

US EPA ARCHIVE DOCUMENT

OVERVIEW OF THE CLEAN AIR ACT'S REQUIREMENTS FOR THE AIR QUALITY INDEX

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Overview

- Air Quality Index (AQI)
- Reporting requirements
- When the AQI is above 100
- AIRNow

Overview

- Air Quality Forecasting
- Enviroflash
- Important Target Audiences
- Voluntary Programs

AQI – Criteria Pollutants

- Carbon Monoxide
- Nitrogen Dioxide
- Ozone
- PM 2.5/PM 10
- Sulfur Dioxide

Air Quality Index

Categories (Index Values)

Cautionary Statements

Good (0-50)

No message

Moderate (51-100)

Unusually sensitive individuals

Unhealthy for Sensitive Groups (101-150)

Identifiable groups at risk - different groups for different pollutants

Unhealthy (151-200)

General public at risk; sensitive groups at greater risk

Very Unhealthy (201-300)

General public at greater risk; sensitive groups at greatest risk

Hazardous (301-500)

Health warnings of emergency conditions; entire population likely to be affected

Air Quality Index

- Linked to NAAQS
 - AQI value of 100 linked to the short-term standard
 - AQI value of 50 may be linked to annual standard, if there is one

Air Quality Index

- Pollutant-specific health effects and cautionary statements

Air Quality Index

- Based on health information supporting the NAAQS
 - Health effects information based on many types of human health studies

Air Quality Index

Dose =

Concentration

x

Ventilation rate

x

Time

Air Quality Index

C - be active outdoors
when air quality is better

V - take it easier when
active outdoors

T - spend less time being
active outdoors

Who Must Report?

- Metropolitan Statistical Areas w/ populations $> 350,000$
- Daily is defined as reporting at least 5 times a week
- Report must be provided to the local media

Who Must Report?

- Report must be available in at least one place of public access
- Real-time data reporting and voluntary action programs

What Must an AQI Report Contain?

- Reporting area(s)
- Reporting period
- Highest AQI value
- Critical pollutant - pollutant with highest AQI value

What Must an AQI Report Contain?

- Category descriptor
- Associated color, if reported in a color format
- Sensitive groups for all pollutants with index values greater than 100

What Should an AQI Report Contain?

- The name and index value for other pollutants, particularly those with index values greater than 100
- Health effects and cautionary language

What Should AQI Report Contain?

- The index for sub-areas of the reporting area, if heterogeneous air quality
- Actual pollutant concentrations
- Causes for unusual AQI values

What Should AQI Report Contain?

- Statements that “blend” the health or cautionary statements for more than one pollutant, if there is more than one pollutant has an index value greater than 100

When the AQI is Above 100

- Critical that reporting to news media be as extensive as possible
 - All major news media
 - Media with the largest market coverage for your area

When the AQI is Above 100

- Forecasts are important to the public
 - Advance notification allows people to reduce exposures and emissions
 - Enviroflash can be useful

About AIRNow

- Partnership between local, State, and Federal agencies since 1997
- The AIRNow Data Management Center (DMC) collects forecasts and realtime data from hundreds of agencies across the U.S.

About AIRNow

- The DMC is a central distribution point for realtime data and forecasts to the media
- The “AIRNow.gov” website distributes realtime data, health information, and air quality news to the public

Air Quality Forecasting

- AIRNow receives forecasts for nearly 400 cities across the U.S.
- Forecasting programs focus primarily on Ozone and fine particles ($PM_{2.5}$)

Air Quality Forecasting

- Forecasts from AIRNow are distributed to media outlets such as *USA Today*, *The Weather Channel*, *CNN*
- Forecasts also drive the EnviroFlash e-mail notification tool, available to the public

Air Quality Forecasting – How?

- If I want to forecast, how do I start?
 - Talk to other agencies in your area
 - Different methods, depending on local climate, emissions, etc.

Air Quality Forecasting – How?

- Develop a forecast program
 - Submit your forecasts to AIRNow
 - Gets your forecast out to the public
 - Media distribution
 - Enables use of EnviroFlash

EnviroFlash

- E-mail system that allows users to sign up to receive notification of air quality forecasts and action days for the area of their choice, at the AQI level of their choice
- Free!

EnviroFlash

- Allows customization to make sure your agency logo appears on e-mails
- Take a look:
<http://www.enviroflash.info>

Other ways to communicate AQI

- Submission to AIRNow can help satisfy the AQI reporting requirement
- EnviroFlash allows the public to get e-mail forecasts at whatever AQI level they choose

Other ways to communicate AQI

- Future release of the EnviroFlash system will send real-time AQI data along with forecasts

Reach Important Target Audiences

- Health care providers
 - Medical poster
 - Ozone Web course for health care providers

Reach Important Target Audiences

- Health care providers
 - PM Web course available in 2010
 - Downloadable fact sheets

Reach Important Target Audiences

- Teachers and students
 - Lesson plans for teachers
 - Learning modules for students
 - Grades K to 1st featuring a butterfly

Reach Important Target Audiences

- Grades 2nd to 5th
featuring chameleons
- Grades 6th to 10th
featuring *Smog City*

Reach Important Target Audiences

■ Weathercasters

- Reference materials for use on weathercasts
- Educational toolkit for weathercasters

Reach Important Target Audiences

- Use when making educational presentations to schools and civic groups
- Endorsed by the American Meteorological Society and the National Weather Association

National Air Quality Conferences (NAQC)

- Three conferences in one
 - Air Quality Forecasting and Mapping track
 - Communicating Air Quality track
 - Ambient Air Monitoring track

National Air Quality Conferences (NAQC)

- Held in the spring of each year
- Great way to keep up to date on technology, learn other agencies' approaches, and network with your peers

Voluntary Programs

- Raise awareness of air quality issues
- Help people reduce exposures to protect their health
- Encourage emissions reductions

Voluntary Programs

- Two outstanding programs with slightly different approaches:

Spare The Air:

Sacramento AQMD

Healthy Air Living:

San Joaquin Valley AQMD

Spare The Air

- Year-round public education program
- Inform people when air quality is unhealthy
- Episodic ozone reduction element during the summer ozone season

Spare The Air

- Achieve voluntary emission reductions by encouraging people to reduce vehicle trips on high ozone days

Spare The Air – Components

- Web site
(www.SpareTheAir.com)
- Daily regional air quality forecasting, current hourly conditions on-line, mapping of real time air quality data

Spare The Air – Components

- Production and airing of television and radio commercials
- Free Air Alert e-mail notifications

Spare The Air – Components

- Brochures and other printed materials distributed to the public and business community in English and Spanish

Spare The Air – Components

- Elementary school assemblies and community events throughout the region
- Annual awareness survey to determine program's effectiveness

Healthy Air Living

- Comprehensive outreach initiative
- Built on the strategy that behavior change needs to be daily action

Healthy Air Living

- Designed to preemptively reduce unhealthy air quality days
- Improve public health & quality of life through strategies that clean up the air

Healthy Air Living

- Encourage people and businesses to make lasting changes to positively affect air quality
- Something for every segment of the community to become involved in, and ways to do it

Healthy Air Living

- Unhealthy AQ days are still communicated to public through media

Healthy Air Living – Components

- Toolbox that every resident and business can use to create a cleaner, healthier environment
- Alternatives for day-to-day needs, such as transportation

Healthy Air Living – Components

- A way to promote “green” contracting
- Incentives
- Partnerships with businesses, faith-based organizations, health organizations and municipalities

Resources

- AIRNow home page:
airnow.gov
- EnviroFlash:
enviroflash.info
- Smog City 2:
smogcity2.org
- Spare The Air:
sparetheair.org
- Healthy Air Living:
healthyairliving.com

Healthy Air Living – Components

- Web site

(www.healthyairliving.com)