



## 2009 Preliminary Imagery Map Service

VGIN Partners,

VGIN is pleased to announce that the 2009 preliminary imagery has been delivered by Sanborn, and it is now available for viewing as an ArcGIS Server map service!

If you are a current subscriber to VGIN's map services, then you have automatically been given access to the 2009 preliminary images. If you don't currently subscribe to VGIN map services, then please read the "How Do I Connect?" section of this document for an explanation of how to connect along with subscription rates.

VGIN would like to emphasize the fact that this is **PRELIMINARY** imagery, so it is expected to have some flaws and inaccuracies. Sanborn was able to create this preliminary product by using the existing digital terrain models from 2006/2007, limiting adjustments to color balancing, and performing limited QA/QC on the resulting orthophotos. Examples of some typical flaws can be found in the "Screenshots of Typical Errors" section below.

Please remember to use this preliminary product in an appropriate manner. Appropriate uses may include generalized change detection and visualization. **It would definitely NOT be advisable to begin updating basemap data layers based on this product.** Also keep in mind that all of the final data products, which will be run through a vigorous QA/QC process by Dewberry, are scheduled to be delivered by the end of September, so you won't have to wait very long to begin any updates you may have scheduled.

The following pages of this document contain detailed information about the preliminary 2009 imagery, subscription and connection information, software requirements, and error reporting guidelines.

Please feel free to contact any VGIN staff member if you have any questions.

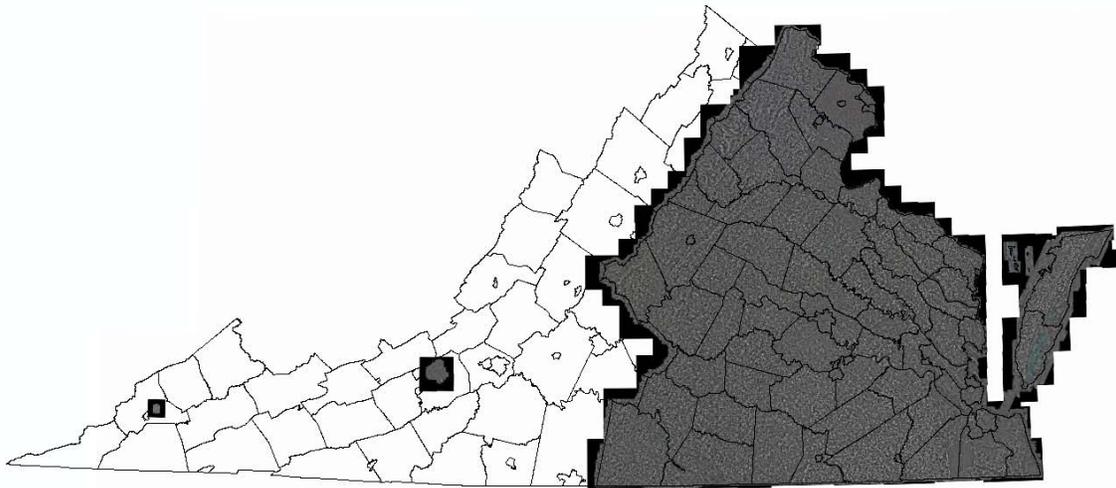
Sincerely,

Stuart Blankenship  
Geospatial Projects Manager

## **2009 Preliminary Imagery Information**

### ***Coverage Area***

The following graphic illustrates the coverage area of the 2009 preliminary imagery and was created directly from the map service. Please see the 2009/2011 Flight Areas map on the VGIN orthophotography web page for more detailed information.



### ***Projection: WGS 84***

The preliminary imagery and the resulting map service are in WGS 84 instead of the custom Lambert Conformal Conic projection that's used for VGIN's other map services. If you have the capability to consume this map service, then your software should be able to recognize this difference in projection and deal with it appropriately.

### ***Resolution: 1 Foot***

Tiles in the 2009 flight area that have been upgraded to 6" or 3" resolution have been resampled to 1 foot resolution for this preliminary dataset. The final product will contain all of the upgraded imagery that was purchased by local governments.

### ***Data Delivery Method***

Due to the preliminary nature of this product, VGIN is choosing to utilize an ArcGIS Server map service as the primary method of data delivery. We will not be distributing copies of the preliminary imagery as a standard procedure. We will consider special requests for copies of the imagery on a case by case basis. Each local government in the 2009 flight area will receive copies of the final data products as soon as they are made available by Sanborn.

### ***Available Map Services***

The 2009 orthophotography flights mark the first time the VBMP imagery has been captured with a digital sensor. The 2002, 2006, and 2007 imagery was captured using traditional film cameras,

so the resulting orthophotography was only available as true color. By making the move to digital sensors, this allowed for the capture of a 4<sup>th</sup> band of data in the near infrared portion of the electromagnetic spectrum. The infrared band allows for display of the imagery as color infrared in addition to the traditional true color display.

VGIN has created 2 sets of image caches for the 2009 preliminary imagery. The first set displays the imagery in true color, and the second set displays it as color infrared. For the color infrared image cache, the infrared band will display with a red tone while red wavelengths will be displayed as green and green wavelengths will be displayed as blue. Blue wavelengths are not displayed in the color infrared image cache.

Generally speaking, the color infrared imagery is useful for any applications that involve vegetation. Color infrared also tends to penetrate atmospheric haze better than true color imagery. For a good general overview of four band imagery and the uses of color infrared, go to the following document provided by the USDA as part of their NAIP program:

[http://www.fsa.usda.gov/Internet/FSA\\_File/fourband\\_info\\_sheet\\_2008pdf.pdf](http://www.fsa.usda.gov/Internet/FSA_File/fourband_info_sheet_2008pdf.pdf)

See the “How Do I Connect?” section of this document for more information on the 2 available 2009 map services.

## **Software Requirements and Tips**

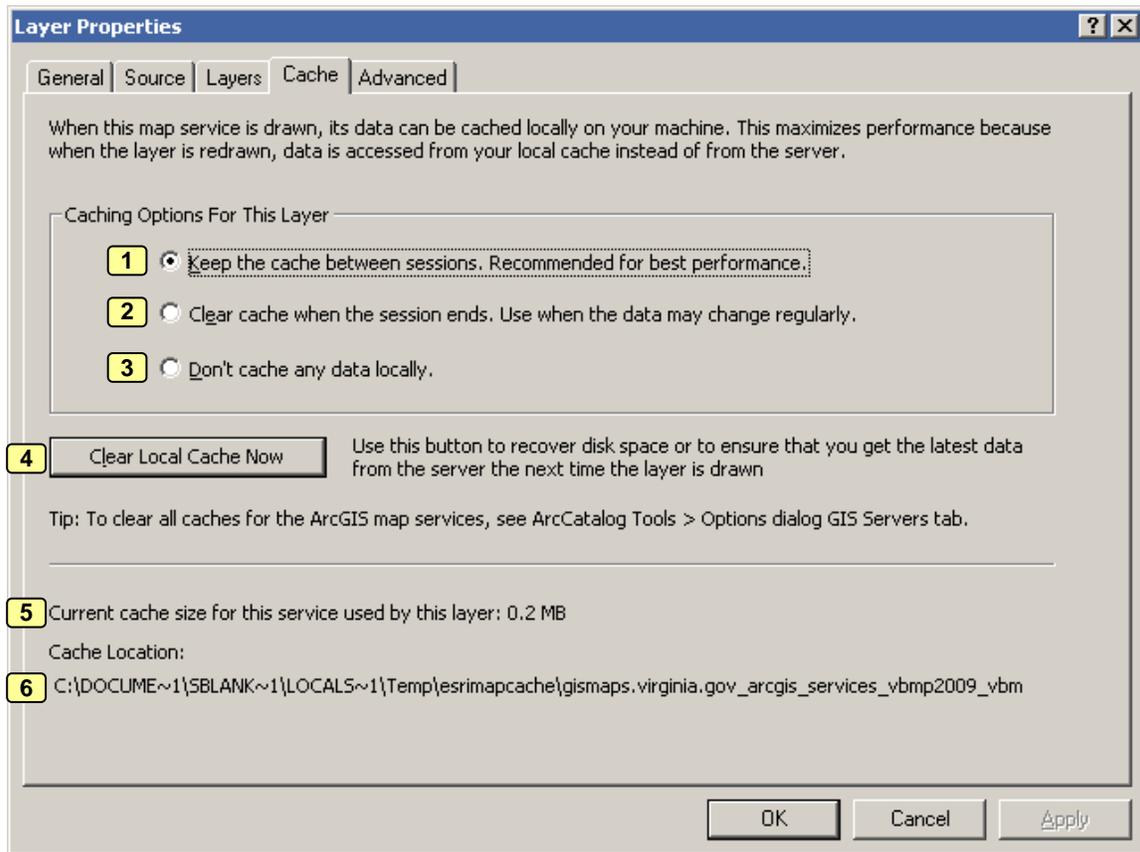
### ***ArcGIS Desktop Requirements***

For those of you who have not previously consumed the VGIN map services, please keep in mind that you will need to be running a **minimum of ArcGIS Desktop 9.2, Service Pack 5** to make a successful connection.

### ***Managing Your Local Image Cache***

It's important to note that by default ArcGIS Desktop will create a local copy of the images you view through this map service. This occurs because the map service is utilizing an image cache on the server which has been created to give the best performance across an internet connection. The local image cache is created by ArcGIS Desktop so the software can avoid downloading tiles that have previously been viewed. VGIN recommends that you delete the files in this local image cache on a periodic basis for two reasons. First, as the local cache grows it will begin to consume valuable space on your hard drive. Second, and most importantly, if images in the cache on the VGIN server are updated and you have a locally cached copy, then ArcGIS will not download any of the updated images. Clearing the cache on a periodic basis will ensure that you are viewing the most up to date imagery.

The screenshot below (from ArcGIS Desktop version 9.3.1) shows the options and information available for managing your local cache. This dialog box can be accessed by right-clicking the map service layer in ArcMap and selecting “Properties...”. Explanations of these options follow the graphic.



- 1) Keep the cache between sessions - This is the default option. Copies of all images accessed from any image cache will be stored locally until the cache is cleared by the user.
- 2) Clear cache when the session ends – Local image cache will be created during an individual ArcMap session and will be cleared upon exiting ArcMap.
- 3) Don't cache any data locally – ArcMap will not create local copies of any images. This will ensure that you are viewing the most recent images during your session but it may have an adverse affect on performance.
- 4) Clear Local Cache Now – Clicking this button will clear the images stored in the local cache for this layer. Any images from other cached map service layers that have been accessed will not be deleted. See item 6a below for an alternative method of clearing the local cache.
- 5) Current Cache Size – This will display the current amount of disk space being utilized by the local cache for this layer.
- 6) Cache Location – This displays the location of the local cache for this layer. By default, all images caches are stored on your local hard drive at C:\Documents and Settings\{Your Profile Login} \Local Settings\Temp\esrimapcache\
  - a. Alternative option for deleting cache – The local image cache can be cleared directly through Windows by deleting the contents in the folder listed above. This method is more efficient if you have accessed multiple map services that are utilizing caches, because it allows you to delete all cached imagery in one step.

## How Do I Connect?

### ***Requesting an Account (New Users)***

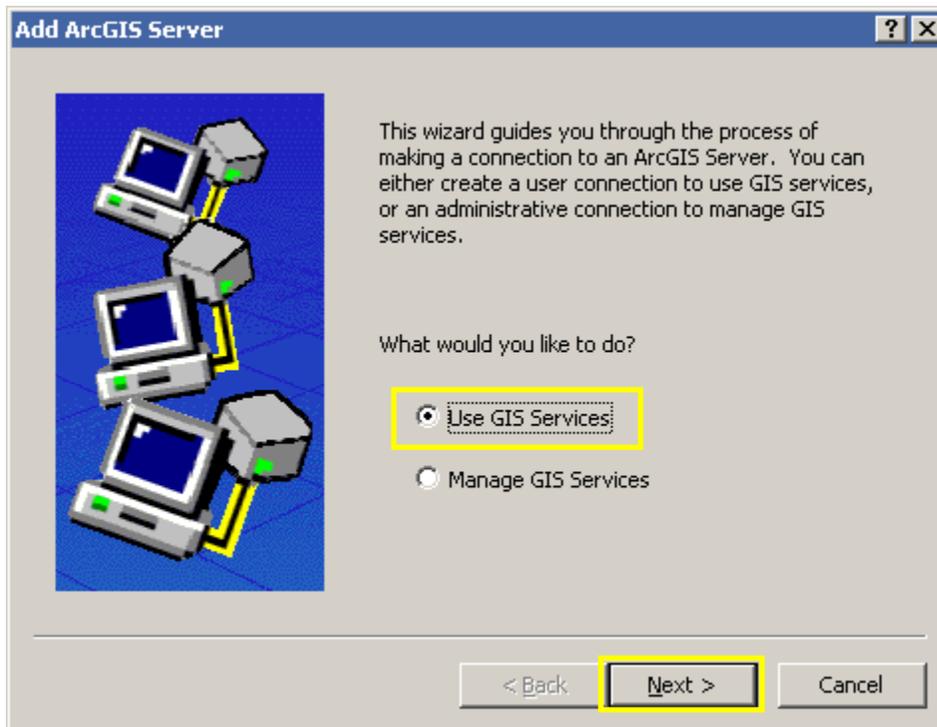
Once you've decided that you'd like to subscribe, you will need to request that an account be created that will allow you to access the VGIN map services. Please send an e-mail to Stuart Blankenship at [stuart.blankenship@vita.virginia.gov](mailto:stuart.blankenship@vita.virginia.gov) indicating that you would like to subscribe, and he, or another VGIN staff member, will work with you to determine your subscription type, discuss billing options (if applicable), and get your account created.

Once your account has been created, you will receive an e-mail with your username and password along with connection instructions and other additional information.

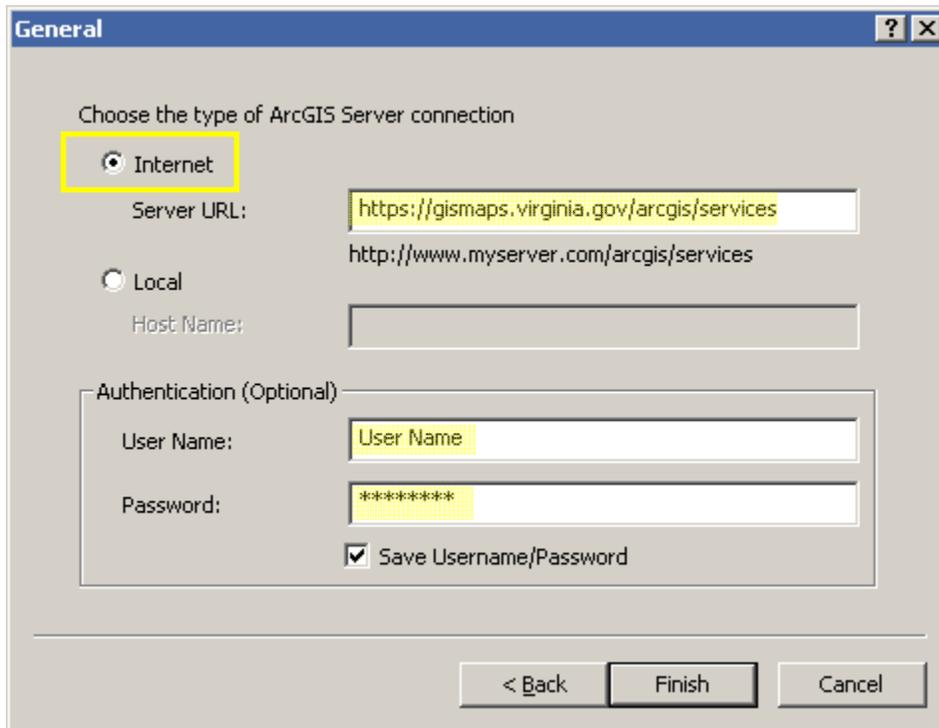
### ***Setting Up a Connection***

Once you receive your username and password from VGIN, you will need to setup your connection in ArcGIS Desktop.

Your connection can be setup through ArcCatalog or the "Add Data" dialog in ArcMap. To setup the connection choose "GIS Servers" and then double-click on "Add ArcGIS Server". The following dialog box will display:



Choose "User GIS Services" and click "Next":

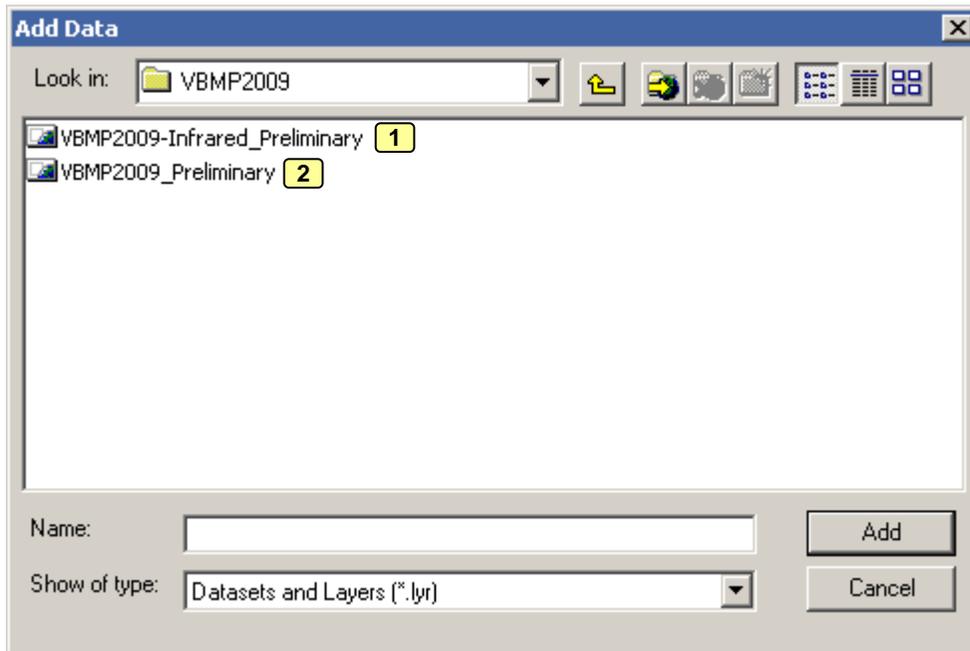


Click on the radio button to choose “Internet” for the type of ArcGIS Server connection. Enter “https://gismaps.virginia.gov/arcgis/services” for the Server URL. The map service requires authentication so enter your User Name and Password that was supplied by VGIN for your subscription.

After the connection is setup, you will see the following screen when you choose to add data:



Double-click the “VBMP2009” folder:



After opening the “VBMP2009” folder, you will see two map services available for display in ArcGIS Desktop:

- 1) VBMP2009-Infrared\_Preliminary – This map service will include the infrared band in the display of the 2009 preliminary imagery. Band 4 (infrared) will be displayed as red, Band 1 as Green, and Band 2 as Blue.
- 2) VBMP2009\_Preliminary – This map service will display the preliminary imagery in true color. Band 1 will be displayed as Red, Band 2 as Green, and Band 3 as Blue.

Choose the layer you wish to display and click “Add”. The chosen 2009 preliminary imagery map service will now be available for viewing in ArcMap.

## **Providing Feedback to VGIN**

As emphasized above, this is a preliminary product, but VGIN and Sanborn would still like to encourage any feedback you may have as you begin to view the imagery. We welcome general comments on the color balancing of the imagery as well as other quality related issues. We still have a small window to work with Sanborn to make minor adjustments to the overall appearance of the imagery. We also welcome information on any major flaws you may find in the dataset. The final data will be put through a QA/QC process by Dewberry, but knowing locations of major flaws ahead of time will only help to make that process go more smoothly.

Below you will find some methods and guidelines for providing feedback on problems identified as you view the preliminary imagery. These are just suggestions, and VGIN welcomes feedback about this preliminary imagery in any format.

### ***Shapefile or Geodatabase***

VGIN will be compiling the errors identified in the 2009 preliminary imagery into a point feature class in a geodatabase that will be provided to Sanborn.

If you want to provide the point location of any error you discover in shapefile or geodatabase format, VGIN will copy it to the master geodatabase to be shared with Sanborn. A general description of each error would also be helpful and can be provided in a text field in the shapefile/geodatabase or in an e-mail narrative.

### ***Latitude/Longitude Coordinates and Screenshots***

You can also provide VGIN with the latitude/longitude coordinates of errors along with a narrative description of the problem. VGIN can use the information to add a point to the master geodatabase. A screenshot showing the area with the problem marked with a graphic would also be extremely helpful.

A suggested method for determining latitude/longitude coordinates and creating screenshots is outlined below:

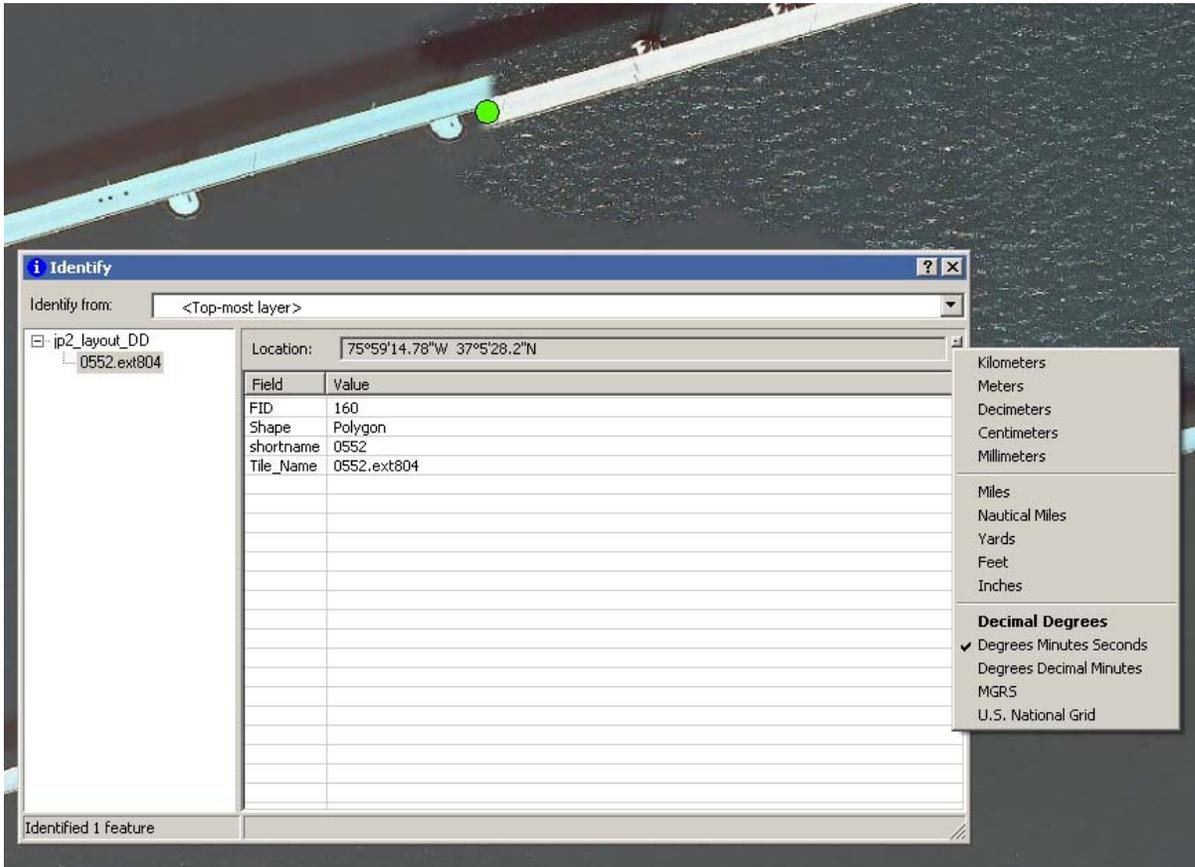
First, zoom to the area with the problem and mark with a point or polygon.

Next, use the identify tool to get the latitude/longitude coordinates by clicking on the location with the error. The resulting Identify window will display the coordinates of the location in the area beside the word "Location". It's likely that ArcMap's default location units will not be latitude/longitude coordinates. The display units can be changed by clicking on the small arrow on the right-hand side of the Location window and choosing "Degrees Minutes Seconds" (see screenshot below).

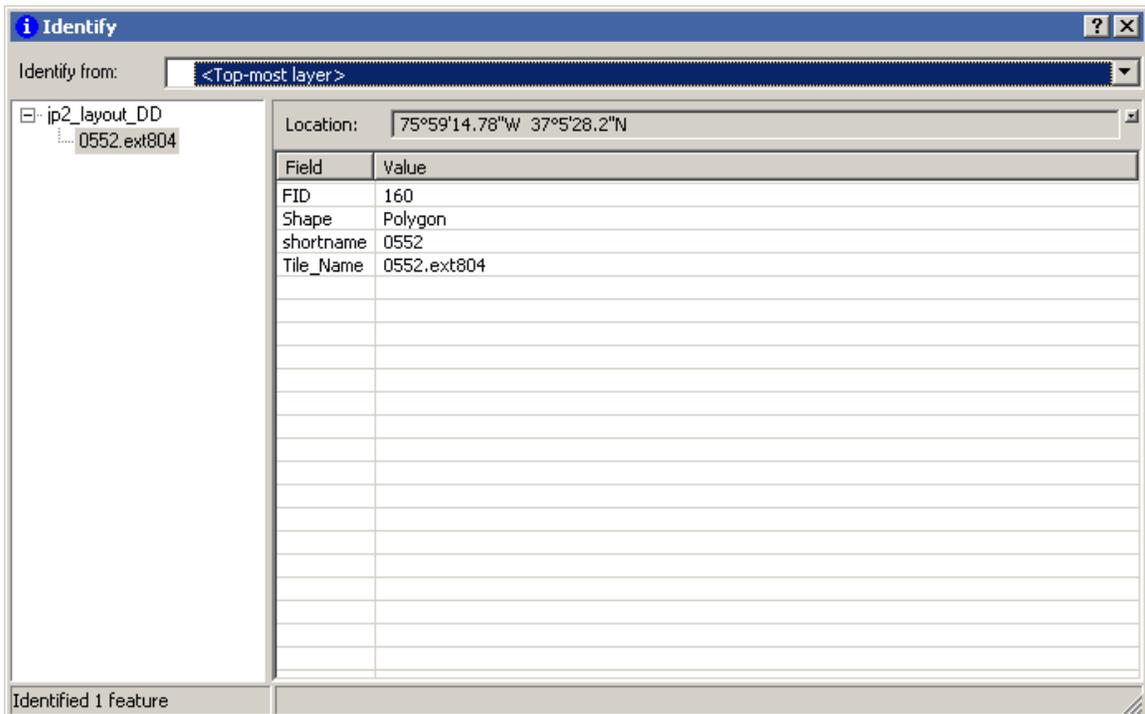


Now that you have the latitude/longitude coordinates, you can copy them from the Location window and paste them directly to an e-mail or any other document.

An efficient method for providing the coordinates and the error in one screenshot would be to position the Identify window in ArcMap so that the error is still visible. You can use the "Print Screen" function to capture the entire ArcMap window and paste into an e-mail or paste into a document to include as an e-mail attachment.



Alternatively, you can use the “Alt + Print Screen” function to capture the active window and send a screenshot that just includes the Identify window.



## Screenshots of Typical Errors

The following are examples of typical errors you may find in the 2009 preliminary imagery. VGIN has already identified alignment issues on parts of the Chesapeake Bay Bridge Tunnel and the James River Bridge and other misalignments along longer bridge structures would not be unexpected. Areas with new development would also be likely candidate locations to find errors due to the potential change in terrain. Sanborn performed little to no update of the digital terrain models that were used to create this preliminary product.

### Misalignment of Bridge



Missing Imagery Over Water Area



Misaligned Bridge in Area of New Construction



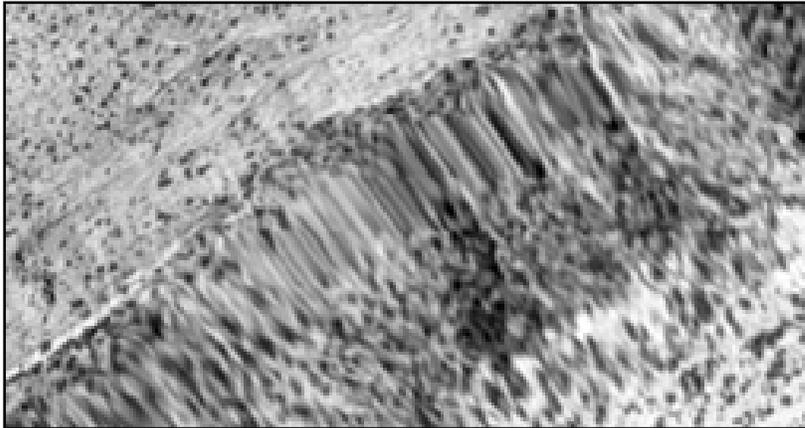
Misalignment and Warp of Bridge



Warped Bridge (example not from 2009 VBMP)



Smear (example not from 2009 VBMP)



### **Other Available Map Services**

In addition to the 2009 preliminary imagery, VGIN also has several other map services available. The services available to you after you login will be dependent on your subscription status as all layers aren't made available to every user by default.

Other available map services include:

- 2002 Orthophotography – Statewide 2002 orthophotography.
- 2006 Orthophotography – Orthophotography for 2006 flight areas only. This was created due to overlaps between the 2006 and 2007 orthophotography.
- 2006/2007 Orthophotography – Statewide orthophotography that's a combination of the 2006 and 2007 imagery. The 2007 imagery is displayed in areas of overlap between the two flight years.
- National Geographic Topographic Maps – National Geographic's enhanced version of the USGS topographic maps. Coverage includes Virginia and portions of surrounding states.
- 2008 NAIP Orthophotography – Statewide coverage of the 2008 USDA NAIP leaf-on orthophotography at 1 meter resolution.
- Geocoding – In addition to imagery map services, VGIN also has a geocoding web service available that is a composite of VGIN Road Centerlines and other sources of address information.

If you have questions about any of these additional map services, please contact Stuart Blankenship ([stuart.blankenship@vita.virginia.gov](mailto:stuart.blankenship@vita.virginia.gov)) or another VGIN staff member.