

Low Visibility Occurrence Risk Index (LVORI)

LVORI Category	Interpretation
1	Lowest proportion of accidents with smoke and/or fog reported (130 of 127,604 accidents, or just over 0.0010 accidents)
2	Physical or statistical reasons for not including in category 1, but proportion of accidents not significantly higher.
3	Higher proportion of accidents than category 1, by about 30% to 50%, marginal significance (1%-5%)
4	Significantly higher than category 1, by a factor of 2.
5	Significantly higher than category 1, by a factor of 3 to 10.
6	Significantly higher than category 1, by a factor of 10 to 20.
7	Significantly higher than category 1, by a factor of 20 to 40.
8	Significantly higher than category 1, by a factor of 40 to 75.
9	Significantly higher than category 1, by a factor of 75 to 125.
10	Significantly higher than category 1, by a factor of 150.

LVORI

1 is Good <-> 10 is Bad

Burning in categories 8, 9, 10 may lead to the formation of Superfog

The frequency of dense fog occurrence and potential for vehicle accidents increases in the higher categories.

Table 3. LOW VISIBILITY OCCURRENCE RISK INDEX as a function of relative humidity and Dispersion Index (Based on the proportion of accidents with fog and/or smoke, as reported by the Florida Highway Patrol, 1979-1981), after Lavdas and Hauck (1991)

	DISPERSION INDEX											
	1-1	2-2	3-4	5-6	7-8	9-10	11-12	13-16	17-25	26-30	31-40	>40
R.H.												
<.55	2	2	2	2	2	2	2	2	2	2	1	1
55-59	3	3	3	3	3	2	2	2	2	2	1	1
60-64	3	3	3	3	3	2	2	2	2	2	1	1
65-69	4	3	3	3	3	3	3	3	3	3	3	1
70-74	4	3	3	3	3	3	3	3	3	3	3	3
75-79	4	4	4	4	4	4	4	4	3	3	3	3
80-82	5	5	5	4	4	4	4	4	3	3	3	3
83-85	6	5	5	5	4	4	4	4	4	4	4	4
86-88	6	6	6	5	5	5	5	4	4	4	4	4
89-91	7	7	6	6	5	5	5	5	4	4	4	4
92-94	8	7	6	6	6	6	5	5	5	4	4	4
95-97	9	8	8	7	6	6	6	5	5	4	4	4
>97	10	10	9	9	8	8	7	5	5	4	4	4

Table 4. Frequency of low visibility reports (1/4 mile or less and 1 mile or less) vs. LVORI for National Weather Service stations in Florida 1979-1981

LVORI	# Low Vis. (1/4 mile)	# Low Vis. (1 mile)	# Total Obs. w/ Vis.	Frequency (1/4 mile)	Frequency (1 mile)
1	3	7	18008	.0002	.0004
2	0	3	7318	.0000	.0004
3	0	13	21932	.0000	.0006
4	9	89	14209	.0006	.0063
5	34	200	10385	.0033	.0193
6	78	212	11034	.0069	.0192
7	53	151	4997	.0106	.0302
8	115	263	4310	.0267	.0610
9	184	330	2726	.0675	.1211
10	145	261	1603	.0905	.1628
Total	619	1529	96522	.0064	.0158