

## 6. Imagery Viewers: Which One Is for Me?

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Gone are the days when grandpa drew a map in the soil with a stick to show you where to go to work. Now, you need a precise and sure way to direct contractors and employees to exactly where you need them to be on your operation. Competition between some companies has helped this task become easier with recent upgrades to aerial imagery viewers available over the internet. We will compare several of the most popular viewers in this article.

Because of the cost of software licenses, full-blown Geographic Information Systems (GIS) are out of reach for most agricultural producers. However, some of the same benefits are now available over the Internet, often times without cost. Some of these viewers are NASA World Wind, Google Earth (was Keyhole), MSN TerraServer and MSN Virtual Earth.



Google Earth Plus and Pro versions include drawing tools and allow you to download GPS points.

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Example of MSN TerraServer with map, which uses USGS 1-meter ortho photos. Photo taken 6/26/03.

Aerial imagery helps producers in many ways. Using viewers downloaded from the internet, managers can:

- Outline areas that are to be sprayed or fertilized for contractors unfamiliar with the area.
- Include maps with records to visually show what has been accomplished. It also makes records easier to understand when spreadsheets and receipts are labeled to match the attached images.
- Plan long-term pest and nutrient management goals, especially in problem areas.
- Draw lines, points and polygons directly on the photo before printing it off.
- Download GPS waypoints.
- Clearly communicate with extension and government representatives. E-mail a map depicting the areas in question to consultants to be sure they understand the concerns you are trying to describe.

Indeed, there are countless uses for aerial images in agriculture, and these viewers make them easy to use and access.

## Imagery Viewers Side by Side

	Cost	Printing	GPS Import	Drawing	Calculate Areas	Topo Maps	Export w/ World File
<b>NASA World Wind</b>	Free	Screen shot export	No	No	No	Yes	No
<b>Google Earth</b>	Free	Yes	No	No	No	No	No
<b>Google Earth Plus</b>	\$20/year	Enhanced	Yes	Yes	No	No	No
<b>Google Earth Pro</b>	\$400+ /year	Excellent	Yes	Yes	Yes	No	No
<b>Virtual Earth</b>	Free	Yes	No	No	No	Yes	No
<b>Terra Server</b>	Free	Yes	No	No	No	Yes	Yes

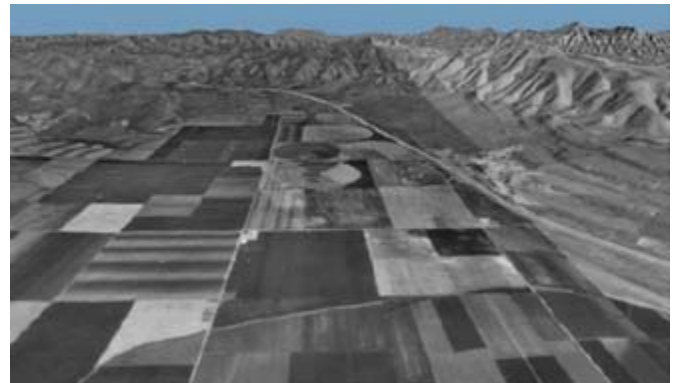
Eventually you will ask yourself, “Which one is for me?” It is easy to find your best fit by determining exactly what you want to accomplish. Google Earth uses commercial satellite imagery, which has a lot more data than other viewers; however, many times you still cannot find a clear view of your spot, especially in rural areas. NASA World Wind also has a very broad range of imagery and can also be limiting depending on where you operate. World Wind is open-source software, which means it allows user-authored add-ons, easily accessible on the Internet. Moreover, World Wind provides direct access to the downloaded DDS and JPEG satellite images. MSN TerraServer and Virtual Earth also have strong points; they use very clear USGS maps and digitized topographic maps. On the flip side, the photos can be quite old, and they are generally in black and white in rural areas. The great thing is, you don’t have to use just one.

### Some Features to Consider:

**Imagery:** Imagery is important. The images available must have good enough resolution to be usable. All of the viewers use a compilation of many types of archived images, even digitized topographic maps which give you many choices to best fit your operation.

**Printing:** Maps in your hand are a lot more useful than those on your computer. These viewers each have different formats that might suit one situation better than others. World Wind maps can be printed through a screen shot. The other viewers are specifically set up to print.

**Drawing Capability:** Although none of the free viewers have the option to draw on the map, Google Earth Plus (\$20/year) allows you to draw and label fields, ponds, etc. You can also import GPS points. Alternatively, you can manually draw these features on your hard copy printouts.



World Wind 3D image using USGS 1-meter ortho photos

Weigh out your needs and explore your options. Below are the web addresses of the viewers mentioned to in this article:

- <http://earth.google.com/>
- <http://worldwind.arc.nasa.gov/>
- <http://terraserver.microsoft.com/>
- <http://virtualearth.msn.com>