



Working with Google Earth – Screen Overlays

Creating a Screen Overlay

As an alternative to using labels, a **Screen Overlay** can be used to create a legend for the map lines. Unlike an **Image Overlay**, which is affixed to the earth and moves with the earth in Google Earth, a Screen Overlay is affixed to the screen and remains static as you move the earth.

Applications like PhotoShop make it easy to create **Screen Overlays**. If you don't have access to PhotoShop or a similar program, you can use Microsoft Paint. To use Microsoft Paint:

1. Open the **Start** menu on your computer.
2. Select **Accessories** in the program list.
3. Click on **Paint** to launch the program.

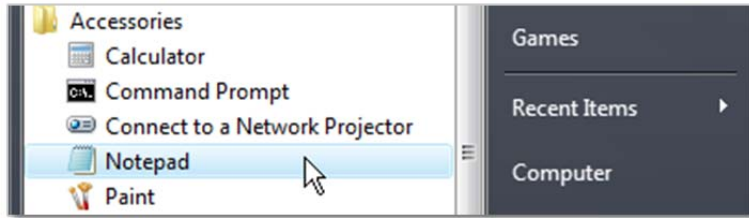
Note: The **Screen Overlay** used in this example was created in PhotoShop. It is best to create a **Screen Overlay** at a size that works well in Google Earth. A good size for a legend is between 200-250 pixels.

A legend box titled "Bison Range 1800-1889" containing four entries. Each entry consists of a horizontal line of a different color followed by a year: a yellow line for 1800, a pink line for 1870, a cyan line for 1880, and a green line for 1889.

| Bison Range 1800-1889 | |
|-----------------------|------|
| — | 1800 |
| — | 1870 |
| — | 1880 |
| — | 1889 |

To add the **Screen Overlay**, we must use Keyhole Markup Language (KML). KML is similar to HTML and XML in that it allows us to add formatting in Google Earth. Google Earth automatically wrote KML for us when we created **Lines** and the map **Image Overlay** previously in the tutorials. To see the KML from our map **Image Overlay**:

1. Right click on the map **Image Overlay** in your **Places** panel.
2. Select **Copy** from the drop down list.
3. Open **Notepad** on your computer. To open Notepad:
 - a. Open the **Start** menu.
 - b. Select **Programs**.
 - c. Click on **Accessories** in the **Programs** menu.
 - d. Click on **Notepad** to open the application.



4. Press **Ctrl + V** to paste the KML into **Notepad**.

Note: When working with KML, it is important to use **Notepad** or another text editor. Programs like Word include formatting when text is copied from them. The formatting interferes with KML when it is pasted into Google Earth.

The KLM for the map Image Overlay will look something like this:

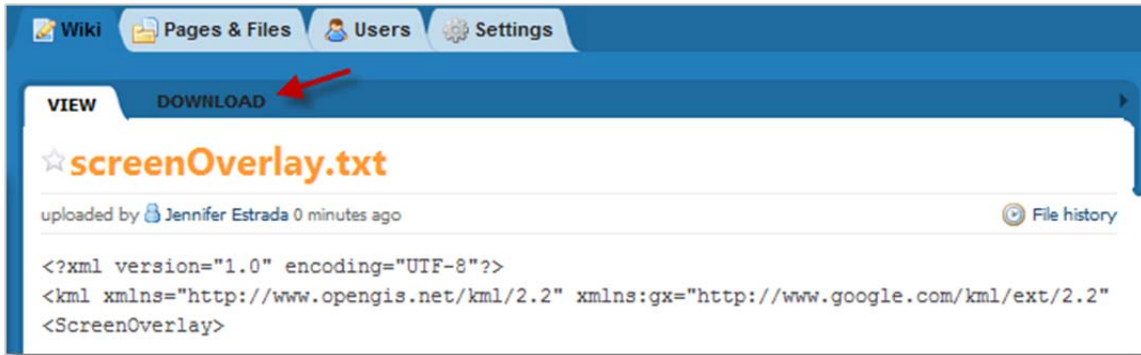
```
<?xml version="1.0" encoding="UTF-8"?>
<kml xmlns="http://www.opengis.net/kml/2.2" xmlns:gx="http://www.google.com/kml/ext
<GroundOverlay>
  <name>Bison Range 1800-1889</name>
  <color>45ffffff</color>
  <Icon>
    <href>https://lh4.googleusercontent.com/-vtHb-3W2PNs/TyF61YX
    <viewBoundScale>0.75</viewBoundScale>
  </Icon>
  <LatLonBox>
    <north>50.53935130921958</north>
    <south>40.873569600186</south>
    <east>-89.31624253157541</east>
    <west>-114.6200491402466</west>
  </LatLonBox>
</GroundOverlay>
</kml>
```

KML isn't as intimidating as it looks! The GooWi Explorers team has provided a KML template for **Screen Overlays** in the **Resources** folder of your **PBworks Wiki**.

Editing the KML Template for your Screen Overlay

To begin adding your **Screen Overlay** to Google Earth, follow the steps in the Picasa Web Albums tutorial to upload your image to Picasa Web Albums. Copy the image link as you did for the map **Image Overlay**.

1. Click on the **Resources** folder in your wiki.
2. Open the **screenOverlay** document.
3. Press the **Download** tab. This will open the document in your web browser.



4. Click on the text in the web browser.
5. Press **Ctrl + A** to select all text.
6. Press **Ctrl + C** to copy the KML code.



7. Open the **Notepad** program on your computer.
8. Press **Ctrl + V** to paste the code into your **Notepad** document.
9. Save the Notepad document with a new name (e.g. **Bison_Range_Legend.txt**). No spaces!

Now that the KML **Screen Overlay** template is in a **Notepad** document, you just need to change a few entries to customize it to your overlay.

1. Highlight the **<name>** field in the KML and enter the name you would like to use for your Screen Overlay.
2. Highlight the link between the **<href>** tags and paste the Picasa Web Albums link to your image.
3. Enter the dimensions that you used when you created the image in the **<size>** field. x refers to the width of the image and y refers to the height.

```

<?xml version="1.0" encoding="UTF-8"?>
<kml xmlns="http://www.opengis.net/kml/2.2" xmlns:gx="http://www.google
<ScreenOverlay>
  <name>Bison Range Legend</name>
  <open>1</open>
  <icon>
    <href>https://lh5.googleusercontent.com/-JAkxRrUmt
  </icon>
  <overlayXY x="0" y="1" xunits="fraction" yunits="fraction"/>
  <screenXY x="0" y="1" xunits="fraction" yunits="fraction"/>
  <rotationXY x="0" y="0" xunits="fraction" yunits="fraction"/>
  <size x="0" y="0" xunits="pixels" yunits="pixels"/>
</ScreenOverlay>
</kml>

```

4. When you are done editing, press **Ctrl + A** to select all text.
5. Press **Ctrl + C** to copy the text.

Adding the Screen Overlay to Google Earth

1. Right click on your project folder in the **Places** panel.
2. Select **Paste** from the drop down menu.
3. The legend will appear as a **Screen Overlay** in Google Earth.

