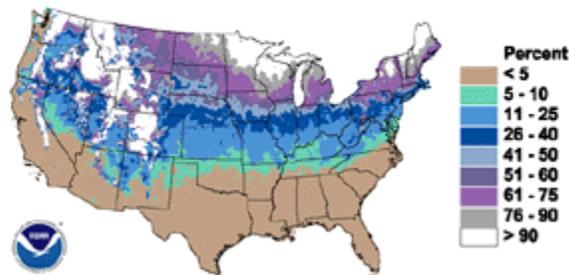


# Climate-Watch, December 2001

National Climatic Data Center - (last update Jan 22, 2001)

## Probability of a White Christmas



### Climatological Probabilities of a White Christmas

(Click on the image for a larger view) \* These are the long term average probabilities. Actual areal predicted snowfall conditions for Christmas will be based on your local weather forecasts issued close to Christmas day.

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## Review

### Will We Have a White Christmas?

It's an age-old question that occurs to almost everyone this time of year. The above map shows the climatological probabilities of a white Christmas. The map is just one of 737 maps available on NCDC's new Climatic Atlas. See NCDC's [sample maps](#) and information about ordering this product. The map above from the Climate Atlas shows the statistical probability (in percent) that a snow depth of at least 1 inch will be observed on December 25th. Highest probabilities are in northern and mountainous areas of the country. The probability was computed using snow depth observations for December 25th for the full period of record for a given station (rather than just the 1961-1990 climatological normals period).

NCDC also has a separate report which contains maps and tables showing the percent probabilities for a snow depth of at least 1 inch on Christmas morning, as well as the probabilities for a depth of at least 5 inches and 10 inches. The "First Order" (U.S. major airport stations) Summary of Day Dataset for the period of 1961-1990 was used to compute these statistics. Only stations with at least 25 years of data were used and the '61-'90 period was chosen to coincide with the standard period for computing climatological normals. The complete report is available at [Will We Have A White Christmas ?](#)

The actual conditions this year may vary widely from these probabilities. So far this season, snow had been scarce in the east but plentiful across parts of the Rockies. The snow on the

ground or snowfall on Christmas day will be based on the actual weather pattern during that time. These probabilities are useful as a guide only to show where snow on the ground is more likely. If you would like to keep track of the snowfall across North America on a daily basis, see the [NOAA Operational Daily Snow Analysis Charts](#).

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### **Weather Log - December 1-10th, 2001**

According to media reports **coastal flooding in Turkey** has left at least three people dead. Hundreds of homes and businesses have been drenched by five consecutive days of rain, and flood waters have swept away roads, a bridge and a highway and carried overturned vehicles into the sea. Heavy flooding also was reported in the Mediterranean resort city of Antalya and in the Aegean port city of Izmir.

**Seventeen people died of exposure** in Moscow in the past week, bringing the winter death toll so far to 170, a city medical official says. Officials say most of the victims are homeless people or those who pass out on the street after drinking. Overnight temperatures have been as low as 12 degrees Celsius below freezing for over two weeks, making a hard life for homeless people. This may be more of a societal problem rather than an extreme climate event. The normal low temperature in December in Moscow is -10 C with an extreme monthly low of -27C.

### **Weather Log - December 11-20th, 2001**

According to media reports, **Catalonia- in northern and northeast Spain** - has remained isolated from the rest of Spain for two days after heavy snow trapped motorists and residents. Further south, in the regions of La Rioja, Castilla and Leon, temperatures fell to minus 10 Celsius (14 degrees Fahrenheit). Spain's Meteorological Institute said the severe cold wave was expected to ease around the 17th and 18th. Heavy snowfalls have caused traffic chaos in Italy, southern France and Spain. Spain suffered the worst problems caused by snow for 15 years, and temperatures in Venice remained well below freezing. Nearly a dozen villages in the remote mountains of northern Corsica remained inaccessible. In Eastern Europe, snow storms, gale-force winds and heavy rain swept across **Greece and Turkey** on the 17th, as large parts of Europe remained in the icy grip of winter. Two days of heavy snowfall and temperatures as low as -10C forced the closure of all northern Greek airports, including Thessaloniki international airport, and all schools in northwestern Greece. In Poland, cold weather has killed 117 people since the beginning of October, officials say.

In northern Texas, in the U.S. , National Weather Service meteorologist Jim Maxwell said parts of **North Texas got as much as 10 inches of rain on the 16th**. "That's well above the normal amounts for the entire month," Maxwell said.

According to preliminary reports, the **world's record high sea level pressure** of 1083.8 mb (32.01 inches) recorded at Agata in Siberia on 12/31/1968 appears to have been shattered on December 19, 2001 in Tosontsengel in northwest Mongolia. The city is about 420 miles (680 km) west of the capital city of Ulanbataar. At 2 am local time on the 19th, (18/1800 UTC) the **sea level pressure rose to 1085.6 mb (32.06 inches)**. The town is situated in a protected valley which allows cold air drainage and radiational cooling which leads to high pressure values. At

the time of the pressure reading the the temperature was minus 40.5 degrees C (minus 41 degrees F) and there was a 4 cm (2 inch) uneven layer of loose dry snow covering the ground completely. The day's low of minus 42.3 degrees C (minus 44 degrees F) and high of minus 32.8 degrees C (minus 27 degrees F) was well below the monthly normal of minus 18 degrees C (0 degrees F).

**Buffalo, NY** had less than 2 inches of snow for the month of December up until a few days before Christmas. Record setting lake effect snowfalls then hit the region from December 24th to December 28th, 2001. During that 5 day period, two of the top four greatest 24 hour snowfalls on record were reported. On Dcember 24-25th, the 4th greatest 24 hour snowfall of 25.2 inches was recorded, then on December 27th-28th, the 2nd greatest 24 hour snowfall of 35.4 inches hit the area. The greatest 24 hour snowfall of 37.9 inches still stands in the record books. The **monthly snowfall of 82.7 inches is a new record for any month.** The old record was 68.4 inches set in December 1985, normal December snowfall is about 24 inches. The snow depth on the 28th was recorded at 44 inches which broke the previous record of 42 inches set on February 5-6, 1977. These snowfall records are particularly remarkable in light of the fact that no snow fell in November 2001 which is a new record.

Note: Hazard event satellite images available courtesy of [NOAA OSEI Satellite Images](#).

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## Selected U.S. City and State Extremes

The [Selected U.S. City and State Extremes](#) provides a list of new records that were set across the U.S. during December 2001.

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## Additional Resources

- [Recent Global Daily Data](#)
- [NOAA 2002 Hurricane Season Forecast](#)
- [National Fire News](#)
- [NCDC El Nino / La Nina](#)
- [NNDC Climate Data Online \(for long-term climate data\)](#)
- [Additional NOAA OSEI Satellite Images](#)(Western Fires, Tropical Storms, etc)
- [NCDC Storm Event Database](#)
- [Links to Numerous Natural Disaster Web Sites](#)

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## Citing the Article

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