



& AQI

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of USA TODAY:**



Friday, December 20, 2002

Jakob Dylan making music his life, 7E  
Likable 'Notice,' 6E; wild 'Thornberrys,' 11E  
You're invited to 'Providence' wedding, 13E

# Weekend

Y  
LOUIS VUITTON CUP  
Tonight  
**Oracle BMW Racing (USA)**  
VS.  
**OneWorld Challenge (USA)**

Full-time finals continue 12/21 and 12/22  
Live coverage every race night, 5 PM\*/6 PM\*\*  
Programming subject to change

OLN  
RACING CHANNEL

### MUSIC

## The 13-track gospel, according to Aaron Neville

Believe, Aaron Neville's second set of gospel tunes, should erase any doubts about the New Orleans singer's spiritual roots and angelic vocals. The 13-track album, due Jan. 28 on Tell It Like I Feel It, collects beloved hymns from Neville's childhood and church upbringing as well as three originals. The lyrics for "Steer Me Right" and "Jesus, Jesus, Jesus" were culled from Neville's diary of poetry.

### Coming attractions



By the author's photo

**Neville faces the DVD-Audio format.** A same-titled companion DVD-Audio disc from Sovereign Records, featuring interviews, performances and bonus track "With God on Our Side," arrives the same day and establishes Neville as the first artist to release two consecutive albums in that format. His gospel debut, *Devotion*, was issued in DVD-Audio in early 2000. *Devotion* was co-produced by Barry Beckert, who collaborated with Bob Dylan on 1979's Christmas-themed *Slow Train Coming*; Neville covers Dylan's *Coche Sore* "Somebody and reviews 1964's *A Change Is Gonna Come*, which Sam Cooke wrote in response to Dylan's *Blowin' in the Wind*. He also tackles two lifelong favorites, "Amazing Grace" and "Ain't No Mountain High Enough" (with a choir and orchestra), plus "Oh Happy Day," "What a Friend We Have in Jesus" and "I'll Fly to a Home-Home." Guests include the Dirty Dozen Brass Band and two siblings from the long-running Neville Brothers: keyboardist Art Neville and saxophonist Charles Neville.

—Edna Gundersen

### MOVIES

## Hanks hops aboard 'Polar Express'

Tom Hanks, whose *Catch Me if You Can* opens Christmas Day, will stay in the holiday spirit longer than most of us. In February, he plans to start shooting an adaptation of Chris Van Allsburg's beloved children's book, *The Polar Express*, to be directed by Rob Zemeckis (*Forest Gump*). The movie will tell the tale of a boy who discovers a train that goes from his house to the North Pole.

But will Hanks, who famously provided the voice for Woody in the *Toy Story* films, play Santa?

"It's hard to describe who's going to be who," Hanks says carefully, calling the film "a neo-generation amalgam" of computer-generated images.

"We will provide the raw data for everything in the computer, and then it will be manipulated by the computer," Hanks says. "It's not like we're just giving them a voice and then they just draw out characters. We actually go in and do all the movements. They photograph us. We act it out with as much intensity as we can. Then it all goes into the computer and is regenerated and remodulated and all this other stuff."

The goal: "A Christmas movie that is going to be interesting to everybody, and that isn't about pop references."

—Andy Siler



Three of a kind: Meryl Streep, Julianne Moore and Nicole Kidman star in *The Hours*. All three could be in the running for Oscars.

# Year of the woman in film

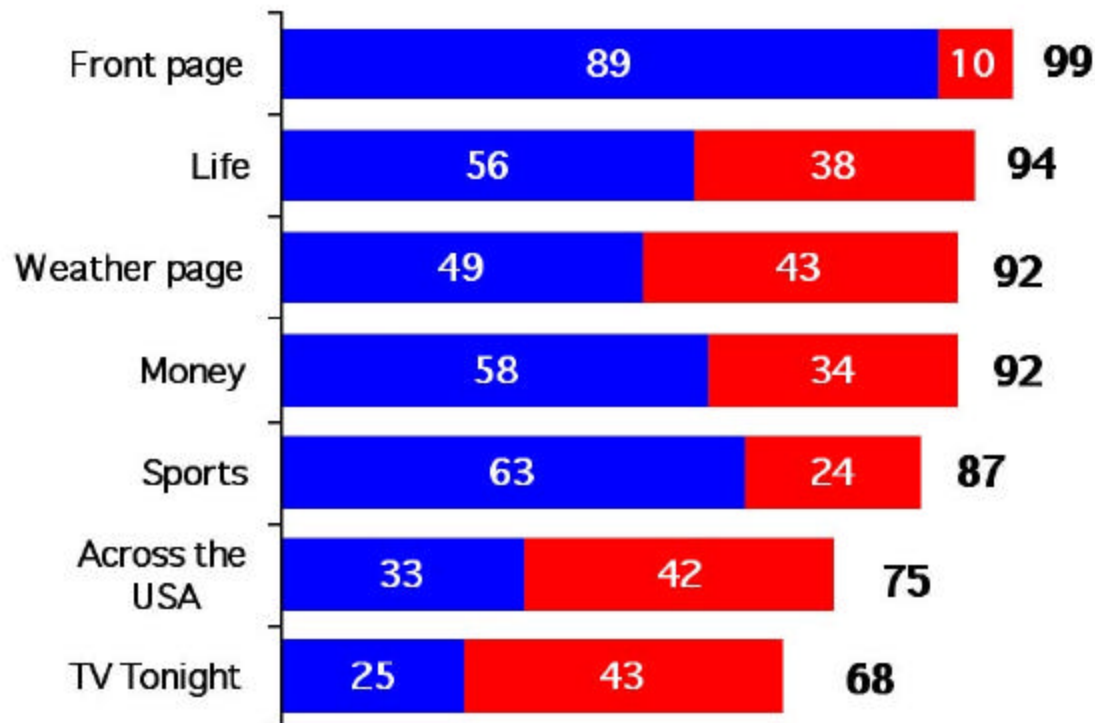
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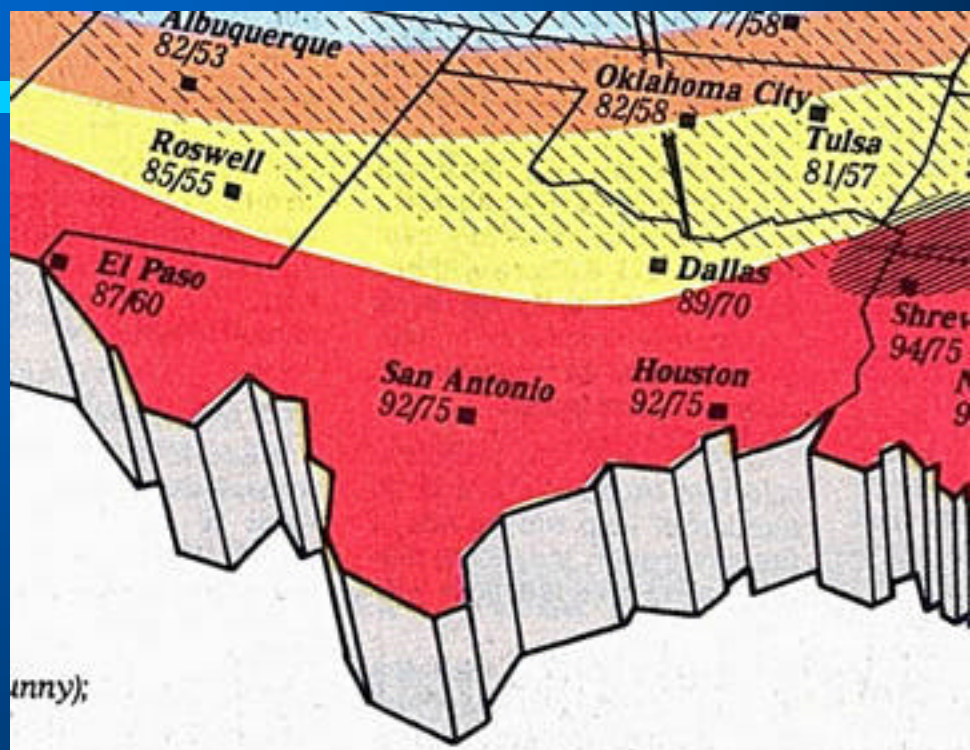
## Always/Occasionally Read Page

■ Always read ■ Occasionally read



Base: Total Readers 18+





unny);

	Thur.	Fri.
pc	92/70pc	88/68pc











### Today's 36-city Air Quality Index (AQI)

Shown in 4-day forecast boxes below.

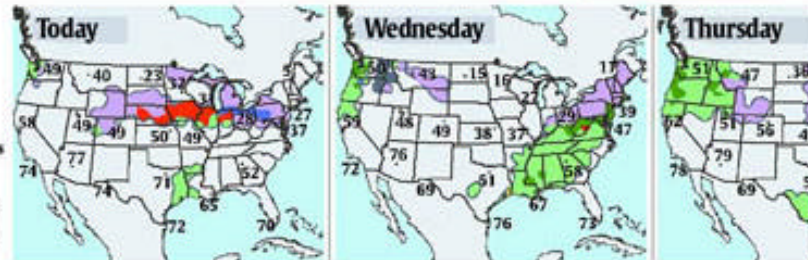
- Good** No health problems expected.
- Moderate** If you are unusually sensitive to ozone, limit outdoor exertion.
- Unhealthy s/g** (for sensitive groups) Limit prolonged outdoor exertion.
- Unhealthy** S/g: Avoid prolonged outdoor exertion. Everyone else should limit outdoor exertion.
- Very unhealthy** S/g: Avoid all outdoor activity. Everyone else, especially children, should limit outdoor exertion.

Note: AQI forecasts ozone or fine particle pollution.  
 Sensitive groups: Active children and adults and people with respiratory disease.  
 Sources: American Lung Association; Environmental Protection Agency



### 5-day forecast

- Rain
- Showers
- Thunderstorms
- Snow
- Snow showers
- Ice/wintery mix



<b>Atlanta</b> Partly cloudy 52/44 Wednesday: Showers 58/38 Thursday: Few showers 49/42 Friday: Mostly cloudy 52/37 AQI: Good	<b>Baltimore</b> Scattered snow showers 35/29 Wednesday: Rain and snow showers 45/26 Thursday: Partly cloudy 35/28 Friday: Windy mix 34/32 AQI: Moderate	<b>Boston</b> Mostly sunny 23/19 Wednesday: Light snow 36/19 Thursday: Mostly sunny 34/19 Friday: Partly cloudy 37/37 AQI: Good	<b>Charlotte</b> Times of sun and clouds 44/38 Wednesday: Late-day showers 52/37 Thursday: Few showers 42/38 Friday: Showers 46/38 AQI: Unhealthy s/g	<b>Chicago</b> Snow, sleet and ice changing to all snow 31/22 Wednesday: Partly cloudy 27/15 Thursday: Partly cloudy 31/24 Friday: Light snow AQI: N/A	<b>Cincinnati</b> Cloudy 39/33 Wednesday: Morning rain and snow showers 37/20 Thursday: Partly cloudy 37/30 Friday: Cloudy 40/32 AQI: N/A	<b>Cleveland</b> Periods of sun and clouds 28/25 Wednesday: light snow 28/25 Thursday: Partly cloudy 28/18 Friday: Cloudy 28/18 AQI: N/A
<b>Houston</b> Occasional showers 66/58 Wednesday: Cloudy 69/51 Thursday: Few showers 63/48 Friday: Partly cloudy 67/51 AQI: Good	<b>Indianapolis</b> Afternoon showers 38/28 Wednesday: Morning snow showers 35/16 Thursday: Partly cloudy 35/24 Friday: Cloudy 37/30 AQI: Moderate	<b>Kansas City</b> Overcast 49/26 Wednesday: Partly cloudy 37/32 Thursday: Partly cloudy 47/32 Friday: Partly cloudy 52/35 AQI: Good	<b>Las Vegas</b> Partial sunshine 68/44 Wednesday: Partly cloudy 68/45 Thursday: Partly cloudy 70/47 Friday: Partly cloudy 70/47 AQI: Unhealthy s/g	<b>Los Angeles</b> Partly cloudy 74/53 Wednesday: Partly cloudy 72/54 Thursday: Mostly sunny 78/56 Friday: Partly cloudy 80/56 AQI: N/A	<b>Memphis</b> Sprinkles 56/49 Wednesday: Morning showers 50/34 Thursday: Partly cloudy 48/32 Friday: Partly cloudy 53/37 AQI: N/A	<b>Miami</b> Times of sun and clouds 70/55 Wednesday: cloudy 73/60 Thursday: Partly cloudy 75/60 Friday: Few showers 76/58 AQI: N/A
<b>Philadelphia</b> Scattered snow showers 30/27 Wednesday: Rain and snow showers 42/27 Thursday: Partly cloudy 36/31 Friday: Light wintry mix 38/32 AQI: Good	<b>Phoenix</b> Partial sunshine 77/52 Wednesday: Partly cloudy 76/51 Thursday: Sunny 79/53 Friday: Mostly sunny 80/54 AQI: Moderate	<b>Pittsburgh</b> Snow likely 30/28 Wednesday: Morning light snow 32/14 Thursday: Partly cloudy 35/27 Friday: Few snow showers 35/28 AQI: Good	<b>Portland, Ore.</b> Mostly cloudy 50/40 Wednesday: Light rain 49/44 Thursday: Rain 53/42 Friday: Rain 52/39 AQI: Unhealthy s/g	<b>Sacramento</b> Late-day sun 60/44 Wednesday: Mostly cloudy 60/49 Thursday: Morning fog, late-day clouds 60/47 Friday: Morning fog, late-day clouds 60/46 AQI: N/A	<b>St. Louis</b> Overcast 49/31 Wednesday: Partly cloudy 37/19 Thursday: Partly cloudy 43/30 Friday: Mostly cloudy 48/33 AQI: N/A	<b>Salt Lake</b> Partly cloudy 48/34 Wednesday: cloudy 48/34 Thursday: Partly cloudy 51/36 Friday: Showers 54/34 AQI: N/A

USA TODAY weather focus

National forecast

# May 2000

EPA  
 &  
 American Lung Association  
 &  
 USA Today

Launch AQI in USA Today

<b>Atlanta</b> Morning clouds 51/29 <b>Wednesday:</b> Partly cloudy 55/41 <b>Thursday:</b> Showers 63/51 <b>Friday:</b> Showers 61/34 <b>AQI:</b> Good	<b>Baltimore</b> Rain and freezing rain 39/27 <b>Wednesday:</b> Mostly sunny 42/25 <b>Thursday:</b> Cloudy 38/25 <b>Friday:</b> Showers 41/28 <b>AQI:</b> Moderate	<b>Boston</b> Snow showers 39/36 <b>Wednesday:</b> Morning showers 43/35 <b>Thursday:</b> Partly cloudy 39/20 <b>Friday:</b> Wintry mix 33/26 <b>AQI:</b> Moderate	<b>Charlotte</b> Showers ending by midday 54/31 <b>Wednesday:</b> Sunny 54/34 <b>Thursday:</b> Light rain and sleet 49/45 <b>Friday:</b> Showers 61/39 <b>AQI:</b> Good	<b>Chicago</b> Morning snow showers 29/8 <b>Wednesday:</b> Partly cloudy 24/17 <b>Thursday:</b> Snow showers 29/21 <b>Friday:</b> Scattered flurries 29/18 <b>AQI:</b> Moderate	<b>Cincinnati</b> A few snow showers 37/24 <b>Wednesday:</b> Mostly cloudy 33/28 <b>Thursday:</b> Wintry mix 35/30 <b>Friday:</b> Mostly cloudy 37/24 <b>AQI:</b> Moderate	<b>Cleveland</b> Wintry mix changing to all snow 34/25 <b>Wednesday:</b> Cloudy 27/16 <b>Thursday:</b> Snow showers 28/19 <b>Friday:</b> Rain 31/23 <b>AQI:</b> Moderate	<b>Columbus</b> Rain and snow showers 38/25 <b>Wednesday:</b> Mostly cloudy 30/24 <b>Thursday:</b> Snow showers 34/25 <b>Friday:</b> Cloudy 36/25 <b>AQI:</b> Good	<b>Dallas-Ft. W.</b> Partly cloudy 53/40 <b>Wednesday:</b> Rain 49/40 <b>Thursday:</b> Mostly cloudy 56/32 <b>Friday:</b> Morning clouds 45/27 <b>AQI:</b> Good	<b>Denver</b> Chance of late day snow showers 41/20 <b>Wednesday:</b> Snow 31/14 <b>Thursday:</b> A few snow showers 30/14 <b>Friday:</b> Mostly cloudy 24/10 <b>AQI:</b> Moderate	<b>Detroit</b> Morning wintry mix 32/20 <b>Wednesday:</b> Partly cloudy 28/15 <b>Thursday:</b> Snow showers 29/20 <b>Friday:</b> A few snow showers 28/21 <b>AQI:</b> Good	<b>Honolulu</b> Times of sun and clouds 81/70 <b>Wednesday:</b> Partly cloudy 81/70 <b>Thursday:</b> Afternoon showers 81/69 <b>Friday:</b> Scattered thunderstorms 81/68 <b>AQI:</b> Good
<b>Houston</b> Times of sun and clouds 60/48 <b>Wednesday:</b> Showers 66/53 <b>Thursday:</b> Showers 66/39 <b>Friday:</b> Cloudy 56/34 <b>AQI:</b> Good	<b>Indianapolis</b> A few snow showers 34/17 <b>Wednesday:</b> Partly cloudy 29/24 <b>Thursday:</b> Wintry mix 34/27 <b>Friday:</b> Scattered flurries 34/20 <b>AQI:</b> Moderate	<b>Kansas City</b> A few clouds 28/22 <b>Wednesday:</b> Afternoon light snow 30/25 <b>Thursday:</b> Snow showers 28/19 <b>Friday:</b> Cloudy 24/11 <b>AQI:</b> Moderate	<b>Las Vegas</b> Showers 51/37 <b>Wednesday:</b> Mostly sunny 54/35 <b>Thursday:</b> Mostly sunny 53/34 <b>Friday:</b> Mostly sunny 54/36 <b>AQI:</b> Good	<b>Los Angeles</b> A few morning showers 38/46 <b>Wednesday:</b> Sunny 65/46 <b>Thursday:</b> Sunny 67/47 <b>Friday:</b> Sunny 65/48 <b>AQI:</b> Good	<b>Memphis</b> Plenty of sun 44/29 <b>Wednesday:</b> Mostly cloudy 46/39 <b>Thursday:</b> Cloudy 53/38 <b>Friday:</b> Mostly cloudy 52/30 <b>AQI:</b> Good	<b>Miami</b> More sun than clouds 81/60 <b>Wednesday:</b> Mostly sunny 78/65 <b>Thursday:</b> Partly cloudy 81/64 <b>Friday:</b> Partly cloudy 81/63 <b>AQI:</b> Good	<b>Mpls.-St. Paul</b> Fair 13/-9 <b>Wednesday:</b> Sunny 13/6 <b>Thursday:</b> A few snow showers 23/14 <b>Friday:</b> A few snow showers 25/11 <b>AQI:</b> Good	<b>Nashville</b> Clouds giving way to sun in the afternoon 42/26 <b>Wednesday:</b> Mostly cloudy 46/38 <b>Thursday:</b> Showers 56/38 <b>Friday:</b> Cloudy 49/29 <b>AQI:</b> Good	<b>New Orleans</b> More sun than clouds 59/43 <b>Wednesday:</b> Partly cloudy 63/53 <b>Thursday:</b> Scattered thunderstorms 71/53 <b>Friday:</b> A few showers 64/34 <b>AQI:</b> Good	<b>New York</b> Wintry mix of precipitation 41/33 <b>Wednesday:</b> Mostly sunny 42/27 <b>Thursday:</b> Mostly cloudy 39/26 <b>Friday:</b> Showers 36/29 <b>AQI:</b> Moderate	<b>Orlando</b> Mostly sunny 77/52 <b>Wednesday:</b> Partly cloudy 70/59 <b>Thursday:</b> Mostly cloudy 81/58 <b>Friday:</b> Partly cloudy 81/58 <b>AQI:</b> Good
<b>Philadelphia</b> Mix of rain and freezing rain 42/32 <b>Wednesday:</b> Mostly sunny 41/26 <b>Thursday:</b> Cloudy 38/27 <b>Friday:</b> Showers 38/28 <b>AQI:</b> Moderate	<b>Phoenix</b> Showers possible 56/42 <b>Wednesday:</b> Partly cloudy 57/42 <b>Thursday:</b> Partly cloudy 60/36 <b>Friday:</b> Sunny 65/40 <b>AQI:</b> Good	<b>Pittsburgh</b> Wintry mix changing to all snow 34/26 <b>Wednesday:</b> Mostly cloudy 29/18 <b>Thursday:</b> Snow showers 31/23 <b>Friday:</b> Showers 35/26 <b>AQI:</b> Good	<b>Portland, Ore.</b> Chance of late-day showers 45/37 <b>Wednesday:</b> Showers 47/32 <b>Thursday:</b> Mostly cloudy 43/35 <b>Friday:</b> Light rain 46/33 <b>AQI:</b> Good	<b>Sacramento</b> Occasional showers 54/40 <b>Wednesday:</b> Partly cloudy 57/39 <b>Thursday:</b> Mostly sunny 57/42 <b>Friday:</b> A few showers 54/42 <b>AQI:</b> Good	<b>St. Louis</b> Partly cloudy 32/18 <b>Wednesday:</b> Mostly cloudy 30/27 <b>Thursday:</b> A few snow showers 34/26 <b>Friday:</b> Scattered flurries 33/19 <b>AQI:</b> Good	<b>Salt Lake City</b> Snow likely 35/25 <b>Wednesday:</b> Snow showers 33/22 <b>Thursday:</b> A few snow showers 32/16 <b>Friday:</b> Partly cloudy 29/14 <b>AQI:</b> Good	<b>San Diego</b> Cloudy with rain likely in the morning 57/46 <b>Wednesday:</b> Mostly sunny 62/47 <b>Thursday:</b> Sunny 63/48 <b>Friday:</b> Sunny 63/48 <b>AQI:</b> Good	<b>San Francisco</b> A few showers 54/46 <b>Wednesday:</b> Partly cloudy 56/45 <b>Thursday:</b> Mostly sunny 57/46 <b>Friday:</b> A few showers 55/47 <b>AQI:</b> Good	<b>Seattle</b> Chance of late-day showers 47/39 <b>Wednesday:</b> Showers 48/31 <b>Thursday:</b> Mostly cloudy 45/35 <b>Friday:</b> Light rain 45/37 <b>AQI:</b> Good	<b>Tampa-St. Pete</b> Sunshine 74/52 <b>Wednesday:</b> Partly cloudy 73/59 <b>Thursday:</b> Mostly cloudy 79/59 <b>Friday:</b> Partly cloudy 78/58 <b>AQI:</b> Good	<b>Washington</b> Mix of rain and freezing rain 39/28 <b>Wednesday:</b> Mostly sunny 43/26 <b>Thursday:</b> Cloudy 38/28 <b>Friday:</b> Showers 42/30 <b>AQI:</b> Moderate

# What it takes to make a graphic

**Does the information have context and impact?**

**Can the information be visual?**

**Is it a step-by-step process?**

**A chart? A picture?**

**Can we give next-day information: The forecast**

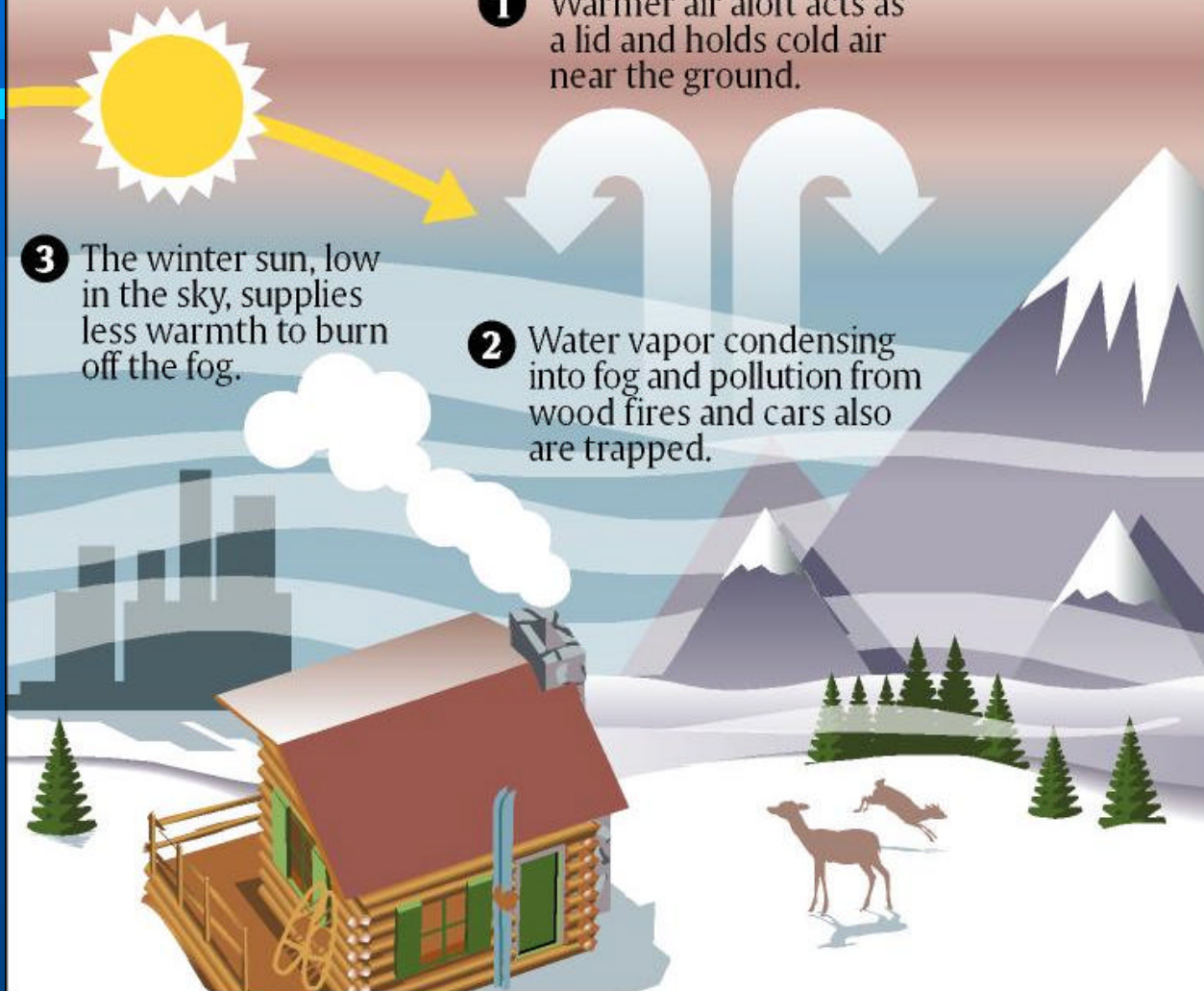
# Salt Lake City stuck in fog, poor air

Calm conditions in the valleys of Utah's Wasatch Mountains are resulting in thick fog and poor air quality. Winds strong enough to clear the air aren't forecast until Thursday. **What's happening:**

**1** Warmer air aloft acts as a lid and holds cold air near the ground.

**2** Water vapor condensing into fog and pollution from wood fires and cars also are trapped.

**3** The winter sun, low in the sky, supplies less warmth to burn off the fog.





## How they come up with the AQI

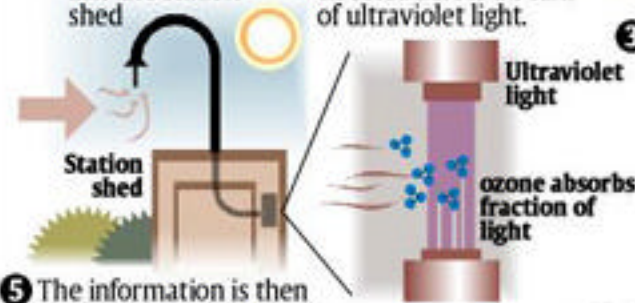
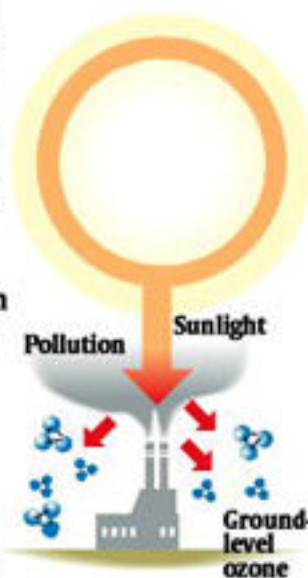
The **Air Quality Index (AQI)** is a compilation of measurements taken on five air pollutants:

**Ozone:** The ozone at ground level is man-made and should not be confused with that which occurs naturally 10-30 miles above the Earth. It is formed by a chemical reaction between pollution and sunlight or heat. The other four measured pollutants are: **particulate matter, carbon monoxide, sulfur dioxide and nitrogen dioxide.** But ozone is the main offender during the summer in the USA.

### How an ozone monitor works:

More than 1,300 monitoring stations throughout the USA measure the pollutants.

- 1 Air flows into tubes leading into the station shed
- 2 Tubes lead to a small box, where the air is directed across a beam of ultraviolet light
- 3 The amount of light that comes through the air tells how much is absorbed by the ozone in the air.
- 4 Measurements are averaged over an hour, then sent via phone lines to an EPA office in North Carolina, where the ozone maps are
- 5 The information is then posted on Web sites and sent to the media, including USA TODAY.



(Story, 1A)

## Worst pollution often occurs during summer

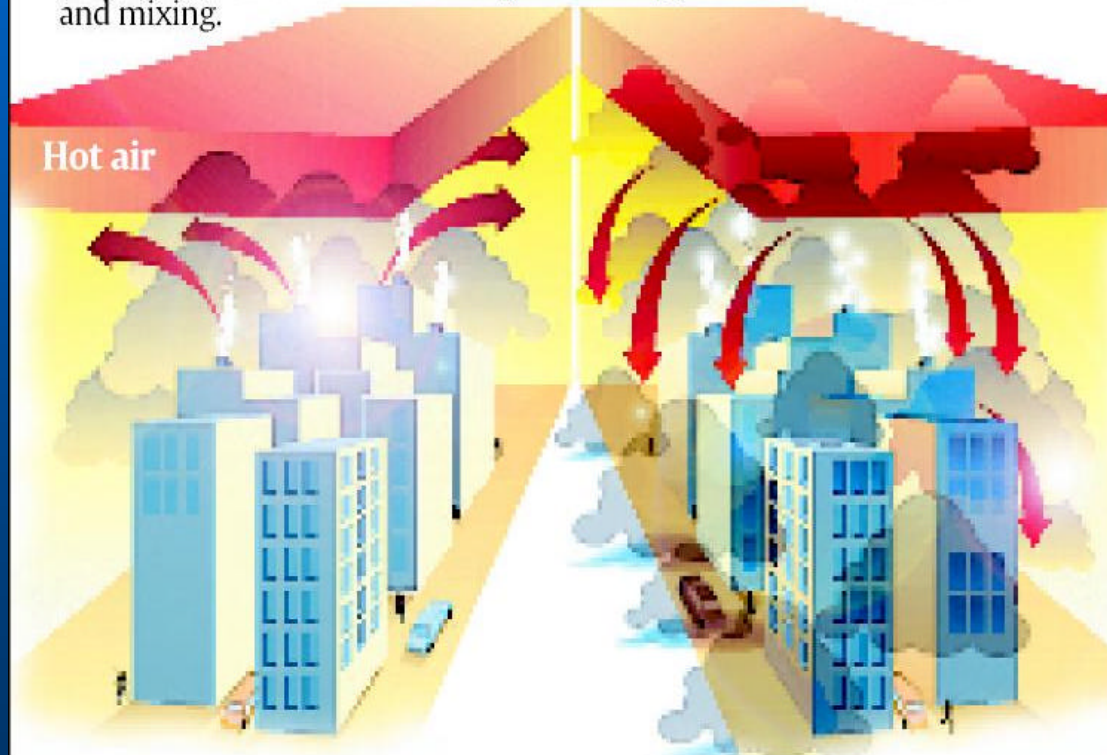
Record and near record heat is possible today in parts of the East and West coasts. While temperatures will be hot near the ground, it will be even warmer aloft. This will lead to unhealthy air quality, especially from Washington, D.C., to Portsmouth, N.H., and in western California.

### Morning

A layer of hot air just above ground level acts like a lid, preventing surface air from rising and mixing.

### Afternoon

The day's pollutants from motor vehicle exhausts and factory emissions are trapped near the surface.



Sources: USA TODAY research; Environmental Protection Agency

By Julie Snider, USA TODAY

## Pollution moves across the country

Some cities have pollution problems because other states contribute to their bad air. Ozone-forming emissions from several states contribute to Baltimore's problems.



## Miami's ozone problem is not as bad as it was

Miami has ozone violations, but not many compared with several other cities. During the 1980s, Miami frequently exceeded the government ozone standards. But in the 1990s, a vehicle inspection and maintenance program, emission standards, reduction of emissions at gasoline stations and low-volatility gasoline have helped the city make progress on its air quality.

### What causes Miami's ozone problem?

**1.** Lots of sunshine and warm summer air heat the area.

**2.** A rapidly growing population of nearly 5 million and a heavy dependence on cars adds emissions to the air.

**3.** Daily wind patterns: Emissions from cars in the morning rush hour are carried over the ocean, where they react with sunlight to form ozone.

**4.** In the afternoon, sea breezes carry the ozone back over the city, increasing ozone levels.

## Why Los Angeles is so polluted

Los Angeles is considered to have the worst air pollution in the nation, although it has made improvements. Its pollution problems are made worse by geography and weather.

Lots of sunshine all year converts raw pollutants — such as utility, industrial boilers and highway vehicle emissions — into ozone.

Air pollution is trapped by summer inversions, when warm desert air keeps cooler ocean air close to the ground.

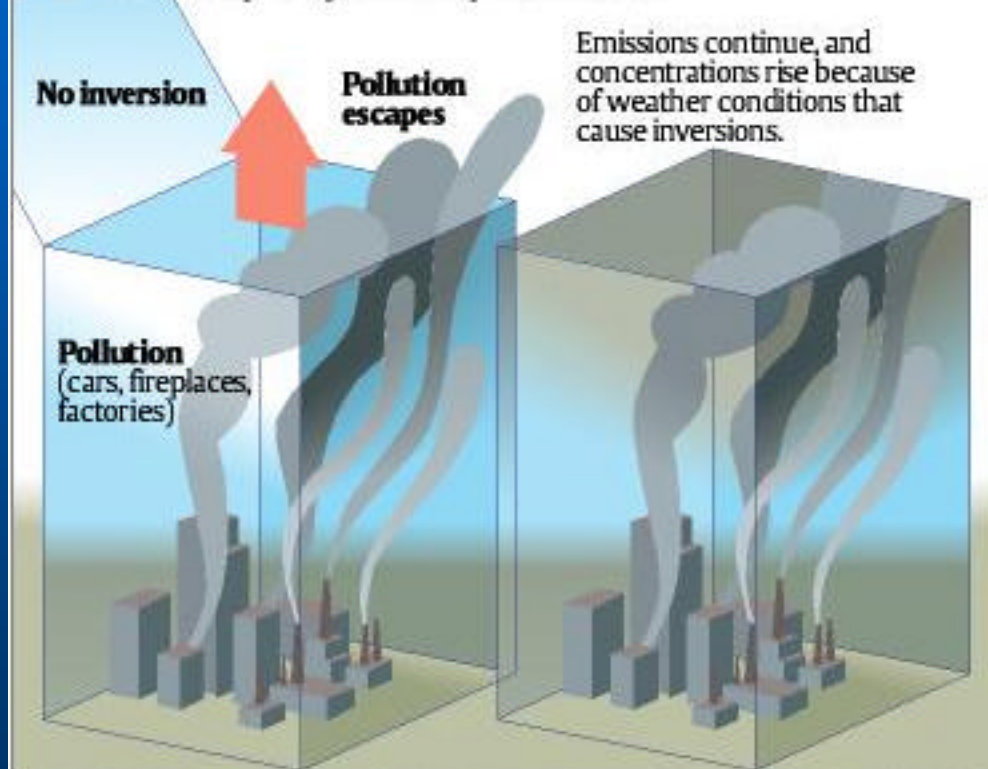
Los Angeles is in a basin or natural 'bowl.' Often, the three mountain ranges surrounding the city act as a wall and block pollution from being blown eastward.

Ocean breezes

Since the mid-1950s, Los Angeles' population and the number of cars and trucks there have more than tripled.

## Winter inversion causes problems

Temperatures usually are lower with elevation. But when an inversion occurs, temperatures climb with elevation and a warm "cap" prevents poor-quality air from escaping. This can occur even in winter, as it has in western Washington state this week. Stagnant air there has led to poor air quality in the afternoon and evening. If it continues, burning wood will be banned temporarily to reduce pollution levels.

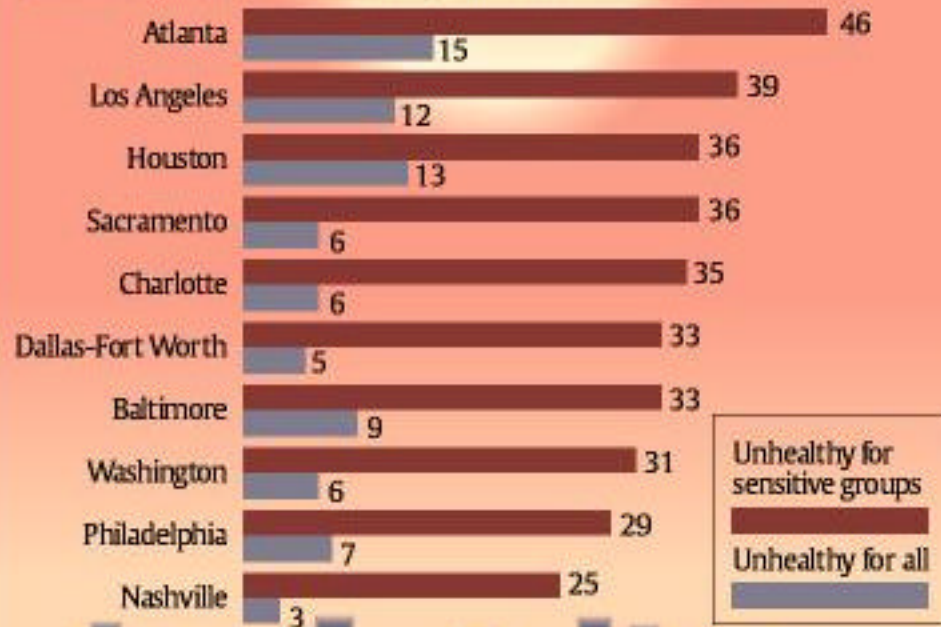


Source: Mike Gilroy, Puget Sound Clean Air Agency

By Sam Ward, USA TODAY

## Ozone continues to affect air quality

While summertime air quality has improved steadily over 20 years, ozone levels remain high in many areas. The average number of days with unhealthy air over the past five years for the cities with the most unhealthy air<sup>1</sup>:



<sup>1</sup> - Based on the Air Quality Index. (See glossary above.)

Source: Environmental Protection Agency

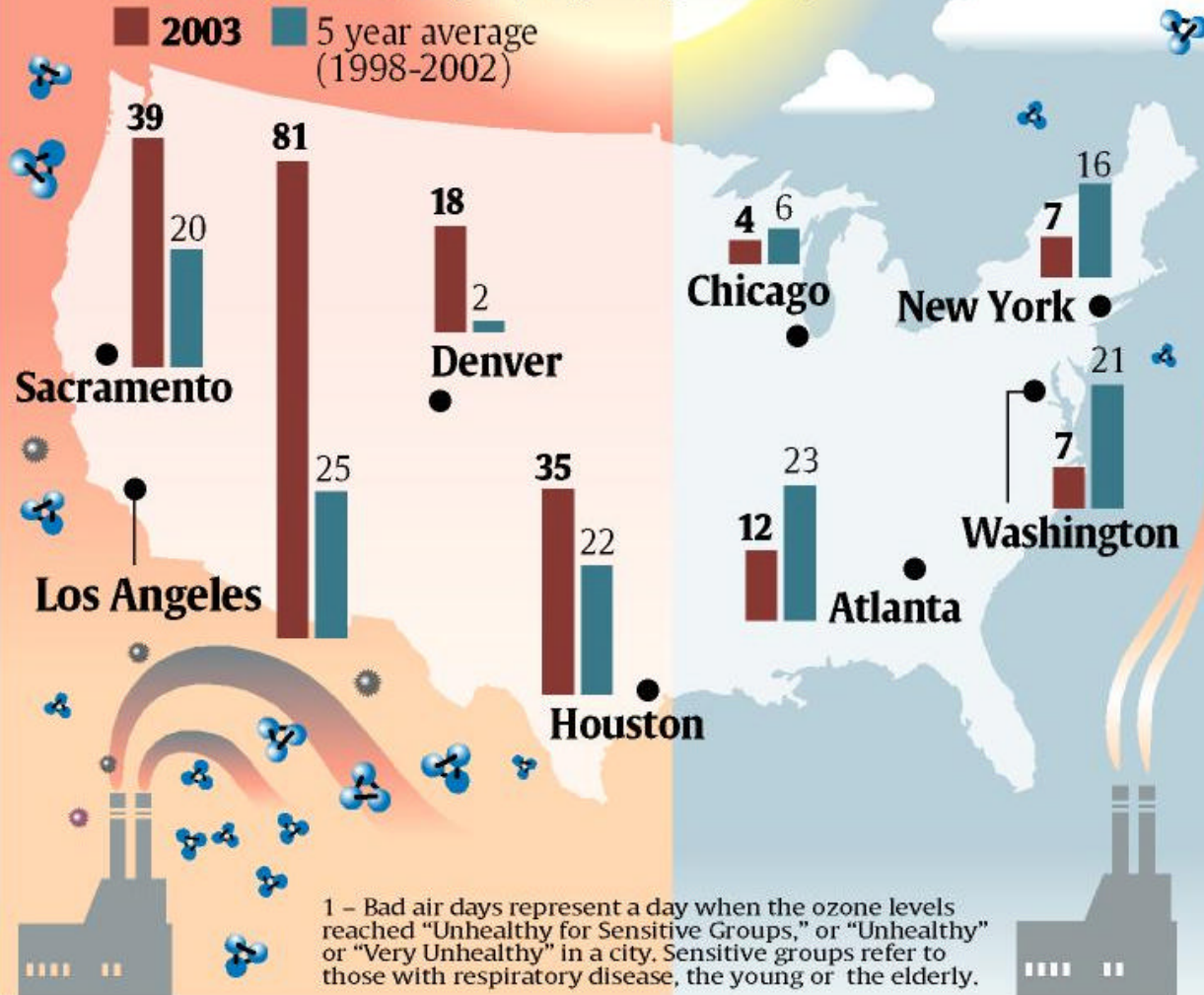
By Sam Ward, USA TODAY

# Weather's impact on air: East was cleaner

Air quality in the East was cleaner than normal because of cooler, cloudier weather that persisted into September. The West was smoggier than normal because of hotter days, weaker winds and sunnier skies.

Number of bad air days<sup>1</sup> (May – September)

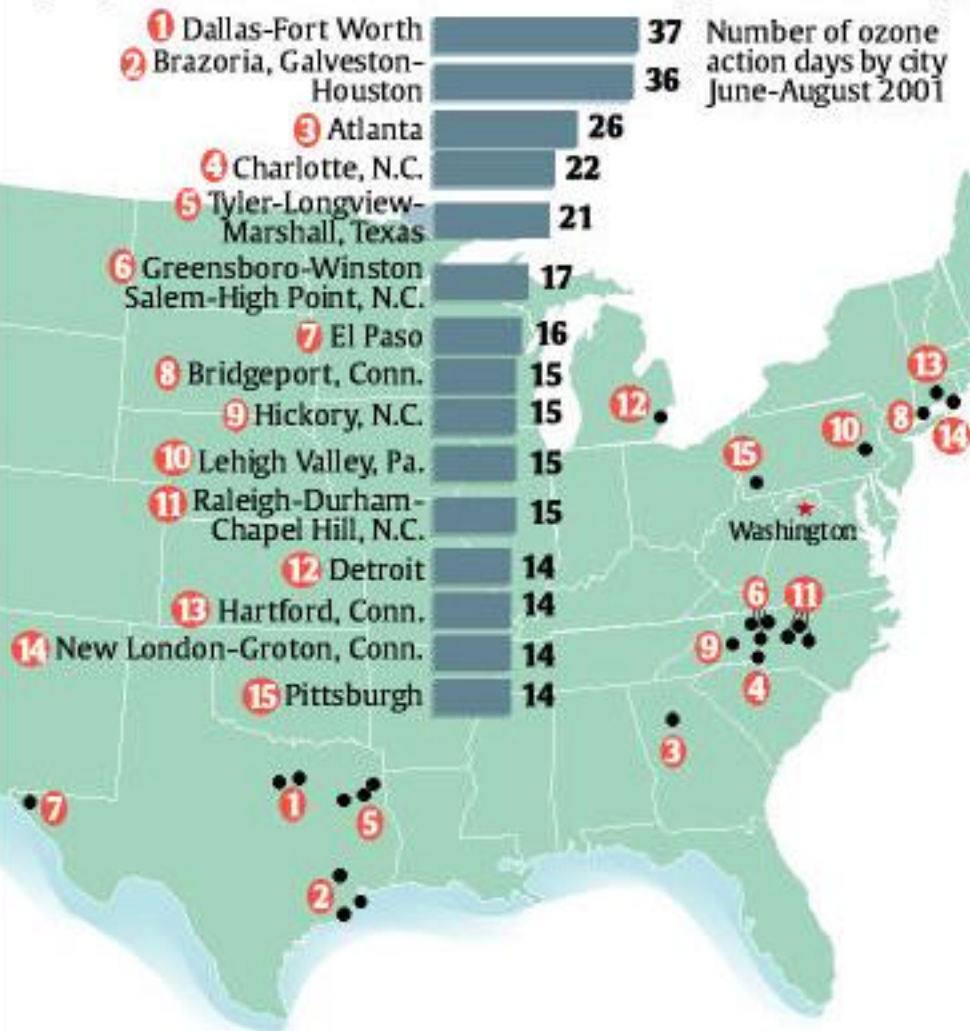
■ 2003 ■ 5 year average (1998-2002)





## Cities call for caution

More accurate forecasting led more cities to declare ozone action days this past summer, with several in Texas topping the list. Action days are advisories to people to use caution when outdoors because of poor air quality. In the summer months, ozone is the leading pollutant nationally.



Number of ozone action days by city June-August 2001

Note: Data compiled based on cities reporting unhealthy for sensitive groups, unhealthy or very unhealthy. Los Angeles no longer announces ozone action days, except in extreme cases.

# News / Ideas:

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