
Technical Note

Using the Ozone Surrogate for AQI Forecasts in E-DAS Ambient

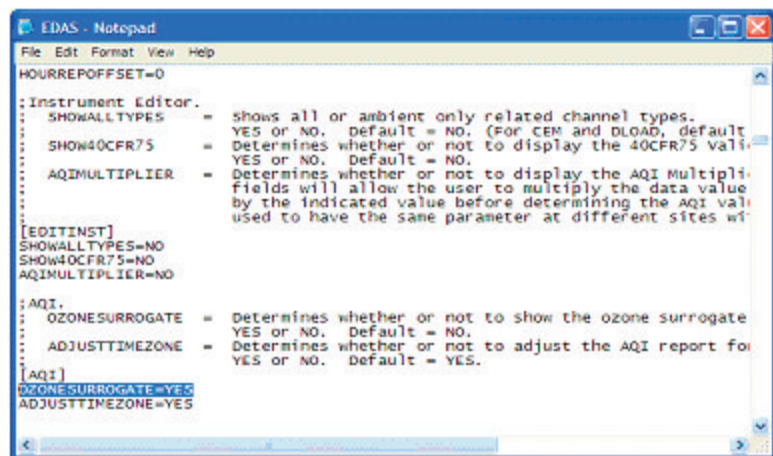
E-DAS Version 5.52 now allows for the AQI data to go to be saved in Access, but what exactly does that mean?

Most users have three calculations in their AQI profile: the 1-hour ozone standard, the 8-hour ozone standard, and the 24-hour PM2.5 standard. Two of those calculations are problematic for publishing real-time data through CLAIRE or sending data to the web because they are “forward looking” averages (e.g., the value for hour x is calculated from hours x to x+7 or x+23). When applied on a real-time basis, these AQI calculations always lack the 75% data requirement and thus no calculated value is provided.

AIRNow utilizes a “surrogate” calculation to estimate the forward-looking 8-hour average by applying a slope and offset calculation ($mx+b$) to the current hour, with slopes and offsets defined for each site in the country.

This surrogate calculation can be duplicated in E-DAS so that real-time estimates for the 8-hour ozone AQI data are sent to the Access database and CLAIRE. No such function exists within E-DAS for the PM2.5 “Conroy” estimate, but this function can be duplicated in the Model 8816 and Model 8832 data loggers (see later in this document).

To enable the surrogate calculation, the **EDAS.INI** file must be modified to enable the selections in the configuration menus. The EDAS.INI file is found in the **E-DAS program directory** and is edited with Notepad or Wordpad. Select **Find** from the **Edit** menu and enter **OZONESURROGATE=**. Change the configuration to **OZONESURROGATE=YES** (Figure 1).



```
EDAS - Notepad
File Edit Format View Help
HOURREPOFFSET=0
:Instrument Editor.
SHOWALLTYPES = Shows all or ambient only related channel types.
                YES or NO. Default = NO. (For CEM and DLOAD, default
SHOW40CFR75 = Determines whether or not to display the 40CFR75 vali
                YES or NO. Default = NO.
AQIMULTIPLIER = Determines whether or not to display the AQI Multipli
                fields will allow the user to multiply the data value
                by the indicated value before determining the AQI val
                used to have the same parameter at different sites wi
[EDITINST]
SHOWALLTYPES=NO
SHOW40CFR75=NO
AQIMULTIPLIER=NO
:AQI.
OZONESURROGATE = Determines whether or not to show the ozone surrogate
                YES or NO. Default = NO.
ADJUSTTIMEZONE = Determines whether or not to adjust the AQI report fo
                YES or NO. Default = YES.
[AQI]
OZONESURROGATE=YES
ADJUSTTIMEZONE=
```

Figure 1 EDAS.INI file with OZONESURROGATE set to YES

You will have to exit E-DAS and restart the application for the change to EDAS.INI to take effect. Once this is done, create a new entry under **Ambient | Set AQI levels** to represent the 1-hour surrogate. It will look exactly like the regular 1-hour ozone entry, but the **Ozone Surrogate** box in the top right should be checked (Figure 2).

When this box is selected, it will warn you to ensure that the ozone correlation values (slope and intercept) must be entered for each site. This is done from the **Ambient** menu in the **Set Up EPA Codes** editor by selecting each site's ozone parameter (top right value in Figure 3).

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- ▶ **Note:** If the ozone parameter code is not set to “44201,” the slope and intercept prompts will not appear. If the prompts do not appear, recheck your parameter code setting.
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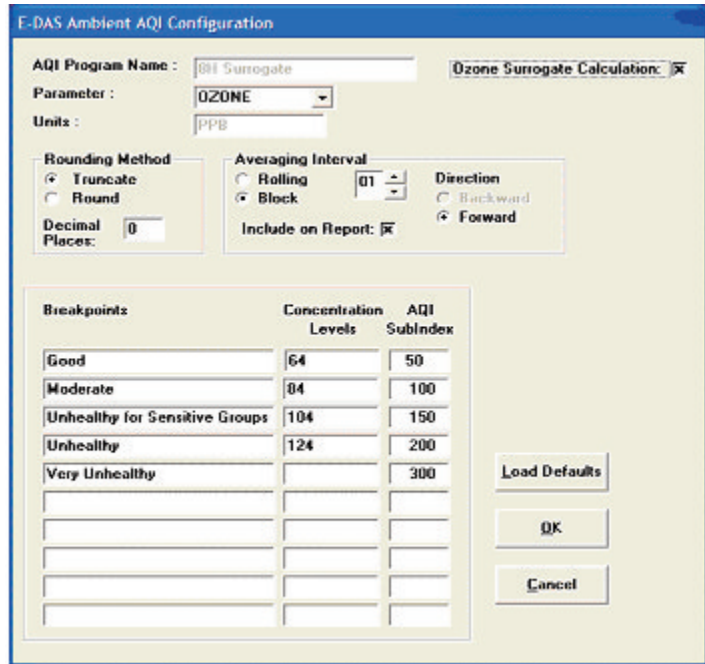


Figure 2 AQI configuration screen with Ozone Surrogate Calculation selected

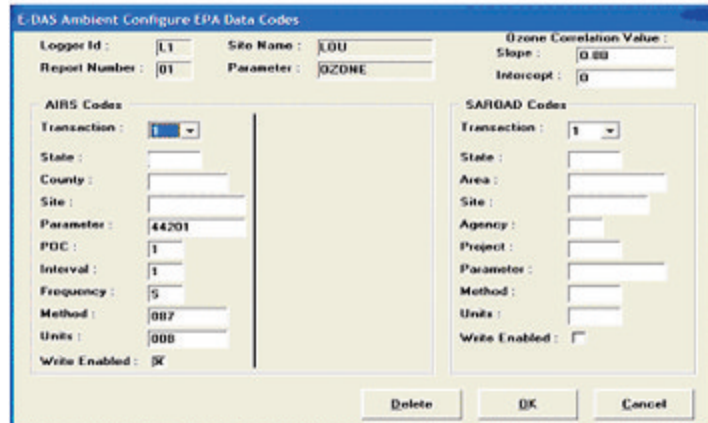


Figure 3 Configuration screen for EPA codes