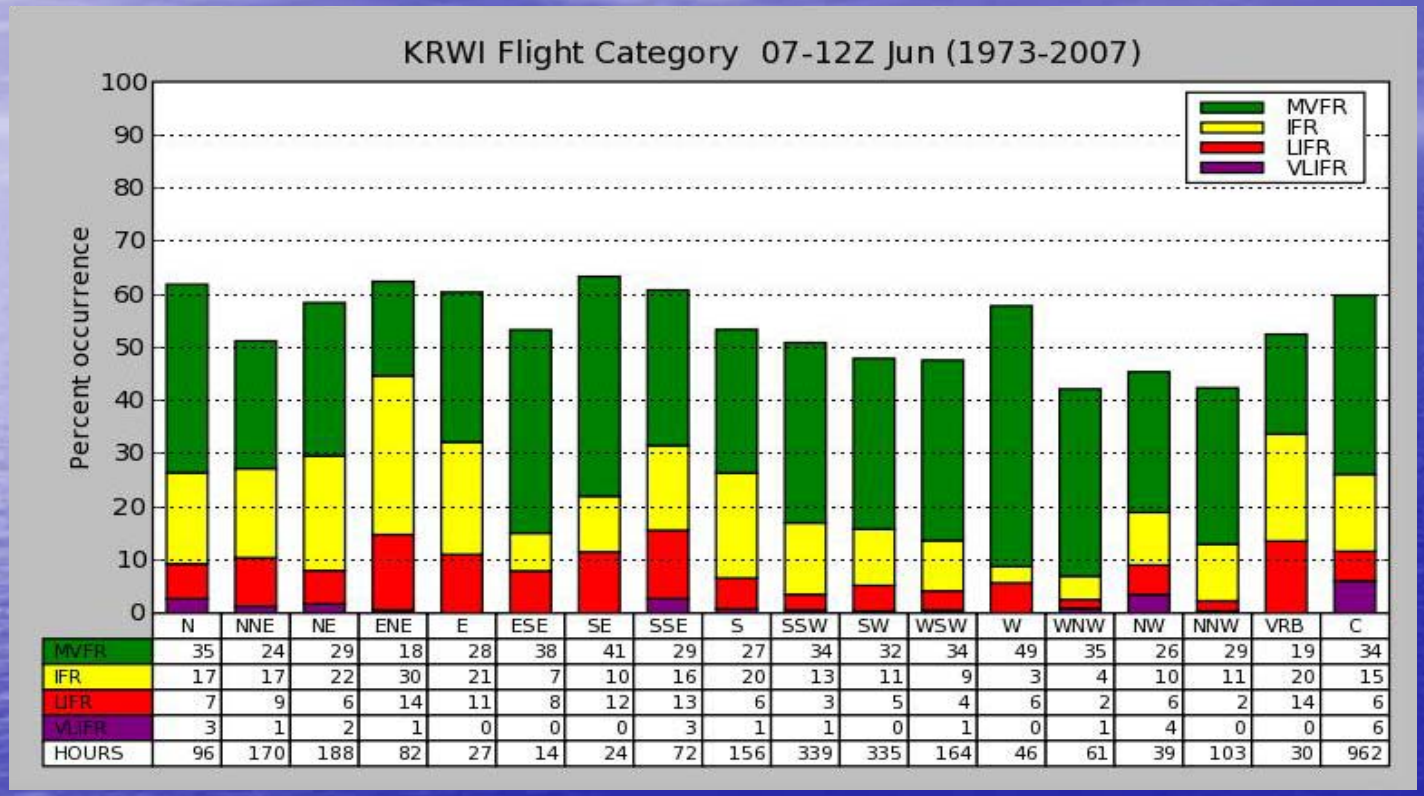


	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
MVFR	7	7	6	6	8	7	7	9	8	8	8	7	8	12	14	16	16	16	15	11	10	11	9	7
IFR	1	2	2	3	4	4	3	4	6	8	8	9	11	9	5	3	2	2	2	2	2	1	1	1
LIFR	1	1	1	1	2	2	3	4	3	4	4	5	5	2	1	1	1	0	0	0	0	0	0	1
VLIFR	0	0	0	0	1	1	1	2	3	4	2	2	1	0	0	0	0	0	0	0	0	0	0	0

IFR fog of a diurnal nature for June. The hours of 06z-12z favored, while the daytime and early evening have less than a 2% chance of occurrence.

There is a noticeable peak in IFR conditions during the hours of 09z-12z during the month of June, with only very small percentages during the daylight and early evening hours.

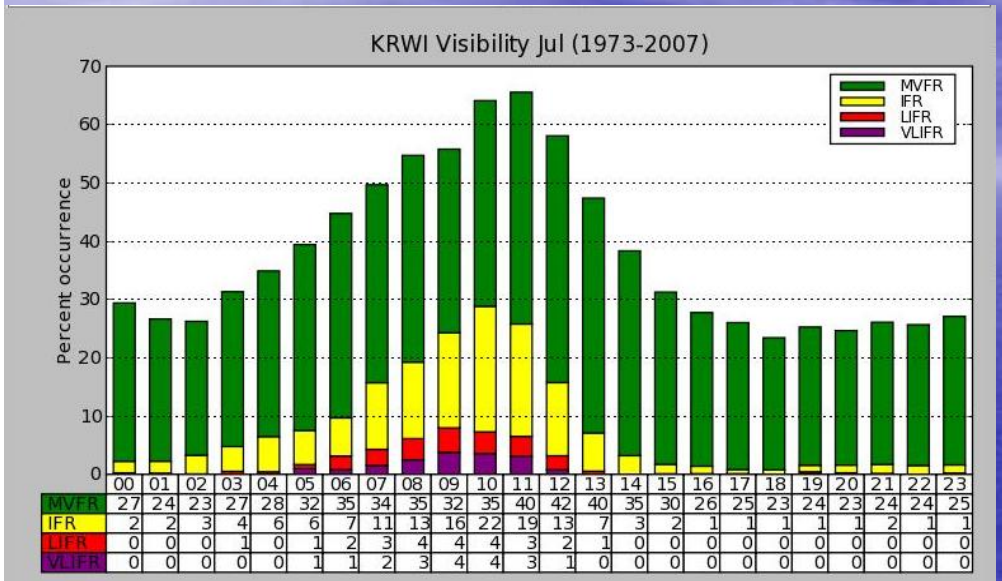
RWI June Conditional Climatology
Effects of Wind Direction



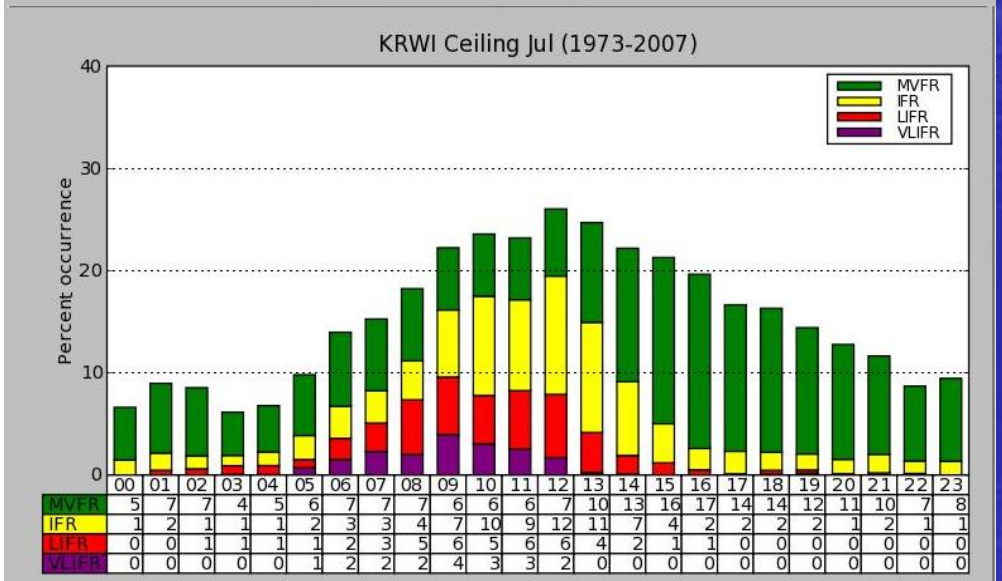
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	VRB	C
MVFR	35	24	29	18	28	38	41	29	27	34	32	34	49	35	26	29	19	34
IFR	17	17	22	30	21	7	10	16	20	13	11	9	3	4	10	11	20	15
LIFR	7	9	6	14	11	8	12	13	6	3	5	4	6	2	6	2	14	6
VLIFR	3	1	2	1	0	0	0	3	1	1	0	1	0	1	4	0	0	6
HOURS	96	170	188	82	27	14	24	72	156	339	335	164	46	61	39	103	30	962

The combined ceiling and visibility peak of 07z-12z was analyzed for the month of June. ENE and E winds occur rather infrequently, but have some of the largest percentages of occurrence. WNW winds are low in occurrence and IFR production.

RWI July Conditional Climatology



	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
MVFR	27	24	23	27	28	32	35	34	35	32	35	40	42	40	35	30	26	25	23	24	23	24	24	25
IFR	2	2	3	4	6	6	7	11	13	16	22	19	13	7	3	2	1	1	1	1	1	2	1	1
LIFR	0	0	0	1	0	1	2	3	4	4	4	3	2	1	0	0	0	0	0	0	0	0	0	0
VLIFR	0	0	0	0	0	1	1	2	3	4	4	3	1	0	0	0	0	0	0	0	0	0	0	0

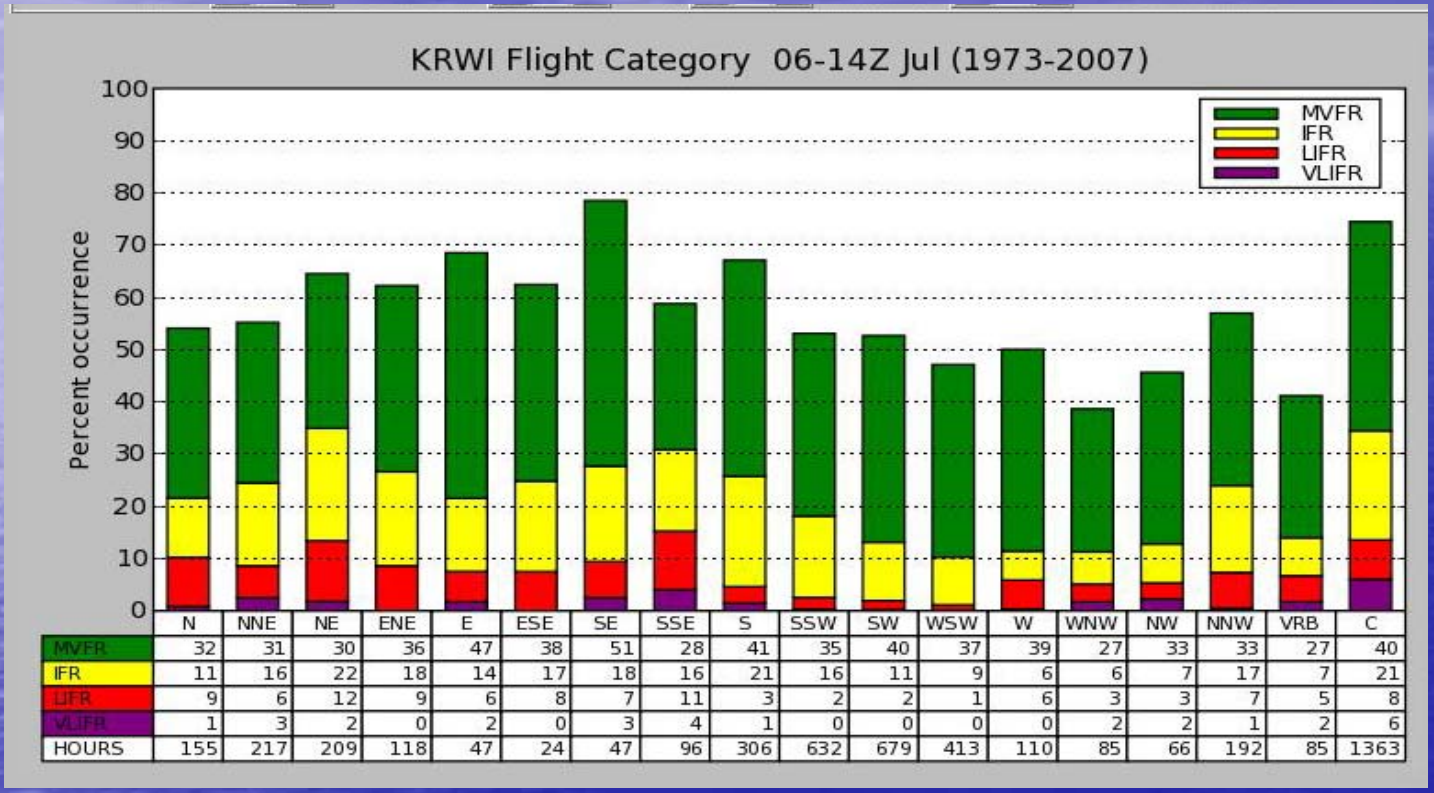


	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
MVFR	5	7	7	4	5	6	7	7	7	6	6	6	7	10	13	16	17	14	14	12	11	10	7	8
IFR	1	2	1	1	1	2	3	3	4	7	10	9	12	11	7	4	2	2	2	2	1	2	1	1
LIFR	0	0	1	1	1	1	2	3	5	6	5	6	6	4	2	1	1	0	0	0	0	0	0	0
VLIFR	0	0	0	0	0	1	2	2	2	4	3	3	2	0	0	0	0	0	0	0	0	0	0	0

IFR fog diurnal in nature in July. However, the percent of occurrence climbs well above 20% from 09-11z with near a 30% occurrence at 10z.

July very similar to June with most IFR conditions occurring in predawn hours (what one expects during the summer). The IFR occurrence climbs to nearly 20% by 12z.

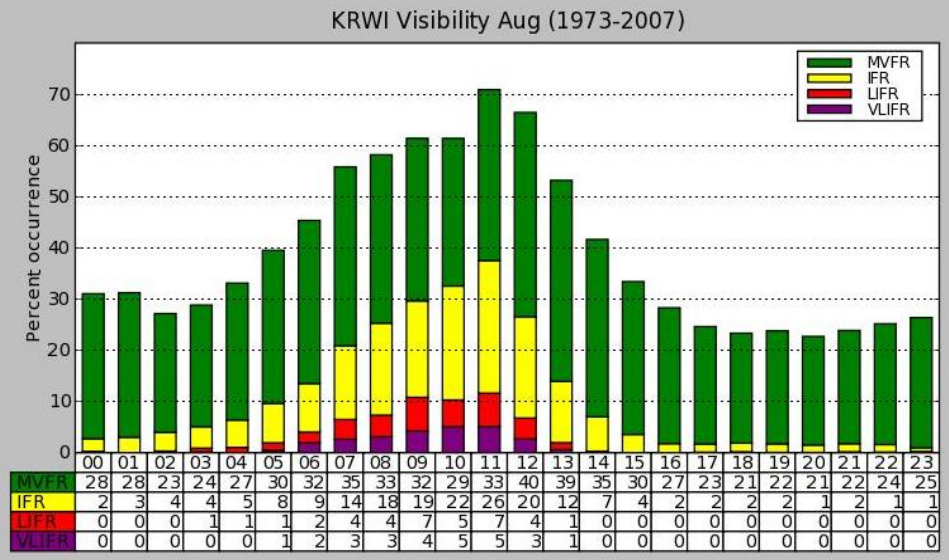
RWI July Conditional Climatology
Effects of Wind Direction



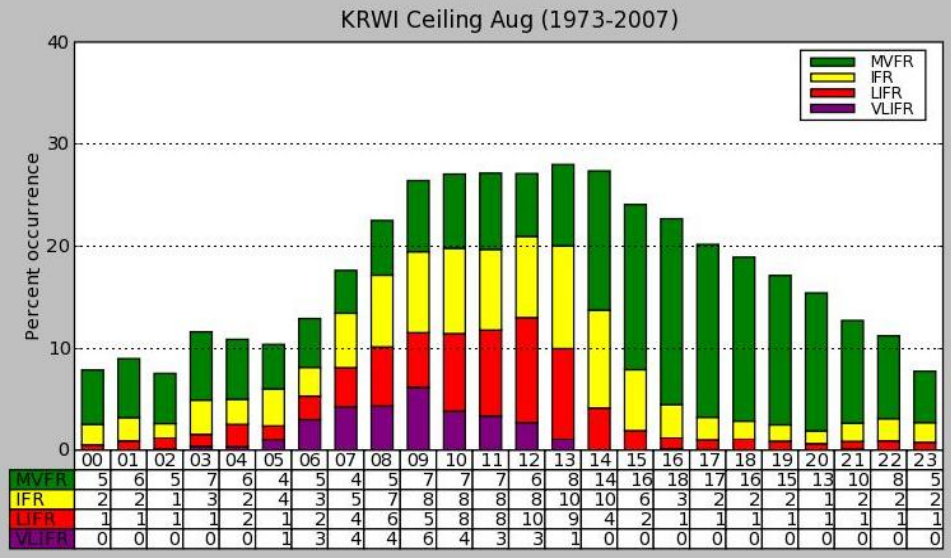
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	VRB	C
MVFR	32	31	30	36	47	38	51	28	41	35	40	37	39	27	33	33	27	40
IFR	11	16	22	18	14	17	18	16	21	16	11	9	6	6	7	17	7	21
LIFR	9	6	12	9	6	8	7	11	3	2	2	1	6	3	3	7	5	8
VLIFR	1	3	2	0	2	0	3	4	1	0	0	0	0	2	2	1	2	6
HOURS	155	217	209	118	47	24	47	96	306	632	679	413	110	85	66	192	85	1363

The combined ceiling and visibility peak of 06z-14z was analyzed for the month of July. Winds veering from NNW to S all contain a greater than 20% IFR occurrence. In particular, the E to SE occur rather infrequently, but do produce a large degree of IFR conditions during the month. Calm winds, also result in many IFR instances.

RWI August Conditional Climatology



	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
MVFR	28	28	23	24	27	30	32	35	33	32	29	33	40	39	35	30	27	23	21	22	21	22	24	25
IFR	2	3	4	4	5	8	9	14	18	19	22	26	20	12	7	4	2	2	2	2	1	2	1	1
LIFR	0	0	0	1	1	1	2	4	4	7	5	7	4	1	0	0	0	0	0	0	0	0	0	0
VLIFR	0	0	0	0	0	1	2	3	3	4	5	5	3	1	0	0	0	0	0	0	0	0	0	0



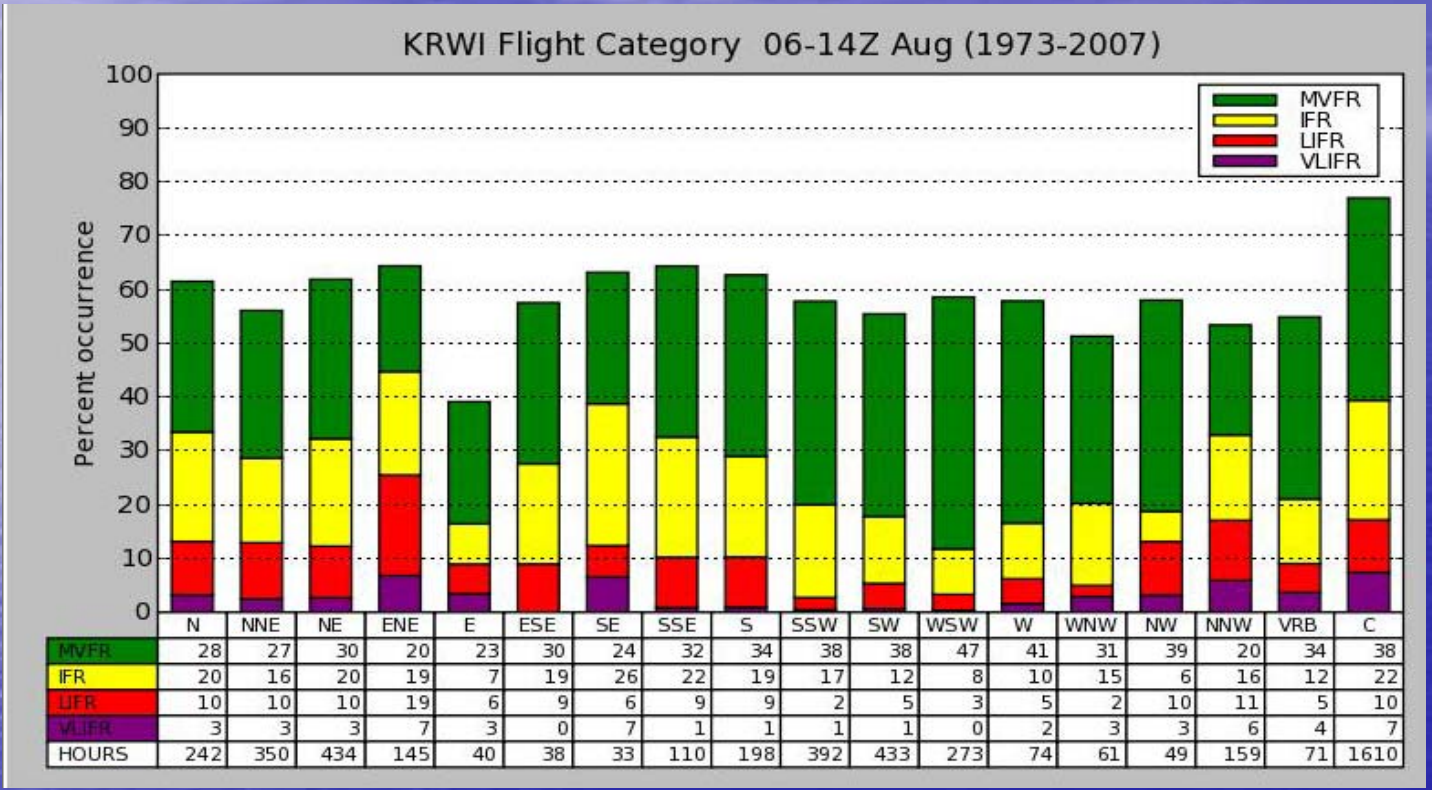
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
MVFR	5	6	5	7	6	4	5	4	5	7	7	7	6	8	14	16	18	17	16	15	13	10	8	5
IFR	2	2	1	3	2	4	3	5	7	8	8	8	8	10	10	6	3	2	2	2	1	2	2	2
LIFR	1	1	1	1	2	1	2	4	6	5	8	8	10	9	4	2	1	1	1	1	1	1	1	1
VLIFR	0	0	0	0	0	1	3	4	4	6	4	3	3	1	0	0	0	0	0	0	0	0	0	0

August contains some of the highest hourly percentages of IFR occurrence. 09-11z have a 30% or greater occurrence rate of IFR conditions. There are also 10% or higher occurrences of LIFR between 09-11z.

Diurnal tendencies are still noted with 16z-00z having a 2% or less occurrence rate.

IFR occurrences reach or exceed 20% between 09z-13z, with over a 10% chance of ceilings lowering to less than 500 ft.

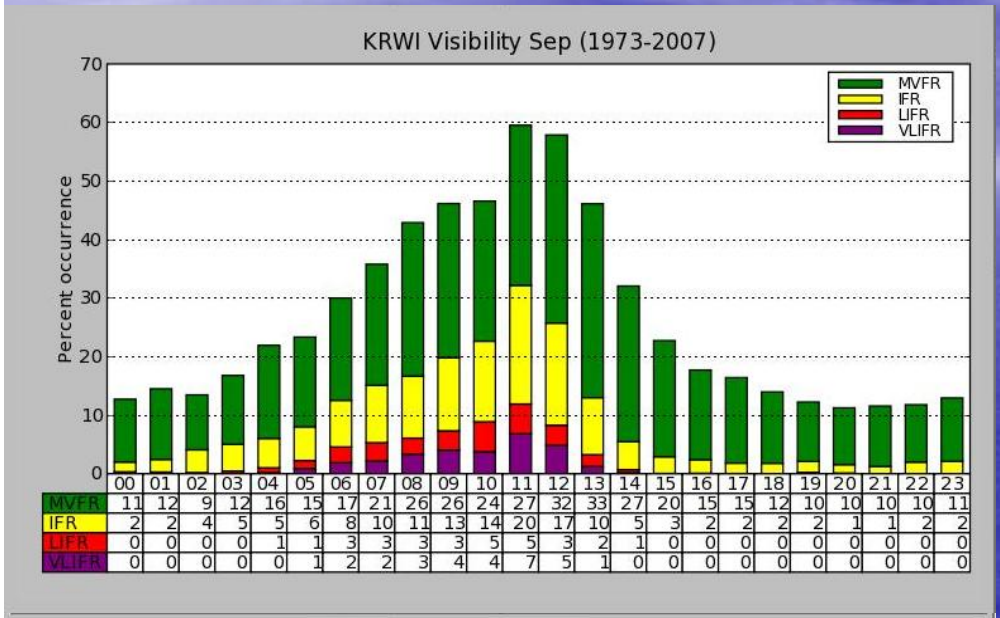
RWI August Conditional Climatology
Effects of Wind Direction



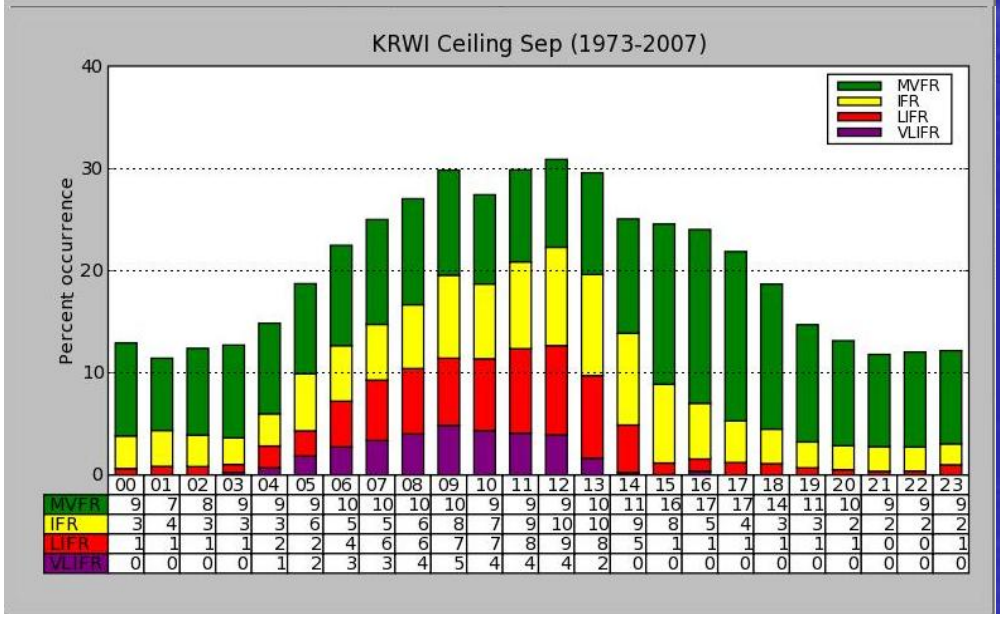
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	VRB	C
MVFR	28	27	30	20	23	30	24	32	34	38	38	47	41	31	39	20	34	38
IFR	20	16	20	19	7	19	26	22	19	17	12	8	10	15	6	16	12	22
LIFR	10	10	10	19	6	9	6	9	9	2	5	3	5	2	10	11	5	10
VLIFR	3	3	3	7	3	0	7	1	1	1	1	0	2	3	3	6	4	7
HOURS	242	350	434	145	40	38	33	110	198	392	433	273	74	61	49	159	71	1610

The combined ceiling and visibility peak of 06z-14z was analyzed for the month of August. Large range of wind directions for high IFR production are noted. SE winds occur the least of all, but produce IFR conditions 39 percent of the time. ENE are also relatively infrequent but produce IFR conditions 45% of the time.

RWI September Conditional Climatology



	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
MVFR	11	12	9	12	16	15	17	21	26	26	24	27	32	33	27	20	15	15	12	10	10	10	10	11
IFR	2	2	4	5	5	6	8	10	11	13	14	20	17	10	5	3	2	2	2	2	1	1	2	2
LIFR	0	0	0	0	1	1	3	3	3	3	5	5	3	2	1	0	0	0	0	0	0	0	0	0
VLIFR	0	0	0	0	0	1	2	2	3	4	4	7	5	1	0	0	0	0	0	0	0	0	0	0



	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
MVFR	9	7	8	9	9	9	10	10	10	10	9	9	9	10	11	16	17	17	14	11	10	9	9	9
IFR	3	4	3	3	3	6	5	5	6	8	7	9	10	10	9	8	5	4	3	3	2	2	2	2
LIFR	1	1	1	1	2	2	4	6	6	7	7	8	9	8	5	1	1	1	1	1	1	0	0	1
VLIFR	0	0	0	0	1	2	3	3	4	5	4	4	4	2	0	0	0	0	0	0	0	0	0	0

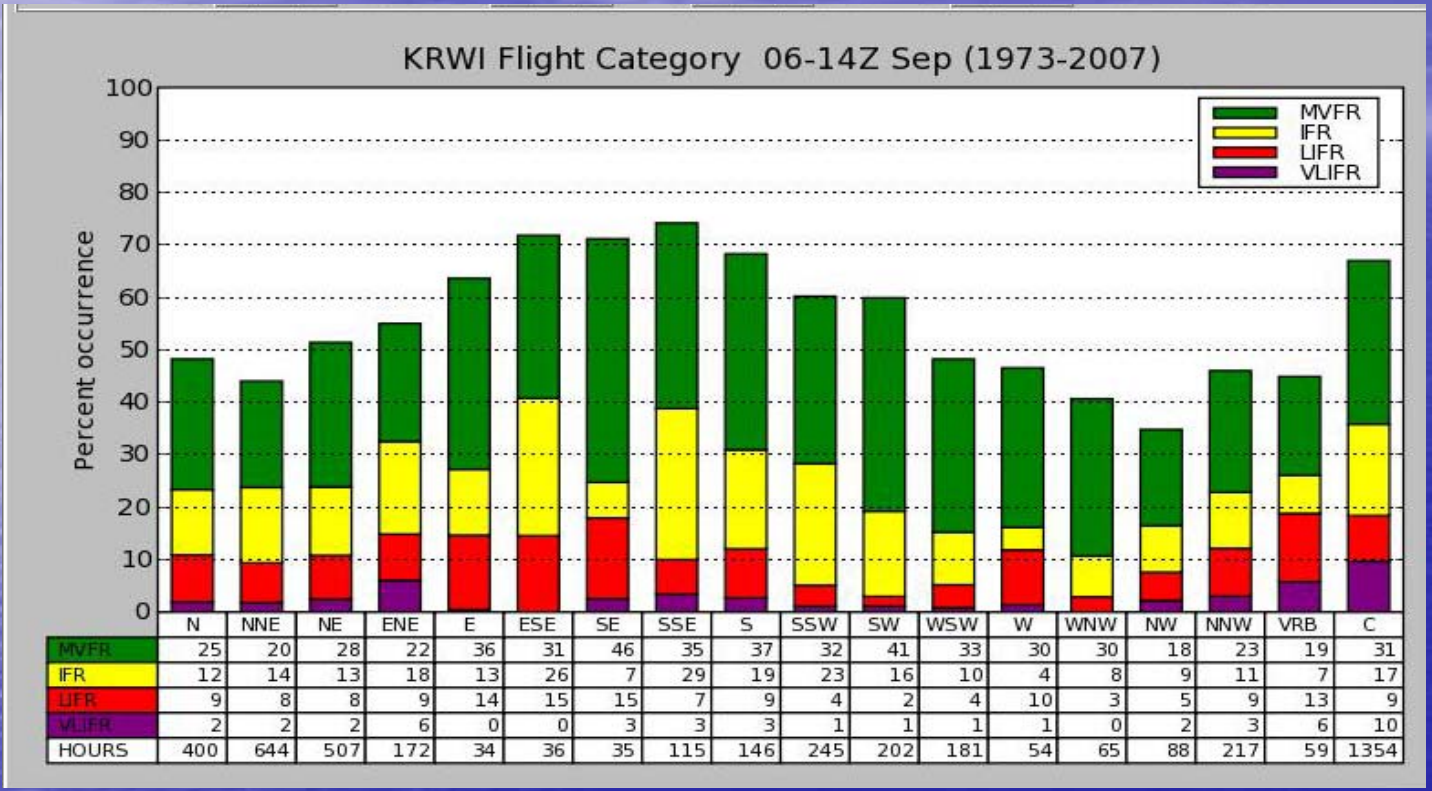
September very similar to August with the peak of IFR conditions (30%) occurring at 11z. IFR conditions for September are still very much diurnal in nature, occurring in the predawn and sunrise hours.

16z-01z have a 2% or less IFR occurrence.

Just like in August, September IFR occurrences reach or exceed 20% between 09z-13z, with over a 10% chance of ceilings lowering to less than 500 ft.

The low occurrence rate during the daylight and early evening hours continues to be noted.

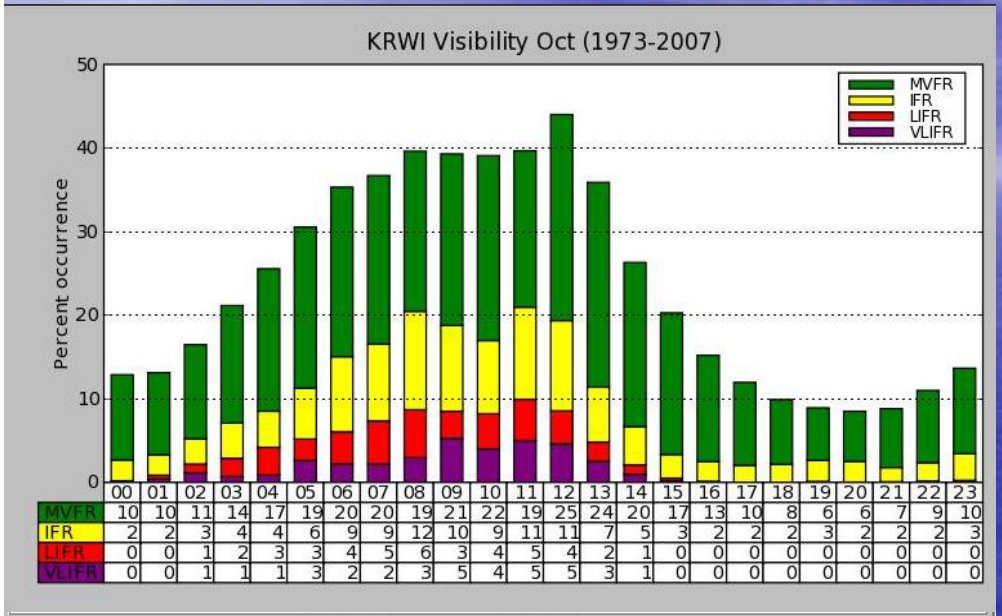
RWI September Conditional Climatology
Effects of Wind Direction



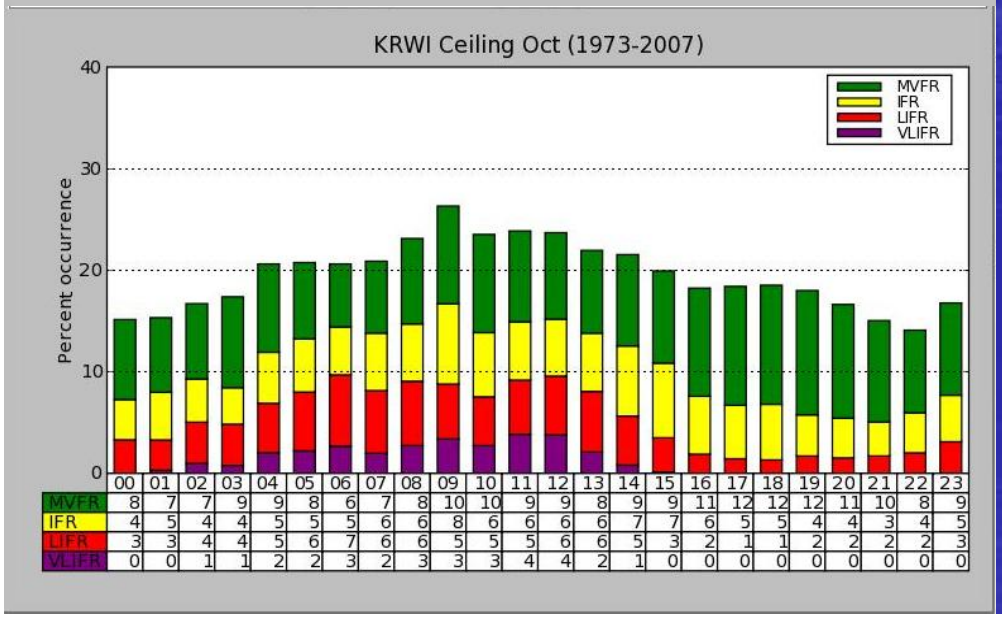
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	VRB	C
MVFR	25	20	28	22	36	31	46	35	37	32	41	33	30	30	18	23	19	31
IFR	12	14	13	18	13	26	7	29	19	23	16	10	4	8	9	11	7	17
LIFR	9	8	8	9	14	15	15	7	9	4	2	4	10	3	5	9	13	9
VLIFR	2	2	2	6	0	0	3	3	3	1	1	1	1	0	2	3	6	10
HOURS	400	644	507	172	34	36	35	115	146	245	202	181	54	65	88	217	59	1354

The combined ceiling and visibility peak of 06z-14z was analyzed for the month of September. A large range of wind directions for high IFR production are noted. E, ESE, and SE winds have the occur the least, but produce IFR conditions an average of 31% of the time.

RWI October Conditional Climatology



	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
MVFR	10	10	11	14	17	19	20	20	19	21	22	19	25	24	20	17	13	10	8	6	6	7	9	10
IFR	2	2	3	4	4	6	9	9	12	10	9	11	11	7	5	3	2	2	2	3	2	2	2	3
LIFR	0	0	1	2	3	3	4	5	6	3	4	5	4	2	1	0	0	0	0	0	0	0	0	0
VLIFR	0	0	1	1	1	3	2	2	3	5	4	5	5	3	1	0	0	0	0	0	0	0	0	0



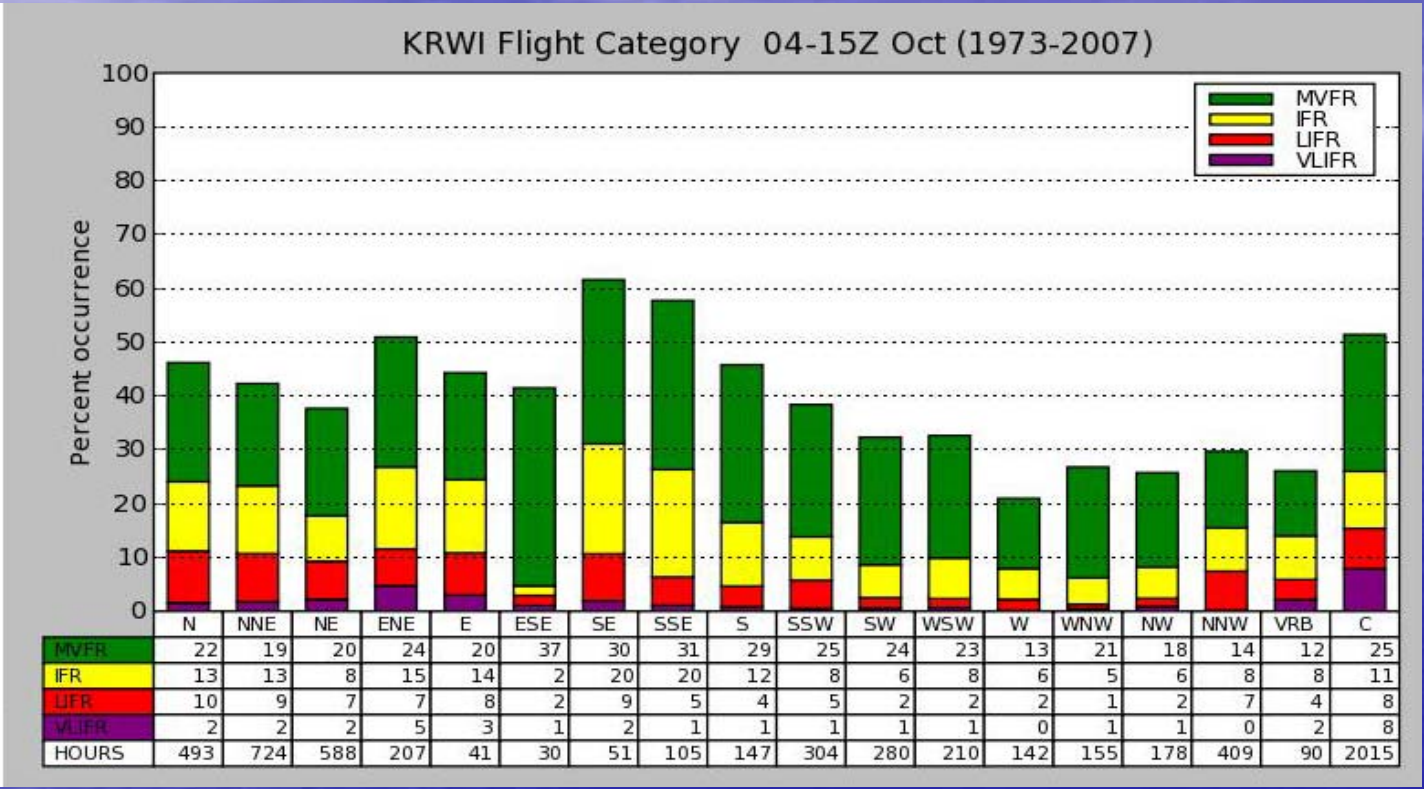
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
MVFR	8	7	7	9	9	8	6	7	8	10	10	9	9	8	9	9	11	12	12	12	11	10	8	9
IFR	4	5	4	4	5	5	5	6	6	8	6	6	6	6	7	7	6	5	5	4	4	3	4	5
LIFR	3	3	4	4	5	6	7	6	6	5	5	5	6	6	5	3	2	1	1	2	2	2	2	3
VLIFR	0	0	1	1	2	2	3	2	3	3	3	4	4	2	1	0	0	0	0	0	0	0	0	0

There is a much wider range of higher percentages for the month of October. 06z-12z hold a 15-21% occurrence rate. Less than a 2% chance holds during the late morning into early evening hours.

Also notice the fairly high probabilities of LIFR conditions during the overnight and early morning (10% @ 12z).

With seasonal transition, we see higher IFR occurrences spread out over more hours of the day. A relative min in the late afternoon is still observed.

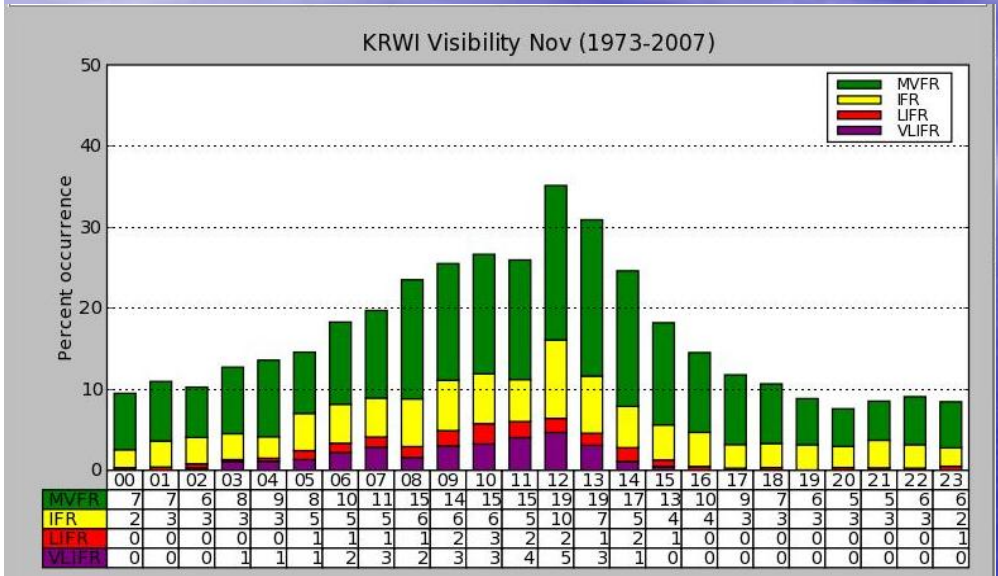
RWI October Conditional Climatology
Effects of Wind Direction



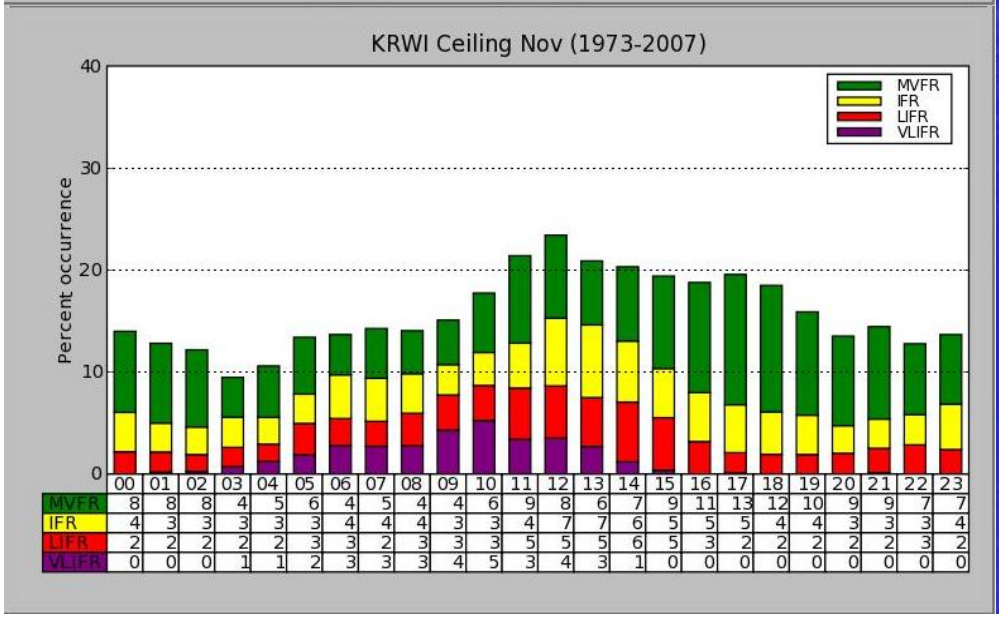
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	VRB	C
MVFR	22	19	20	24	20	37	30	31	29	25	24	23	13	21	18	14	12	25
IFR	13	13	8	15	14	2	20	20	12	8	6	8	6	5	6	8	8	11
LIFR	10	9	7	7	8	2	9	5	4	5	2	2	2	1	2	7	4	8
VLIFR	2	2	2	5	3	1	2	1	1	1	1	1	0	1	1	0	2	8
HOURS	493	724	588	207	41	30	51	105	147	304	280	210	142	155	178	409	90	2015

The combined ceiling and visibility peak of 06z-15z was analyzed for the month of September. The predominated winds of NNW, N, NNE, and NE as well as calm winds produced a relatively high percentage of IFR conditions. In contrast, the lesser frequency SE and SSE directions produce a slightly higher percentage of occurrence.

RWI November Conditional Climatology



	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
MVFR	7	7	6	8	9	8	10	11	15	14	15	15	19	19	17	13	10	9	7	6	5	5	6	6
IFR	2	3	3	3	3	5	5	5	6	6	6	5	10	7	5	4	4	3	3	3	3	3	3	2
LIFR	0	0	0	0	0	1	1	1	1	2	3	2	2	1	2	1	0	0	0	0	0	0	0	1
VLIFR	0	0	0	1	1	1	2	3	2	3	3	4	5	3	1	0	0	0	0	0	0	0	0	0



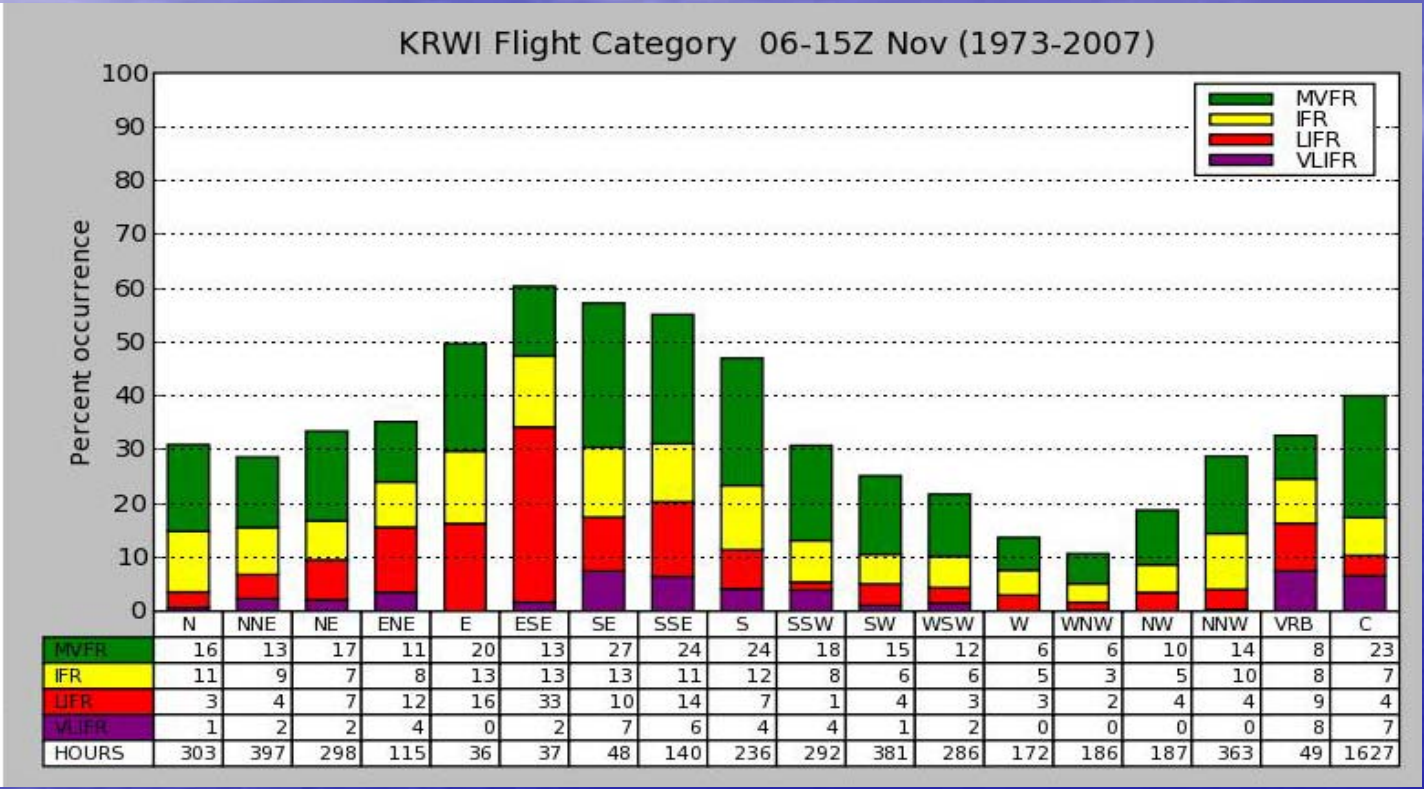
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
MVFR	8	8	8	4	5	6	4	5	4	4	6	9	8	6	7	9	11	13	12	10	9	9	7	7
IFR	4	3	3	3	3	3	4	4	4	3	3	4	7	7	6	5	5	5	4	4	3	3	3	4
LIFR	2	2	2	2	2	3	3	2	3	3	3	5	5	5	6	5	3	2	2	2	2	2	3	2
VLIFR	0	0	0	1	1	2	3	3	3	4	5	3	4	3	1	0	0	0	0	0	0	0	0	0

10 % or greater IFR occurrence can be found in the 09z-13z time frame in November, with the peak at 12z. Notice the highest hourly percentages are much lower compared to the previous months of August, September, and October.

Annual climatology shows a secondary minimum in IFR occurrences during November. This can be seen to some degree in the hourly data, with only the overnight hours exhibiting a 10 % or greater chance of IFR ceilings.

Despite this, there is a rather large occurrence rate of LIFR and VLIFR during the predawn hours.

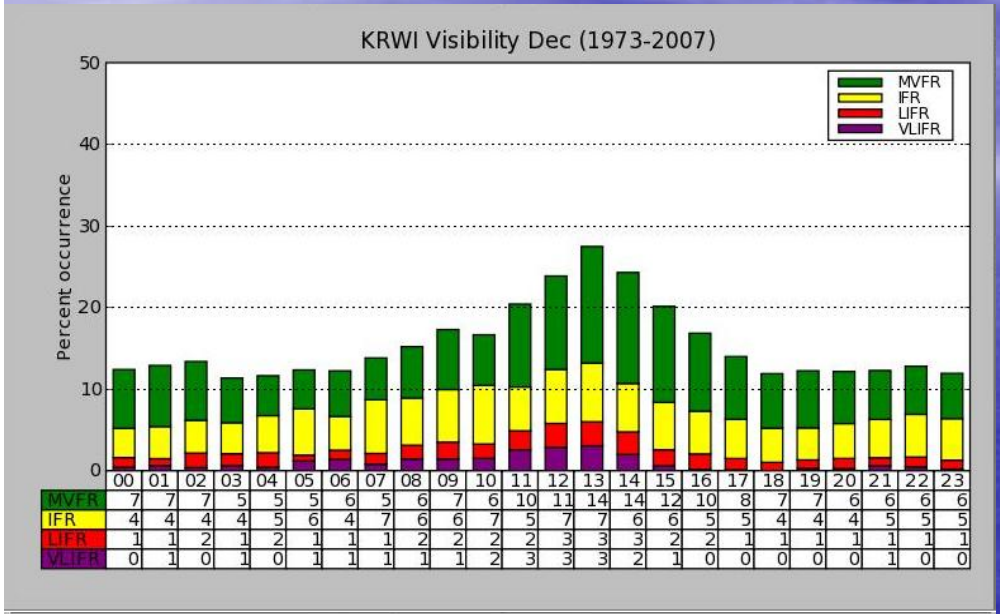
RWI November Conditional Climatology
Effects of Wind Direction



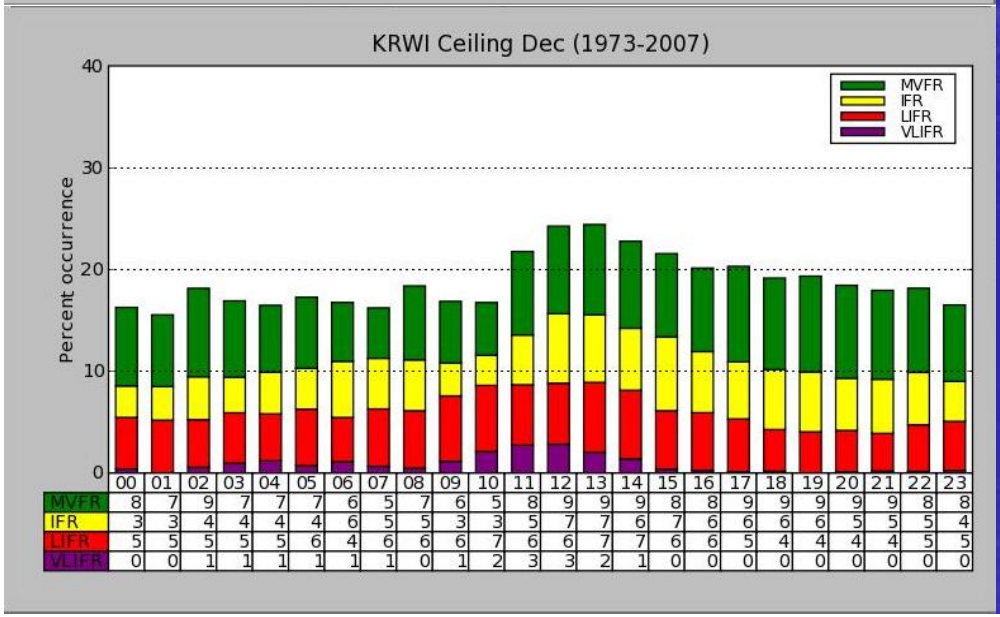
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	VRB	C
MVFR	16	13	17	11	20	13	27	24	24	18	15	12	6	6	10	14	8	23
IFR	11	9	7	8	13	13	13	11	12	8	6	6	5	3	5	10	8	7
LIFR	3	4	7	12	16	33	10	14	7	1	4	3	3	2	4	4	9	4
VLIFR	1	2	2	4	0	2	7	6	4	4	1	2	0	0	0	0	8	7
HOURS	303	397	298	115	36	37	48	140	236	292	381	286	172	186	187	363	49	1627

The combined ceiling and visibility peak of 06z-15z was analyzed for the month of November. ESE winds, which rarely occur during this month, produced a very large percentage of IFR and LIFR conditions. All winds with an easterly component resulted in the highest IFR occurrences.

RWI December Conditional Climatology



	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
MVFR	7	7	7	5	5	5	6	5	6	7	6	10	11	14	14	12	10	8	7	7	6	6	6	6
IFR	4	4	4	4	5	6	4	7	6	6	7	5	7	7	6	6	5	5	4	4	4	5	5	5
LIFR	1	1	2	1	2	1	1	1	2	2	2	2	3	3	3	2	2	1	1	1	1	1	1	1
VLIFR	0	1	0	1	0	1	1	1	1	1	2	3	3	3	2	1	0	0	0	0	0	1	0	0

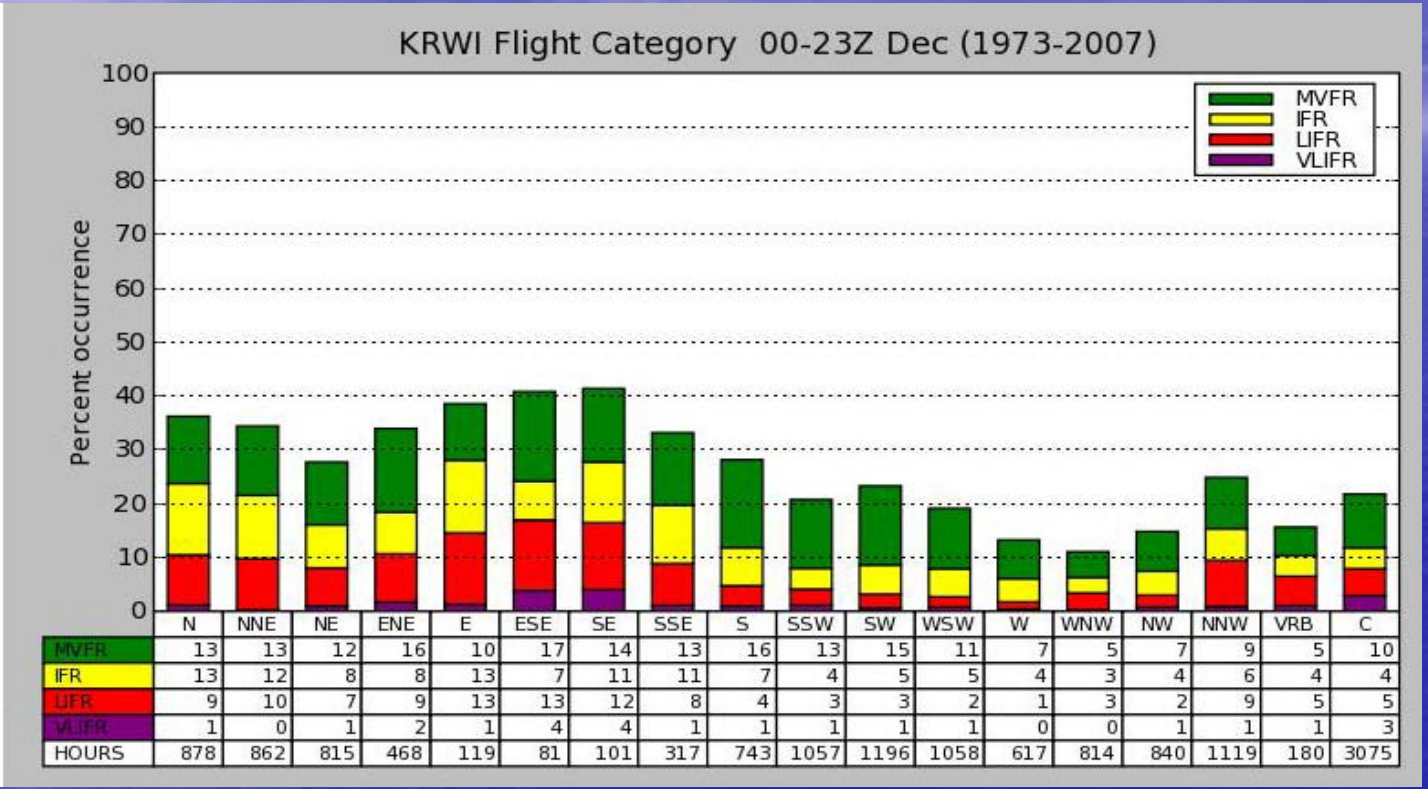


	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
MVFR	8	7	9	7	7	7	6	5	7	6	5	8	9	9	9	8	8	9	9	9	9	9	8	8
IFR	3	3	4	4	4	4	6	5	5	3	3	5	7	7	6	7	6	6	6	6	5	5	5	4
LIFR	5	5	5	5	5	6	4	6	6	6	7	6	6	7	7	6	6	5	4	4	4	4	5	5
VLIFR	0	0	1	1	1	1	1	1	0	1	2	3	3	2	1	0	0	0	0	0	0	0	0	0

A discernable peak in IFR occurrence is not as apparent during the month of December. A relative maximum appears from 09z-14z with a corresponding minimum from 17z-06z.

As cold air damming season commences, IFR occurrences approach or exceed 10% at all hours of the day during December.

RWI December Conditional Climatology Effects of Wind Direction



	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	VRB	C
MVFR	13	13	12	16	10	17	14	13	16	13	15	11	7	5	7	9	5	10
IFR	13	12	8	8	13	7	11	11	7	4	5	5	4	3	4	6	4	4
LIFR	9	10	7	9	13	13	12	8	4	3	3	2	1	3	2	9	5	5
VLIFR	1	0	1	2	1	4	4	1	1	1	1	1	0	0	1	1	1	3
HOURS	878	862	815	468	119	81	101	317	743	1057	1196	1058	617	814	840	1119	180	3075

The highest IFR occurrences correlated with a N wind veering to the SE. E, ESE, and SE occurred the least, but produced a relatively high percentage of IFR conditions. The predominate December winds of SSW-NNW produced the least amount of IFR conditions.

Key Findings

- There is no signal for fog during the seasonal transition months of spring and autumn. In fact, April has the lowest occurrence of IFR conditions.
- There is a 60-70% chance of MVFR conditions during the predawn hours of July, August, and September. There is nearly a 40% chance of IFR conditions at 11z in August as well as a 20-35% chance between 09-12z in July, August, and September.
- Visibility is typically more of a concern in the warm season than ceilings. Ceilings become more of a concern in the cool season, lasting into the first few months of spring.

Other Notes

- The RWI ASOS was commissioned on October 11, 2001. Prior to this, a SAWRS (Supplemental Aviation Weather Reporting Station) provided the observations prior to ASOS, dating back to October 1, 1973.

- A SAWRS site can either be automatic or have an observer present. It is unknown whether there was an observer at RWI at anytime during the SAWRS years, but most likely there was not.