



EEER-Group

In collaboration with G-Consultants

Presents

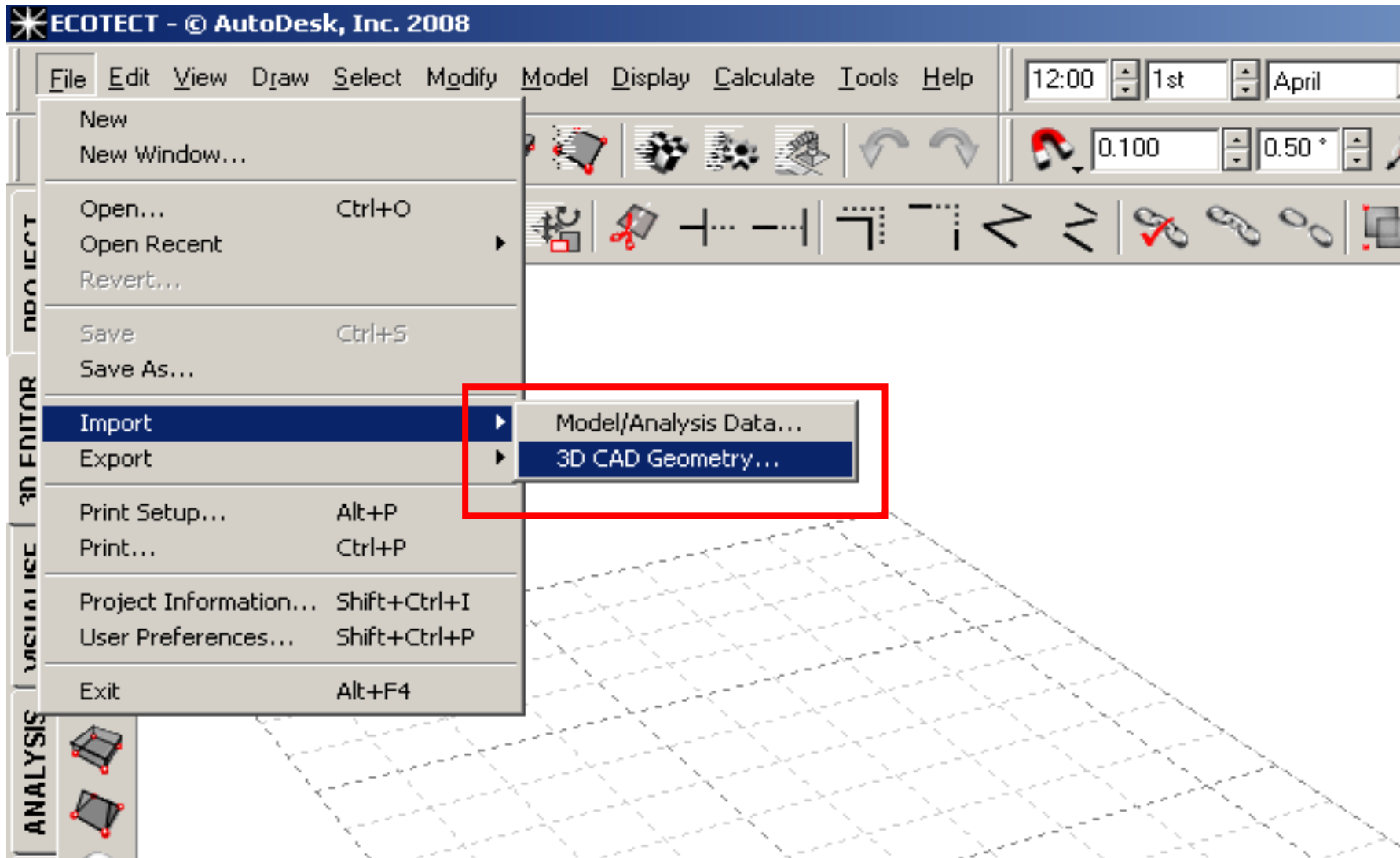
ECOTECT Short Course Part (II)

By

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Importing DXF or 3DS



**Right click to drop down layers menu;
Either give them to existing zone or assign them a new one**

The screenshot shows the 'ECOTECT: Import Geometry...' dialog box. The 'Files of Type' is set to 'DXF (*.DXF)'. The file name is 'Plans 16-8-2008.dxf'. A table lists various geometry items with columns for Name, Pen, Faces, Lines, Import, Material, and Zone. A red speech bubble points to the 'Zone' column, containing the text 'Assign layers to zones and give them materials'. A context menu is open over the 'Zone' column, with 'Select Existing Zone...' and 'Add New Zone...' highlighted in red. A north arrow is visible in the bottom left corner.

Name	Pen	Faces	Lines	Import	Material	Zone
Axes	1	0	154	Yes	<<Guess>>	<<File>>
Axes_005	5	0	3	Yes	<<Guess>>	<<File>>
BORDER	7	0	84	Yes	<<Guess>>	<<File>>
Columns	5	0	288	Yes	<<Guess>>	<<File>>
DASH	31	0	218	Yes	<<Guess>>	<<File>>
DIM	11	0	5066	Yes	<<Guess>>	<<File>>
DIM_001	1	0	6	Yes	<<Guess>>	<<File>>
DN	2	0	3008	Yes	<<Guess>>	<<File>>
DOOR	1	0	176	Yes	<<Guess>>	<<File>>
DOOR-WIN	144	0	3136	Yes	<<Guess>>	<<File>>
DOR	6	0	6992	Yes	<<Guess>>	<<File>>
Elev	11	0	682	Yes	<<Guess>>	<<File>>
	8	0	288	Yes	<<Guess>>	<<File>>
	6	0	45	Yes	<<Guess>>	<<File>>
		0	121	Yes	<<Guess>>	<<File>>
		0	886	Yes	<<Guess>>	<<File>>
		0	183	Yes	<<Guess>>	<<File>>
		0	99	Yes	<<Guess>>	<<File>>
		0	1586	Yes	<<Guess>>	<<File>>
		0	5904	Yes	<<Guess>>	<<File>>

Assign layers to zones and give them materials

- By Filename
- By Item Name
- By Pen Number
- Current Zone
- Select Existing Zone...
- Add New Zone...
- Select All

In the material list assign each layer to be an object in ECOTECT

Files of Type: DXF (*.DXF) Choose File... Plans 16-8-2008.dxf

Name	Pen	Faces	Lines	Import	Material	Zone
Axes	1	0	154	No	<<Guess>>	<<File>>
Axes_005	5	0	3	No	<<Guess>>	<<File>>
BORDER	7	0	84	No	<<Guess>>	<<File>>
Columns	5	0	288	Yes	<<Guess>>	<<File>>
DASH	31	0	218	No	<<Guess>>	<<File>>
DIM	11	0	5066	No	<<Guess>>	
DIM_001	1	0	6	No	<<Guess>>	Void
DN	2	0	3008	No	<<Guess>>	Roof
DOOR	1	0	176	No	<<Guess>>	Floor
DOOR-WIN	144	0	3136	No	<<Guess>>	Ceiling
DOR	6	0	6992	No	<<Guess>>	Wall
Elev	11	0	682	No	<<Guess>>	Partition
HATCH	8	0	288	No	<<Guess>>	Window
HATCH_006	6	0	45	No	<<Guess>>	Panel
LandOutline	2	0	121	No	<<Guess>>	Door
Stairs	6	0	886	Yes	<<Guess>>	
TEXT	4	0	183	No	<<Guess>>	
WALL	1	0	99	Yes	<<Guess>>	Point
walls	3	0	1586	Yes	<<Guess>>	Line
WIN	1	0	5904	No	<<Guess>>	Speaker

Options: Remove Duplicate Faces, VRML Text To 3D, Auto Merge Triangles, Use DXF Text, Group by Name, Invert Y & Z Axis, Show Progress

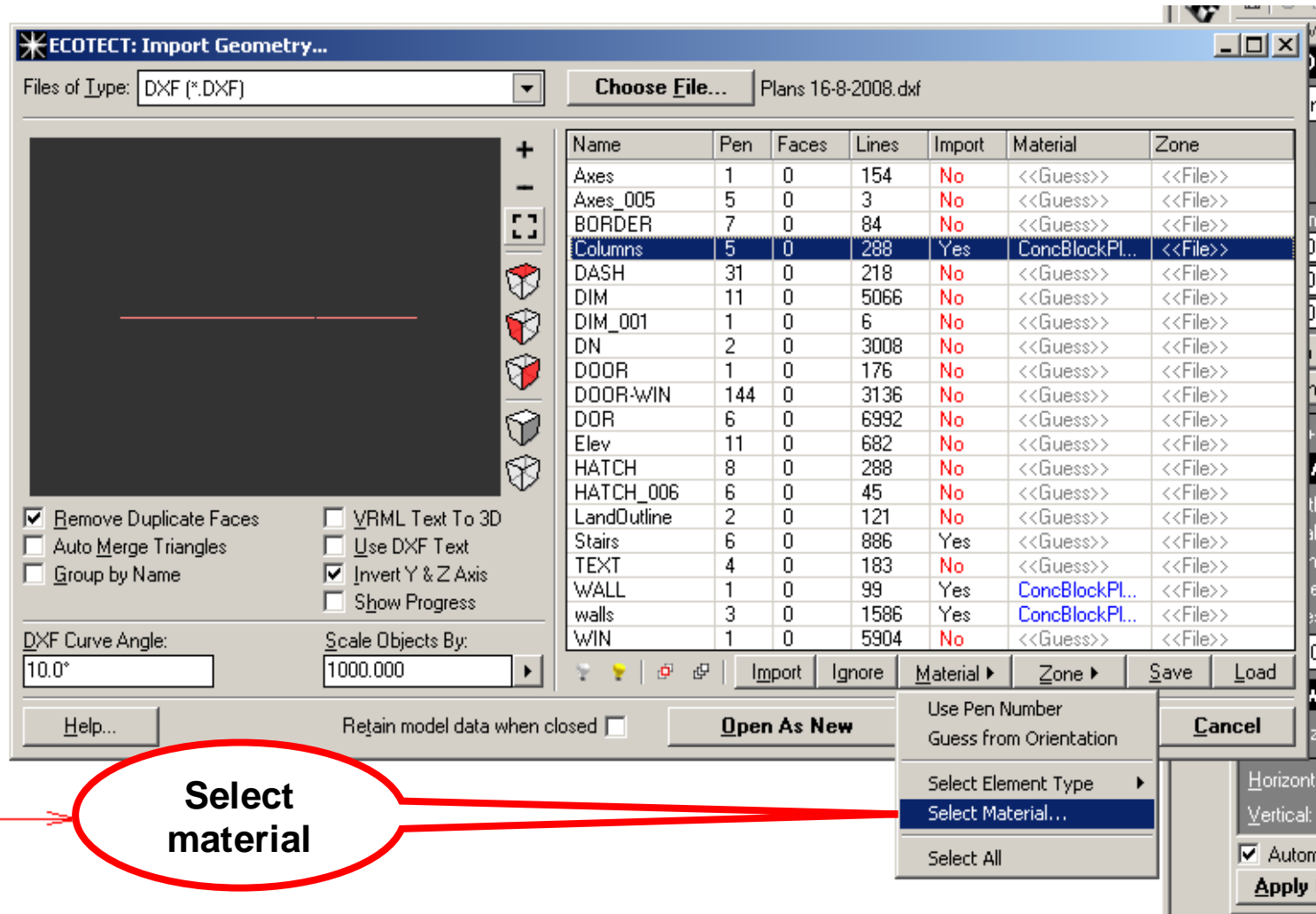
DXF Curve Angle: 10.0° Scale Objects By: 1000.000

Buttons: Help..., Retain model data when closed , Open As New

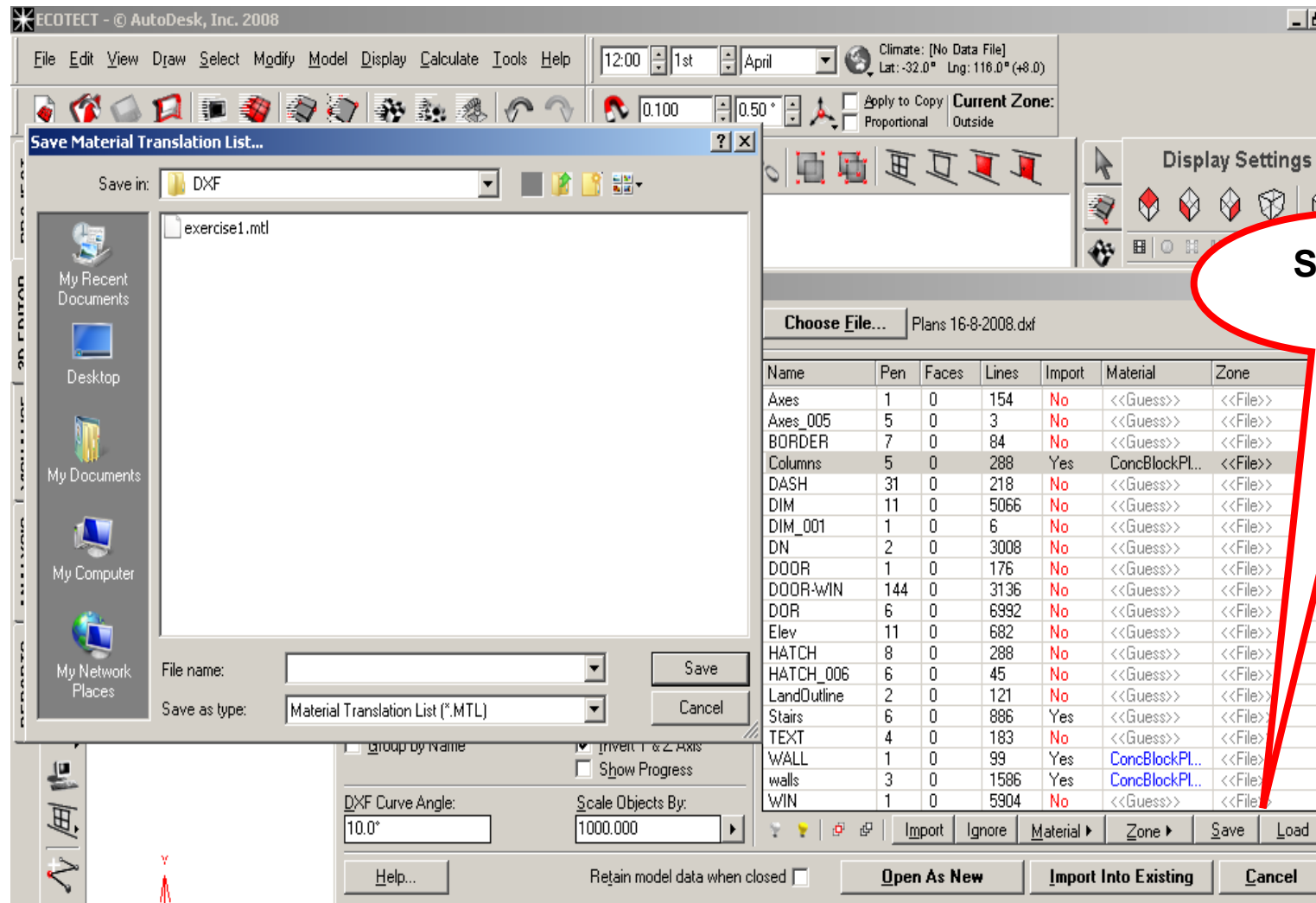
Context Menu: Use Pen Number, Guess from Orientation, **Select Element Type**, Select Material..., Select All

Callout: Select analysis parameter - new date - new weather

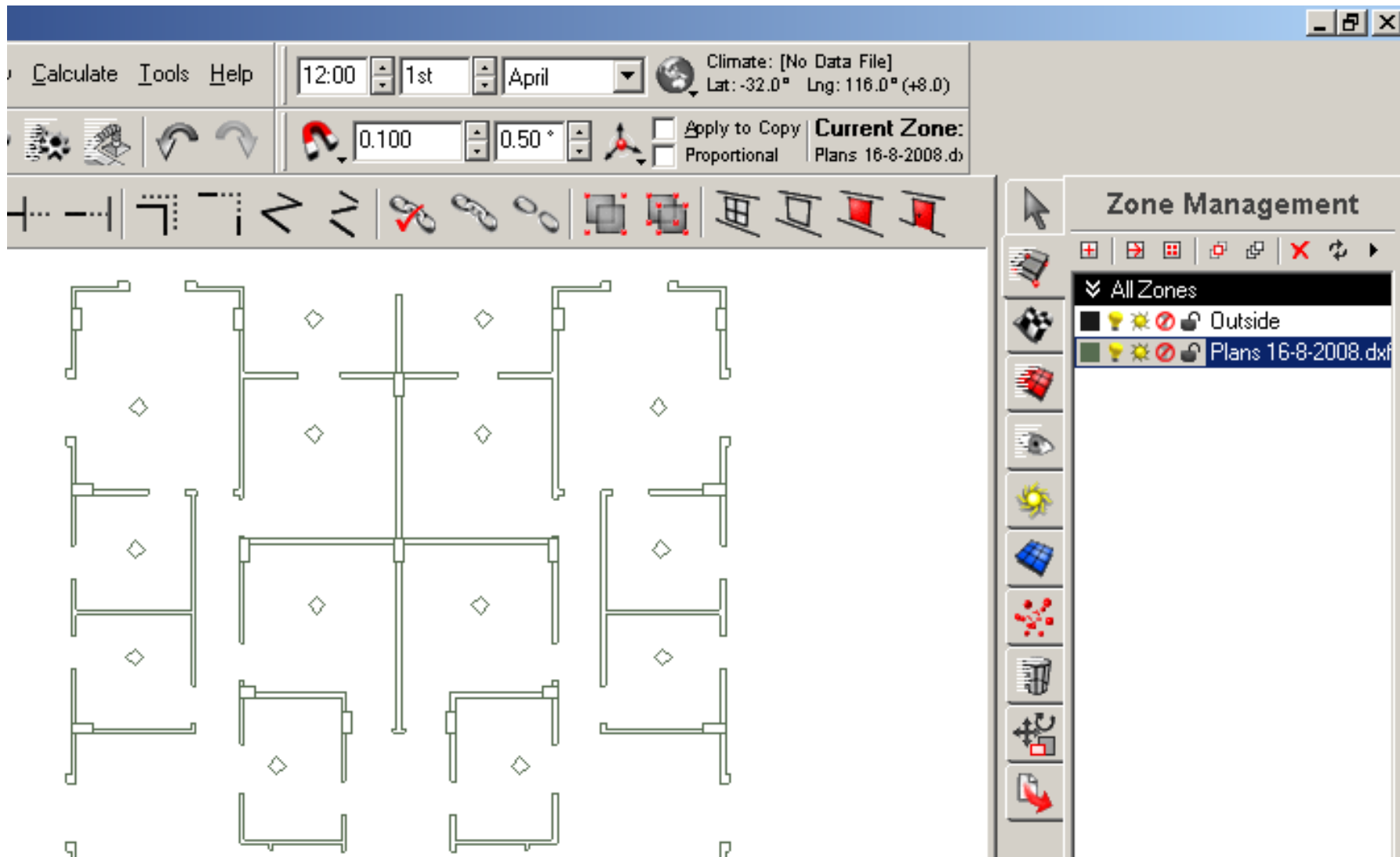
Or select a material from here



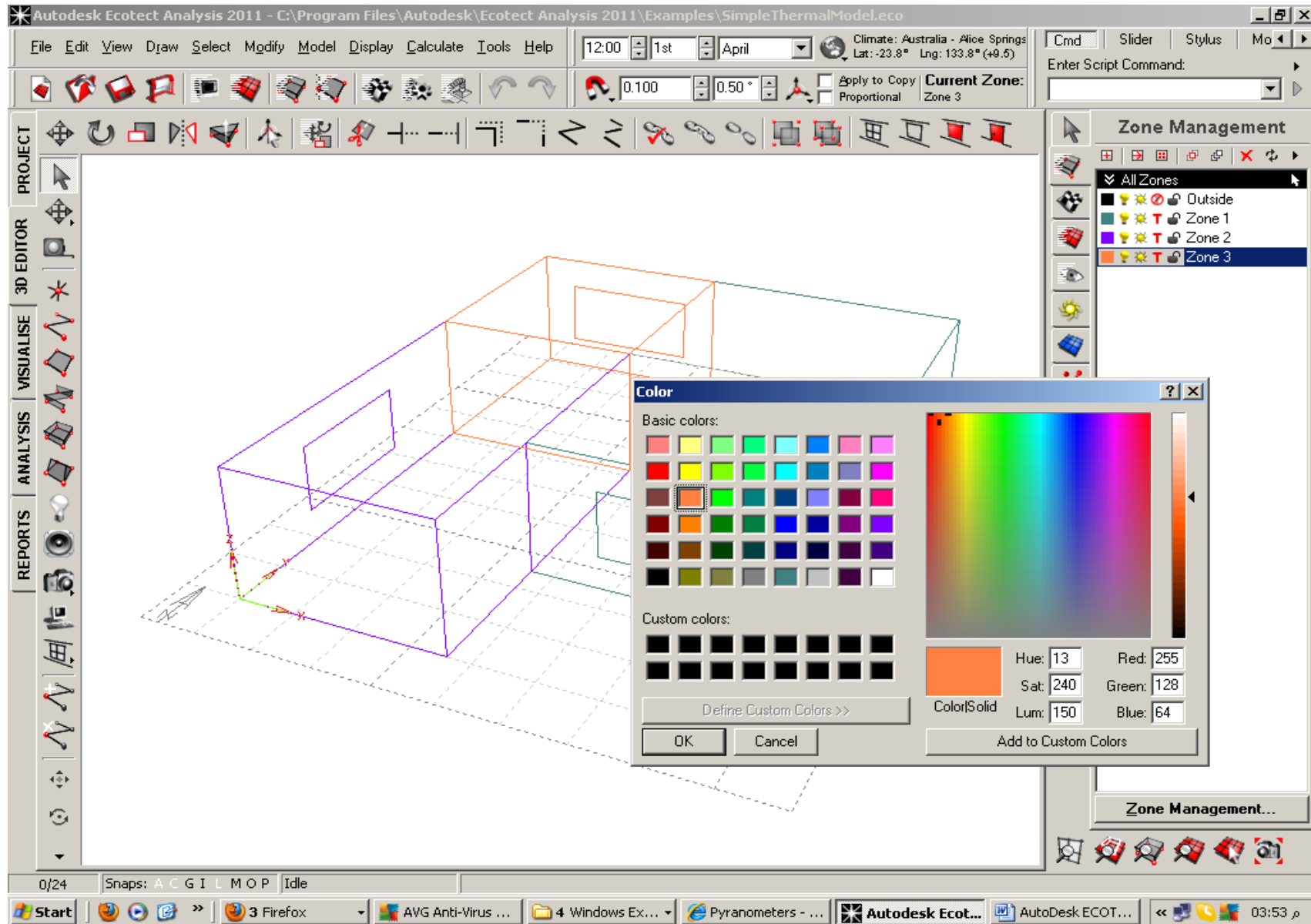
Then save it as *.mtl to be able to load it latter



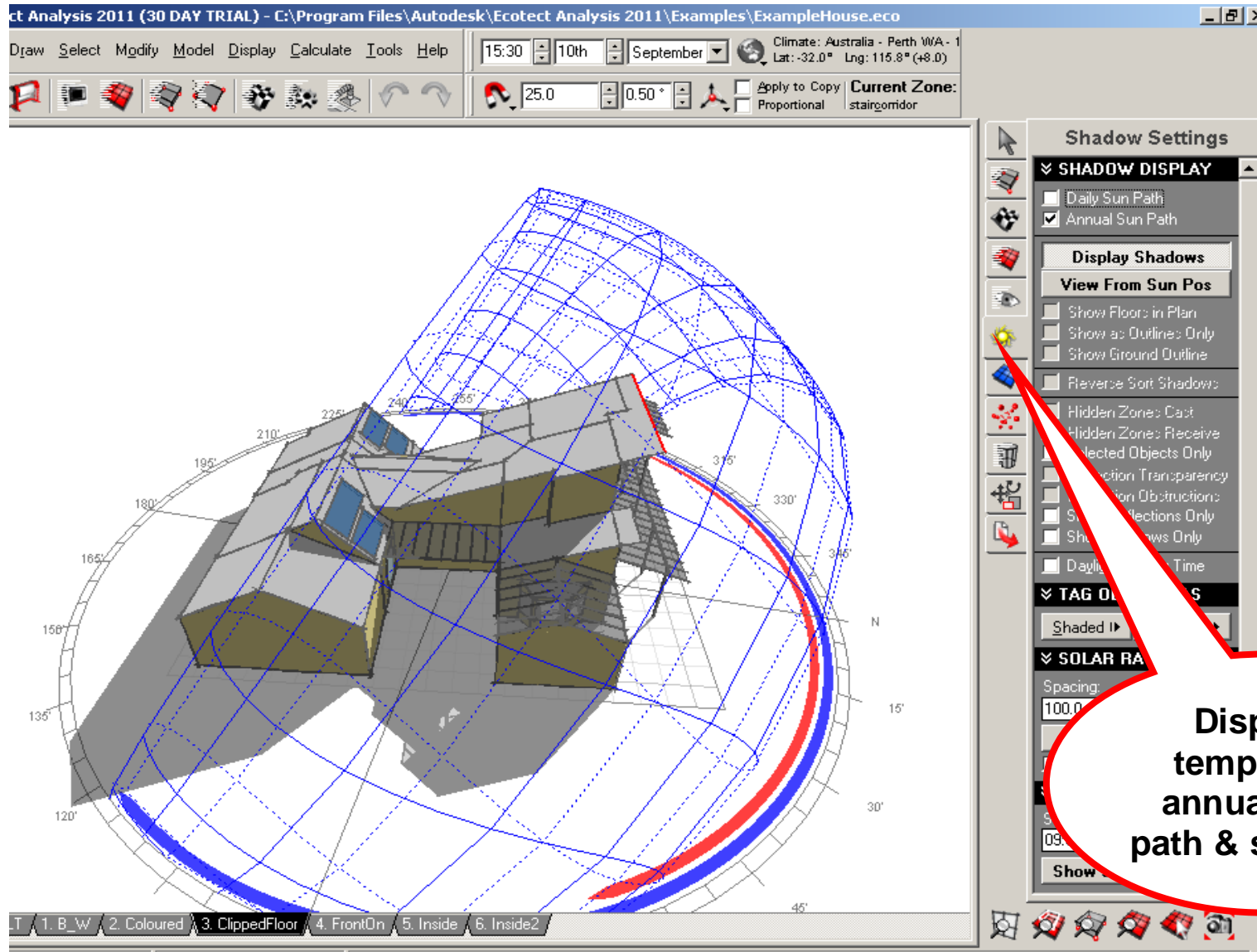
It appears as DXF zone, and then you have to draw zones separately



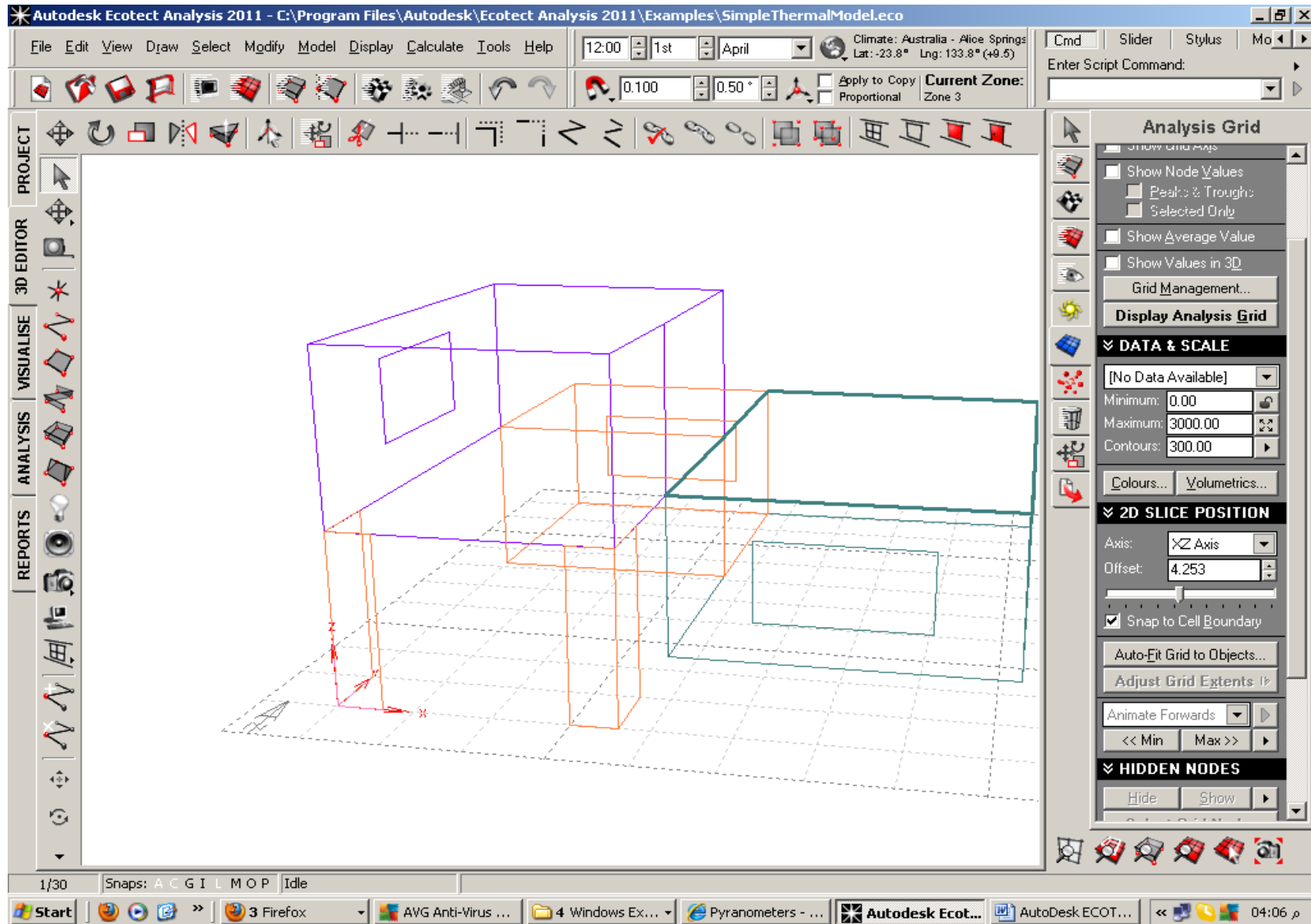
Edit your zone color by clicking on the color in the zone management right menu



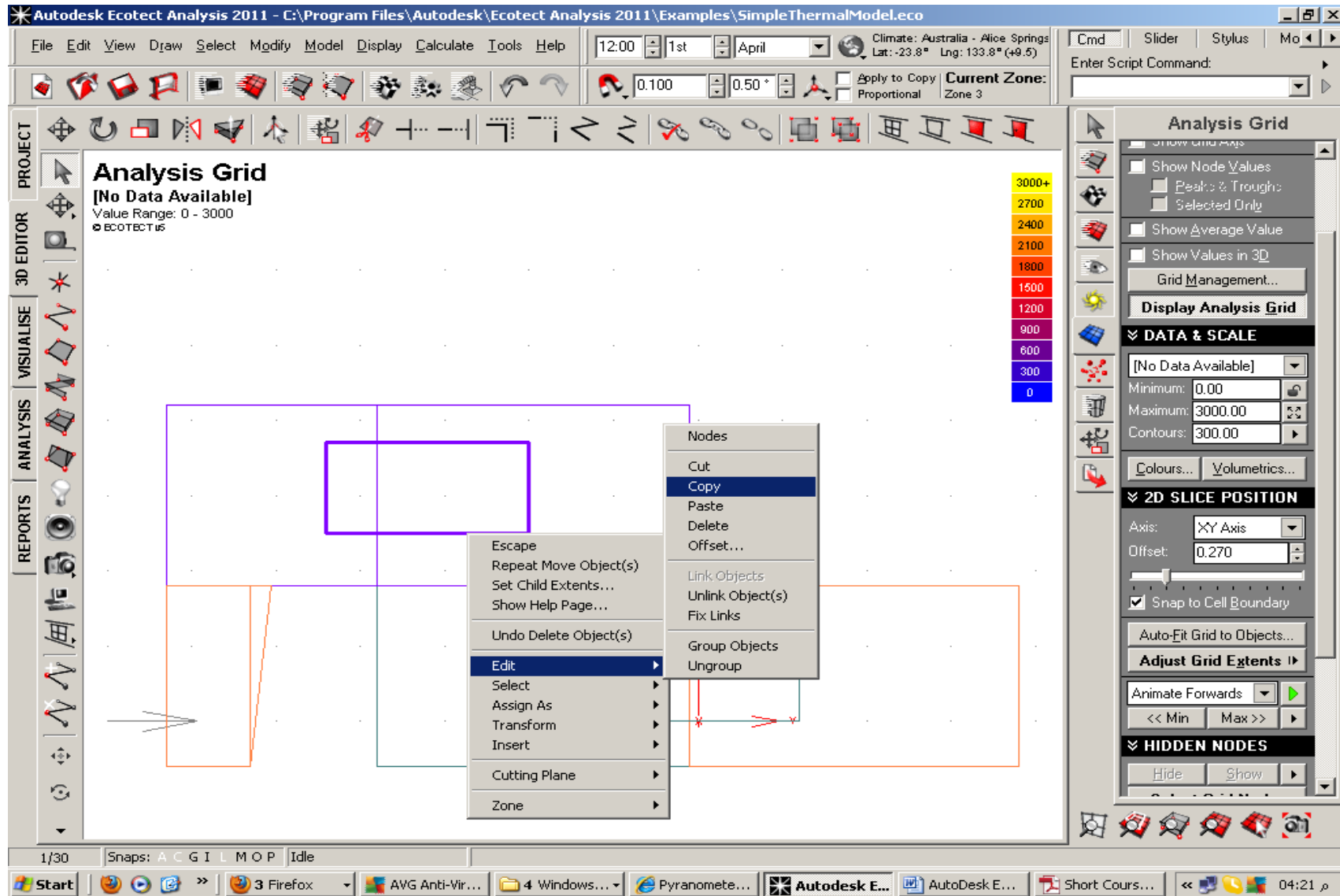
Sun-Path diagram tool



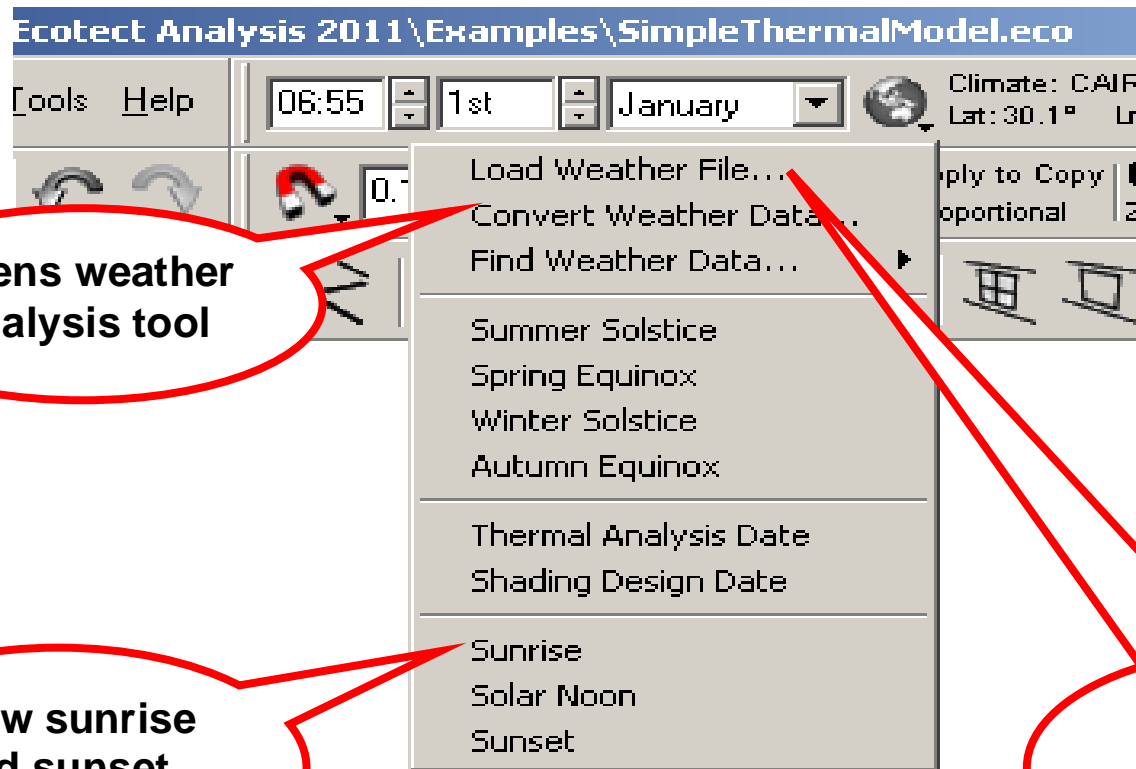
Add more floors; just draw another zone



To modify an object; select it, then right click to transform



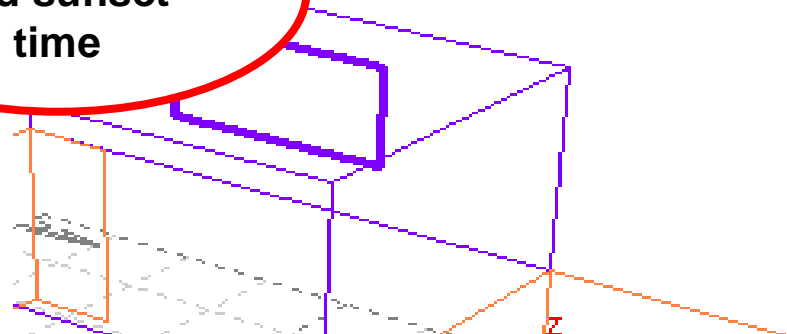
Loading weather data



Opens weather analysis tool

Show sunrise and sunset time

Load new file in WEA extension



Determine analysis dates; average and extreme

Weather Tool 2011 - © Autodesk, Inc. 2010

LOCATION DATA

Name and/or State: CAIRO
 EGY
 Latitude: 30.1 Longitude: 31.4
 +2:00 Cairo
 Altitude: 74.0 Sky (Lux): 0

SOLAR POSITION
PSYCHROMETRY
WIND ANALYSIS
HOURLY DATA

1st January

Search Data For ▶

Summary Data

Daily Average

1st Jan 31st Dec

Thermal Comfort Monthly Average

Edit Hours

MONTHLY DIURNAL AVERAGES - CAIRO, EGY

°C MONTHLY DIURNAL AVERAGES - CAIRO, EGY W/m²

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

DAILY CONDITIONS - 1st January (1)

°C DAILY CONDITIONS - 1st January (1) W/m²

2 4 6 8 10 12 14 16 18 20 22 24

LEGEND

Comfort: Thermal Neutrality

Temperature Direct Solar
 Rel. Humidity Diffuse Solar
 Wind Speed Cloud Cover

Weather File Explorer

C:\Program Files\Autodesk\Ecotecl...

- ..
- Australia-AdelaideSA-1.wea
- Australia-BrisbaneQU-1.wea
- Australia-MelbourneVIC-1.wea
- Australia-PerthWA-1.wea
- Australia-SydneyNSW-1.wea
- Australia-SydneyNSW-2.wea
- Belgium-Brussels.wea
- Canada-EdmontonAB.wea
- Canada-KamloopsBC.wea
- Canada-MontrealQU.wea
- Canada-PrinceGeorgeBC.wea
- Canada-PrinceRupertBC.wea
- Canada-TorontoON.wea
- Canada-VancouverBC-1.wea
- Canada-VictoriaBC.wea
- Canada-WinnipegMA.wea
- China-FushunXian.wea
- China-HongKong.wea
- EGY_Cairo_IWEC.wea
- France-Limoges.wea
- France-Nice.wea
- France-Trappes.wea
- Germany-Berlin.wea
- Germany-Dresden.wea
- Germany-Frankfurt.wea
- Germany-Hannover.wea
- Germany-Munich.wea
- Greece-Athens.wea
- India-Delhi.wea
- Italy-Rome.wea
- Italy-Milan.wea
- Italy-Venice.wea
- Malaysia-KualaLumpur.wea
- Pakistan-Karachi.wea
- Poland-Warsaw.wea
- Russia-Moscow.wea

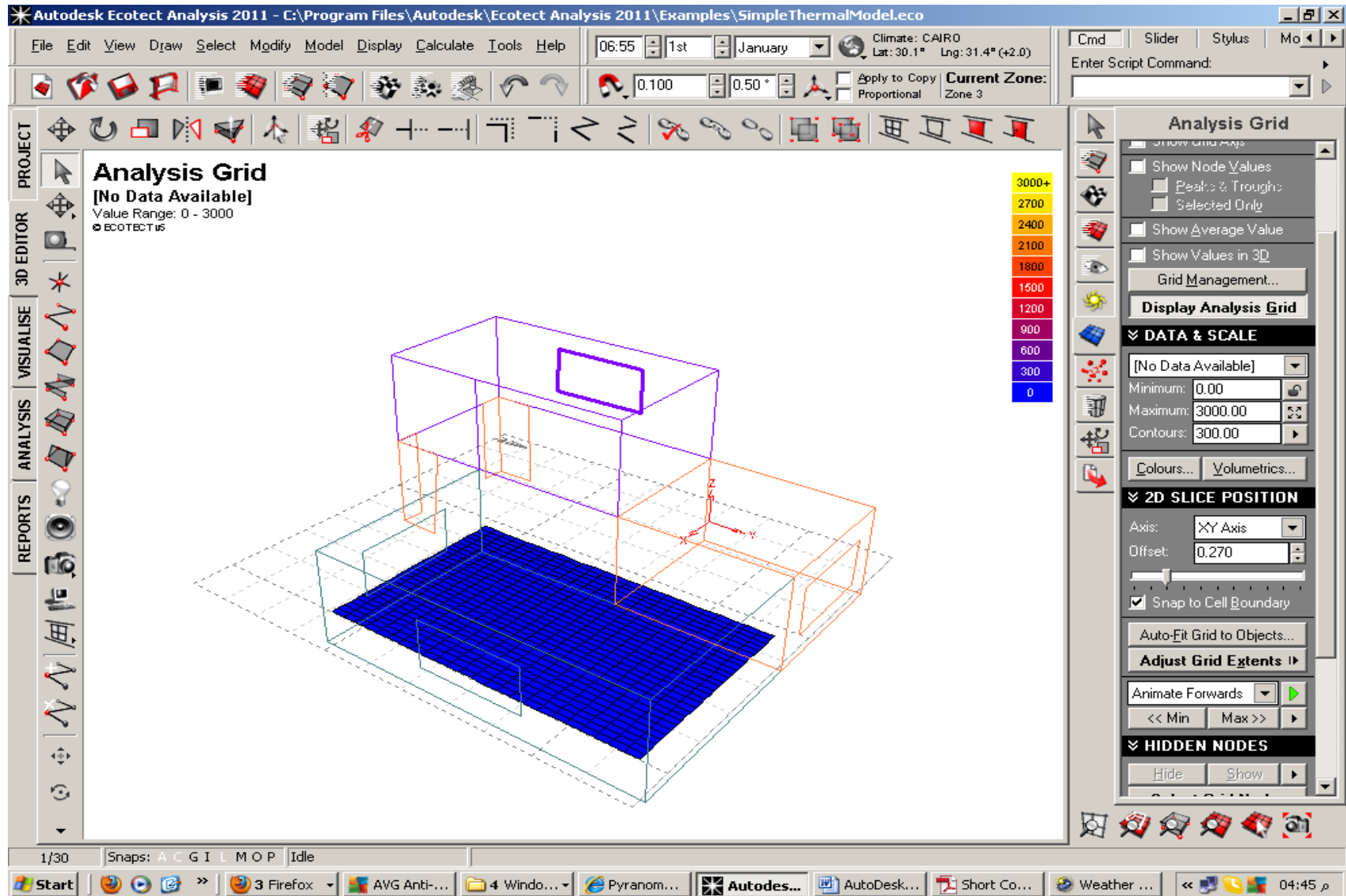
Calculate design days

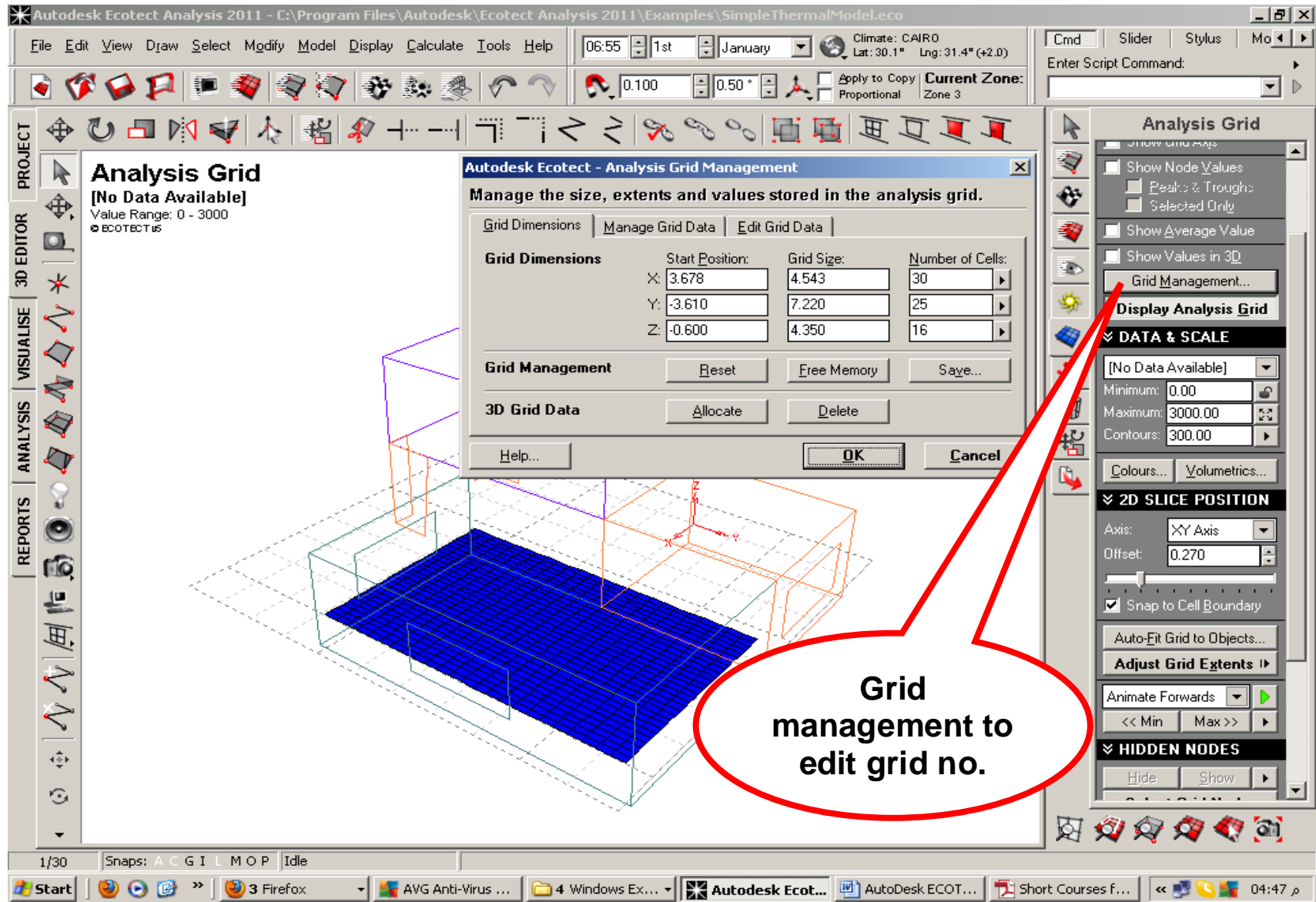
Select your city

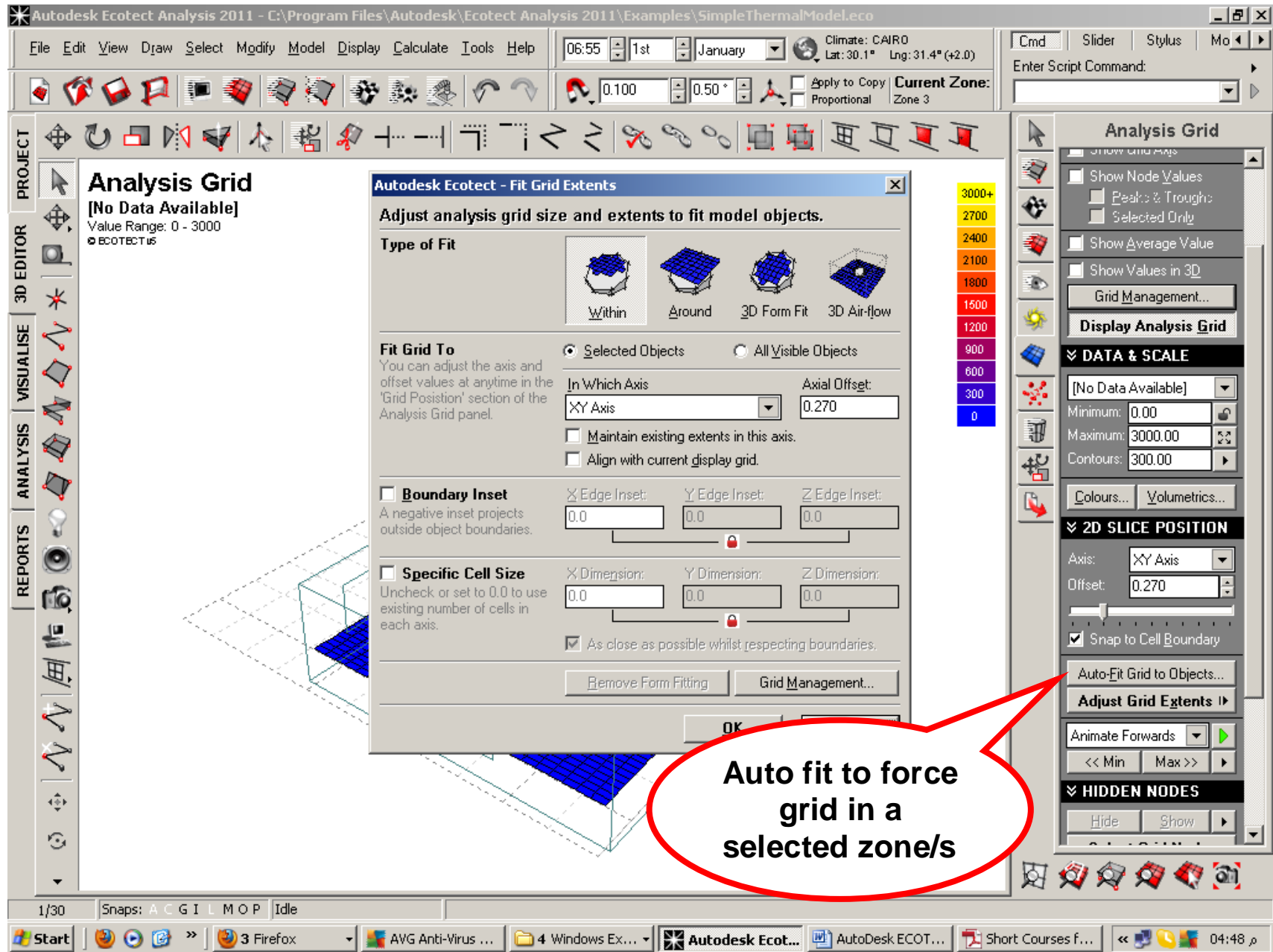
Conversions of weather data files in ECOTECL

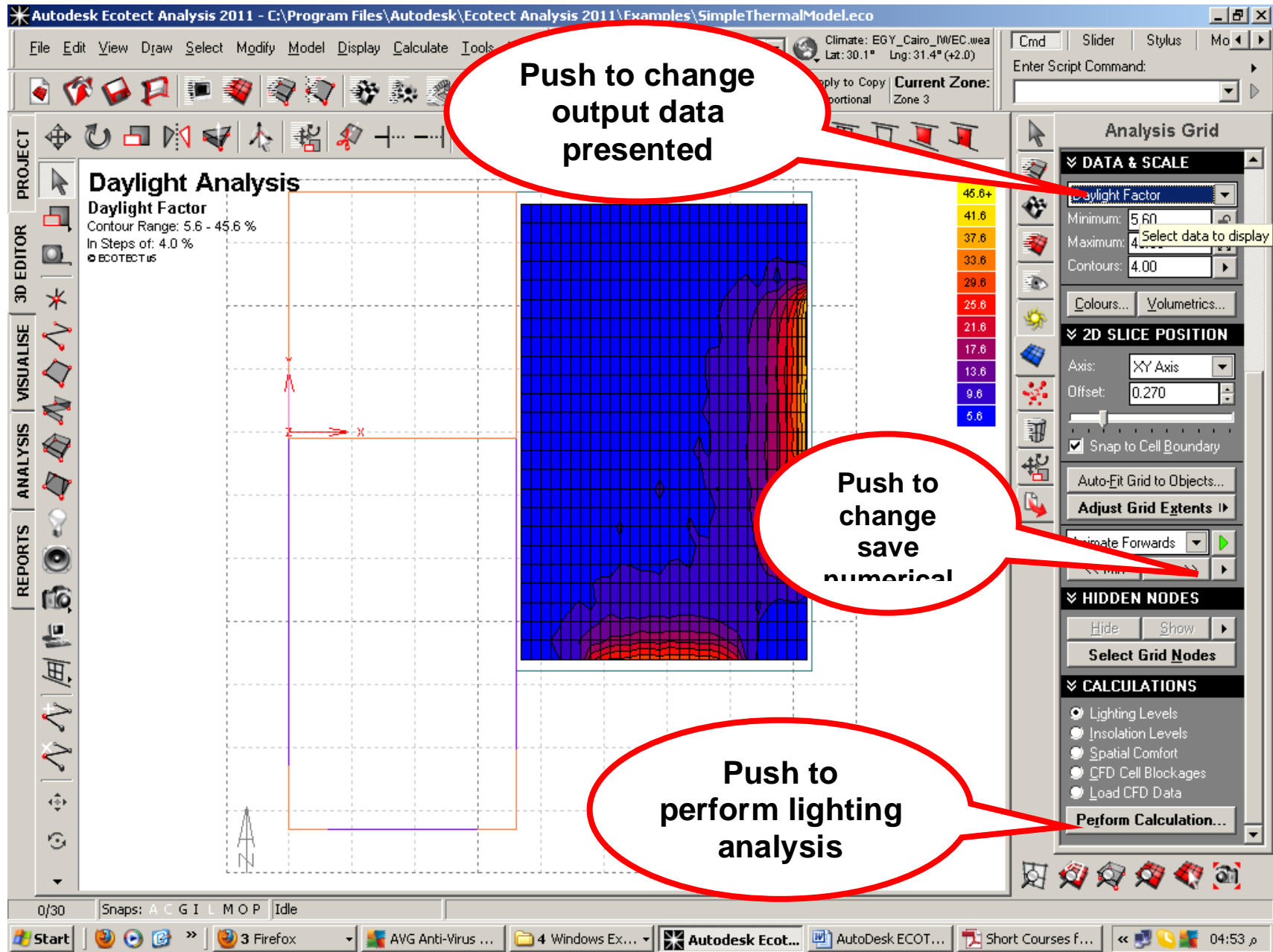
- 1- Open new EPW file.
- 2- Load EnergyPlus ccf file
- 3- Import all data
- 4- Save as wea in the weather data folder in ECOTECH folder
- 5- Make sure the design days lie in the statistical period in the STAT file
- 6- To edit the EPW itself using measured or outdoor simulated data before conversion to wea; make csv file using EnergyPlus conversion tool
- 7- Open it in Microsoft excel
- 8- Modify the data in the date you want and save it in a new name
- 9- Make the reverse conversion using EnergyPlus tool
- 10- Repeat steps from 1-4

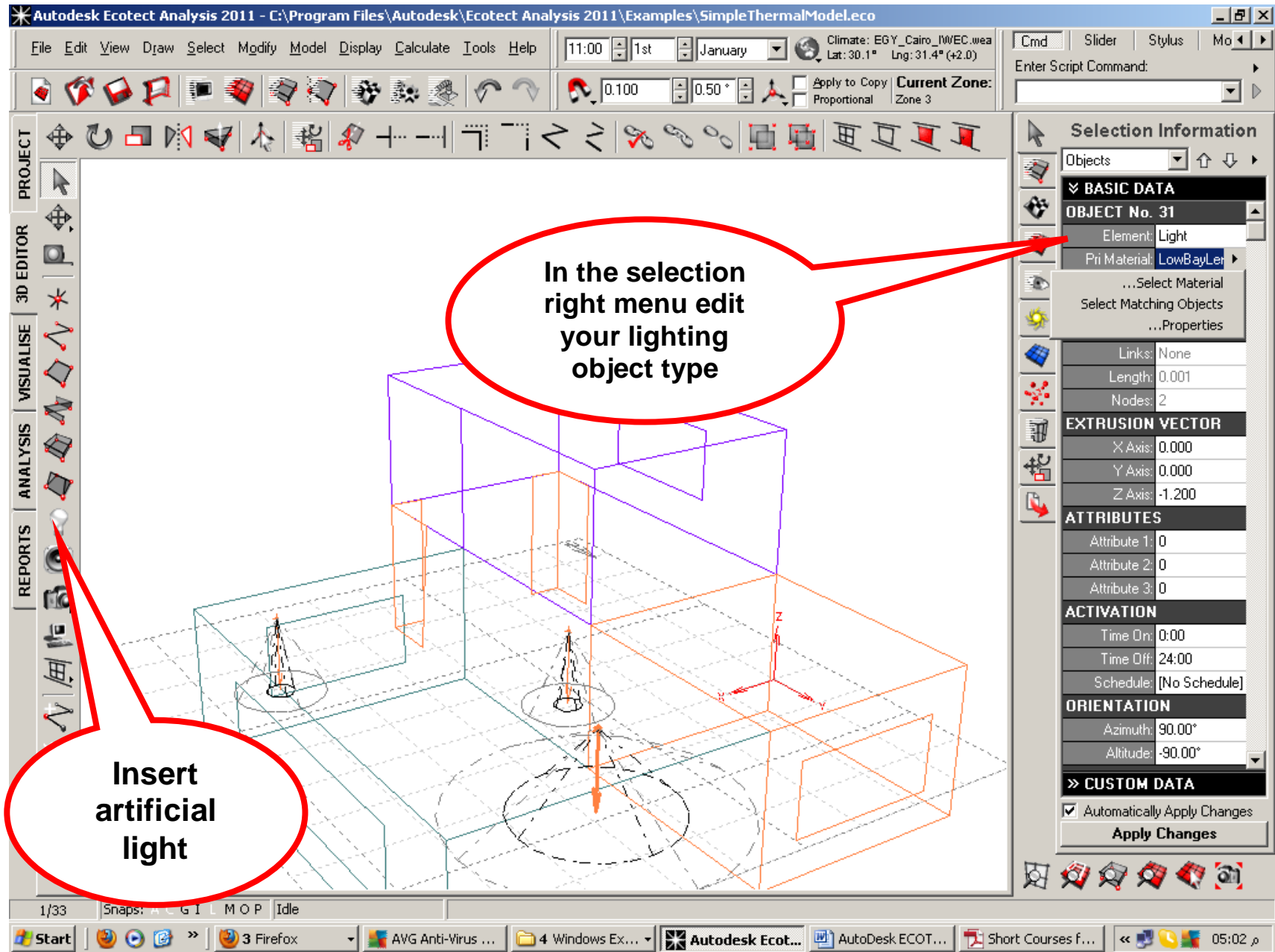
Lighting analysis; Push the grid button and then display grid











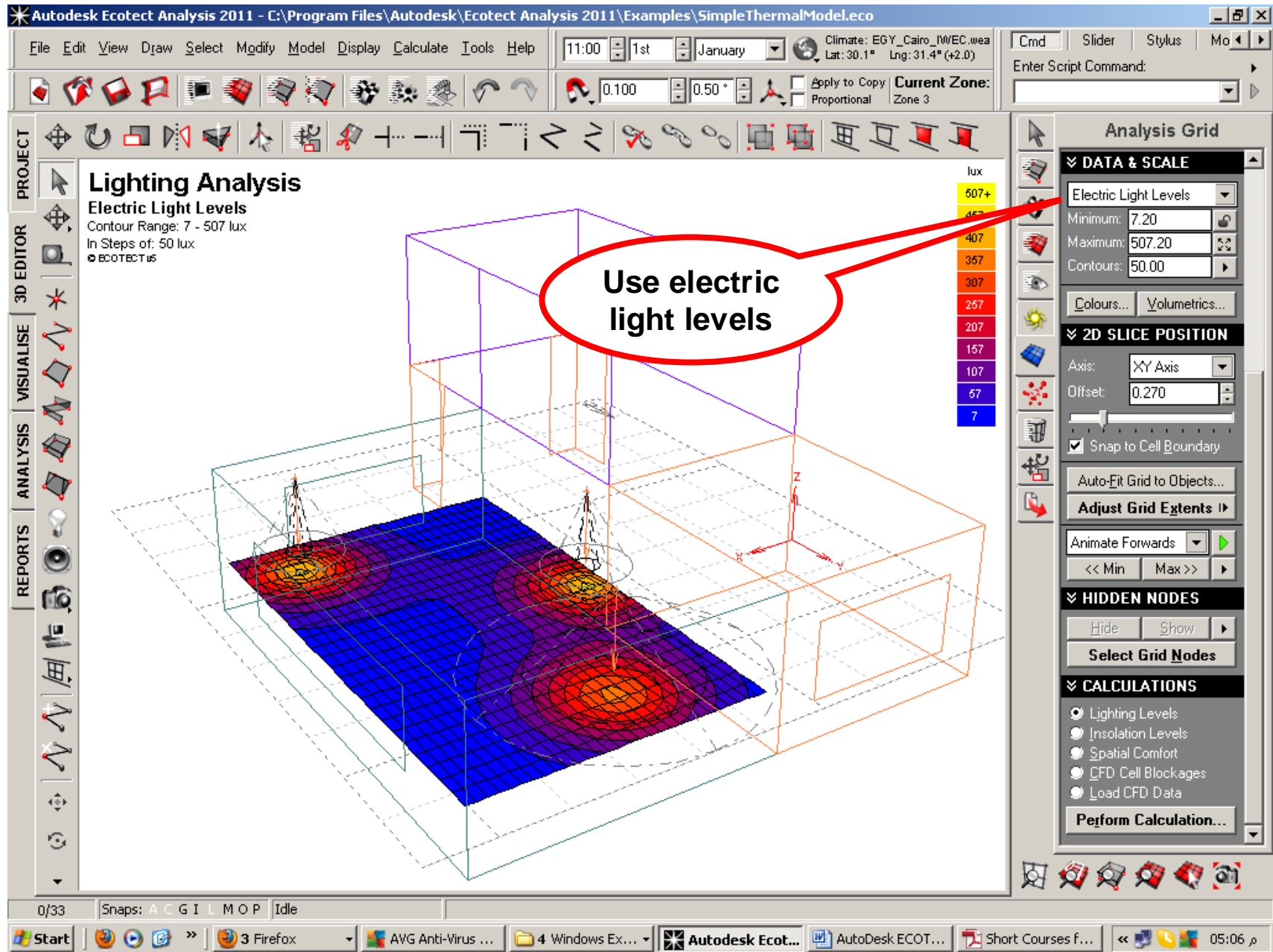
Repeat lighting analysis with natural & artificial

The screenshot displays the Autodesk Ecotect Analysis 2011 software interface. The main window shows a 3D model of a building with a lighting analysis grid overlaid. A wizard dialog box titled "Autodesk Ecotect - Calculation Wizard..." is open, showing the "Lighting analysis" step. The wizard provides information about lighting analysis, including a note that natural light levels are not time-dependent and are based on worst-case design conditions. It offers four calculation options: Natural Light Levels, Overall Daylight and Electric Light Levels (selected), Zone-Specific Daylight Factor Values, and Export to RADIANCE for More Detailed Analysis. The wizard also includes a "Skip Wizard" checkbox and "Next >>" and "Cancel" buttons.

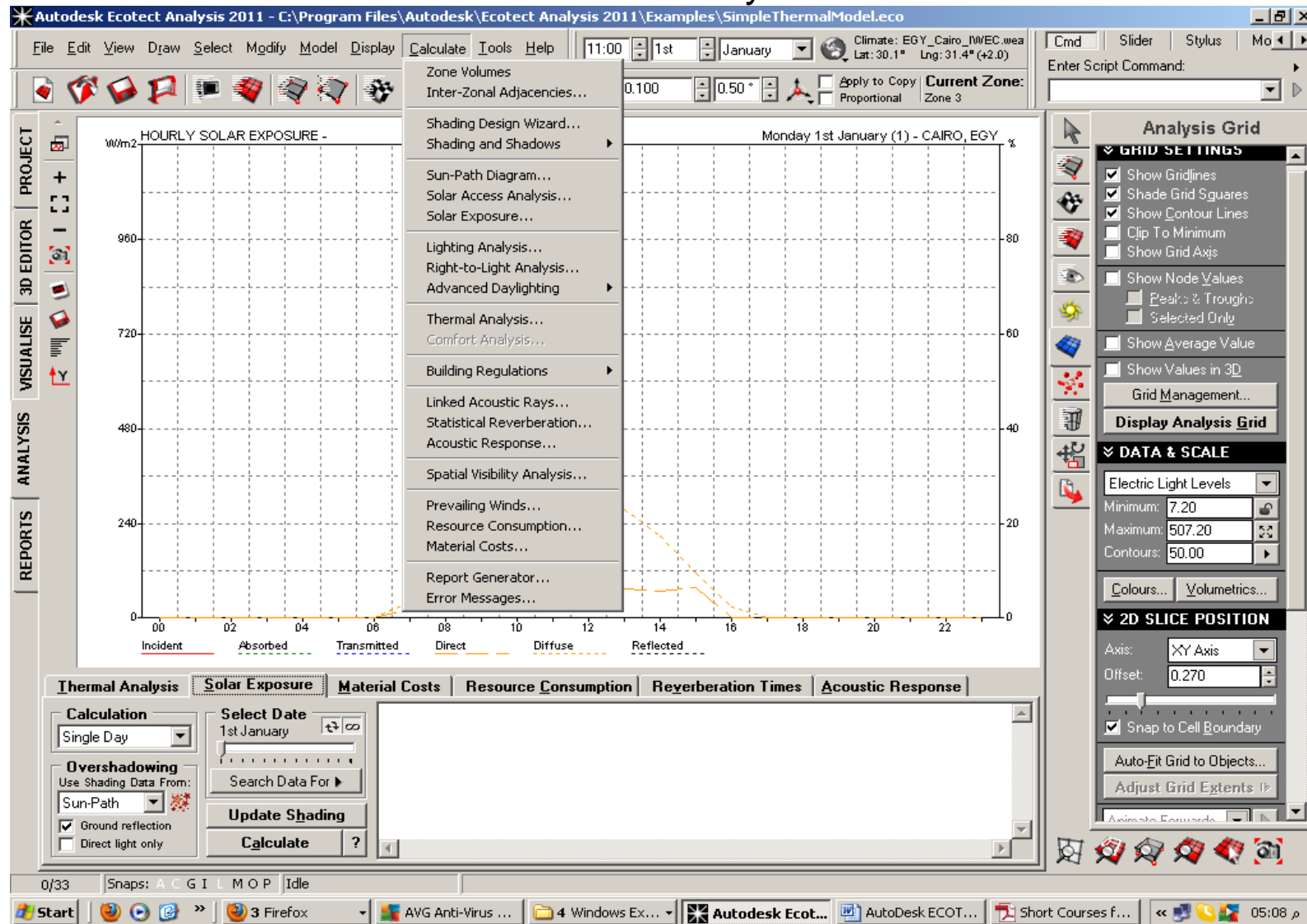
The "Analysis Grid" panel on the right shows the following settings:

- DATA & SCALE**
 - Daylight Factor: [Dropdown]
 - Minimum: 5.60
 - Maximum: 45.60
 - Contours: 4.00
 - Colours... Volumetrics...
- 2D SLICE POSITION**
 - Axis: XY Axis
 - Offset: 0.270
 - Snap to Cell Boundary: [Checked]
 - Auto-Fit Grid to Objects...
 - Adjust Grid Extents [Dropdown]
 - Animate Forwards [Dropdown]
 - << Min Max >>
- HIDDEN NODES**
 - Hide Show [Dropdown]
 - Select Grid Nodes
- CALCULATIONS**
 - Lighting Levels [Checked]
 - Insolation Levels
 - Spatial Comfort
 - CFD Cell Blockages
 - Load CFD Data
 - Perform Calculation...

The bottom of the interface shows the Windows taskbar with various applications open, including Firefox, AVG Anti-Virus, Windows Explorer, Autodesk Ecotect, and AutoDesk ECOT. A Skype notification for Tarek Hosny is also visible.



Thermal analysis



End of Part (II)..... Thanks very much.