

How to Export the Map and Risk Results from the HARP Risk Assessment Module to Google Earth

Step-by-Step Instructions

Last Updated: 08/16/2010

Introduction

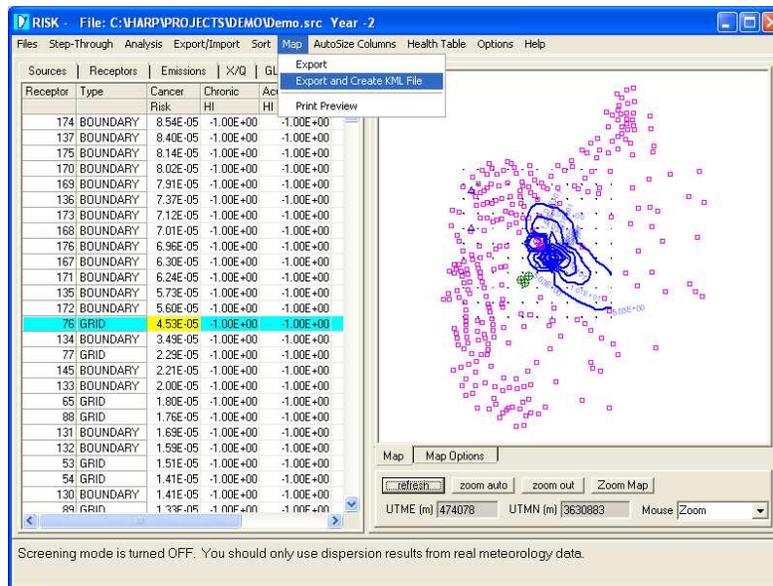
HARP Version 1.4 can export the map and risk results from the Risk Assessment Module to a Keyhole Markup Language (KML) file that can be viewed in Google Earth. Once the KML file is opened in Google Earth, you will be able to further modify the layer properties (i.e., color and visibility) for enhanced viewing. These instructions assume that you have already calculated the risk results and generated contours in the Risk Assessment Module.

Prerequisites

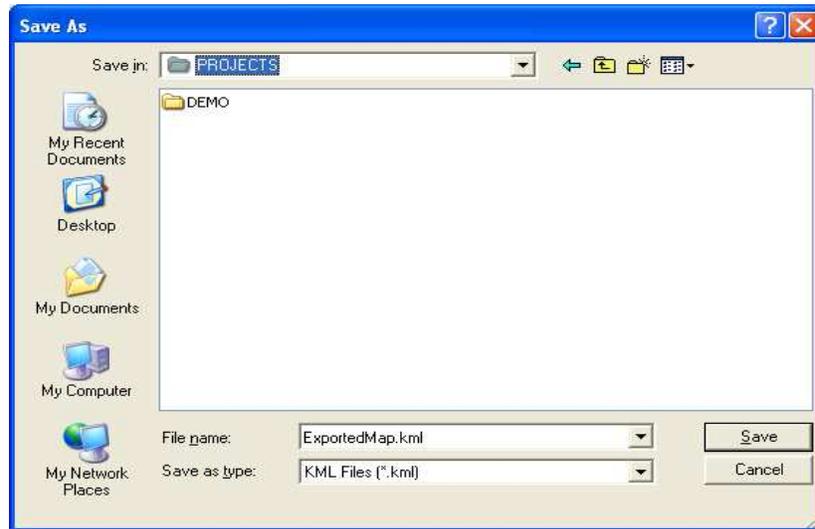
- Google Earth must be installed in order to view the KML file.
- An internet connection is required to run Google Earth.
- A Google Earth license may be necessary if you intend to share your final product. Please contact a Google Earth representative for more information.

Step 1. Exporting the HARP Map to a KML File

1. To create a KML file, select **Map\Export and Create KML file** in the Risk Assessment Module.



2. In the **Save As** dialog box, select a directory to where the file will be saved. Enter a filename and click **Save**.

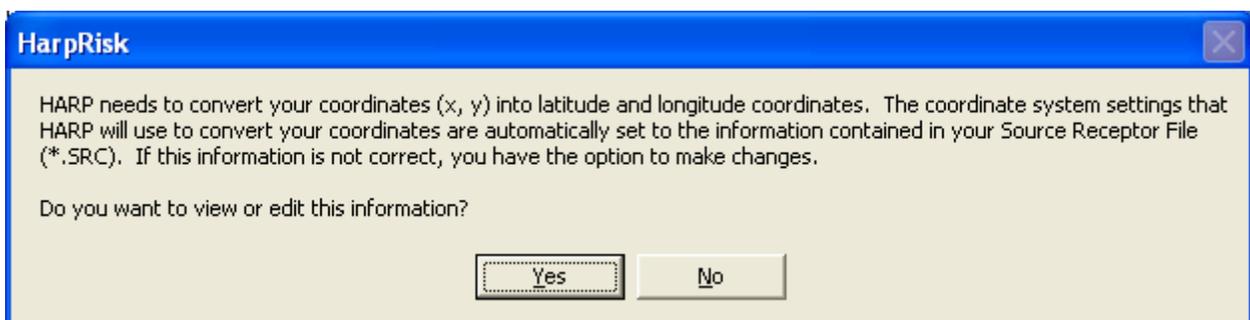


Step 2. Converting to Latitude and Longitude Coordinates (Optional)

In order for your project coordinates to display correctly in Google Earth, HARP has to convert your coordinates (x, y) into latitude and longitude coordinates. The coordinate system settings that HARP will use to convert your coordinates are automatically set to the information contained in your Source Receptor file (*.SRC). If this information is not correct, you have the option to make changes.

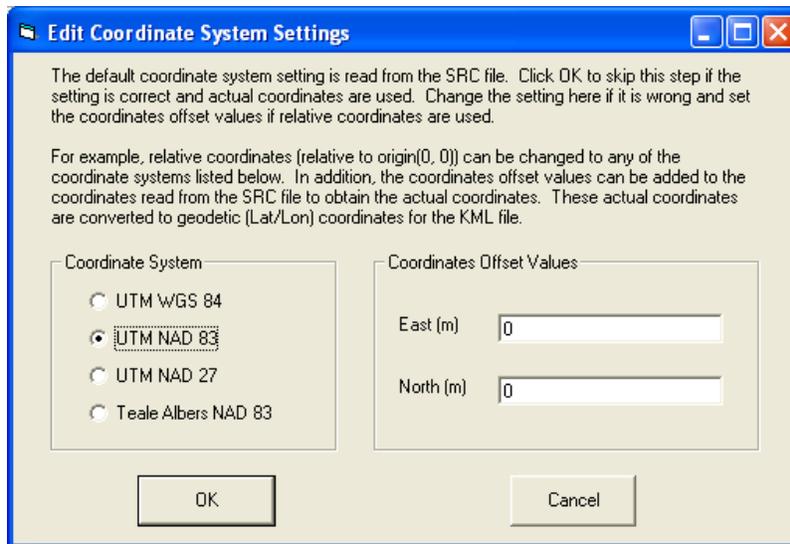
Below are some examples of why you would need to edit the coordinate system settings:

- Relative coordinates need to be converted to actual coordinates.
- The coordinates in the KML file appear to be offset over the Google Earth aerial image.



1. To view or edit this information, click **Yes** in the dialog box. Otherwise, click **No** and proceed to Step 3.

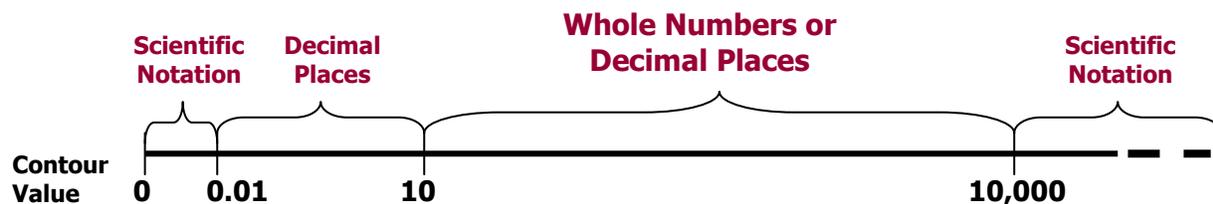
- If you clicked **Yes** in the dialog box, the **Edit Coordinate System Settings** window will appear and display the current coordinate system settings. The left panel allows you to change the coordinate system to a setting that is representative of your data. The right panel allows you to add offset values to your coordinates. For example, if you want to convert relative coordinates to actual coordinates, the values that are entered in this panel will be added to all the coordinates that are currently loaded in the HARP Risk Analysis Module. Click **OK** when editing is complete.



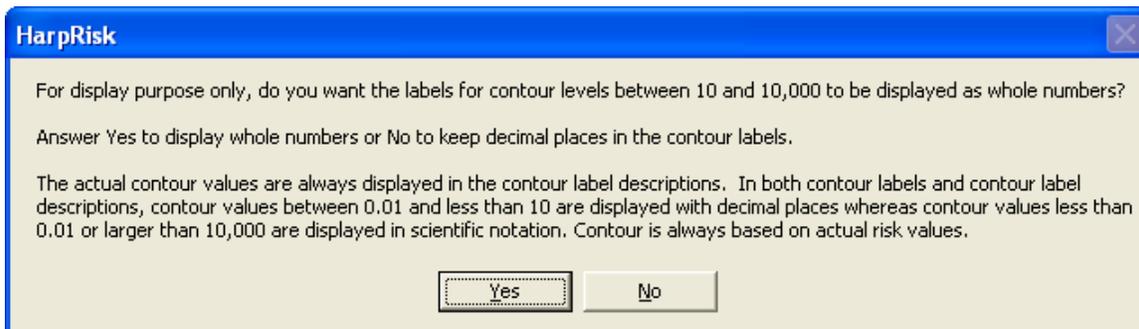
Step 3. Formatting the Contour Labels and Creating the KML File

HARP will automatically format the contour labels that are displayed in Google Earth. Contour values between 0.01 and 10,000 are displayed in decimal format. Contour values less than 0.01 and greater than 10,000 are displayed in scientific notation. In this step, you will have the option of changing the contour label format for values between 10 and 10,000. You can display these labels as whole numbers or keep them in decimal format. The purpose of this step is mainly for presentation of the risk data.

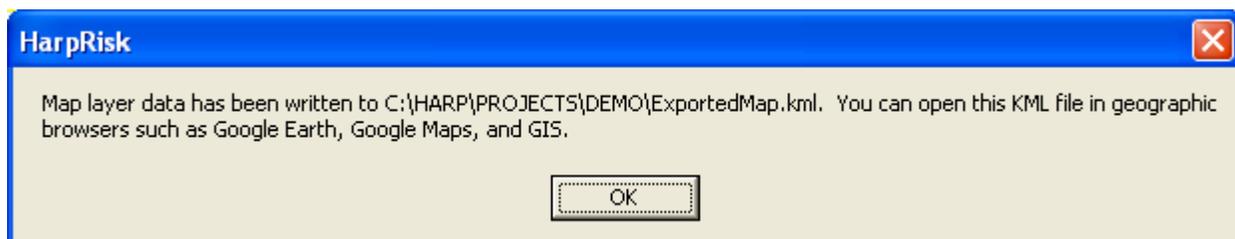
The following diagram illustrates the number formats at each contour range.



1. Click **Yes** to display the data as whole numbers. Click **No**, to keep the values in decimal format.



2. After you select an option from the previous step, HARP will begin to create the KML file. Once the KML file is created, a dialog box will appear that will display the location of the saved KML file. Click **OK** and continue to Step 4.

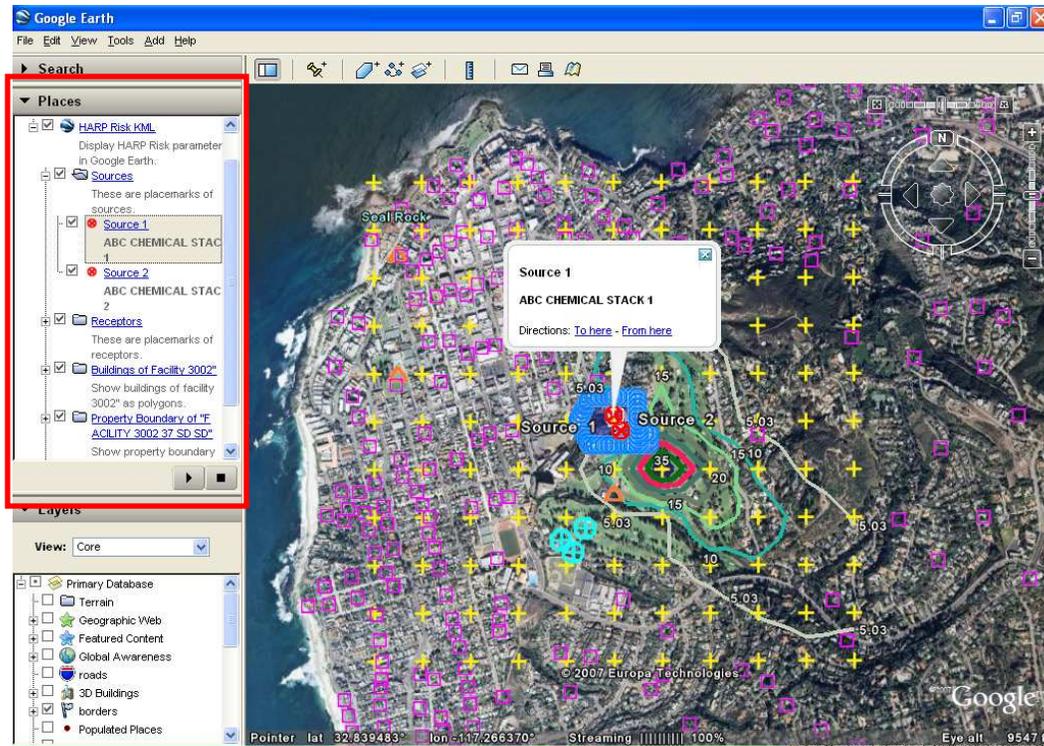


Important Note:

The KML layer can be edited in Google Earth (e.g., the contour lines can be moved). Therefore, it is recommended that you save the file as an image in Google Earth before sharing it with others.

Step 4. Opening the KML File in Google Earth

1. Open Google Earth from your desktop.
2. To open the KML file in Google Earth, select **File/Open** from the Google Earth main menu. Using the dialog box, browse and select the KML file that you just created.
3. When the KML file is loaded into Google Earth, you will see the KML file displayed in the **Places** panel on the left side of the screen. The **Places** panel will show the different layers of the KML file.



- Click on any of the layers to navigate to the specific region on the map. See below for more information about the layers of the KML file.

Information about the KML layers

- Sources and receptors are displayed as place marks. The icons for these place marks are similar to the icons used in the map panel in the Risk Assessment Module:
 - Yellow cross hairs mark grid receptor locations.
 - Magenta squares mark census receptor locations.
 - Cyan circles (with cross hairs) mark pathway receptor locations.
 - Red circles with x inside mark sources (stacks).
 - Blue circles identify property boundary receptors.
 - Orange triangles mark the location of sensitive receptors.
- Facility buildings are displayed as random colored transparent polygons.
- Facility property boundaries are displayed as blue transparent polygons.
- Contours are displayed in random colors, and contours of the same level are displayed in the same color. Contour labels are displayed on every tenth contour point for each contour level.
- When zoomed in at certain level, the KML file image will disappear to limit the degree of location specificity.

- If you click an individual source or receptor on the map, a popup balloon will appear. The popup balloon will display specific information about the source or receptor such as the risk results that were calculated in the Risk Assessment Module.

Step 5. Editing the Layer Properties for Enhanced Viewing

The layer property (e.g., name, description, and color) can be easily edited in Google Earth for enhanced viewing. Any changes that you make to the KML file can be saved in Google Earth. Please refer to the Google Earth User Guide for a complete description on how to edit the layer properties. Below are some examples on how to edit the layer properties.

- If a layer cannot be easily seen on the map, you can change the color through the layer properties. To change the color of a layer, right click on the layer in the **Places** panel and then click on **Properties**. In the popup window, click the **Style, Color** tab and changed the color to something more visible.
- If the map appears too crowded with information, you can hide or unhide layers using the checkbox in the **Places** panel. Simply check the box next to the layer that you want to hide or unhide.

Step 6. Saving the KML File to an Image

If you are sharing the data with other people, it is recommended that you save the map in Google Earth as an image. To save the map in Google Earth as an image, click on **File\Save\Save Image....**