

The Nino Report
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Information presented in this report is not a forecast.

The official winter outlook is available from the Climate Prediction Center at <http://www.cpc.ncep.noaa.gov>

The data is intended to provide a historical context for winter conditions in Indianapolis during past occurrences of El Nino.

***Winter Normals for Indianapolis
1971-2000***

	Temperature	Precipitation	Snowfall
December	31.6	3.03	6.4
January	26.5	2.48	9.3
February	31.2	2.41	6.1
Season	29.8	7.92	21.8

	Days w/ ≥1" snow depth	Days w/ measurable snowfall	Days w/ ≥ 1" snowfall	Days w/ ≥ 3" snowfall	Lows ≤ 0	Highs ≤ 32
December	5.8	5.6	1.8	0.5	1.4	7.8
January	11.8	7.9	2.7	0.8	3.5	13.1
February	8.1	5.4	1.9	0.5	1.9	8.1
Season	25.7	18.9	6.4	1.8	6.8	29.0

Averages in Weak El Nino Years

(Numbers in Parenthesis indicate departures from normal)

	Temperature	Precipitation	Snowfall
December	28.0 (-3.6)	2.40 (-0.63)	8.9 (+2.5)
January	22.3 (-4.2)	3.38 (+0.90)	13.7 (+4.4)
February	27.8 (-3.4)	2.25 (-0.16)	6.1 (0.0)
Season	26.0 (-3.8)	8.02 (+0.10)	28.7 (+6.9)

	Days w/ >=1" snow depth	Days w/ measurable snowfall	Days w/ >= 1" snowfall	Days w/ >= 3" snowfall	Lows <= 0	Highs <= 32
December	9.8 (+4.0)	6.8 (+1.2)	2.8 (+1.0)	1.2 (+0.7)	3.2 (+1.8)	11.0 (+3.2)
January	17.0 (+5.2)	10.3 (+2.4)	4.2 (+1.5)	1.3 (+0.5)	8.0 (+4.5)	18.0 (+4.9)
February	14.0 (+5.9)	7.8 (+2.4)	2.2 (+0.3)	0.3 (-0.2)	2.7 (+0.8)	10.2 (2.1)
Season	40.8 (+14.1)	24.9 (+6.0)	9.2 (+2.8)	2.8 (+1.0)	13.9 (+7.1)	39.2 (+10.2)

Averages in Moderate El Nino Years
(Numbers in Parenthesis indicate departures from normal)

	Temperature	Precipitation	Snowfall
December	34.7 (+3.1)	2.71 (-0.32)	3.8 (-2.6)
January	25.2 (-1.3)	2.52 (+0.04)	10.2 (+0.9)
February	30.6 (-0.6)	1.95 (-0.46)	7.5 (+1.4)
Season	30.1 (+0.3)	7.18 (-0.74)	21.5 (-0.3)

	Days w/ ≥1" snow depth	Days w/ measurable snowfall	Days w/ ≥ 1" snowfall	Days w/ ≥ 3" snowfall	Lows ≤ 0	Highs ≤ 32
December	2.8 (-3.0)	3.0 (-2.6)	1.4 (-0.4)	0.2 (-0.3)	0.0 (-1.4)	5.0 (-2.8)
January	13.8 (+2.0)	6.2 (-1.7)	3.2 (+0.5)	0.6 (-0.2)	3.4 (-0.1)	15.6 (+2.5)
February	7.0 (-1.1)	5.4 (0.0)	2.0 (+0.1)	0.8 (+0.3)	0.6 (-1.3)	8.0 (-0.1)
Season	23.6 (-1.9)	14.6 (-4.3)	6.6 (+0.2)	1.6 (-0.2)	4.0 (-2.8)	28.6 (-0.4)

Averages in Strong El Nino Years
(Numbers in Parenthesis indicate departures from normal)

	Temperature	Precipitation	Snowfall
December	35.5 (+3.9)	3.62 (+0.59)	1.5 (-4.9)
January	31.5 (+5.0)	1.74 (-0.74)	3.0 (-6.3)
February	34.0 (+2.8)	0.99 (-1.42)	1.1 (-5.0)
Season	33.6 (+3.8)	6.35 (-1.57)	5.6 (-16.2)

	Days w/ ≥1" snow depth	Days w/ measurable snowfall	Days w/ ≥ 1" snowfall	Days w/ ≥ 3" snowfall	Lows ≤ 0	Highs ≤ 32
December	0.6 (-5.2)	2.8 (-2.8)	0.2 (-1.6)	0.2 (-0.3)	0.0 (-1.4)	4.8 (-3.0)
January	2.8 (-9.0)	4.8 (-3.1)	0.6 (-2.1)	0.2 (-0.6)	0.6 (-2.9)	7.8 (-5.3)
February	1.2 (-6.9)	3.0 (-2.4)	0.2 (-1.7)	0.0 (-0.2)	0.8 (-1.1)	5.6 (-2.5)
Season	4.6 (-21.1)	10.6 (-8.3)	1.0 (-5.4)	0.4 (-1.4)	1.4 (-5.4)	18.2 (-10.8)

*El Nino vs Normal
All Intensities*

December Normals

	Temperature	Precipitation	Snowfall
Normal	31.6	3.03	6.4
Weak Nino	28.0	2.40	8.9
Moderate Nino	34.7	2.71	3.8
Strong Nino	35.5	3.62	1.5

	Days w >= 1" Snow Depth	Days w/ measurable snowfall	Days w/ >= 1" snowfall	Days w/ >= 3" snowfall	Lows <= 0	Highs <= 32
Normal	5.8	5.6	1.8	0.5	1.4	7.8
Weak Nino	9.8	6.8	2.8	1.2	3.2	11.0
Moderate Nino	2.8	3.0	1.4	0.2	0.0	5.0
Strong Nino	0.6	2.8	0.2	0.2	0.0	4.8

January Normals

	Temperature	Precipitation	Snowfall
Normal	26.5	2.48	9.3
Weak Nino	22.3	3.38	13.7
Moderate Nino	25.2	2.52	10.2
Strong Nino	31.5	1.74	3.0

	Days w >= 1" Snow Depth	Days w/ measurable snowfall	Days w/ >= 1" snowfall	Days w/ >= 3" snowfall	Lows <= 0	Highs <= 32
Normal	11.8	7.9	2.7	0.8	3.5	13.1
Weak Nino	17.0	10.3	4.2	1.3	8.0	18.0
Moderate Nino	13.8	6.2	3.2	0.6	3.4	15.6
Strong Nino	2.8	4.8	0.6	0.2	0.6	7.8

February Normals

	Temperature	Precipitation	Snowfall
Normal	31.2	2.41	6.1
Weak Nino	27.8	2.25	6.1
Moderate Nino	30.6	1.95	7.5
Strong Nino	34.0	0.99	1.1

	Days w >= 1" Snow Depth	Days w/ measurable snowfall	Days w/ >= 1" snowfall	Days w/ >= 3" snowfall	Lows <= 0	Highs <= 32
Normal	8.1	5.4	1.9	0.5	1.9	8.1
Weak Nino	14.0	7.8	2.2	0.3	2.7	10.2
Moderate Nino	7.0	5.4	2.0	0.8	0.6	8.0
Strong Nino	1.2	3.0	0.2	0.0	0.8	5.6

Seasonal Normals

	Temperature	Precipitation	Snowfall
Normal	29.8	7.92	21.8
Weak Nino	26.0	8.02	28.7
Moderate Nino	30.1	7.18	21.5
Strong Nino	33.6	6.35	5.6

	Days w >= 1" Snow Depth	Days w/ measurable snowfall	Days w/ >= 1" snowfall	Days w/ >= 3" snowfall	Lows <= 0	Highs <= 32
Normal	25.7	18.9	6.4	1.8	6.8	29.0
Weak Nino	40.8	24.9	9.2	2.8	13.9	39.2
Moderate Nino	23.6	14.6	6.6	1.6	4.0	28.6
Strong Nino	4.6	10.6	1.0	0.4	1.4	18.2

Local Study Information

ONI is defined as *Oceanic Nino Index*, a 3 month running mean of Sea Surface Temperature (SST) anomalies in the Nino 3.4 region in the tropical equatorial Pacific.

El Nino was defined as a three-month running mean of the ONI greater than or equal to $+0.5^{\circ}\text{C}$.

Weak El Nino – ONI values $+0.5^{\circ}\text{C}$ to $+0.9^{\circ}\text{C}$.

Moderate El Nino – ONI values $+1.0^{\circ}\text{C}$ to $+1.4^{\circ}\text{C}$.

Strong El Nino – ONI values $+1.5^{\circ}\text{C}$ or more

For the purposes of this study, only DJF ONI values were used.

Weak DJF Seasons:

1963-1964

1969-1970

1976-1977

1977-1978

1987-1988

2004-2005

Moderate DJF Seasons:

1965-1966

1968-1969

1986-1987

1994-1995

2002-2003

Strong DJF Seasons:

1957-1958

1972-1973

1982-1983

1991-1992

1997-1998