

TNM Viewer Platform – Using TNM Services FAQ

I would like to use the TNM services directly, not using the TNM Viewer – Can I?	2
What types of viewers/applications are supported?	2
What types of API calls can TNM services are supported?	2
Can I start using the TNM Web Map Services in my viewer or application during the beta period?	2
What are the Servers hosting the TNM Web Map Services?	2
What are the specific services for the TNM Web Map Services?	3
How do I load these services into ArcMap?	6
I am having problems adding the services to the ArcMap - Ideas?	6
How do I call these services as REST services in my viewer?	7
How do I call the TNM services as an OGC WMS?	7
I’m having trouble calling a TNM service as an OGC WMS – Ideas?	7
How do I call the TNM services as KML?	7
I’m having trouble calling a TNM service as a KML – Ideas?	8
How do I open up the service in Google Maps?	8
How do I open up the service in Bing Maps?	8
How do I open up the service in ArcGIS Javascript API?	8
Can I open the Google Earth KML call in Google Maps for Mobile?	8
Do you have examples of using TNM Services in other Viewers?	9

I would like to use the TNM services directly, not using the TNM Viewer – Can I?

Yes. The new TNM Viewer and Services Platform support the services to be consumed in multiple viewers and multiple Service Application programming interface (APIs) such as your own or favorite popular viewer or a GIS Application like ArcMap,

What types of viewers/applications are supported?

2D Viewers - any major using Web Mercator Projection like Bing Maps or Google maps

3D Viewers - like Google Earth, NASA Whirlwind, or ArcExplorer.

GIS application Viewers - like ArcMap

What types of API calls can TNM services are supported?

They are designed to be consumed as either WMS, KML, or REST API calls, but the technical internal setup to support WMS and KML to the services are still being finalized.

Currently, in the beta period, the REST calls to the TNM services is the best and most stable option.

Can I start using the TNM Web Map Services in my viewer or application during the beta period?

Though these may change after the beta period, the following is the list of services provided in the TNM Viewer. A user could right-click on the service and select metadata to see the same information and more, but this is a nice quick reference list. In future this list of services will be offered in a KML file as well.

PLEASE NOTE AGAIN: Linking to the TNM Services during the beta period is encouraged, but be aware that the URL may change once the beta period is over.

What are the Servers hosting the TNM Web Map Services?

Please note, the following URLs provided are not final, and may be changed during the beta period which is currently planned around 90 days. Thereafter the new URLs will be finalized.

The following are the ArcGIS Server to call the services:

Vector Base Map Cached Services, Vector Base Map Fill Services, Contours Large Scale Services

<http://tnm2beta.cr.usgs.gov/ArcGIS/rest/services>

*Contours expected to be on this server very soon

Vector Overlay Services, Inventory Services

<http://bms.cr.usgs.gov/ArcGIS/rest/services>

Imagery Base Map Cached Services, Shaded Relief Base Map Cached Services *

<http://imscache.cr.usgs.gov/ArcGIS/rest/services>

Imagery (Large Scale) , Shaded Relief Dynamic Services *

<http://isse.cr.usgs.gov/ArcGIS/rest/services>

What are the specific services for the TNM Web Map Services?

The following are the specific services for the TNM Web Map services. Clicking on any of these links will bring up the basic metadata page, known as the ArcGIS Service REST Endpoint. This view will have access to not only metadata, but the WMS, REST, KML, and SOAP endpoints to plug into your viewer or application. As noted above, these URLs may likely change at the end of the beta period, so please revisit this at the end of beta period so as to avoid continuity of service.

<u>Vector Base Map Cached Services</u>	
Service Name	Service URL
Vector Base Map (Beta)	http://tnm2beta.cr.usgs.gov/ArcGIS/rest/services/TNM_Vector/MapServer
Vector Fills (Beta)	http://tnm2beta.cr.usgs.gov/ArcGIS/rest/services/TNM_Vector_Fills/MapServer
<u>Vector Overlay Services, US Topo, and Download</u>	
Service Name	Service URL
US Topo: Current Available	http://bms.cr.usgs.gov/ArcGIS/rest/services/tnm/mod_web_gda_geopdfs/MapServer
Reference Polygons	http://bms.cr.usgs.gov/ArcGIS/rest/services/tnm/selectable_polygons/MapServer
Hydrography (NHD)	http://bms.cr.usgs.gov/ArcGIS/rest/services/tnm/nhd/MapServer
Transportation	http://bms.cr.usgs.gov/ArcGIS/rest/services/tnm/transportation/MapServer
Structures	http://bms.cr.usgs.gov/ArcGIS/rest/services/tnm/structures/MapServer
Governmental Units	http://bms.cr.usgs.gov/ArcGIS/rest/services/tnm/govunits/MapServer
Geographic Names (GNIS)	http://bms.cr.usgs.gov/ArcGIS/rest/services/tnm/geonames/MapServer

Contours (Beta)	http://tnmbeta.cr.usgs.gov/ArcGIS/rest/services/TNM_Contours_Beta/MapServer
<u>Inventory Services</u>	
Service Name	Service URL
NAIP Imagery - Vintage Date Range, Lower Bound (Month-Year), by Quad	http://bms.cr.usgs.gov/ArcGIS/rest/services/IMS_1_1a/WEBMERCATOR_IMG_NAIP_QUAD_LWR/MapServer
NAIP Imagery - Lower date range (year), by quad	http://bms.cr.usgs.gov/ArcGIS/rest/services/IMS_1_1a/WEBMERCATOR_IMG_NAIP_QUAD_LWR_YEAR/MapServer
NAIP Imagery - Multiple Images Per Quadrant	http://bms.cr.usgs.gov/ArcGIS/rest/services/IMS_1_1a/WEBMERCATOR_IMG_NAIP_QUAD_MUL_IMGS_PER_QDRNT/MapServer
NAIP Imagery - Vintage Date Range, Upper Bound (Month-Year), by Quad	http://bms.cr.usgs.gov/ArcGIS/rest/services/IMS_1_1a/WEBMERCATOR_IMG_NAIP_QUAD_UPR/MapServer
NAIP Imagery - Upper date range (year), by quad	http://bms.cr.usgs.gov/ArcGIS/rest/services/IMS_1_1a/WEBMERCATOR_IMG_NAIP_QUAD_UPR_YEAR/MapServer
NHD High Resolution - Vintage by Quad	http://bms.cr.usgs.gov/ArcGIS/rest/services/InventoryManagement/NHD_RESHIGH_QUAD_VINTAGE/MapServer
NHD High Resolution - Subbasin Revision - Vintage by Quad,Date	http://bms.cr.usgs.gov/ArcGIS/rest/services/IMS_1_1a/WEBMERCATOR_NHD_RESHIGH_SUBBASIN_REV/MapServer
NHD High Resolution - Subregion Maintenance Lite	http://bms.cr.usgs.gov/ArcGIS/rest/services/IMS_1_1a/WEBMERCATOR_NHD_RESHIGH_SUBREGION_MLITE/MapServer
NHD Medium Resolution - Subbasin 100K	http://bms.cr.usgs.gov/ArcGIS/rest/services/IMS_1_1a/WEBMERCATOR_NHD_RESMED_SUBBASIN_100K/MapServer
Structures - Fire and EMS Stations by County	http://bms.cr.usgs.gov/ArcGIS/rest/services/IMS_1_1a/WEBMERCATOR_STR_FIRE_CTY/MapServer
Structures - Hospitals and Medical Centers by County	http://bms.cr.usgs.gov/ArcGIS/rest/services/IMS_1_1a/WEBMERCATOR_STR_HOSP_CTY/MapServer
Structures - Law Enforcement Facilities by County	http://bms.cr.usgs.gov/ArcGIS/rest/services/IMS_1_1a/WEBMERCATOR_STR_LAW_CTY/MapServer
Structures - Schools by county	http://bms.cr.usgs.gov/ArcGIS/rest/services/IMS_1_1a/WEBMERCATOR_STR_SCHL_CTY/MapServer

Transportation, Roads - Census Loads by County	http://bms.cr.usgs.gov/ArcGIS/rest/services/IMS_1_1a/WEBMERCATOR_TRAN_ROAD_CNTY_CENSUS_ED/MapServer
Transportation, Roads - Lower Census by Quad	http://bms.cr.usgs.gov/ArcGIS/rest/services/IMS_1_1a/WEBMERCATOR_TRAN_ROAD_QUAD_LWR_CENSUS_ED/MapServer
Transportation, Roads - Upper Census by Quad	http://bms.cr.usgs.gov/ArcGIS/rest/services/IMS_1_1a/WEBMERCATOR_TRAN_ROAD_QUAD_UPR_CENSUS_ED/MapServer
US Topo: Current Available	http://bms.cr.usgs.gov/ArcGIS/rest/services/tnm/mod_web_gda_geopdfs/MapServer
<u>Raster Base Map Cached Services</u>	
Service Name	Service URL
Small Scale Imagery	http://imscache.cr.usgs.gov/ArcGIS/rest/services/TNM_Small_Scale_Imagery/MapServer
Small Scale Shaded Relief	http://imscache.cr.usgs.gov/ArcGIS/rest/services/TNM_Small_Scale_Shaded_Relief/MapServer
Medium Scale Shaded Relief	http://imscache.cr.usgs.gov/ArcGIS/rest/services/TNM_Medium_Scale_Shaded_Relief/MapServer
<u>Raster Large Scale Dynamic Services</u>	
Service Name	Service URL
Large Scale Imagery	http://isse.cr.usgs.gov/ArcGIS/rest/services/Combined/TNM_Large_Scale_Imagery/MapServer
Large Scale Shaded Relief	http://imscache.cr.usgs.gov/ArcGIS/rest/services/TNM_Large_Scale_Shaded_Relief/MapServer
Elevation 1/9 Arc Second (NED)	http://tnm2beta.cr.usgs.gov/reflector/services/ned19/MapServer
Scanned Map (Beta)	http://tnm2beta.cr.usgs.gov/ArcGIS/rest/services/Scanned_Maps_Beta/MapServer
Land Cover (NLCD)	http://tnm2beta.cr.usgs.gov/reflector/services/landcover/MapServer
<u>Emergency Operations</u>	
Service Name	Service URL

USGS Hazards Info (Provided by USGS Geography)	http://rmgsc.cr.usgs.gov/ArcGIS/rest/services/nhss_info/MapServer
USGS Hazards & Warnings (Provided by USGS Geography)	http://rmgsc.cr.usgs.gov/ArcGIS/rest/services/nhss_weat/MapServer
USGS US Hazards (Provided by USGS Geography)	http://rmgsc.cr.usgs.gov/ArcGIS/rest/services/nhss_haz/MapServer
NEXRAD Weather	http://tnm2beta.cr.usgs.gov/ArcGIS/rest/services/NEXRAD_Weather/MapServer

How do I load these services into ArcMap?

Use ArcCatalog to add the service as an ArcGIS Server. Copy a URL from the above list, but make sure to remove the “rest/” portion from the URL. Here is the abbreviated list to setup quickly:

<http://tnm2beta.cr.usgs.gov/ArcGIS/services>

<http://bms.cr.usgs.gov/ArcGIS/services>

<http://imscache.cr.usgs.gov/ArcGIS/services>

<http://isse.cr.usgs.gov/ArcGIS/services>

Once you have added the service to ArcCatalog, expand the list, pick the service layer you seek, and you can drag and drop the service into your ArcMap MXD session.

I am having problems adding the services to the ArcMap - Ideas?

- Did you try adding them through ArcCatalog first?
- Is the word rest in the /ArcGIS/rest/services part?
 - Recall, in ArcCatalog, you do not need the rest/ portion, so if cutting and pasting from there, this may be the difficulty.
- Can you access the service via a web page? Add “rest” back into the URL to test – possibly the service is down.
- We have tested on ArcGIS 9.2 and up – are you using an earlier version?
- Do you have the right URL? Note, during the beta period the URLs may be updated – double-check that the REST Point is still accessible.
- Recall, the cached services support EPSG:102113 (Project WGS84 WebMercator) – is your ArcMap Design file (MXD) setup to add the service in as such – is it reprojecting?
- Is your existing MXD using a cached service already in a different projection? If so, you will need to start a new MXD, set the correct projection, add TNM Services, and copy and past the services

you want from your existing MXD in this one (sans the external cached service in the wrong projection).

How do I call these services as REST services in my viewer?

See the question above on what are the URLs. Noticed how all the URLs end in /ArcGIS/rest/services

How do I call the TNM services as an OGC WMS?

Currently, during the beta only some of the services work as WMS as these services are using a technology that makes the services much faster, but unfortunately do not currently support the WMS standard. We are working through having both solutions during the beta period. When setup, call one the URLs listed above, and navigate to a specific service/layer. Click on the “WMS” link at the Bottom of the page.

The call will look like [Base URL]

/ArcGIS/services/MapServer/WMServer?

Notice that “/rest” is not in the service and there is nothing after the ?

I’m having trouble calling a TNM service as an OGC WMS – Ideas?

- Is /rest still in the URL? If so remove it
- Is anything after the ? like “request=GetCapabilities&service=WMS” – remove it
- I tried testing the WMS by adding a TNM service using Add Data back into the viewer, and it failed. Why? There is a bug in the current release that is using the wrong EPSG/Projection, and is expected to be fixed in the next release.
- I copied the WMS URL from the viewer metadata and it doesn’t work why? The viewer uses optimized Map services based on MSDs, and in the current version of ArcGIS MSDs do not support WMS. Use the other version – to do this remove the /viewer in the URL as noted above.

How do I call the TNM services as KML?

There are three ways:

Beginner: From the Viewer: right click on the desired service in the overlays on the left of the viewer, select the “View In” menu, select Google Earth

Intermediate: From the metadata REST Point page (listed above): At the top of the page, click on “Google Earth”

Advanced: Look at any Base URL REST point above, and add “MapServer/kml/mapImage.kmz”. For instance: http://tnm2beta.cr.usgs.gov/ArcGIS/rest/services/TNM_Vector/MapServer/kml/mapImage.kmz

I'm having trouble calling a TNM service as a KML – Ideas?

- Is /rest in the URL? If not, add it
- Not all layers in services are currently exposed to be supported. We are working on creating a KML file that will have all the services and layers selectable. Until then only the layers that are defaultly toggled on when you expand the services tree in the viewer are the ones that can be viewed as KML.
- I tried testing the KML link by adding a TNM service using Add Data back into the viewer, and it failed. Why? Oddly enough, the add KML feature – via Add Data or putting URL in the search box only works for KML Data files, not KML Services. Check out the KML Quick Start Guide to read more.
- After opening in Google Earth, sometimes it doesn't automatically refresh the service. Right-click on the service, and select refresh. The team is investigating this lack of response.
- Are you zoomed in close enough? In general many of the large scale services needs to be zoomed in beyond 1:250,000 scale (general approximation). The feedback should improve over time to inform the user of the availability of the service at the different scales.

How do I open up the service in Google Maps?

http://tnm2beta.cr.usgs.gov/ArcGIS/rest/services/TNM_Vector/MapServer?f=gmaps

This currently only works for the basemap cached services.

How do I open up the service in Bing Maps?

http://tnm2beta.cr.usgs.gov/ArcGIS/rest/services/TNM_Vector/MapServer?f=ve

This currently only works for the basemap cached services.

How do I open up the service in ArcGIS Javascript API?

http://tnm2beta.cr.usgs.gov/ArcGIS/rest/services/TNM_Vector/MapServer?f=jsapi

Calls to all services should work.

Can I open the Google Earth KML call in Google Maps for Mobile?

Currently, the KML call does not work in Google Maps for Mobile, but this is being explored to work.

The viewer itself or will work in many smartphone web browsers or the Other viewer calls above work in mobile, though not efficiently tuned for lightweight mobile transmission. The requirement is currently being investigated to when/if ESRI will be supporting the proper KML Tagging needed to provide this capability.

Do you have examples of using TNM Services in other Viewers?

Yes. Please visit the examples link which is available at the top of the help page:

<http://tnmbeta.cr.usgs.gov/help>