

Your Health: Facts for Navy Families in Naples

About: Navigating the Italian Ambient Air Quality Website

The U.S. Navy conducted a Public Health Evaluation from 2008-2011 to assess potential health risks for Navy personnel and their families while living in Naples, Italy. In line with our commitment to continually share important health information, we are providing the following information related to the Public Health Evaluation. We encourage you to review this information and other fact sheets which can be found at the [Naples Health Awareness website](#).

The Navy and Marine Corps Public Health Center performed the Naples Public Health Evaluation in two phases from 2008-2011. Health risks associated with potential exposure to chemicals in the environment from waste disposal practices in the Campania Region of Italy were evaluated. The waste disposal practices included open burning of uncollected trash and illegal waste disposal practices.

The comprehensive Public Health Evaluation included collecting and evaluating water, air, soil, and soil gas samples, and performing epidemiological studies and a food study. The Navy also reviewed Italian scientific literature and media reports.

For additional information, please visit the project website by clicking on the link at the bottom of the page.

Introduction

ARPAC, or Agenzia Regionale per la Protezione Ambientale della Campania, is the environmental protection agency for the Campania region. The U.S. Navy worked with ARPAC throughout the Naples Public Health Evaluation (Naples PHE) to share information and testing results. This fact sheet provides information on how to navigate ARPAC's website to access the ambient air quality data the Italian agency has collected.

Step 1: Access the Website

Type "[arpacampania.it](https://www.arpacampania.it)" (<https://www.arpacampania.it>) into your internet browser address bar or into your preferred search engine.

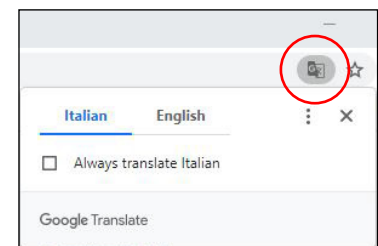
Italian:



Picture 1: ARPA Campania homepage

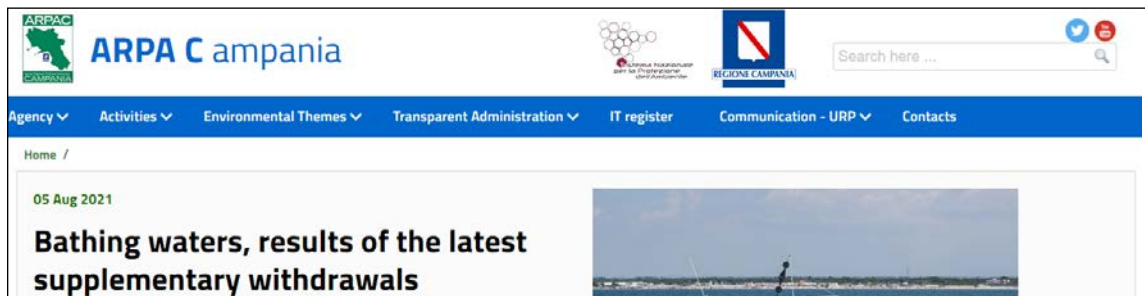
If accessing the website on a mobile device, such as a smartphone or tablet, your web browser may look slightly different than on the desktop. Where there is a significant difference in website layout between the desktop and mobile versions, both will be provided. Additionally, if your web browser window is not maximized to full screen on a desktop it may appear similar to the mobile version.

Most web browsers have the option to automatically translate a webpage by clicking on a button on the far right of the address bar (usually next to the Bookmarks star; see the picture to the right). Please keep in mind that some mobile devices or web browsers may not offer or support automatic translations. As such, the mobile version will be only be provided in Italian.



Picture 2: Translation button

The translated webpage will look like the picture below; however, the article will differ based on the day it is accessed.



Picture 3: English translation

Step 2: Navigate to Air Quality Webpage

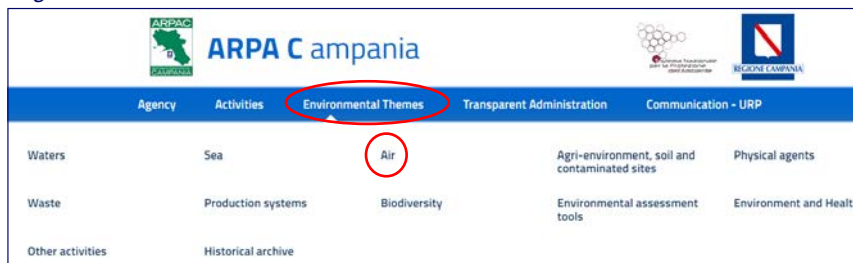
To navigate to the air quality webpage, click on the Environmental Themes (or Temi Ambientali) drop-down button. Then click on Air (or Aria; see Pictures 4 and 5 below).

Italian:



Picture 4: Navigating to the air data (Italian version)

English:

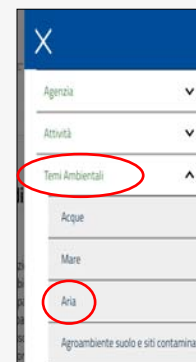


Picture 5: Navigating to the air data (English version)

To navigate to the air quality webpage using a mobile device, click on the MENU button (i.e., the three stacked lines or “the hamburger”) in the top right corner of the screen (see Picture 6). Click on the Environmental Themes (or Temi Ambientali) drop-down button then select Air (or Aria) button (see Picture 7).



Picture 6: Mobile menu button



Picture 7: Mobile drop-down options

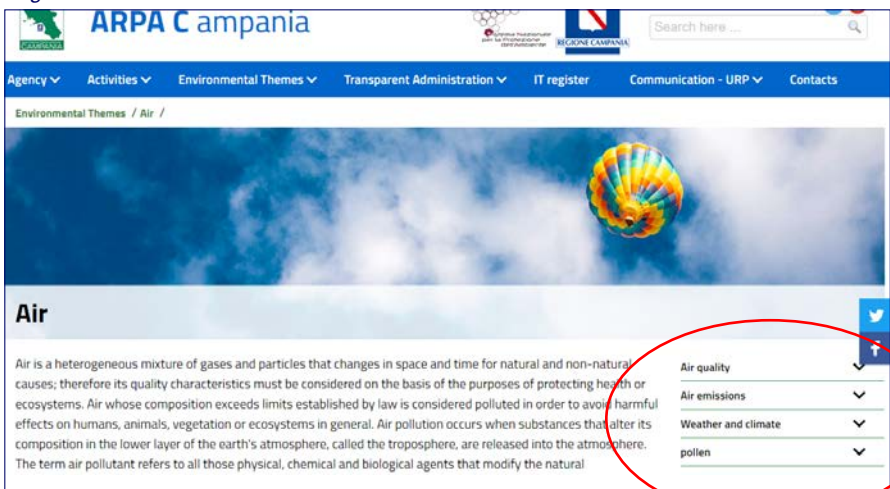
Ambient air data information (i.e., air quality, air emissions, weather, and pollen) can be accessed from this page (see Pictures 8 and 9 below). The drop-down menus for these features are on the right of the screen.

Italian



Picture 8: Air webpage drop-down menu (in Italian)

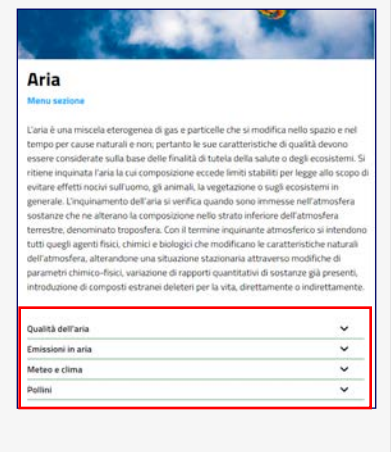
English



Picture 9: Air webpage drop-down menu (in English)

If the options are not on the right side of the screen, scroll to the bottom of the page to see the available options.

For the purposes of this fact sheet, a full-screen desktop version of the menu is shown (i.e., the menu is on the right side of the screen).
 If using a mobile device (or a minimized browser screen), the menu may appear at the bottom of the page. →



Picture 10: Drop-down menu at bottom of page.

Step 3: Access Air Quality Bulletins

To access air quality bulletins, click on Air Quality (or Qualità dell'aria) drop-down arrow (see Picture 11). Select Air Quality Bulletins (or Bollettini Qualità dell'Aria) or click here (see Picture 12).

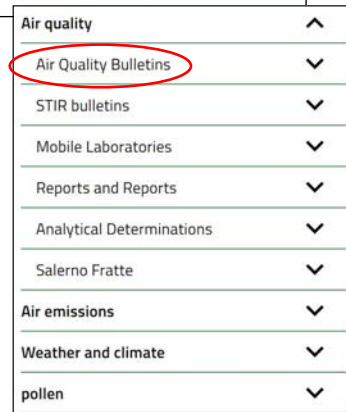


Picture 11: Air quality drop-down menu

The daily Air Quality Bulletins search engine page opens with the five most recent bulletins listed. You can use the drop-down arrow to change to the Rows per Page to 10 or 20 to show more bulletins.

The date of each bulletin is at the end of the file name (e.g., *Summary table of ambient air quality data collected by the regional monitoring network - 19/08/2021* or *Prospetto di sintesi di dati di qualità dell'aria ambiente rilevati dalla rete regionale di monitoraggio - 19/08/2021*). Dates are listed in day/month/year. If the date you are looking for is not in the first 5-20 rows, search for the date by clicking in the date field and selecting the date from the drop-down calendar.

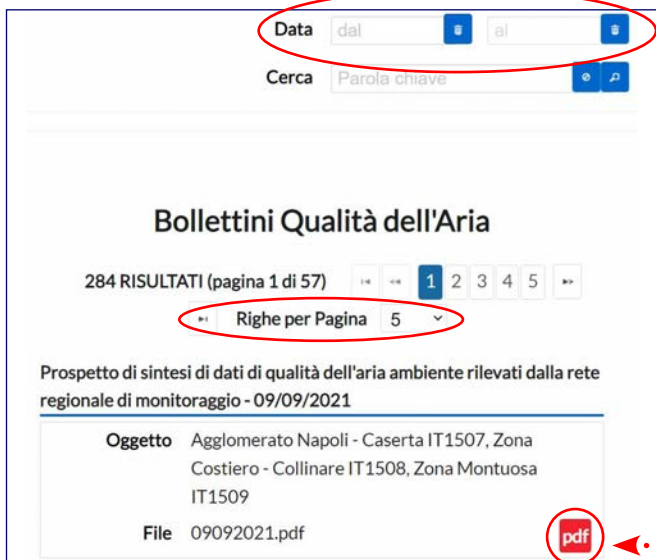
Once you have found the date you want information for, click the red PDF button to download the bulletin to your computer.



Picture 12: Air quality bulletins link

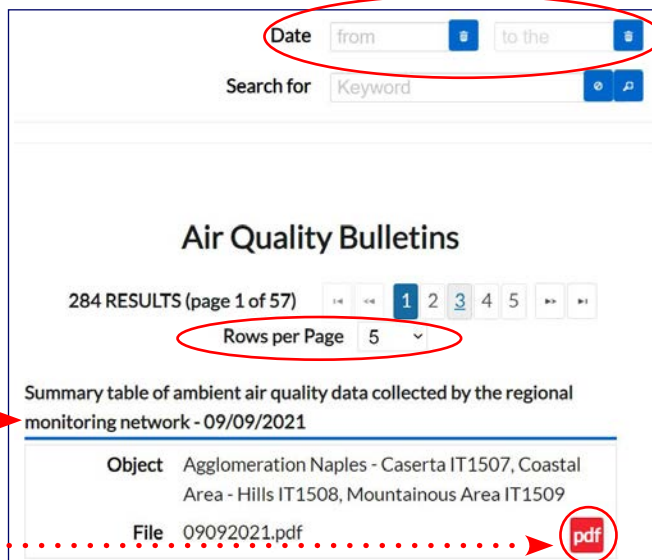
The date search bar may not work while the webpage is translated to English. If you are experiencing trouble using the search function, you may need to proceed with the webpage in Italian.

Italian



Picture 13: Air quality bulletin download page

English



Picture 14: Air quality bulletin download page

Example Air Quality Bulletin

The Air Quality Bulletins are only available in Italian and include three pages of air data and information. The example below is page 1 of the March 25, 2021 bulletin (see Picture 15). Pages 2 and 3 include additional air data.

The column on the far left (Postazioni) includes the locations where air quality data are collected. The seven monitored contaminants listed in the columns on page 1 include: nitrogen dioxide (NO₂), carbon monoxide (CO mob), particulate matter (PM₁₀, PM_{2.5}), ozone (O₃), benzene, and sulfur dioxide (SO₂). The information provided for each contaminant is explained below. Please note that in Italian, commas are used where English uses decimals (0,5 = 0.5), and decimals may be used to distinguish thousands (1.000 = 1,000).

Rete Regionale Monitoraggio Qualità Aria - AGGLOMERATO NAPOLI - CASERTA (ZONA IT1507)

PROSPETTO DI SINTESI DATI DI QUALITA' DELL'ARIA AMBIENTE RILEVATI DALLE ORE 00:01 ALLE ORE 24:00 DEL 25-03-2021

POSTAZIONI	NO2				CO mob			PM10		PM2.5	O3				BENZENE			SO2			
	max orario	ora	media giorno	ore sup.	max orario	media giorno	ore sup.	media giorno	giorni sup.	media giorno	max orario	ora	media giorno	ore sup.	max orario	ora	media giorno	max orario	ora	media giorno	ore sup.
Caserta CE51 Ist. Manzoni	94	21	23	0	*	*	*	20	4	14	93	18	63	0	*	*	*	*	*	*	*
Caserta CE52 Sc. De Amicis	80	22	25	0	0,7	0,4	0	29	8	11	*	*	*	3,0	22	0,8	*	*	*	*	
Maddaloni CE54 Sc. Settembrini	61	21	23	0	*	*	*	26	10	15	72	14	45	0	*	*	*	*	*	*	
Napoli NA01 Oss. Astronomico	66	20	20	0	0,5	0,4	0	22	7	12	58	18	43	0	1,3	23	0,6	*	*	*	
Napoli NA02 Osp. Santobono	81	7	37	0	*	*	*	25	6	*	*	*	*	*	*	*	*	*	*	*	
Napoli NA06 Museo Nazionale	124	21	54	0	1,6	0,8	0	28	7	17	*	*	*	5,5	20	1,9	*	*	*		
Napoli NA07 Ferrovia °	130	21	53	0	1,4	0,6	0	30	15	18	*	*	*	7,8	22	1,5	9,8	21	5,3	0	
Napoli NA08 Osp. N. Pellegrini	90	24	38	0	*	*	*	19	5	*	*	*	*	*	*	*	*	*	*	*	
Napoli NA09 Via Argine	106	21	49	0	0,8	0,7	0	31	17	22	*	*	*	0,3	9	0,2	6,5	8	3,5	0	
Napoli Parco Virgiliano	50	22	12	0	0,3	0,2	0	18	7	6	120	19	82	0	1,6	24	0,5	5,3	16	3,4	
Napoli Via Epomeo **	73	22	34	0	0,8	0,6	0	21	8	14	*	*	*	*	*	*	*	*	*	*	
Acerra Zona Industriale	np	-	np	0	np	np	0	np	4	np	*	*	*	np	-	np	np	-	np	0	
Acerra Scuola Caporale	86	21	42	0	1,0	0,5	0	47	28	23	*	*	*	7,5	24	2,9	*	*	*		
Aversa Scuola Cirillo °	117	23	45	0	1,4	0,9	0	37	28	26	*	*	*	5,1	24	1,7	*	*	*		
Casoria Scuola Palizzi	114	22	37	0	*	*	*	54	28	29	114	16	51	0	*	*	*	*	*		
Marcianise Regi Lagni **	67	24	19	0	*	*	*	38	27	*	122	18	71	0	*	*	*	*	*		
Pomigliano d'Arco Area Asi	67	22	24	0	1,0	0,6	0	68	23	41	*	*	*	4,8	24	1,3	3,1	2	1,4	0	
Portici Parco Reggia	94	21	32	0	*	*	*	38	11	12	92	18	47	0	2,4	23	0,8	*	*		
Pozzuoli Zona Villa Avellino	83	21	25	0	*	*	*	27	6	11	121	18	76	0	*	*	*	6,0	3	4,9	0
S. Vitaliano Scuola Marconi	73	7	32	0	*	*	*	52	49	11	94	17	54	0	7,1	23	1,5	2,9	21	1,4	0
Teverola Via San Lorenzo **	108	22	40	0	0,7	0,6	0	nv	5	*	*	*	*	*	*	*	4,5	22	1,7	0	
Torre Annunziata Sc. Pascoli	101	21	26	0	*	*	*	*	*	*	92	17	59	0	*	*	*	*	*		
Volla Via Filichito **	100	21	41	0	0,7	0,5	0	61	29	26	*	*	*	*	*	*	*	*	*		

IL MONITORAGGIO E I CRITERI DI VALUTAZIONE SONO DEFINITI DAL D.L.GS. 155/2010 e s.m.i. E DALLA D.G.R.C. 683/2014

LEGENDA

* : analizzatore non previsto dalla DGRC 683/2014
 m: analizzatore in manutenzione
 nv: dati non validabili
 np: dati non pervenuti
 ° : stazione con analizzatori aggiuntivi rispetto alla DGRC 683/2014
 ** : stazione di proprietà di TIRRENOPOWER (art. 5 D.L.GS. 155/2010)
 *** : stazione gestita da SET (art. 5 D.L.GS. 155/2010)

Intervallo di valutazione

NO ₂	Biossido di azoto	µg/m ³	massima media oraria	Il valore orario di 200 µg/m ³ non può essere superato più di 18 volte nell'arco dell'anno
CO	Monossido di carbonio	mg/m ³	massima media oraria	Il valore massimo della media mobile calcolata sulle 8 ore non può superare i 10 mg/m ³
PM ₁₀	Polveri sosp d<10µm	µg/m ³	media giornaliera	Il valore giornaliero di 50 µg/m ³ non può essere superato più di 35 volte nell'arco dell'anno
PM _{2.5}	Polveri sosp d<2,5µm	µg/m ³	media annuale	Il valore medio annuale di 25 µg/m ³ non può essere superato nell'arco dell'anno
O ₃	Ozono	µg/m ³	massima media oraria	Il valore orario della soglia di informazione è pari a 180 µg/m ³ la soglia di allarme è pari a 240 µg/m ³
C ₆ H ₆	Benzene	µg/m ³	media annuale	Il valore medio annuale di 5 µg/m ³ non può essere superato nell'arco dell'anno
SO ₂	Biossido di zolfo	µg/m ³	massima media oraria	Il valore orario di 350 µg/m ³ non può essere superato più di 24 volte nell'arco dell'anno

Il Dirigente
Dott. Piero CAU

Picture 15: Page 1 of 3 from the Air Quality Bulletin for March 25, 2021


POSTAZIONI	NO2				CO mob			PM10		PM2.5	O3				BENZENE			SO2			
	max orario	ora	media giorno	ore sup.	max orario	media giorno	ore sup.	media giorno	giorni sup.	media giorno	max orario	ora	media giorno	ore sup.	max orario	ora	media giorno	max orario	ora	media giorno	ore sup.
Volla Via Filichito **	64	21	31	0	0,3	0,3	0	36	68	19	*	*	*	*	*	*	*	*	*	*	

Hourly Maximum Value: 100 (max orario)
 Average Daily Value: 41 (media giorno)
 Days Exceeded Limits: 29 (giorni sup.)
 Hour: 9:00 PM (ora)
 Hours Exceeded Limits: 1 (ore sup.)

The results for Volla Via Filichito are annotated above. The maximum value of NO₂ occurred during 9:00 PM (hour = 21) and was 100 µg/m³. The daily average was 41 µg/m³ and this did not exceed any recommended limits (explained on the following page). The PM₁₀ daily average was 61 µg/m³ and is highlighted red because it exceeded the recommended limit. This is the 29th day this year the daily average of PM₁₀ exceeded the recommended limit.

Example Air Quality Bulletin (continued):

The recommended limit for each contaminant is listed at the bottom of each page of the bulletin. The limits on page 1 of the bulletin are explained below.

	NO ₂	Biossido di azoto	µg/m ³	massima media oraria	Il valore orario di 200 µg/m ³ non può essere superato più di 18 volte nell'arco dell'anno
	CO	Monossido di carbonio	mg/m ³	massima media oraria	Il valore massimo della media mobile calcolata sulle 8 ore non può superare i 10 mg/m ³
	PM ₁₀	Polveri sosp. d<10µm	µg/m ³	media giornaliera	Il valore giornaliero di 50 µg/m ³ non può essere superato più di 35 volte nell'arco dell'anno
	PM _{2.5}	Polveri sosp d<2,5µm	µg/m ³	media annuale	Il valore medio annuale di 25 µg/m ³ non può essere superato nell'arco dell'anno
	O ₃	Ozono	µg/m ³	massima media oraria	Il valore orario della soglia di informazione è pari a 180 µg/m ³ la soglia di allarme è pari a 240 µg/m ³
	C ₆ H ₆	Benzene	µg/m ³	media annuale	Il valore medio annuale di 5 µg/m ³ non può essere superato nell'arco dell'anno
	SO ₂	Biossido di zolfo	µg/m ³	massima media oraria	Il valore orario di 350 µg/m ³ non può essere superato più di 24 volte nell'arco dell'anno

If there has been an exceedance of the recommended values, the main table will have a value with red text in at least one of the columns.

POSTAZIONI	NO ₂				CO mob			PM ₁₀	
	max orario	ora	media giorno	ore sup.	max orario	media giorno	ore sup.	media giorno	giorni sup.
Caserta CE51 Ist. Manzoni	94	21	23	0	*	*	*	20	4
Caserta CE52 Sc. De Amicis	80	22	25	0	0,7	0,4	0	29	8
Maddaloni CE54 Sc. Settembrini	61	21	23	0	*	*	*	26	10
Napoli NA01 Oss. Astronomico	66	20	20	0	0,5	0,4	0	22	7
Napoli NA02 Osp. Santobono	81	7	37	0	*	*	*	25	6
Napoli NA06 Museo Nazionale	124	21	54	0	1,6	0,8	0	28	7
Napoli NA07 Ferrovia °	130	21	53	0	1,4	0,6	0	30	15
Napoli NA08 Osp. N. Pellegrini	90	24	38	0	*	*	*	19	5
Napoli NA09 Via Argine	106	21	49	0	0,8	0,7	0	31	17
Napoli Parco Virgiliano	50	22	12	0	0,3	0,2	0	18	7
Napoli Via Epomeo **	73	22	34	0	0,8	0,6	0	21	8
Acerra Zona Industriale	np	-	np	0	np	np	0	np	4
Acerra Scuola Caporale	86	21	42	0	1,0	0,5	0	47	28
Aversa Scuola Cirillo °	117	23	45	0	1,4	0,9	0	37	28
Casoria Scuola Palizzi	114	22	37	0	*	*	*	54	28
Marcianise Regi Lagni °*	67	24	19	0	*	*	*	38	27
Pomigliano d'Arco Area Asi	67	22	24	0	1,0	0,6	0	68	23
Portici Parco Reggia	94	21	32	0	*	*	*	38	11
Pozzuoli Zona Villa Avellino	83	21	25	0	*	*	*	27	6
S. Vitaliano Scuola Marconi	73	7	32	0	*	*	*	52	49
Teverola Via San Lorenzo °*	108	22	40	0	0,7	0,6	0	nv	5
Torre Annunziata Sc. Pascoli	101	21	26	0	*	*	*	*	*
Volla Via Filichito °*	100	21	41	0	0,7	0,5	0	61	29

NO₂: The hourly value of 200 µg/m³ cannot be exceeded more than 18 times during the year

CO: The maximum value of the 8-hour moving average cannot exceed 10 mg/m³

PM₁₀: The daily value of 50 µg/m³ cannot be exceeded more than 35 times during the year

PM_{2.5}: The average annual value of 25 µg/m³ cannot be exceeded during the year

O₃: The hourly threshold is equal to 180 µg/m³ while the alarm threshold is equal to 240 µg/m³

Benzene: The annual average value of 5 µg/m³ cannot be exceeded during the year

SO₂: The hourly value of 350 µg/m³ cannot be exceeded more than 24 times during the year

In this example, Volla Via Filichito did not have an NO₂ exceedance or a CO exceedance. However, Volla Via Filichito recorded a daily average PM₁₀ value of 61 µg/m³, which exceeded the 50 µg/m³ threshold and has been highlighted pink. The column to the right (i.e., "giorni sup.") indicates how many times this year that threshold has been exceeded. In this case, Volla Via Filichito had exceeded the 50 µg/m³ threshold 29 times in 2021 as of March 25 (the publication date of this bulletin).

In general, Air Quality Indices (AQIs) are based on the above contaminants. The way AQIs are calculated is dependent on which country is doing the calculation, where the air sampling took place, and the nature of the air quality problems. For example, the U.S. Environmental Protection Agency's (USEPA) calculated index is related to the perceivable health effects. The Italian's calculated index is based on levels of contaminants in the air. Various standards are provided on the following page.



For more information contact:

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DSN:
314-629-6000

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757-953-0675

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Public Affairs
Office**

PSC 817 Box 40
FPO AE 09622
COMM:
39-081-568-5907
DSN:
314-626-5907

Step 4: Compare Data to National Standards

A comparison of the National Ambient Air Quality Standards (NAAQS) set by the USEPA, the Air Quality Standards set by the European Union (EU), and the Air Quality Standards set by the Italian Government are presented in the table below. The EU Standards are generally stricter than the USEPA standards. However, standards can differ in terms of levels and sampling time.

	EPA-NAAQS STANDARDS	SAMPLED PERIOD	EU STANDARDS	ITALIAN STANDARDS
POLLUTANT	LEVEL	AVERAGE TIME	LEVEL	LEVEL
Carbon Monoxide (CO)	35 mg/m ³	1 hour	*	*
	9 mg/m ³	8 hours	10 mg/m ³ (maximum of the 8-hour moving average)	10 mg/m ³ (maximum of the 8-hour moving average)
Benzene	*	Annual	5 ug/m ³	5 ug/m ³
Nitrogen Dioxide (NO ₂)	100 ug/m ³	1 hour	200 ug/m ³ (no more than 18 times per year)	200 ug/m ³ (no more than 18 times per year)
	53 ug/m ³	Annual Mean	40 ug/m ³	*
Particulate Matter (PM ₁₀)	150 ug/m ³	24 hours	50 ug/m ³ (no more than 35 times per year)	50 ug/m ³ (no more than 35 times per year)
	*	Annual	40 ug/m ³	*
Particulate Matter (PM _{2.5})	35 ug/m ³	24 hours	*	*
	12 ug/m ³	Annual Mean	25 ug/m ³	25 ug/m ³
Ozone (O ₃)	*	1 hour (limited areas)	*	180 ug/m ³ threshold 420 ug/m ³ alarm
	0.070 mg/m ³	8 hours	120 mg/m ³ (no more than 25 days averaged over 3 years)	*
Sulfur Dioxide (SO ₂)	75 ug/m ³	1 hour	350 ug/m ³ (no more than 24 times per year)	350 ug/m ³ (no more than 24 times per year)
	0.5 mg/m ³	3 hours	*	*
	*	24 hours	125 ug/m ³ (no more than 3 times per year)	*
*No standard				
EPA NAAQS website: http://www.epa.gov				
EU Air Quality Standards: http://ec.europa.eu				

For more information or questions regarding air quality data, contact U.S. Naval Hospital Naples, Public Health or visit the Health Awareness website, linked at the bottom of this page.
