



# Air Quality Index

Work Load		
Easy Work	Moderate Work	Hard Work
Walking on hard surface @ 2.5 mph with < 30 lb load Guard duty Drill and Ceremony	Walking on hard surface @ 3.5 mph with < 40 lb load Walking on loose sand @ 2.5 mph with no load Light maintenance work Construction equipment operation	Walking on hard surface @ 3.5 mph with > 40 lb load Walking on loose sand @ 2.5 mph with load Loading and unloading pallets Dragging hoses or lines

**NOTE:** The recommended Work/Rest Cycles are assuming that individuals are not wearing N-95 or KN-95 masks. N-95 and KN-95's will remove 95% of airborne particles, thus greatly reducing exposure. Ex: If the AQI is currently at 500 (Hazardous), the N-95 & KN-95 will reduce exposure by 95%, bringing the AQI category to 25 (Good); this would reduce the recommended Work/Rest Cycle and potential exposure.

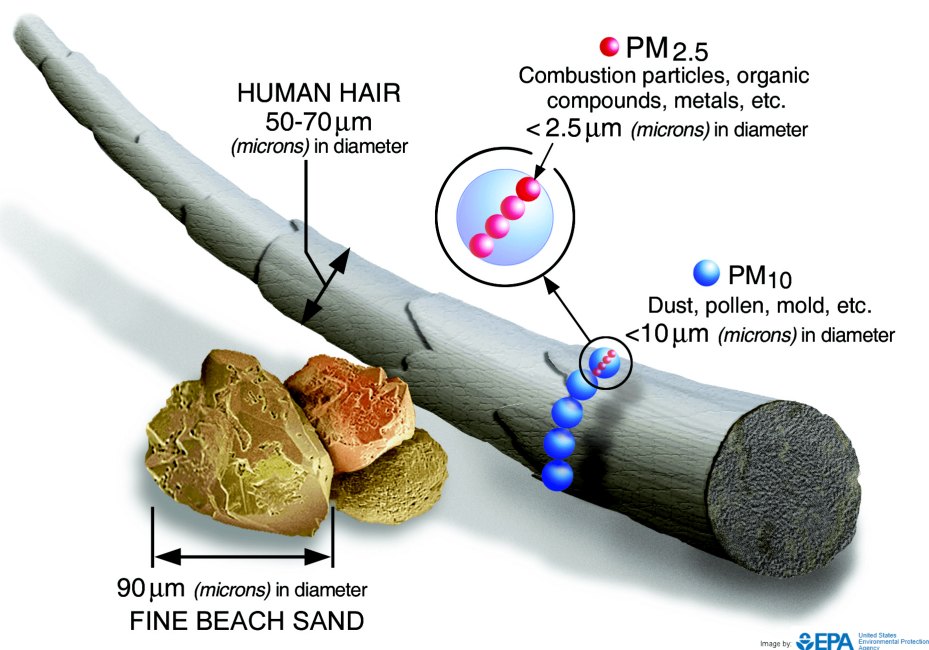
Air Quality Condition	Air Quality Index (AQI)	Easy Work Work / Rest Cycle	Moderate Work Work / Rest Cycle	Hard Work Work / Rest Cycle
Good	0 to 50	No Limit	No Limit	No Limit
Moderate	51 to 100	No Limit	No Limit	No Limit
Unhealthy for Sensitive Groups	101 to 150	No Limit	No Limit	50/10 min
Unhealthy	151 to 200	No Limit	50/10 min	40/20 min
Very Unhealthy	201 to 300	40/20 min	30/30 min	20/40 min
Hazardous	301 to 500	30/30 min	20/40 min	10/50 min

AQI	AQI Category	Sensitive Groups	Health Effects Statements	Cautionary Statements
0 - 50	Good	People with respiratory or heart disease, the elderly and children are the groups most at risk.	None	None
51 - 100	Moderate	People with respiratory or heart disease, the elderly and children are the groups most at risk.	Unusually sensitive people should consider reducing prolonged or heavy exertion.	Unusually sensitive people should consider reducing prolonged or heavy exertion.
101 - 150	Unhealthy for Sensitive Groups	People with respiratory or heart disease, the elderly and children are the groups most at risk.	Increasing likelihood of respiratory symptoms in sensitive individuals, aggravation of heart or lung disease and premature mortality in persons with cardiopulmonary disease and the elderly.	People with respiratory or heart disease, the elderly and children should limit prolonged exertion.
151 - 200	Unhealthy	People with respiratory or heart disease, the elderly and children are the groups most at risk.	Increased aggravation of heart or lung disease and premature mortality in persons with cardiopulmonary disease and the elderly; increased respiratory effects in general population.	People with respiratory or heart disease, the elderly and children should avoid prolonged exertion; everyone else should limit prolonged exertion.
201 - 300	Very Unhealthy	People with respiratory or heart disease, the elderly and children are the groups most at risk.	Significant aggravation of heart or lung disease and premature mortality in persons with cardiopulmonary disease and the elderly; significant increase in respiratory effects in general population.	People with respiratory or heart disease, the elderly and children should avoid any outdoor activity; everyone else should avoid prolonged exertion.
301 - 500	Hazardous	People with respiratory or heart disease, the elderly and children are the groups most at risk.	Serious aggravation of heart or lung disease and premature mortality in persons with cardiopulmonary disease and the elderly; serious risk of respiratory effects in general population.	Everyone should avoid any outdoor exertion; people with respiratory or heart disease, the elderly and children should remain indoors.

## AQI FACTS

### What Is AQI?

AQI Stands for Air Quality Index, and it is the measurement of small particles (2.5 micrometers across, known as particulate matter (PM) 2.5) that can enter your lungs, bypassing your body's natural defenses and cause short and long term health effects. Below is a visualization that demonstrates how small these particles are.



### How is AQI Measured?

Your local Bioenvironmental Engineering Flight uses Purple Air sensors and other equipment to measure the concentration of PM 2.5 in the air. This is then converted to AQI using tools from the Environmental Protection Agency. Purple Air sensors automatically calculate the AQI and publishes this information on their website.

### How Can I Check the Local AQI?

In conjunction with Civil Engineering and Lone Tree School, Bioenvironmental Engineering has installed three Purple Air sensors across Beale Air Force Base. One is located on Main Base near the Child Development Center, one in housing at Lone Tree School and one on the flightline near the Airfield Management (Base Operations) Building. These sensors update the AQI in near real-time. The Purple Air maps can be accessed at the link below:

<https://www.purpleair.com/map>

Bioenvironmental Engineering will also be sending updates during the duty day during elevated AQI levels (Unhealthy or higher) along with health advisories and recommended work/rest cycles. Updates will be sent only when there is a change in AQI category. After hours, please reference the Purple Air website.

### What are the health effects of AQI?

Health effects of elevated AQI levels include: irritation to eyes and mucus membranes, coughing, chest tightness and shortness of breath, reduced lung function, irregular heartbeat, asthma attacks, and heart attacks or in severe cases, death.

### How do I protect myself?

The best health protection measure is to remain indoors during elevated AQI. If you must go outside, BE recommends wearing a N-95 or KN-95 mask as these will filter out up to 95% of airborne particulates if worn properly. Please see the attached N-95 uses and wear guide for additional information.

# N95 IS A COMFORT DEVICE ONLY DURING WILDFIRES

## How to Wear the N95 Mask for Wildfire Smoke



Straps must go above and below the ear, hair may need to be adjusted



Do not use a one-strap paper mask.



A surgical mask is not the same as a N95

**Use:** The N95 mask is a disposable personal protective device that closely fits the wearer's face to prevent the inhalation of up to 95% of small airborne particles and large droplets of aerosolized fluid. N95s are preferred over surgical masks as they provide a tighter seal to the wearer's face. Choose a size that will fit over your nose and under your chin. It should seal tightly to your face. Masks come in regular and small sizes.

### Putting the Mask On\*:

- Mask wearer *must* have a clean shave for maximum effectiveness
- Wearer's hands should be washed prior to touching the inside of a mask
- Hold the mask to your face. Place the mask over your nose and under your chin, with one strap placed below the ears and one strap above, hair may need to be adjusted to better fit.
- Pinch the metal part of the mask tightly over the top of your nose.
- Conduct a user seal check: cover the mask with both hands and inhale for 3 seconds. If the mask begins to collapse toward your face, then you have a proper seal and are adequately protected. Adjust the straps on the side or nosepiece if the mask does not collapse inward.

### Mask Limitations & Change-Out Schedule:

- N95s do not protect from chemical vapors or gases and wearers may still smell gases from vehicle or aircraft exhaust
- The N95 mask can be used for approximately 15 shifts and should be stored in plastic bags or clean area. They should be discarded after 15 shifts or when:
  - Breathing becomes difficult
  - The interior or exterior of the mask becomes wet or visibly dirty
  - If torn, frayed or otherwise damaged
- Members should wash their hands after removing and discarding their N95

# Putting the Mask On



Hold mask to face, similar to gas mask



Pull bottom strap on first, position it below your ears. Next, pull top strap and position it above your ears, adjust hair as needed



Pinch metal nose clip to frame comfortably around your nose

# Seal Check



Place both hands over the mask, covering it



Inhale rapidly for 2-3 seconds, if the mask feels like it is partially collapsing, then you have a proper seal, ensure that you do not feel air coming in from the sides, top or bottom

# Mask Removal



DO NOT touch the front of the mask without gloves



Remove straps one at a time, starting with bottom strap and then the top



Hold mask by straps, discard in trash, replace gloves if worn and wash hands