

InsightCloud

API/Developer Documentation

Version 0.4 Beta

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Revision Table

<i>Version Number</i>	<i>Date</i>	<i>Description</i>	<i>Authors</i>
0.0 Beta	08/15/2014	First Draft for initial release	DigitalGlobe
0.1 Beta	02/11/2015	Second Draft updated to include new features and updated widgets.	DigitalGlobe
0.2 Beta	04/21/2015	Third Draft updated to include new features and updated widgets.	DigitalGlobe
0.3 Beta	05/27/2015	Fourth Draft updated to include new features and updated widgets.	DigitalGlobe
0.4 Beta	06/09/2015	Fifth Draft updated to include new features and updated widgets.	DigitalGlobe

1 Scope

1.1 Identification

This document applies to InsightCloud Version 0.4 Beta Dated 06/09/2015.

1.2 System Overview

The DigitalGlobe InsightCloud combines an open data processing environment with powerful geospatial analytic algorithms and easy to use tools. The result is that our customers are able to cost effectively exploit massive amounts of location data in near real-time. The InsightCloud abstracts data management, application logic, and the user experience. Our customers can fuse DigitalGlobe Geospatial Big Data™ with their native and 3rd party sources. Experts can design custom Map Algebra algorithms within our framework and our Open APIs enable our analytics to integrate into end user workflows.

Insight Explorer	A portfolio of “easy button” analytic applications that enable interactive mission planning and collaborative mapping at global scale
GBD Analytic Toolkit	A portfolio of geospatial analytic tools that enable interactive analysis of massive volumes of raster and vector data to enable mission planning, predictive modeling, and real-time situational awareness. The GBD Analytic Toolkit leverages the core algorithms of Signature Analyst™ a patented tool that discover unseen patterns in spatial data.
Geospatial Data Hub	A big data processing and exploitation environment built on the Cloudera Enterprise Data Hub that has been adapted to process and exploit high resolution imagery, terrain, map features, human geography, movement tracks, and social media at global scale.

InsightCloud can be delivered via an On-Premise or Software as a Service (SaaS) model. Our On-Premise solution operates within the emerging IC ITE and DCGS Architectures. Our SaaS model runs in the Amazon Cloud and our Classified Datacenter in Herndon, VA.

1.3 Document Overview

The purpose of this document is to:

- Identify the REST service calls made by the software.

- Provide example calls and example results for reference

2 Reference Documents

Document Name	Ver	Location
InsightCloud General Users Guide (GUG)	0.0 Beta	

3 CAS Authentication

The following is a sample Groovy script that walks through the authentication and access steps for users who want to access our data via direct calls through REST services. Before running the script, users may need to import the insightcloud.digitalglobe.der cert into the JRE cacerts file by downloading the cert and running this command:

```
sudo keytool -import -trustcacerts -alias insightcloud.digitalglobe.der -file
/home/<user>/insightcloud.digitalglobe.der -keystore /usr/lib/jvm/java-7-
oracle/jre/lib/security/cacerts
```

The sample Groovy script:

```
import java.io.IOException
import java.util.logging.Logger
import java.util.regex.Matcher
import java.util.regex.Pattern
import org.apache.commons.httpclient.HttpClient
import org.apache.commons.httpclient.NameValuePair
import org.apache.commons.httpclient.methods.PostMethod
import org.apache.commons.httpclient.methods.GetMethod
import org.apache.commons.httpclient.methods.DeleteMethod

@Grab("commons-httpclient:commons-httpclient:3.1")

class Client
{
    static final Logger LOG = Logger.getLogger(Client.class.getName())
    String getServiceTicket(String server, String ticketGrantingTicket, String service)
    {
        if (!ticketGrantingTicket)
            return null
    }
}
```

```

HttpClient client = new HttpClient()
PostMethod post = new PostMethod("$server/$ticketGrantingTicket")
post.setRequestBody([new NameValuePair("service", service)].toArray(new
NameValuePair[1]))
try
{
    client.executeMethod(post)
    String response = post.getResponseBodyAsString()
    switch (post.getStatusCode())
    {
        case 200:
            return response
        default:
            LOG.warning("Invalid response code ( $post.getStatusCode() ) from CAS server!")
            LOG.info("Response (1k): " + response.substring(0, Math.min(1024, response.length())))
            break
    }
}
catch (final IOException e)
{
    LOG.warning(e.getMessage())
}
finally
{
    post.releaseConnection()
}
return null
}

String getTicketGrantingTicket(String server, String username, String password)
{
    HttpClient client = new HttpClient()
    PostMethod post = new PostMethod(server)
    post.setRequestBody([new NameValuePair("username", username),new
NameValuePair("password", password)].toArray(new NameValuePair[2]))
    try
    {
        client.executeMethod(post)
        String response = post.getResponseBodyAsString()
        switch (post.getStatusCode())
        {
            case 201:
                Matcher matcher = Pattern.compile(".*action=\\".*/*(.*?)\".*").matcher(response)
                if (matcher.matches())
                    return matcher.group(1)
                LOG.warning("Successful ticket granting request, but no ticket found!")
                LOG.info("Response (1k): " + response.substring(0, Math.min(1024, response.length())))
                break
            default:
                LOG.warning("Invalid response code ( ${post.getStatusCode()} ) from CAS server!")
                LOG.info("Response: $response")
                break
        }
    }
}

```

```

        catch (final IOException e)
        {
            LOG.warning(e.getMessage())
        }
        finally
        {
            post.releaseConnection()
        }
        return null
    }
    void notNull(Object object, String message)
    {
        if (object == null)
            throw new IllegalArgumentException(message)
    }
    void getServiceCall(HttpClient client, String service, String serviceTicket) {
        GetMethod method = new GetMethod(service)
        method.setQueryString([new NameValuePair("ticket", serviceTicket)].toArray(new
NameValuePair[1]))
        try
        {
            client.executeMethod(method)
            String response = method.getResponseBodyAsString()
            switch (method.getStatusCode())
            {
                case 200:
                    LOG.info("Response: $response")
                    break
                default:
                    LOG.warning("Invalid response code (" + method.getStatusCode() + ") from CAS
server!")
                    LOG.info("Response: $response")
                    break
            }
        }
        catch (final IOException e)
        {
            LOG.warning(e.getMessage())
        }
        finally
        {
            method.releaseConnection()
        }
    }
    void logout(String server, String ticketGrantingTicket) {
        HttpClient client = new HttpClient()
        DeleteMethod method = new DeleteMethod("$server/$ticketGrantingTicket")
        try
        {
            client.executeMethod(method)
            switch (method.getStatusCode())
            {
                case 200:

```

```

        LOG.info("Logged out")
        break
    default:
        LOG.warning("Invalid response code (" + method.getStatusCode() + ") from CAS
server!")
        LOG.info("Response: $response")
        break
    }
}
catch (final IOException e)
{
    LOG.warning(e.getMessage())
}
finally
{
    method.releaseConnection()
}
}

public static void main(String[] args)
{

    String server = "https://insightcloud.digitalglobe.com/cas/v1/tickets"
    String username = "user.name"
    String password = "user.password"
    String authEndpoint = "https://insightcloud.digitalglobe.com/monocle-
3/j_spring_cas_security_check"
    String apiEndpoint = "https://insightcloud.digitalglobe.com/monocle-
3/app/broker/mrgeo/Comms/datasources"

    Client client = new Client()

    // get a ticket-granting ticket from CAS
    String ticketGrantingTicket = client.getTicketGrantingTicket(server, username, password)
    println "TicketGrantingTicket is $ticketGrantingTicket"

    // get a service ticket to access the app
    String serviceTicket = client.getServiceTicket(server, ticketGrantingTicket, authEndpoint)
    println "ServiceTicket is $serviceTicket"

    // CAS puts something in the client's store, so must reuse the client
    HttpClient http = new HttpClient()

    // authenticate with the ticket
    client.getServiceCall(http, authEndpoint, serviceTicket)

    // actually make the API call we want
    client.getServiceCall(http, apiEndpoint, serviceTicket)

    // logout from CAS
    client.logout(server, ticketGrantingTicket)
}
}

```


4 External REST calls

The following are examples of the interaction between the UI and the external services REST calls that are triggered by each widget.

4.1 Terrain

4.1.1 Comms

The Comms widget provides the analyst with a visual output of radio frequency propagation using a set of criteria and an available DEM. It calculates radio frequency propagation loss against surrounding terrain based on Longley-Rice Irregular Terrain Model algorithm for radio frequency propagation loss. RF propagation result is filtered based on a supplied maximum path loss. The end result for each cell is the number of cells within a radius of interest below or equal to the maximum path loss.

4.1.1.1 Parameters

Parameters	Type	Default	Optional	Multiple	Description
BBOX	Float	<none>	False	False	Coordinates in decimal degrees, separated by commas, of the bounding box corners. In order, these coordinates are Lower Left Lon, Lower Left Lat, Upper Right Lon, Upper Right Lat; bbox always surrounds the origin point. BBOX=49.122,14.554,49.134,14.565 for example
Datasource	String	ASTER1	True	False	The analytic to operate on such as ASTER1
frequency	Float	300.0	False	False	The frequency of radio signal in MHz (20 MHz to 20 GHz)
outerRadius	Float	3000.0	False	False	The outer radius of the source transmission to consider for each cell

Parameters	Type	Default	Optional	Multiple	Description
					(meters).
transmitterHeight	Float	10.0	False	False	The height of the transmitting antenna above the terrain (meters).
transmitterCoord	Point2	<none>	True	True	An x/y coordinate pair for a transmitting tower's location. Repeat parameter for multiple transmitters. Can be substituted with inputPoints1 data source
receiverHeight	Float	10.0	False	False	The height of the receiving antenna above the terrain (meters).
confidence	Float	0.5	False	False	A measure used to describe the expected number of measurements be a given signal strength from multiple locations at a time t (0.0 to 1.0)
earthConductivity	Float	0.005	False	False	The Earth's conductivity for the terrain of the region of interest (Siemens per meter)
earthDialectric	Float	15.0	False	False	The Earth's dielectric constant for the terrain of the region of interest (Relative permittivity)
polarity	Integer	0	False	False	The polarity of the radio signal (0 = horizontal and 1 = vertical).
reliability	Float	0.5	False	False	A measure used to describe the expected percentage over a period of time at a target

Parameters	Type	Default	Optional	Multiple	Description
					location the signal will be at least a given signal strength (0.0 to 1.0)
radioClimate	Integer	5	False	False	A description of the environment of the region of interest (1 = Equatorial, 2 = Continental Subtropical, 3 = Maritime Subtropical, 4 = Desert, 5 = Continental Temperate, 6 = Maritime Temperate, Over Land, 7 = Maritime Temperate, Over Sea).
surfaceRefractivity	Float	301.0	False	False	The Atmospheric Bending Constant (N-Units).
colorType	String	COLORSCALE	True	False	Determines the type of color scheme (one of COLOR, COLORSCALE, COLORMAP)
colorString	String	204:215+48+39+148,153:252+141+89+148,102:254+224+139+148,51:145+207+96+148,0:26+152+80+148	True	False	Color values separated by '+' 1:255+0+0+148 for example
fileType	String	KMZ	True	False	The filetype of the return, PNG, GeoTIFF, and KMZ are supported; DOWNLOAD only
fileName	String	<none>	True	False	Resulting filename; DOWNLOAD only

Table 4.1 Comms RFP Parameters

Origin Array String (transmitterCoord)

Origin Array String must be built in one of two ways. With only one Origin point "ORIGINPOINT:-117.96122799195+38.019902697754" or with multiple points* "ORIGINPOINT:-117.96122799195+38.019902697754,originPoint:-117.97152767457+38.044965258789,originPoint:-117.9198576001+38.027627459717,originPoint:-117.97959575928+38.033807269287"

**User beware:* Comms RFP multiple point Origin Array String has little testing; issues may be present.

Parameters	Limits
Longitude	Between -180 and 180 degrees inclusive
Latitude	Between -90 and 90 degrees inclusive
Datasource	One of: ASTER1, SRTM3, SAAB2M
OuterRadius	Between 1 and 50000 meters inclusive
TransmitterHeight	Between 0 and 5000 meters inclusive
ReceiverHeight	Between 0 and 5000 meters inclusive
Confidence	Between 0 and 1 inclusive
Reliability	Between 0 and 1 inclusive
Polarity	One of '0', '1' where 0=horizontal and 1=vertical
FrequencyMhz	Between 1 and 20000 inclusive
FrequencyGhz	Between 0.001 and 20 inclusive
outputType	One of 'MAX', 'SUM' (may be any case)
fileType	One of 'PNG', 'GEOTIFF', 'KMZ' (may be any case)

Table 4.2 Comms RFP Parameter Limits

4.1.1.2 Steps for REST View

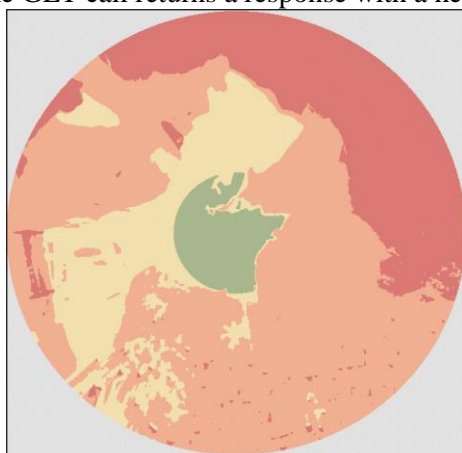
Basic call format: <https://iipbeta.digitalglobe.com/monocle-3/app/broker/mrgeo/Comms;REQUEST=Execute;DataSource={source};BBOX={LLLon,LLLat,URLon,URLat};Operation=LegionRfPropagationOperation;ColorType={type};ColorString={string};originPoint={Lon+Lat};outerRadius={value};transmitterHeight={value};receiverHeight={value};confidence={value};earthConductivity={value};earthDialectric={value};polarity={value};reliability={value};radioClimate={value};surfaceRefactivity={value};frequency={value}>

1. Submit a GET request to view a Comms RFP analytic. The REST call via monocle-3 application will look similar to the following:

```
https://iipbeta.digitalglobe.com/monocle-3/app/broker/mrgeo/Comms;REQUEST=Execute;DataSource=SAAB2M;BBOX=49.121966550803,14.553690517217,49.134085237527,14.565494088272;Operation=LegionRfPropagationOperation;ColorType=colourscale;ColorString=204:215+48+39+148,153:252+141+89+148,102:254+224+139+148,51:126+152+80+148,0.0001:26+152+80+148;originPoint=49.128025894165+14.55959230423;outerRadius=653;transmitterHeight=5;receiverHeight=5;confidence=.5;earthConductivity=0.005;earthDialectric=15;polarity=0;reliability=.5;radioClimate=1;surfaceRefractivity=301;frequency=15000
```

2. If this is the first request of the session, user will be redirected to the CAS authentication page; enter credentials and CAS will redirect to the response (see 3.)

3. The GET call returns a response with a header of 200 OK and a body of:



4.1.1.3 Steps for REST Download

Basic call format: `https://iipbeta.digitalglobe.com/monocle-3/app/broker/mrgeo/Comms;REQUEST=Execute;DataSource={source};BBOX={LLLon,LLLat,URLon,URLat};Operation=LegionRfPropagationOperation;ColorType={type};ColorString={string};originPoint={Lon+Lat};outerRadius={value};transmitterHeight={value};receiverHeight={value};confidence={value};earthConductivity={value};earthDialectric={value};polarity={value};reliability={value};radioClimate={value};surfaceRefractivity={value};frequency={value};fileType={type};filename={string}`

1. Submit a GET request to download a Comms RFP analytic. The REST call via monocle-3 application will look similar to the following:

```
https://iipbeta.digitalglobe.com/monocle-3/app/broker/mrgeo/Comms/download;REQUEST=Execute;DataSource=SAAB2M;BBOX=49.121966550803,14.553690517217,49.134085237527,14.565494088272;Operation=LegionRfPropagationOperation;ColorType=colourscale;ColorString=204:215+48+39+148,153:252+141+89+148,102:254+224+139+148,51:126+152+80+148,0.0001:26+152+80+148;originPoint=49.128025894165
```

+14.55959230423;outerRadius=653;transmitterHeight=5;receiverHeight=5;confidence=.5;earthConductivity=0.005;earthDialectric=15;polarity=0;reliability=.5;radioClimate=1;surfaceRefractivity=301;frequency=15000;fileType=kmz;filename=CommsTEST

2. If this is the first request of the session, user will be redirected to the CAS authentication page; enter credentials and CAS will redirect to the response (see 3.)
3. The GET call triggers a download; save or open at user discretion.

4.1.2 Cumulative Viewshed (Cumulative VS)

The Cumulative Viewshed analytic computes a viewshed within a given area of interest from a specified observation point and a search radius. The resulting image creates a Cumulative Exposure Grid (CEG) where each pixel represents the percentage of the surrounding area that is viewable within the specified search radius.

4.1.2.1 Parameters

Parameters	Type	Default	Optional	Multiple	Description
Left	Float	<none>	False	False	Longitude in decimal degrees of the lower left bounding box corner
Bottom	Float	<none>	False	False	Latitude in decimal degrees of the lower left bounding box corner
Right	Float	<none>	False	False	Longitude in decimal degrees of the upper right bounding box corner
Top	Float	<none>	False	False	Latitude in decimal degrees of the upper right bounding box corner
Datasource	String	ASTER1	True	False	The analytic to operate on such as ASTER1
ObserverHeight	Float	2	True	False	Height of the observer's view above the current elevation (meters)
TargetHeight	Float	0.01	True	False	Maximum height of the target above the elevation of its location (meters)

Parameters	Type	Default	Optional	Multiple	Description
InnerRadius	Float	0	True	False	Inner radius of region around observer cell to compute the viewshed (meters)
OuterRadius	Float	10000	True	False	Outer radius of region around observer cell to compute the viewshed (meters)
UpperVertAngle	Float	90	True	False	Upper angle of the observer's view above the horizon (degrees)
LowerVertAngle	Float	-90	True	False	Lower angle of the observer's view below the horizon (degrees)
sAzimuth	Float	0	True	False	Beginning azimuth angle of the observer's view in the horizontal plane with north equal to 0 (degrees)
eAzimuth	Float	360	True	False	Ending azimuth angle of the observer's view in the horizontal plane with north equal to 0 (degrees)
ColorType	String	COLORSCALE	True	False	Determines the type of color scheme (one of COLOR, COLORSCALE, COLORMAP)
Color	String	1:215+48+39+148,2:252+141+89+148,3:254+224+139+148,4:217+239+139+148,5:145+207+96+148,6:26+152+80+148	True	False	Color values separated by '+' 1:255+0+0+148 for example
fileType	String	KMZ	True	False	The filetype of the return, PNG, GeoTIFF, and KMZ are supported; DOWNLOAD only

Parameters	Type	Default	Optional	Multiple	Description
fileName	String	<none>	True	False	Resulting filename; DOWNLOAD only
normalize	String	RADIUS	True	False	Optional parameter to normalize results (RADIUS, or MINMAX). If not set then results are defaulted to RADIUS.
normalizeScaleValue	String	100	True	False	Optional parameter as the maximum of the linear scale range after normalizing.

Table 4.3 Cumulative Viewshed Parameters

Parameters	Limits
Left	Between -180 and 180 degrees inclusive
Right	Between -180 and 180 degrees inclusive
Bottom	Between -90 and 90 degrees inclusive
Top	Between -90 and 90 degrees inclusive
Datasource	One of: ASTER1, SRTM3, SAAB2M
ObHeight	Between 0.01 and 20000 meters inclusive
TargHeight	Between 0.01 and 20000 meters inclusive
InnerRadius	Between 0 and 50000 meters inclusive and ALSO less than OuterRadius
OuterRadius	Between 1 and 50000 meters inclusive
UVA	Between -90 and 90 degrees inclusive
LVA	Between -90 and 90 degrees inclusive and ALSO is less than UpperVertAngle
sAzimuth	Between 0 and 360 degrees and ALSO is less than eAzimuth
eAzimuth	Between 0 and 360 degrees
normalize	One of 'RADIUS', 'MINMAX' (may be any case)
normalizeScaleValue	Between 1.0 and 1000 inclusive
fileType	One of 'PNG', 'GEOTIFF', 'KMZ' (may be any case)

Table 4.4 Cumulative Viewshed Parameter Limits

4.1.2.2 Steps for REST View

Basic Call: [https://iipbeta.digitalglobe.com/monocle-](https://iipbeta.digitalglobe.com/monocle-3/app/broker/mrgeo/massvs;DataSource={source};Left={value};Bottom={value};Right={value};Top={value};ObHeight={value};TargHeight={value};InnerRadius={value};LVA={value};UVA={value};sAzimuth={value};eAzimuth={value};colorType={type};color={string};normalize={string};normalizeScaleValue={value};OuterRadius={value})

[3/app/broker/mrgeo/massvs;DataSource={source};Left={value};Bottom={value};Right={value};Top={value};ObHeight={value};TargHeight={value};InnerRadius={value};LVA={value};UVA={value};sAzimuth={value};eAzimuth={value};colorType={type};color={string};normalize={string};normalizeScaleValue={value};OuterRadius={value}](https://iipbeta.digitalglobe.com/monocle-3/app/broker/mrgeo/massvs;DataSource={source};Left={value};Bottom={value};Right={value};Top={value};ObHeight={value};TargHeight={value};InnerRadius={value};LVA={value};UVA={value};sAzimuth={value};eAzimuth={value};colorType={type};color={string};normalize={string};normalizeScaleValue={value};OuterRadius={value})

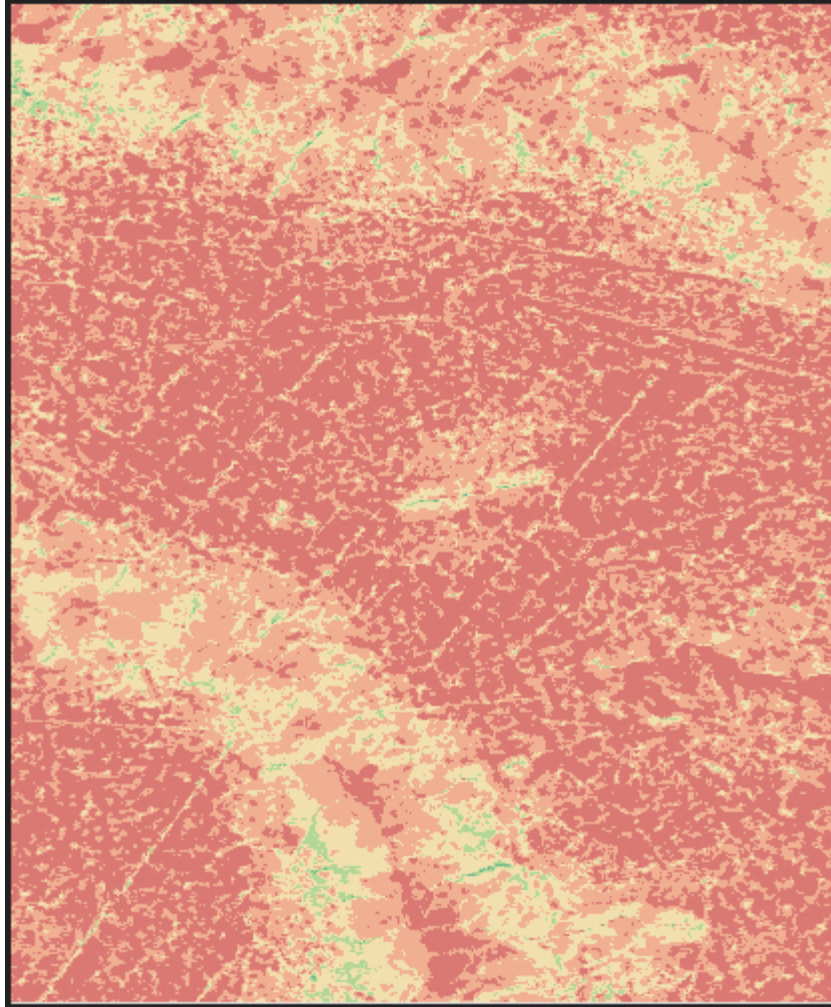
1. Submit a GET request to view a Cumulative Viewshed analytic. The REST call via monocle-3 application will look similar to the following:

[https://iipbeta.digitalglobe.com/monocle-](https://iipbeta.digitalglobe.com/monocle-3/app/broker/mrgeo/massvs;DataSource=ASTER1;Left=68.025135546875;Bottom=33.896753222656;Right=70.332264453125;Top=35.187646777344;ObHeight=2.00;TargHeight=0.01;InnerRadius=0;LVA=-90.0;UVA=90.0;sAzimuth=0;eAzimuth=360;colorType=Colorscale;color=80:26+152+80+148,60:145+207+96+148,40:254+224+139+148,20:252+141+89+148,0:215+48+39+148;normalize=MINMAX;normalizeScaleValue=100;OuterRadius=1000.0)

[3/app/broker/mrgeo/massvs;DataSource=ASTER1;Left=68.025135546875;Bottom=33.896753222656;Right=70.332264453125;Top=35.187646777344;ObHeight=2.00;TargHeight=0.01;InnerRadius=0;LVA=-90.0;UVA=90.0;sAzimuth=0;eAzimuth=360;colorType=Colorscale;color=80:26+152+80+148,60:145+207+96+148,40:254+224+139+148,20:252+141+89+148,0:215+48+39+148;normalize=MINMAX;normalizeScaleValue=100;OuterRadius=1000.0](https://iipbeta.digitalglobe.com/monocle-3/app/broker/mrgeo/massvs;DataSource=ASTER1;Left=68.025135546875;Bottom=33.896753222656;Right=70.332264453125;Top=35.187646777344;ObHeight=2.00;TargHeight=0.01;InnerRadius=0;LVA=-90.0;UVA=90.0;sAzimuth=0;eAzimuth=360;colorType=Colorscale;color=80:26+152+80+148,60:145+207+96+148,40:254+224+139+148,20:252+141+89+148,0:215+48+39+148;normalize=MINMAX;normalizeScaleValue=100;OuterRadius=1000.0)

2. If this is the first request of the session, user will be redirected to the CAS authentication page; enter credentials and CAS will redirect to the response (see 3.)

3. The GET call returns a response with a header of 200 OK and a body of:



4.1.2.3 Steps for REST Download

Basic Call: <https://iipbeta.digitalglobe.com/monocle-3/app/broker/mrgeo/massvs;DataSource={source};Left={value};Bottom={value};Right={value};Top={value};ObHeight={value};TargHeight={value};InnerRadius={value};LVA={value};UVA={value};sAzimuth={value};eAzimuth={value};colorType={type};color={string};normalize={string};normalizeScaleValue={value};OuterRadius={value};fileType={type};filename={string}>

1. Submit a GET request to download a Cumulative Viewshed analytic. The REST call via monocle-3 application will look similar to the following:

<https://iipbeta.digitalglobe.com/monocle-3/app/broker/mrgeo/massvs;DataSource=ASTER1;Left=68.025135546875;Bottom=33.896753222656;Right=70.332264453125;Top=35.187646777344;ObHeight=2.00;TargHeight=0.01;InnerRadius=0;LVA=-90.0;UVA=90.0;sAzimuth=0;eAzimuth=360;colorType=Colorscale;color=80:26+152+80+148,60:145+207+96+148,40:254+224+139+148,20:252+141+89+148,0:215+48+39+148>

48;normalize=MINMAX;normalizeScaleValue=100;OuterRadius=1000.0;fileType=kmz;
filename=CumVSTEST

2. If this is the first request of the session, user will be redirected to the CAS authentication page; enter credentials and CAS will redirect to the response (see 3.)

3. The GET call triggers a download; save or open at user discretion.

4.1.3 Sightline

The SightLine analytic provides the analyst with a visual line of sight output for any origin point and a given elevation model. This ability to quickly identify areas of high/low visibility provides a logistic advantage to analysts who need to ensure the success of a route where concealment or exposure becomes an issue.

4.1.3.1 Parameters

Parameters	Type	Default	Optional	Multiple	Description
Left	Float	<none>	False	False	Longitude in decimal degrees of the lower left bounding box corner
Bottom	Float	<none>	False	False	Latitude in decimal degrees of the lower left bounding box corner
Right	Float	<none>	False	False	Longitude in decimal degrees of the upper right bounding box corner
Top	Float	<none>	False	False	Latitude in decimal degrees of the upper right bounding box corner
OrgArrayString	String	<none>	False	False	Can be built in one of two ways. With only one Origin point (See below)
Datasource	String	ASTER1	True	False	The analytic to operate on such as ASTER1
ObserverHeight	Float	2	True	False	Height of the observer's view above the current elevation (meters)
TargetHeight	Float	0.01	True	False	Maximum height of the target above the elevation of its location (meters)

Parameters	Type	Default	Optional	Multiple	Description
InnerRadius	Float	0	True	False	Inner radius of region around observer cell to compute the viewshed (meters)
OuterRadius	Float	10000	True	False	Outer radius of region around observer cell to compute the viewshed (meters)
UpperVertAngle	Float	90	True	False	Upper angle of the observer's view above the horizon (degrees)
LowerVertAngle	Float	-90	True	False	Lower angle of the observer's view below the horizon (degrees)
sAzimuth	Float	0	True	False	Beginning azimuth angle of the observer's view in the horizontal plane with north equal to 0 (degrees)
eAzimuth	Float	360	True	False	Ending azimuth angle of the observer's view in the horizontal plane with north equal to 0 (degrees)
outputType	String	MAX	True	False	Defines how viewsheds from multiple sources are aggregated. The default MAX simply overlaps the viewsheds while SUM will add 1 to an output pixel for each overlap.
colorType	String	COLORMAP	True	False	Determines the type of color scheme (one of COLOR, COLORSCALE, COLORMAP)
color	String	1:0+255+0+148, 0:255+0+0+148	True	False	Color values separated by '+' 1:255+0+0+148 for example
fileType	String	KMZ	True	False	The filetype of the return, PNG, GeoTIFF, and KMZ are supported;

Parameters	Type	Default	Optional	Multiple	Description
					DOWNLOAD only
fileName	String	<none>	True	False	Resulting filename; DOWNLOAD only

Table 4.5 Sightline Parameters**Origin Array String**

Origin Array String must be built in one of two ways. With only one Origin point
 "ORIGINPOINT:-117.96122799195+38.019902697754" or with multiple points*
 "ORIGINPOINT:-117.96122799195+38.019902697754,originPoint:-
 117.97152767457+38.044965258789,originPoint:-
 117.9198576001+38.027627459717,originPoint:-
 117.97959575928+38.033807269287"

**User beware:* Sightline multiple point Origin Array String has little testing; issues may be present.

Parameters	Limits
Left	Between -180 and 180 degrees inclusive
Right	Between -180 and 180 degrees inclusive
Bottom	Between -90 and 90 degrees inclusive
Top	Between -90 and 90 degrees inclusive
Datasource	One of: ASTER1, SRTM3, SAAB2M
ObserverHeight	Between 0.01 and 20000 meters inclusive
TargetHeight	Between 0.01 and 20000 meters inclusive
InnerRadius	Between 0 and 50000 meters inclusive and ALSO less than OuterRadius
OuterRadius	Between 1 and 50000 meters inclusive
UpperVertAngle	Between -90 and 90 degrees inclusive
LowerVertAngle	Between -90 and 90 degrees inclusive and ALSO is less than UpperVertAngle
sAzimuth	Between 0 and 360 degrees and ALSO is less than eAzimuth
eAzimuth	Between 0 and 360 degrees
outputType	One of 'MAX', 'SUM' (may be any case)
fileType	One of 'PNG', 'GEOTIFF', 'KMZ' (may be any case)

Table 4.6 Sightline Parameter Limits**4.1.3.2 Steps for REST View**

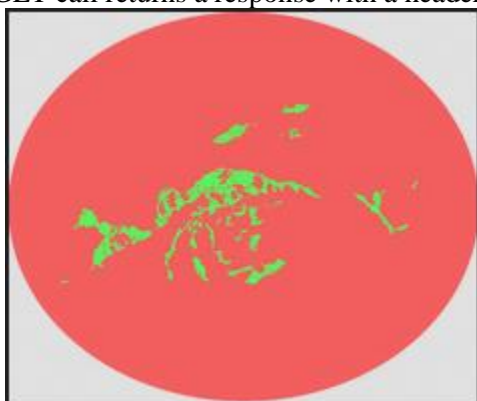
Basic Call: <https://iipbeta.digitalglobe.com/monocle-3/app/broker/mrgeo/sightline>;
 DataSource={source};Left={value};Bottom={value};Top={value};Right={value};OrgArrayString=ORIGINPOINT:{Lon+Lat};ObHeight={value};TargHeight={value};OuterRadius={value};LVA={value};UVA={value};sAzimuth={value};eAzimuth={value};outputType={string};colorType={type};color={string}

1. Submit a GET request to view a Sightline analytic. The REST call via monocle-3 application will look similar to the following:

<https://iipbeta.digitalglobe.com/monocle-3/app/broker/mrgeo/sightline>;
 DataSource=ASTER1;Left=69.482239816957;Bottom=34.070273567385;Top=34.250575106212;Right=69.699134183043;OrgArrayString=ORIGINPOINT:69.590687+34.160425;ObHeight=2.00;TargHeight=0.01;OuterRadius=10000;LVA=-90.0;UVA=90.0;sAzimuth=0;eAzimuth=360;outputType=MAX;colorType=ColorMap;color=1:0+255+0+148,0:255+0+0+148

2. If this is the first request of the session, user will be redirected to the CAS authentication page; enter credentials and CAS will redirect to the response (see 3.)

3. The GET call returns a response with a header of 200 OK and a body of:

**4.1.3.3 Steps for REST Download**

Basic Call: <https://iipbeta.digitalglobe.com/monocle-3/app/broker/mrgeo/sightline>;
 DataSource={source};Left={value};Bottom={value};Top={value};Right={value};OrgArrayString=ORIGINPOINT:{Lon+Lat};ObHeight={value};TargHeight={value};OuterRadius={value};LVA={value};UVA={value};sAzimuth={value};eAzimuth={value};outputType={string};colorType={type};color={string};fileName={string}

1. Submit a GET request to download a Sightline analytic. The REST call via monocle-3 application will look similar to the following:

<https://iipbeta.digitalglobe.com/monocle-3/app/broker/mrgeo/sightline/download>;
 DataSource=ASTER1;Left=69.482239816957;Bottom=34.070273567385;Top=34.2

50575106212;Right=69.699134183043;OrgArrayString=ORIGINPOINT:69.590687+34.160425;ObHeight=2.00;TargHeight=0.01;OuterRadius=10000;LVA=-90.0;UVA=90.0;sAzimuth=0;eAzimuth=360;outputType=MAX;colorType=ColorMap;color=1:0+255+0+148,0:255+0+0+148;fileType=kmz;filename=SightlineTEST

2. If this is the first request of the session, user will be redirected to the CAS authentication page; enter credentials and CAS will redirect to the response (see 3.)
3. The GET call triggers a download; save or open at user discretion.

4.1.4 Sitescan

The Sitescan analytic computes the Topographic Position Index (TPI). The TPI algorithm compares each target raster cell and an annular neighborhood defined between the inner and outer radii, and performs a basic landform classification to isolate the Ridge, Upper Slope, Middle Slope, Flat Slope, Lower Slope and Valley classes.

4.1.4.1 Parameters

Parameters	Type	Default	Optional	Multiple	Description
Left	Float	<none>	False	False	Longitude in decimal degrees of the lower left bounding box corner
Bottom	Float	<none>	False	False	Latitude in decimal degrees of the lower left bounding box corner
Right	Float	<none>	False	False	Longitude in decimal degrees of the upper right bounding box corner
Top	Float	<none>	False	False	Latitude in decimal degrees of the upper right bounding box corner
Datasource	String	ASTER1	True	False	The analytic to operate on such as ASTER1
InnerRadius	Float	0	True	False	The inner radius of the annular neighborhood around each cell (meters).

Parameters	Type	Default	Optional	Multiple	Description
outerRadius	Float	1000	True	False	The outer radius of the annular neighborhood around each cell (meters).
colorType	String	COLORMAP	True	False	Determines the type of color scheme (one of COLOR, COLORSCALE, COLORMAP)
Color	String	1:215+48+39+148,2:252+141+89+148,3:254+224+139+148,4:217+239+139+148,5:145+207+96+148,6:26+152+80+148	True	False	Color values separated by '+' 1:255+0+0+148 for example
fileType	String	KMZ	True	False	The filetype of the return, PNG, GeoTIFF, and KMZ are supported; DOWNLOAD only
fileName	String	<none>	True	False	Resulting filename; DOWNLOAD only

Table 4.7 Sitscan Parameters

Parameters	Limits
Left	Between -180 and 180 degrees inclusive
Right	Between -180 and 180 degrees inclusive
Bottom	Between -90 and 90 degrees inclusive
Top	Between -90 and 90 degrees inclusive
DataSource	One of: ASTER1, SRTM3
OuterRadius	Between 1 and 25000 inclusive
InnerRadius	Between 0 and 25000 inclusive and ALSO less than OuterRadius
fileType	One of 'PNG', 'GEOTIFF', 'KMZ' (may be any case)

Table 4.8 Sitedscan Parameter Limits**4.1.4.2 Steps for REST View**

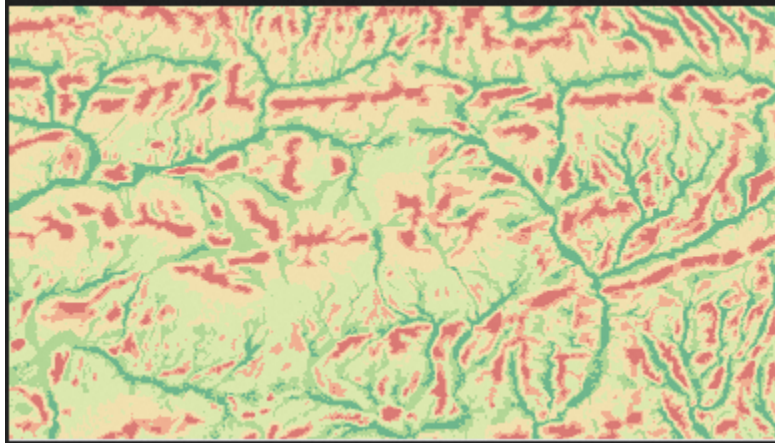
Basic Call: <https://iipbeta.digitalglobe.com/monocle-3/app/broker/mrgeo/sitedscan;DataSource={source};Left={value};Bottom={value};Right={value};Top={value};ColorType={type};Color={string};OuterRadius={value};InnerRadius={value}>

1. Submit a GET request to view a Cumulative Viewshed analytic. The REST call via monocle-3 application will look similar to the following:

<https://iipbeta.digitalglobe.com/monocle-3/app/broker/mrgeo/sitedscan;DataSource=ASTER1;Left=68.601917773438;Bottom=34.219476611328;Right=69.755482226563;Top=34.864923388672;ColorType=ColorMap;Color=1:215+48+39+148,2:252+141+89+148,3:254+224+139+148,4:217+239+139+148,5:145+207+96+148,6:26+152+80+148;OuterRadius=1000.00;InnerRadius=0.00>

2. If this is the first request of the session, user will be redirected to the CAS authentication page; enter credentials and CAS will redirect to the response (see 3.)

3. The GET call returns a response with a header of 200 OK and a body of:

**4.1.4.3 Steps for REST Download**

Basic Call: <https://iipbeta.digitalglobe.com/monocle-3/app/broker/mrgeo/sitedscan;DataSource={source};Left={value};Bottom={value};Right={value};Top={value};ColorType={type};Color={string};OuterRadius={value};InnerRadius={value};fileType={type};filename={string}>

1. Submit a GET request to download a Sitedscan analytic. The REST call via monocle-3 application will look similar to the following:

<https://iipbeta.digitalglobe.com/monocle-3/app/broker/mrgeo/sitescan;DataSource=ASTER1;Left=68.601917773438;Bottom=34.219476611328;Right=69.755482226563;Top=34.864923388672;ColorType=ColorMap;Color=1:215+48+39+148,2:252+141+89+148,3:254+224+139+148,4:217+239+139+148,5:145+207+96+148,6:26+152+80+148;OuterRadius=1000.00;InnerRadius=0.00;fileType=kmz;filename=SiteScanTEST>

2. If this is the first request of the session, user will be redirected to the CAS authentication page; enter credentials and CAS will redirect to the response (see 3.)

3. The GET call triggers a download; save or open at user discretion.

4.1.5 Touchdown (HLZ)

The Touchdown (HLZ) identifies suitable landing pad locations for different helicopters based on an origin location (dropped on the map in the viewport), LiDAR/DEM elevation source, Helicopter Type, Time of Day and Environmental Conditions.

4.1.5.1 Parameters

Parameters	Type	Default	Optional	Multiple	Description
Left	Float	<none>	False	False	Longitude in decimal degrees of the lower left bounding box corner
Bottom	Float	<none>	False	False	Latitude in decimal degrees of the lower left bounding box corner
Right	Float	<none>	False	False	Longitude in decimal degrees of the upper right bounding box corner
Top	Float	<none>	False	False	Latitude in decimal degrees of the upper right bounding box corner
Datasource	String	<none>	False	False	The elevation dataset to operate on such as BUCKEYE
Color	String	0,255,0	True	False	RGB color to render the HLZ
HlzDiameter	Float	25	True	False	Diameter of the HLZ touchdown area (meters)
MaxHlzSlope	Float	7	True	False	Maximum slope of the HLZ touchdown area (percent)

Parameters	Type	Default	Optional	Multiple	Description
ObstacleRadius	Float	125	True	False	Radius of obstacle avoidance (meters)
ApproachAngle	Float	10	True	False	Angle of approach to the HLZ
HoverHeight	Float	0	True	False	Hover height above HLZ (meters)
fileType	String	KMZ	True	False	The filetype of the return, PNG, GeoTIFF, and KMZ are supported; DOWNLOAD only
fileName	String	<none>	True	False	Resulting filename; DOWNLOAD only

Table 4.9 HLZ/Touchdown Parameters

Parameters	Limits
Left	Between -180 and 180 degrees inclusive
Right	Between -180 and 180 degrees inclusive
Bottom	Between -90 and 90 degrees inclusive
Top	Between -90 and 90 degrees inclusive
Datasource	One of: SAAB2m
hlzDiameter	Between 0 and 250 meters inclusive
maxHlzSlope	Between 0 and 90 degrees inclusive
obstacleRadius	Between 0 and 500 meters inclusive
approachAngle	Between 0 and 90 degrees inclusive
hoverHeight	Between 0 and 100 meters inclusive
fileType	One of 'PNG', 'GEOTIFF', 'KMZ' (may be any case)

Table 4.10 HLZ/Touchdown Parameter Limits

There are three pseudo-parameters in Touchdown (HLZ) that are used in the UI to quickly set the parameters for HLZ Diameter, Maximum HLZ Slope, Obstacle Radius, Approach Angle, and Hover Height. These pseudo-parameters are not involved in the REST calls to retrieve HLZ rasters.

Pseudo-Parameter	UI Name	REST Call Name
Helicopter Type	MH-6 / AH-6	MH-6%2520%252F%2520AH-6

Pseudo-Parameter	UI Name	REST Call Name
Helicopter Type	UH-72A / OH-58D	UH-72A%2520%252F%2520OH-58D
Helicopter Type	AH-1W/Z / AH-64 / UH-1Y/N	AH-1W%252FZ%2520%252F%2520AH-64%2520%252F%2520UH-1Y%252FN
Helicopter Type	UH-60A/L/M / SH-60	UH-60A%252FL%252FM%2520%252F%2520SH-60
Helicopter Type	MV-22B / CV-22B	MV-22B%2520%252F%2520CV-22B
Helicopter Type	CH-47(D/F)	CH-47(D%252FF)
Helicopter Type	CH-53(E/K)	CH-53(E%252FK)
Helicopter Type	Sling Load Aircraft	Sling%2520Load%2520Aircraft
Helicopter Type	Sling Load long lines	Sling%2520Load%2520long%2520lines
Time of Day	Day	DAY
Time of Day	Night	NIGHT
Environment	Desert/Snow	DESERT%252FSNOW
Environment	Mountain	MOUNTAIN
Environment	Jungle	JUNGLE
Environment	Urban	URBAN

Table 4.11 HLZ/Touchdown Pseudo-Parameters

4.1.5.2 Steps for Parameter REST call

1. Submit a GET request to see the set parameter values for the combined pseudo-parameters. The REST call via monocle-3 application will look similar to the following:

```
https://iipbeta.digitalglobe.com/monocle-3/app/broker/mrgeo/hlz/parameters;HelicopterType=MH-6%2520%252F%2520AH-6;TimeOfDay=DAY;Environment=URBAN
```

2. If this is the first request of the session, user will be redirected to the CAS authentication page; enter credentials and CAS will redirect to the response (see 3.)

3. The GET call returns a JSON response:

```
{
```

- "hlzDiameter": 10,
- "maxHlzSlope": 8,
- "obstacleRadius": 50,
- "approachAngle": 14

}

4.1.5.3 Steps for REST View

Basic Call: <https://iipbeta.digitalglobe.com/monocle-3/app/broker/mrgeo/hlz;DataSource={source};Left={value};Bottom={value};Top={value};Right={value};Color={string};HlzDiameter={value};MaxHlzSlope={value};ObstacleRadius={value};ApproachAngle={value};HoverHeight={value}>

1. Submit a GET request to view an HLZ/Touchdown analytic. The REST call via monocle-3 application will look similar to the following:

<https://iipbeta.digitalglobe.com/monocle-3/app/broker/mrgeo/hlz;DataSource=SAAB2M;Left=49.36853232269257;Bottom=14.761829611770372;Top=14.772204077356609;Right=49.385784291076384;Color=64,215,39,148;HlzDiameter=25;MaxHlzSlope=15;ObstacleRadius=125;ApproachAngle=10;HoverHeight=0>

2. If this is the first request of the session, user will be redirected to the CAS authentication page; enter credentials and CAS will redirect to the response (see 3.)

3. The GET call returns a raster response:



4.1.5.4 Steps for REST Download

Basic Call: <https://iipbeta.digitalglobe.com/monocle-3/app/broker/mrgeo/hlz;DataSource={source};Left={value};Bottom={value};Top={value};Right={value};Color={string};HlzDiameter={value};MaxHlzSlope={value};ObstacleRadius={value};ApproachAngle={value};HoverHeight={value};fileType={type};filename={string}>

1. Submit a GET request to download an HLZ/Touchdown analytic. The REST call via monocle-3 application will look similar to the following:

<https://insightcloud.digitalglobe.com/monocle-3/app/broker/mrgeo/hlz/download;DataSource=SAAB2M;Left=49.36853232269257;Bottom=14.761829611770372;Top=14.772204077356609;Right=49.385784291076384;Color=64,215,39,148;HlzDiameter=25;MaxHlzSlope=15;ObstacleRadius=125;ApproachAngle=10;HoverHeight=0;fileType=kmz;filename=HLZTEST>

2. If this is the first request of the session, user will be redirected to the CAS authentication page; enter credentials and CAS will redirect to the response (see 3.)
3. The GET call triggers a download; save or open at user discretion.

4.2 Text

SMA submits different calls for each of the sub-widgets, depending on the active sub-widgets.

4.2.1 Social Media Analytics

The InsightCloud Social Media widget provides the analyst with a visual output of up-to-the-second geolocated social media from Twitter and RSS feeds, based on user-defined queries.

General note: the GET call returns an application/json response that changes depending on if and what dimension is used. Below, sections have been divided by the dimensions to provide examples of each type of resulting response.

4.2.1.1 Parameters

Parameters	Type	Default	Optional	Multiple	Description
BBOX	Float	<none>	True	False	Coordinates in decimal degrees, separated by commas, of the bounding box corners. In order, these coordinates are Lower Left Lon, Lower Left Lat, Upper Right Lon, Upper Right Lat; bbox always surrounds the origin point. BBOX=49.122,14.554,4

Parameters	Type	Default	Optional	Multiple	Description
					9.134,14.565 for example
datetimerange	String	<none>	True	False	Date and time restriction on the range of data returned by the request. datetimerange=2015-02-11T08:33:46.812Z,2015-02-11T14:33:46.812Z for example
poly	String	<none>	True	True*	Coordinates in decimal degrees poly=%5B%5B%5B%5B-77.116721,39.002453%5D,%5B-77.514975,38.77156%5D,%5B-77.185385,38.587165%5D,%5B-76.82009,38.72872%5D,%5B-76.905234,39.01099%5D,%5B-77.116721,39.002453%5D%5D%5D%5D for example *Note: multiple polygons can be specified under poly
dimension	String	<none>	True	False	Additional filters for the analytic, displaying specific data in specific fashion. dimension=datetime, for example Possible dimensions are: For Timeline: datetime For Word Cloud values: term

Parameters	Type	Default	Optional	Multiple	Description
					sigterm hashtag For Top Ten values: topten For Statistics: stats For Map Aggregations: geohash
query	String	<none>	True	True	Used for specifying search terms to narrow results. Query follows basic Elasticsearch query logic. query=+dmvmusic+AND+positiveSentiment:%3E0.96, for example.
format	String	<none>	True	False	The filetype of the return, SHP packaged in ZIP is supported; DOWNLOAD only format=shp for example
stream-shape-file	String	<none>	True	False	Method of downloading the return, streaming is supported; DOWNLOAD only stream-shape-file=true for example

Table 4.12 Social Media Parameters

Parameters	Limits
Longitude	Between -180 and 180 degrees inclusive
Latitude	Between -90 and 90 degrees inclusive

Table 4.13 Social Media Parameter Limits

4.2.1.2 Differences in REST View - Map – Cluster vs Kernel Density

Note: Sections detailing REST View for maps are capable of using Cluster or KD calls; the examples in later sections are given using Cluster calls.

4.2.1.2.1 Cluster, Cluster Sentiment

Note: Both Cluster and Cluster Sentiment are triggered via the same call; Sentiment makes use of the pos_sentiment_avg and neg_sentiment_avg.

1. InsightCloud Social Media submits a GET call
<https://iipbeta.digitalglobe.com/monocle-3/app/broker/sma/sma/twitter/tweets?bbox=-78.086426,38.470804,-75.88916,39.314123&datetimerange=2015-04-20T05:00:00.000Z,2015-04-20T17:00:00.000Z&dimensions=geohash>

And returns a response with a header of 200 OK and a body of

```
{
  "took": 288,
  "timed_out": false,
  "_shards": {
    "total": 5,
    "successful": 5,
    "failed": 0
  },
  "hits": {
    "total": 2123960,
    "max_score": 0,
    "hits": []
  },
  "aggregations": {
    "results": {
      "doc_count": 17443,
      "geohash": {
        "buckets": [
          {
            "key": "dqcj3",
            "doc_count": 1035,
            "pos_sentiment_avg": {
              "value": 0.7295101769110421
            },
            "geo_lat_avg": {
              "value": 38.89866278000012
            },
            "geo_lon_avg": {
              "value": -77.01465590579697
            },
            "neg_sentiment_avg": {
              "value": 0.2704898230889579
            }
          }
        ]
      }
    }
  }
}
```

```

    "key": "dqbdbu",
    "doc_count": 1,
    "pos_sentiment_avg": {
      "value": 0.7105759793035298
    },
    "geo_lat_avg": {
      "value": 38.477259
    },
    "geo_lon_avg": {
      "value": -78.012127
    },
    "neg_sentiment_avg": {
      "value": 0.2894240206964702
    }
  }
]
}
}
}
}

```

4.2.1.2.2 Kernel Density, KD Sentiment

Note: Both Kernel Density and Kernel Density Sentiment are triggered via the same call; KD Sentiment makes use of the positiveSentiment and negativeSentiment.

Note: For any KD call be sure to include the pageSize=100000 in the call.

1. InsightCloud Social Media submits a GET call
<https://iipbeta.digitalglobe.com/monocle-3/app/broker/sma/sma/twitter/tweets?bbox=-78.086426,38.470804,-75.88916,39.314123&datetimerange=2015-04-20T05:00:00.000Z,2015-04-20T17:00:00.000Z&pageSize=100000>

And returns a response with a header of 200 OK and a body of

```

{
  "took": 475,
  "timed_out": false,
  "_shards": {
    "total": 5,
    "successful": 5,
    "failed": 0
  },
  "hits": {
    "total": 17443,
    "max_score": 1,
    "hits": [
      {
        "_index": "orbit-2015-04-20",
        "_type": "tweet",
        "_id": "590116320173281280",
        "_score": 1,

```

```

    "_source": {
      "text": "@ThePlumLineGS none of that tells us if those people didn't have
insurance before Obamacare. 1/2",
      "screenName": "conncarroll",
      "loc_hash": "dqcj4wfs7tkwyp0cf777",
      "retweets": null,
      "gnipLanguage": "en",
      "friendsCount": 821,
      "actorDescription": "Communications Director for Sen. Mike Lee (R-UT)",
      "followersCount": 6946,
      "negativeSentiment": 0.5707486331604419,
      "favoritesCount": 0,
      "positiveSentiment": 0.429251366839558,
      "userMentions": [
        "20508720:Greg Sargent"
      ],
      "process_version": "20140909T120800Z",
      "twitterCountryCode": "US",
      "twitterLanguage": null,
      "device": "Twitter for iPhone",
      "created": "2015-04-20T11:34:29.000Z",
      "geo": {
        "lat": 38.885494,
        "lon": -77.230297
      },
      "actorDisplayName": "Conn Carroll",
      "listedCount": 332,
      "exactGeo": "true",
      "verb": "post",
      "countryCode": "United States",
      "statusesCount": 38557,
      "id": "590116320173281280",
      "actorLanguages": [
        "en"
      ],
      "actorId": "15739391",
      "placeGeoType": "Polygon"
    }
  },
  ...
  {
    "_index": "orbit-2015-04-20",
    "_type": "tweet",
    "_id": "590197855345893376",
    "_score": 1,
    "_source": {
      "text": "@CoCoaaChanell_ Georgia ave nw",
      "screenName": "ICYUNVKAY",
      "loc_hash": "dqck2w9u2v9b34wvwzh2",
      "retweets": null,

```

```

    "gnipLanguage": "ht",
    "friendsCount": 1974,
    "actorDescription": null,
    "followersCount": 3695,
    "negativeSentiment": 0.14609735712941835,
    "favoritesCount": 0,
    "positiveSentiment": 0.8539026428705817,
    "userMentions": [
      "444059071:July12GloDay☹"
    ],
    "process_version": "20140909T120800Z",
    "twitterCountryCode": "US",
    "twitterLanguage": null,
    "device": "Twitter for Android",
    "created": "2015-04-20T16:58:28.000Z",
    "geo": {
      "lat": 38.752285,
      "lon": -76.967777
    },
    "actorDisplayName": "☐Unapologetic☐",
    "listedCount": 7,
    "exactGeo": "true",
    "verb": "post",
    "countryCode": "United States",
    "statusesCount": 332498,
    "id": "590197855345893376",
    "actorLanguages": [
      "en"
    ],
    "actorId": "274127760",
    "placeGeoType": "Polygon"
  }
}
]
}
}

```

4.2.1.3 Steps for REST View - Map – Polygon

4.2.1.3.1 RSS

1. Submit a GET request to retrieve InsightCloud Social Media information. The REST call via monocle-3 application will look similar to the following for **RSS**:

```

https://iipbeta.digitalglobe.com/monocle-
3/app/broker/sma/sma/rss/sentences?bbox=-86.661093,33.797775,-
68.204062,41.656827&datetimerange=2015-02-11T08:33:46.812Z,2015-
02-11T14:33:46.812Z&dimensions=geohash&poly=%5B%5B%5B%5B-
77.116721,39.002453%5D,%5B-77.514975,38.77156%5D,%5B-
77.185385,38.587165%5D,%5B-76.82009,38.72872%5D,%5B-
76.905234,39.01099%5D,%5B-77.116721,39.002453%5D%5D%5D%5D

```

2. If this is the first request of the session, user will be redirected to the CAS authentication page; enter credentials and CAS will redirect to the response (see 3.)

3. The GET call returns a response with a header of 200 OK and a body of:

```
{
  "took": 3,
  "timed_out": false,
  "_shards": {
    "total": 5,
    "successful": 5,
    "failed": 0
  },
  "hits": {
    "total": 10104,
    "max_score": 0,
    "hits": []
  },
  "aggregations": {
    "results": {
      "doc_count": 12,
      "geohash": {
        "buckets": [
          {
            "key": "dqcj",
            "doc_count": 11,
            "pos_sentiment_avg": {
              "value": 0.670301599842486
            },
            "geo_lat_avg": {
              "value": 38.91293973636363
            },
            "geo_lon_avg": {
              "value": -77.04957312727274
            },
            "neg_sentiment_avg": {
              "value": 0.3296984001575139
            }
          }
        ]
      },
      "key": "dqch",
      "doc_count": 1,
      "pos_sentiment_avg": {
        "value": 0.3507113975563318
      },
      "geo_lat_avg": {
        "value": 38.778515
      },
      "geo_lon_avg": {
        "value": -77.328831
      }
    }
  }
}
```

```

    "neg_sentiment_avg": {
      "value": 0.6492886024436682
    }
  }
]
}
}
}
}
}

```

4.2.1.3.2 Twitter

1. Submit a GET request to retrieve InsightCloud Social Media information. The REST call via monocle-3 application will look similar to the following for **Twitter**:

```

https://iipbeta.digitalglobe.com/monocle-
3/app/broker/sma/sma/twitter/tweets?bbox=-79.52822,37.422876,-
74.913962,39.372867&datetimerange=2015-02-11T08:44:08.099Z,2015-
02-11T14:44:08.099Z&dimensions=geohash&poly=%5B%5B%5B%5B-
77.116721,39.002453%5D,%5B-77.514975,38.77156%5D,%5B-
77.185385,38.587165%5D,%5B-76.82009,38.72872%5D,%5B-
76.905234,39.01099%5D,%5B-77.116721,39.002453%5D%5D%5D%5D

```

2. If this is the first request of the session, user will be redirected to the CAS authentication page; enter credentials and CAS will redirect to the response (see 3.)

3. The GET call returns a response with a header of 200 OK and a body of:

```

{
  "took": 71,
  "timed_out": false,
  "_shards": {
    "total": 5,
    "successful": 5,
    "failed": 0
  },
  "hits": {
    "total": 2711576,
    "max_score": 0,
    "hits": []
  },
  "aggregations": {
    "results": {
      "doc_count": 3408,
      "geohash": {
        "buckets": [
          {
            "key": "dqcj",
            "doc_count": 799,
            "pos_sentiment_avg": {
              "value": 0.7422933619868444
            },
            "geo_lat_avg": {

```

```

    "value": 38.90321275043809
  },
  "geo_lon_avg": {
    "value": -77.01566461595745
  },
  "neg_sentiment_avg": {
    "value": 0.2577066380131556
  }
},
{
  "key": "dqcj",
  "doc_count": 248,
  "pos_sentiment_avg": {
    "value": 0.7637154226459237
  },
  "geo_lat_avg": {
    "value": 38.908804034677416
  },
  "geo_lon_avg": {
    "value": -77.04847070967742
  },
  "neg_sentiment_avg": {
    "value": 0.23628457735407635
  }
},
{
  "key": "dqcm0",
  "doc_count": 205,
  "pos_sentiment_avg": {
    "value": 0.6561236585687696
  },
  "geo_lat_avg": {
    "value": 38.86956396097561
  },
  "geo_lon_avg": {
    "value": -76.97113467804878
  },
  "neg_sentiment_avg": {
    "value": 0.34387634143123036
  }
},
...
{
  "key": "dq5z",
  "doc_count": 1,
  "pos_sentiment_avg": {
    "value": 0.8806847602460081
  },
  "geo_lat_avg": {
    "value": 38.651515

```

```

    },
    "geo_lon_avg": {
      "value": -77.033559
    },
    "neg_sentiment_avg": {
      "value": 0.11931523975399197
    }
  },
  {
    "key": "dqbsp",
    "doc_count": 1,
    "pos_sentiment_avg": {
      "value": 0.9699143364937929
    },
    "geo_lat_avg": {
      "value": 38.848734
    },
    "geo_lon_avg": {
      "value": -77.35278
    },
    "neg_sentiment_avg": {
      "value": 0.030085663506207064
    }
  },
  {
    "key": "dqbur",
    "doc_count": 1,
    "pos_sentiment_avg": {
      "value": 0.5915799026738225
    },
    "geo_lat_avg": {
      "value": 38.738652
    },
    "geo_lon_avg": {
      "value": -77.384079
    },
    "neg_sentiment_avg": {
      "value": 0.4084200973261774
    }
  }
]
}
}
}
}

```

4.2.1.4 Steps for REST View - Map – Viewport

4.2.1.4.1 RSS

1. Submit a GET request to retrieve InsightCloud Social Media information. The REST call via monocle-3 application will look similar to the following for **RSS**:

<https://iipbeta.digitalglobe.com/monocle-3/app/broker/sma/sma/rss/sentences?bbox=-77.262458,38.758259,-76.713142,39.029141&datetimerange=2015-01-06T08:40:49.189Z,2015-01-06T14:40:49.189Z&dimensions=geohash>

2. If this is the first request of the session, user will be redirected to the CAS authentication page; enter credentials and CAS will redirect to the response (see 3.)

3. The GET call returns a response with a header of 200 OK and a body of:

```
{
  "took": 31,
  "timed_out": false,
  "_shards": {
    "total": 5,
    "successful": 5,
    "failed": 0
  },
  "hits": {
    "total": 31525,
    "max_score": 0,
    "hits": []
  },
  "aggregations": {
    "results": {
      "doc_count": 34,
      "geohash": {
        "buckets": [
          {
            "key": "dqcjgq",
            "doc_count": 25,
            "pos_sentiment_avg": {
              "value": 0.7983437071177996
            },
            "geo_lat_avg": {
              "value": 38.91033374
            },
            "geo_lon_avg": {
              "value": -77.04519927999999
            },
            "neg_sentiment_avg": {
              "value": 0.2016562928822006
            }
          }
        ]
      },
      {
        "key": "dqcjgq9",
        "doc_count": 3,
        "pos_sentiment_avg": {
          "value": 0.4121081723523579
        }
      }
    ]
  }
}
```

```

    },
    "geo_lat_avg": {
      "value": 38.8992784
    },
    "geo_lon_avg": {
      "value": -77.0533106
    },
    "neg_sentiment_avg": {
      "value": 0.5878918276476421
    }
  },
  {
    "key": "dqcjqe",
    "doc_count": 2,
    "pos_sentiment_avg": {
      "value": 0.4998790527569388
    },
    "geo_lat_avg": {
      "value": 38.9131671
    },
    "geo_lon_avg": {
      "value": -77.0516438
    },
    "neg_sentiment_avg": {
      "value": 0.5001209472430611
    }
  },
  {
    "key": "dqcjqd",
    "doc_count": 2,
    "pos_sentiment_avg": {
      "value": 0.2991928639266216
    },
    "geo_lat_avg": {
      "value": 38.9053894
    },
    "geo_lon_avg": {
      "value": -77.0491438
    },
    "neg_sentiment_avg": {
      "value": 0.7008071360733784
    }
  },
  {
    "key": "dqcjnz",
    "doc_count": 2,
    "pos_sentiment_avg": {
      "value": 0.4167714925966823
    },
    "geo_lat_avg": {

```

```

    "value": 38.9315
  },
  "geo_lon_avg": {
    "value": -77.0816445
  },
  "neg_sentiment_avg": {
    "value": 0.5832285074033177
  }
}
]
}
}
}
}
}

```

4.2.1.4.2 Twitter

1. Submit a GET request to retrieve InsightCloud Social Media information. The REST call via monocle-3 application will look similar to the following for **Twitter**:

```

https://ipbeta.digitalglobe.com/monocle-
3/app/broker/sma/sma/twitter/tweets?bbox=-77.262458,38.758259,-
76.713142,39.029141&datetimerange=2015-01-06T08:27:41.613Z,2015-01-
06T14:27:41.613Z&dimensions=geohash

```

2. If this is the first request of the session, user will be redirected to the CAS authentication page; enter credentials and CAS will redirect to the response (see 3.)
3. The GET call returns a response with a header of 200 OK and a body of:

```

{
  "took": 737,
  "timed_out": false,
  "_shards": {
    "total": 5,
    "successful": 5,
    "failed": 0
  },
  "hits": {
    "total": 5328188,
    "max_score": 0,
    "hits": []
  },
  "aggregations": {
    "results": {
      "doc_count": 6008,
      "geohash": {
        "buckets": [
          {
            "key": "dqcjr3",
            "doc_count": 439,
            "pos_sentiment_avg": {
              "value": 0.7361871467903729
            }
          }
        ]
      }
    }
  }
}

```

```

    },
    "geo_lat_avg": {
      "value": 38.898663930296095
    },
    "geo_lon_avg": {
      "value": -77.01455421184524
    },
    "neg_sentiment_avg": {
      "value": 0.2638128532096273
    }
  },
  {
    "key": "dqcpv",
    "doc_count": 66,
    "pos_sentiment_avg": {
      "value": 0.5885989451953397
    },
    "geo_lat_avg": {
      "value": 38.87530555151516
    },
    "geo_lon_avg": {
      "value": -76.99730191515152
    },
    "neg_sentiment_avg": {
      "value": 0.41140105480466016
    }
  },
  {
    "key": "dqcm18",
    "doc_count": 60,
    "pos_sentiment_avg": {
      "value": 0.6136319339400401
    },
    "geo_lat_avg": {
      "value": 38.85039603333334
    },
    "geo_lon_avg": {
      "value": -76.91875035833333
    },
    "neg_sentiment_avg": {
      "value": 0.3863680660599598
    }
  },
  ...
  {
    "key": "dqchd8",
    "doc_count": 1,
    "pos_sentiment_avg": {
      "value": 0.8467092769608828
    },
  },

```

```

    "geo_lat_avg": {
      "value": 38.764113
    },
    "geo_lon_avg": {
      "value": -77.226845
    },
    "neg_sentiment_avg": {
      "value": 0.1532907230391172
    }
  },
  {
    "key": "dqchcg",
    "doc_count": 1,
    "pos_sentiment_avg": {
      "value": 0.6457682687943539
    },
    "geo_lat_avg": {
      "value": 38.821843
    },
    "geo_lon_avg": {
      "value": -77.260872
    },
    "neg_sentiment_avg": {
      "value": 0.3542317312056461
    }
  },
  {
    "key": "dqch6x",
    "doc_count": 1,
    "pos_sentiment_avg": {
      "value": 0.7930498893936041
    },
    "geo_lat_avg": {
      "value": 38.75835
    },
    "geo_lon_avg": {
      "value": -77.23079
    },
    "neg_sentiment_avg": {
      "value": 0.20695011060639587
    }
  }
]
}
}
}

```

4.2.1.5 Steps for REST View - Query – Simple Stats

4.2.1.5.1 RSS

1. Submit a GET request to retrieve InsightCloud Social Media information. The REST call via monocle-3 application will look similar to the following for **RSS**:

<https://iipbeta.digitalglobe.com/monocle-3/app/broker/sma/sma/rss/sentences?bbox=-77.262458,38.758259,-76.713142,39.029141&datetimerange=2015-01-06T08:40:49.189Z,2015-01-06T14:40:49.189Z&dimensions=stats>

2. If this is the first request of the session, user will be redirected to the CAS authentication page; enter credentials and CAS will redirect to the response (see 3.)

3. The GET call returns a response with a header of 200 OK and a body of:

```
{
  "took": 5,
  "timed_out": false,
  "_shards": {
    "total": 5,
    "successful": 5,
    "failed": 0
  },
  "hits": {
    "total": 31525,
    "max_score": 0,
    "hits": []
  },
  "aggregations": {
    "results": {
      "doc_count": 34,
      "article_count": {
        "value": 7
      }
    }
  }
}
```

4.2.1.5.2 Twitter

1. Submit a GET request to retrieve InsightCloud Social Media information. The REST call via monocle-3 application will look similar to the following for **Twitter**:

<https://iipbeta.digitalglobe.com/monocle-3/app/broker/sma/sma/twitter/tweets?bbox=-77.262458,38.758259,-76.713142,39.029141&datetimerange=2015-01-06T08:59:59.395Z,2015-01-06T14:59:59.395Z&dimensions=stats>

2. If this is the first request of the session, user will be redirected to the CAS authentication page; enter credentials and CAS will redirect to the response (see 3.)

3. The GET call returns a response with a header of 200 OK and a body of:

```
{
  "took": 405,
  "timed_out": false,
  "_shards": {
```

```

    "total": 5,
    "successful": 5,
    "failed": 0
  },
  "hits": {
    "total": 5328188,
    "max_score": 0,
    "hits": []
  },
  "aggregations": {
    "results": {
      "doc_count": 6985,
      "user_count": {
        "value": 2350
      }
    }
  }
}

```

4.2.1.6 Steps for REST View - Query – Stats with Query

4.2.1.6.1 RSS

1. Submit a GET request to retrieve InsightCloud Social Media information. The REST call via monocle-3 application will look similar to the following for **RSS**:

```

https://iipbeta.digitalglobe.com/monocle-
3/app/broker/sma/sma/rss/sentences?bbox=43.004092,16.155678,43.580874,1
6.478058&dimensions=stats&query=category:"TOP+STORIES"

```

2. If this is the first request of the session, user will be redirected to the CAS authentication page; enter credentials and CAS will redirect to the response (see 3.)

3. The GET call returns a response with a header of 200 OK and a body of:

```

{
  "took": 227,
  "timed_out": false,
  "_shards": {
    "total": 5,
    "successful": 5,
    "failed": 0
  },
  "hits": {
    "total": 28981,
    "max_score": 0,
    "hits": []
  },
  "aggregations": {
    "results": {
      "doc_count": 34,
      "article_count": {
        "value": 7
      }
    }
  }
}

```

```

    }
  }
}

```

4.2.1.6.2 Twitter

1. Submit a GET request to retrieve InsightCloud Social Media information. The REST call via monocle-3 application will look similar to the following for **Twitter**:

```

https://iipbeta.digitalglobe.com/monocle-3/app/broker/sma/sma/twitter/tweets?bbox=-77.464757,38.300103,-77.455744,38.30514&dimensions=stats&query=hashtags:"fredericksburg"+AND+hashtags:"healthcare"

```

2. If this is the first request of the session, user will be redirected to the CAS authentication page; enter credentials and CAS will redirect to the response (see 3.)

3. The GET call returns a response with a header of 200 OK and a body of:

```

{
  "took": 277,
  "timed_out": false,
  "_shards": {
    "total": 5,
    "successful": 5,
    "failed": 0
  },
  "hits": {
    "total": 12,
    "max_score": 0,
    "hits": []
  },
  "aggregations": {
    "results": {
      "doc_count": 0,
      "user_count": {
        "value": 0
      }
    }
  }
}

```

4.2.1.7 Steps for REST Stored Query (Twitter)

4.2.1.7.1 Retrieve List of Stored Queries

1. Submit a GET request to retrieve InsightCloud Social Media information. The REST call via monocle-3 application will look similar to the following:

```

https://iipbeta.digitalglobe.com/monocle-3/app/broker/userprofile/api/workspace

```

2. If this is the first request of the session, user will be redirected to the CAS authentication page; enter credentials and CAS will redirect to the response (see 3.)

3. IF there is at least one saved query:

Call returns a response with a header of 200 OK and a body of

```
[
  {
    "name": "dc poly + query",
    "date": 1429109533966,
    "widgetProperties": {
      "sma": {
        "timeline": [
          "2015-04-15T08:39:38.392Z",
          "2015-04-15T14:39:38.392Z"
        ],
        "query": " job",
        "exactGeo": false
      }
    },
    "zoom": 8,
    "map": {
      "bottom": 36.8230375524398,
      "left": -79.25097659375056,
      "top": 40.90573836891383,
      "right": -74.72460940625007
    },
    "polygon": [
      [
        {
          "x": -77.1306152656253,
          "y": 39.53000605266768
        },
        {
          "x": -77.63598635937566,
          "y": 38.93859246551812
        },
        {
          "x": -76.57580569531302,
          "y": 38.613124896049655
        },
        {
          "x": -76.35607913281257,
          "y": 39.16042422628807
        },
        {
          "x": -77.1306152656253,
          "y": 39.53000605266768
        }
      ]
    ]
  },
  ...
]
```

```

"name": "fburg",
"date": 1429109073328,
"widgetProperties": {
  "sma": {
    "timeline": [
      "2015-04-15T08:39:38.392Z",
      "2015-04-15T14:39:38.392Z"
    ],
    "exactGeo": false
  }
},
"zoom": 15,
"map": {
  "bottom": 38.28391651997817,
  "left": -77.48768112182604,
  "top": 38.3160799152471,
  "right": -77.45231887817316
},
"polygon": null
}
]

```

ELSE (there is no saved query):

Call returns a response with a header of 204 No Content and an empty body.

4.2.1.7.2 Save New Query

1. Submit a POST request to retrieve InsightCloud Social Media information. The REST call via monocle-3 application will look similar to the following:

<https://iipbeta.digitalglobe.com/monocle-3/app/broker/userprofile/api/workspace>

With a source body

```

{"time":"","date":1429109073328,"map":{"left":-77.48768112182604,"right":-77.45231887817316,"top":38.3160799152471,"bottom":38.28391651997817},"zoom":15,"query":"","timeline":"","polygon":[],"widgetProperties":{"sma":{"timeline":["2015-04-15T08:39:38.392Z","2015-04-15T14:39:38.392Z"],"exactGeo":false}},"name":"fburg"}

```

2. If this is the first request of the session, user will be redirected to the CAS authentication page; enter credentials and CAS will redirect to the response (see 3.)

3. The POST call returns a response with a header of 200 OK and a body of:

```

[
  {
    "name": "fburg",
    "date": 1429109073328,
    "widgetProperties": {
      "sma": {
        "timeline": [
          "2015-04-15T08:39:38.392Z",
          "2015-04-15T14:39:38.392Z"
        ]
      }
    }
  }
]

```

```

    ],
    "exactGeo": false
  }
},
"zoom": 15,
"map": {
  "bottom": 38.28391651997817,
  "left": -77.48768112182604,
  "top": 38.3160799152471,
  "right": -77.45231887817316
},
"polygon": null
}
]

```

4.2.1.7.3 Load Query

1. Submit a GET request to retrieve InsightCloud Social Media information. The REST call via monocle-3 application will look similar to the following:
<https://iipbeta.digitalglobe.com/monocle-3/app/broker/userprofile/api/workspace>
2. If this is the first request of the session, user will be redirected to the CAS authentication page; enter credentials and CAS will redirect to the response (see 3.)
3. The GET call returns a response with a header of 200 OK and a body of:

```

[
  {
    "name": "dc poly + query",
    "date": 1429109533966,
    "widgetProperties": {
      "sma": {
        "timeline": [
          "2015-04-15T08:39:38.392Z",
          "2015-04-15T14:39:38.392Z"
        ],
        "query": " job",
        "exactGeo": false
      }
    },
    "zoom": 8,
    "map": {
      "bottom": 36.8230375524398,
      "left": -79.25097659375056,
      "top": 40.90573836891383,
      "right": -74.72460940625007
    },
    "polygon": [
      [
        {
          "x": -77.1306152656253,
          "y": 39.53000605266768
        }
      ]
    ]
  }
]

```

```

    },
    {
      "x": -77.63598635937566,
      "y": 38.93859246551812
    },
    {
      "x": -76.57580569531302,
      "y": 38.613124896049655
    },
    {
      "x": -76.35607913281257,
      "y": 39.16042422628807
    },
    {
      "x": -77.1306152656253,
      "y": 39.53000605266768
    }
  ]
]
},
...
{
  "name": "fburg",
  "date": 1429109073328,
  "widgetProperties": {
    "sma": {
      "timeline": [
        "2015-04-15T08:39:38.392Z",
        "2015-04-15T14:39:38.392Z"
      ],
      "exactGeo": false
    }
  },
  "zoom": 15,
  "map": {
    "bottom": 38.28391651997817,
    "left": -77.48768112182604,
    "top": 38.3160799152471,
    "right": -77.45231887817316
  },
  "polygon": null
}
]

```

FOLLOWING THIS in the UI:

Various calls made to return the viewport, zoom level, etc to the values stored in the saved query (See: Map call, Query call, Timeline call, Top Ten call, Tweets call, Word Cloud call)

4.2.1.7.4 Delete Query from list

1. Submit a DELETE request to retrieve InsightCloud Social Media information. The REST call via monocle-3 application will look similar to the following:
<https://iipbeta.digitalglobe.com/monocle-3/app/broker/userprofile/api/workspace?name=fburg>
2. If this is the first request of the session, user will be redirected to the CAS authentication page; enter credentials and CAS will redirect to the response (see 3.)
3. The DELETE call returns a response with a header of 200 OK and a body of:

```
[
  {
    "name": "dc poly + query",
    "date": 1429109533966,
    "widgetProperties": {
      "sma": {
        "timeline": [
          "2015-04-15T08:39:38.392Z",
          "2015-04-15T14:39:38.392Z"
        ],
        "query": " job",
        "exactGeo": false
      }
    },
    "zoom": 8,
    "map": {
      "bottom": 36.8230375524398,
      "left": -79.25097659375056,
      "top": 40.90573836891383,
      "right": -74.72460940625007
    },
    "polygon": [
      [
        {
          "x": -77.1306152656253,
          "y": 39.53000605266768
        },
        {
          "x": -77.63598635937566,
          "y": 38.93859246551812
        },
        {
          "x": -76.57580569531302,
          "y": 38.613124896049655
        },
        {
          "x": -76.35607913281257,
          "y": 39.16042422628807
        },
        {
          "x": -77.1306152656253,
```

```

        "y": 39.53000605266768
      }
    ]
  ]
}
]

```

4.2.1.8 Steps for REST View - Timeline

4.2.1.8.1 RSS

1. Submit a GET request to retrieve InsightCloud Social Media information. The REST call via monocle-3 application will look similar to the following for **RSS**:

```

https://iipbeta.digitalglobe.com/monocle-
3/app/broker/sma/sma/rss/sentences?bbox=-77.262458,38.758259,-
76.713142,39.029141&dimensions=datetime

```

2. If this is the first request of the session, user will be redirected to the CAS authentication page; enter credentials and CAS will redirect to the response (see 3.)

3. The GET call returns a response with a header of 200 OK and a body of:

```

{
  "took": 605,
  "timed_out": false,
  "_shards": {
    "total": 875,
    "successful": 875,
    "failed": 0
  },
  "hits": {
    "total": 2700261,
    "max_score": 0,
    "hits": []
  },
  "aggregations": {
    "results": {
      "doc_count": 7658,
      "datetime": {
        "buckets": [
          {
            "key_as_string": "2014-09-07T23:00:00.000+0000",
            "key": 1410130800000,
            "doc_count": 1,
            "articles": {
              "value": 1
            }
          },
          {
            "key_as_string": "2014-09-08T00:00:00.000+0000",
            "key": 1410134400000,

```

```

    "doc_count": 1,
    "articles": {
      "value": 1
    }
  },
  {
    "key_as_string": "2014-09-08T01:00:00.000+0000",
    "key": 1410138000000,
    "doc_count": 0,
    "articles": {
      "value": 0
    }
  },
  ...
  {
    "key_as_string": "2015-02-11T11:00:00.000+0000",
    "key": 1423652400000,
    "doc_count": 2,
    "articles": {
      "value": 2
    }
  },
  {
    "key_as_string": "2015-02-11T12:00:00.000+0000",
    "key": 1423656000000,
    "doc_count": 2,
    "articles": {
      "value": 1
    }
  },
  {
    "key_as_string": "2015-02-11T13:00:00.000+0000",
    "key": 1423659600000,
    "doc_count": 5,
    "articles": {
      "value": 1
    }
  }
]
}
}
}
}
}

```

4.2.1.8.2 Twitter

1. Submit a GET request to retrieve InsightCloud Social Media information. The REST call via monocle-3 application will look similar to the following for **Twitter**:
<https://ipbeta.digitalglobe.com/monocle-3/app/broker/sma/sma/twitter/tweets?bbox=41.426181,14.409367,46.040439,16.988408&dimensions=datetime>

2. If this is the first request of the session, user will be redirected to the CAS authentication page; enter credentials and CAS will redirect to the response (see 3.)

3. The GET call returns a response with a header of 200 OK and a body of:

```
{
  "took": 41807,
  "timed_out": true,
  "_shards": {
    "total": 2505,
    "successful": 2505,
    "failed": 0
  },
  "hits": {
    "total": 526626807,
    "max_score": 0,
    "hits": []
  },
  "aggregations": {
    "results": {
      "doc_count": 3007934,
      "datetime": {
        "buckets": [
          {
            "key_as_string": "2014-09-26T01:00:00.000+0000",
            "key": 1411693200000,
            "doc_count": 617
          },
          {
            "key_as_string": "2014-09-26T02:00:00.000+0000",
            "key": 1411696800000,
            "doc_count": 1091
          },
          {
            "key_as_string": "2014-09-26T03:00:00.000+0000",
            "key": 1411700400000,
            "doc_count": 796
          },
          ...
          {
            "key_as_string": "2015-02-11T11:00:00.000+0000",
            "key": 1423652400000,
            "doc_count": 372
          },
          {
            "key_as_string": "2015-02-11T12:00:00.000+0000",
            "key": 1423656000000,
            "doc_count": 730
          },
          {
```



```

        "key_as_string": "2015-02-11T13:00:00.000+0000",
        "key": 1423659600000,
        "doc_count": 420
      }
    ]
  }
}
}
}

```

4.2.1.9 Steps for REST View - Top Ten

4.2.1.9.1 RSS

1. Submit a GET request to retrieve InsightCloud Social Media information. The REST call via monocle-3 application will look similar to the following for **RSS**:

```

https://iipbeta.digitalglobe.com/monocle-
3/app/broker/sma/sma/rss/sentences?bbox=-77.262458,38.758259,-
76.713142,39.029141&datetimerange=2015-01-06T09:00:46.674Z,2015-01-
06T15:00:46.674Z&dimensions=topten

```

2. If this is the first request of the session, user will be redirected to the CAS authentication page; enter credentials and CAS will redirect to the response (see 3.)

3. The GET call returns a response with a header of 200 OK and a body of:

```

{
  "took": 431,
  "timed_out": false,
  "_shards": {
    "total": 5,
    "successful": 5,
    "failed": 0
  },
  "hits": {
    "total": 31525,
    "max_score": 0,
    "hits": []
  },
  "aggregations": {
    "results": {
      "doc_count": 34,
      "neg_sentiment": {
        "value": 0.30509988195404286
      },
      "pos_sentiment": {
        "value": 0.6949001180459573
      }
    },
    "categories": {
      "doc_count_error_upper_bound": 0,
      "sum_other_doc_count": 0,

```

```

"buckets": [
  {
    "key": "TOP STORIES",
    "doc_count": 34,
    "articles": {
      "value": 7
    }
  }
],
},
"sources": {
  "doc_count_error_upper_bound": 0,
  "sum_other_doc_count": 0,
  "buckets": [
    {
      "key": "WXIX",
      "doc_count": 20,
      "articles": {
        "value": 1
      }
    },
    {
      "key": "Business Standard",
      "doc_count": 5,
      "articles": {
        "value": 1
      }
    },
    {
      "key": "Reuters",
      "doc_count": 3,
      "articles": {
        "value": 1
      }
    },
    {
      "key": "BBC News",
      "doc_count": 2,
      "articles": {
        "value": 1
      }
    },
    {
      "key": "Daily Times",
      "doc_count": 2,
      "articles": {
        "value": 1
      }
    },
  ],
}

```

```

    "key": "Detroit Free Press",
    "doc_count": 1,
    "articles": {
      "value": 1
    }
  },
  {
    "key": "Philly.com",
    "doc_count": 1,
    "articles": {
      "value": 1
    }
  }
]
}
}
}
}
}

```

4.2.1.9.2 Twitter

1. Submit a GET request to retrieve InsightCloud Social Media information. The REST call via monocle-3 application will look similar to the following for **Twitter**:

```

https://iipbeta.digitalglobe.com/monocle-
3/app/broker/sma/sma/twitter/tweets?bbox=-77.262458,38.758259,-
76.713142,39.029141&datetimerange=2015-01-06T08:59:59.395Z,2015-01-
06T14:59:59.395Z&dimensions=topten

```

2. If this is the first request of the session, user will be redirected to the CAS authentication page; enter credentials and CAS will redirect to the response (see 3.)
3. The GET call returns a response with a header of 200 OK and a body of:

```

{
  "took": 5458,
  "timed_out": false,
  "_shards": {
    "total": 5,
    "successful": 5,
    "failed": 0
  },
  "hits": {
    "total": 5328188,
    "max_score": 0,
    "hits": []
  },
  "aggregations": {
    "results": {
      "doc_count": 6985,
      "neg_sentiment": {
        "value": 0.3182736035511819
      },

```

```

"users": {
  "doc_count_error_upper_bound": 20,
  "sum_other_doc_count": 6491,
  "buckets": [
    {
      "key": "PapiZachary",
      "doc_count": 65
    },
    {
      "key": "Septemberlovee_",
      "doc_count": 59
    },
    {
      "key": "badesammy",
      "doc_count": 56
    },
    {
      "key": "MistaLeVar",
      "doc_count": 55
    },
    {
      "key": "UrLesly",
      "doc_count": 46
    },
    {
      "key": "iDIKher",
      "doc_count": 46
    },
    {
      "key": "Chris301Tweets",
      "doc_count": 43
    },
    {
      "key": "crowneedqueen_",
      "doc_count": 43
    },
    {
      "key": "TheNames_Steven",
      "doc_count": 41
    },
    {
      "key": "BasedAaron92",
      "doc_count": 40
    }
  ]
},
"pos_sentiment": {
  "value": 0.6817263964488178
},
"userlangs": {

```

```

"doc_count_error_upper_bound": 0,
"sum_other_doc_count": 4,
"buckets": [
  {
    "key": "en",
    "doc_count": 6836
  },
  {
    "key": "es",
    "doc_count": 50
  },
  {
    "key": "pt",
    "doc_count": 27
  },
  {
    "key": "fr",
    "doc_count": 22
  },
  {
    "key": "ja",
    "doc_count": 15
  },
  {
    "key": "ar",
    "doc_count": 12
  },
  {
    "key": "tr",
    "doc_count": 9
  },
  {
    "key": "gb",
    "doc_count": 8
  },
  {
    "key": "de",
    "doc_count": 5
  },
  {
    "key": "ru",
    "doc_count": 5
  }
]
},
"hashtags": {
  "doc_count_error_upper_bound": 5,
  "sum_other_doc_count": 1523,
  "buckets": [
    {

```

```

    "key": "closefcps",
    "doc_count": 128
  },
  {
    "key": "snow",
    "doc_count": 83
  },
  {
    "key": "dc",
    "doc_count": 82
  },
  {
    "key": "job",
    "doc_count": 63
  },
  {
    "key": "aneventnottobemissed",
    "doc_count": 52
  },
  {
    "key": "ourlivesmatter",
    "doc_count": 52
  },
  {
    "key": "jobs",
    "doc_count": 50
  },
  {
    "key": "dcsnow",
    "doc_count": 44
  },
  {
    "key": "snowday",
    "doc_count": 39
  },
  {
    "key": "tweetmyjobs",
    "doc_count": 24
  }
]
},
"countries": {
  "doc_count_error_upper_bound": 0,
  "sum_other_doc_count": 0,
  "buckets": [
    {
      "key": "us",
      "doc_count": 6985
    }
  ]
}
]
```

```

},
"devices": {
  "doc_count_error_upper_bound": 0,
  "sum_other_doc_count": 162,
  "buckets": [
    {
      "key": "Twitter for iPhone",
      "doc_count": 4214
    },
    {
      "key": "Twitter for Android",
      "doc_count": 961
    },
    {
      "key": "Twitter Web Client",
      "doc_count": 779
    },
    {
      "key": "Instagram",
      "doc_count": 384
    },
    {
      "key": "Tweetbot for iOS",
      "doc_count": 284
    },
    {
      "key": "Twitter for iPad",
      "doc_count": 55
    },
    {
      "key": "Foursquare",
      "doc_count": 44
    },
    {
      "key": "TweetMyJOBS",
      "doc_count": 41
    },
    {
      "key": "iOS",
      "doc_count": 35
    },
    {
      "key": "Tweetbot for Mac",
      "doc_count": 26
    }
  ]
},
"tweetlangs": {
  "doc_count_error_upper_bound": 0,
  "sum_other_doc_count": 133,

```

```

"buckets": [
  {
    "key": "en",
    "doc_count": 6300
  },
  {
    "key": "und",
    "doc_count": 312
  },
  {
    "key": "es",
    "doc_count": 90
  },
  {
    "key": "tl",
    "doc_count": 44
  },
  {
    "key": "pt",
    "doc_count": 26
  },
  {
    "key": "ht",
    "doc_count": 21
  },
  {
    "key": "ja",
    "doc_count": 16
  },
  {
    "key": "tr",
    "doc_count": 15
  },
  {
    "key": "fr",
    "doc_count": 14
  },
  {
    "key": "in",
    "doc_count": 14
  }
]
}
}
}
}

```

4.2.1.10 Steps for REST View - Tweets/Articles Panel

4.2.1.10.1 RSS – Articles

1. Submit a GET request to retrieve InsightCloud Social Media information. The REST call via monocle-3 application will look similar to the following for **RSS**:

```
https://iipbeta.digitalglobe.com/monocle-3/app/broker/sma/sma/rss/sentences?bbox=-77.262458,38.758259,-76.713142,39.029141&datetimerange=2015-01-06T09:05:14.942Z,2015-01-06T15:05:14.942Z
```

2. If this is the first request of the session, user will be redirected to the CAS authentication page; enter credentials and CAS will redirect to the response (see 3.)

3. The GET call returns a response with a header of 200 OK and a body of:

```
{
  "took": 269,
  "timed_out": false,
  "_shards": {
    "total": 5,
    "successful": 5,
    "failed": 0
  },
  "hits": {
    "total": 34,
    "max_score": 1,
    "hits": [
      {
        "_index": "orbitrss-2015-01-06",
        "_type": "sentences",
        "_id":
"a48df4fc7d91ddbc6b3a43d3352f66672d733e323d0eb119f2b0cf62c90585e86e4162bf828f2f1e3008978",
        "_score": 1,
        "_source": {
          "postedTime": "2015-01-06T09:31:15.000Z",
          "text": "Strong currents force expanded search area for AirAsia plane - Cincinnati News, FOX19-WXIX TV\nSITE SEARCH\nStrong currents force expanded search area for AirAsia plane\nPosted:\nTuesday, January 6, 2015 3:04 AM EST\nUpdated:\nTuesday, January 6, 2015 4:25 AM EST\n(AP Photo/Tatan Syuflana). Indonesian Armed Forces Chief, Gen. Moeldoko, center, walks upon arrival following a search operation for the victims of AirAsia Flight 8501 at the airport in Pangkalan Bun, Indonesia, Tuesday, Jan. 6, 2015. The search operat...\n(AP Photo/Achmad Ibrahim, Pool). Muslim clerics read Quran verses as they perform a prayer for the victims of AirAsia Flight 8501 inside an Indonesian Air Force NAS 332 Super Puma helicopter flying over the Java Sea off Pangkalan Bun, Central Borneo, I...\n(AP Photo/Achmad Ibrahim)AP Photo/Tatan Syuflana). A U.S. navy crew member walks out a helicopter upon arrival following their search operation for the victims of AirAsia Flight 8501 at the airport in Pangkalan Bun, Indonesia, Tuesday, Jan. 6, 2015. Th...\n(AP Photo/Achmad Ibrahim, Pool). A Muslim cleric pauses as he reads a book of Quran verses during a prayer for the victims of AirAsia Flight 8501 inside an Indonesian Air Force NAS 332 Super Puma helicopter flying over the Java Sea off Pangkalan Bun, C...\n(AP Photo/Achmad Ibrahim, Pool). Muslim clerics pray before embarking on a flight with Indonesian Air Force NAS 332 Super Puma helicopter to fly over the Java Sea where
```

AirAsia Flight 8501 went down and pray for the victims, at Iskandar Airport in Pang... \nAlso on FOX19.com More>>\nUpdated:\nTuesday, January 6 2015 4:14 AM EST2015-01-06 09:14:47 GMT\nAirAsia Flight 8501 crashed into the Java Sea with 162 people on board, halfway into a Dec. 28 flight from Surabaya, Indonesia, to Singapore. Dozens of bodies have been recovered, and search teams have detected... Full Story >\nAirAsia Flight 8501 crashed into the Java Sea with 162 people on board, halfway into a Dec. 28 flight from Surabaya, Indonesia, to Singapore. Dozens of bodies have been recovered, and search teams have detected what is... Full Story >\nUpdated:\nMonday, January 5 2015 9:05 PM EST2015-01-06 02:05:24 GMT\nHighlighting the depth of Indonesia's air safety problems, the transportation ministry announced harsh measures Monday against everyone who allowed AirAsia Flight 8501 to take off without proper permits -... Full Story >\nThe search operation for AirAsia Flight 8501 will spread slightly eastward on Tuesday as the weather and currents drag wreckage in that direction, the head of Indonesia's rescue agency said. Full Story >\nTuesday, January 6 2015 4:41 AM EST2015-01-06 09:41:36 GMT\nSnowfall totals expected by 9 a.m. Tuesday. (FOX19 NOW)\nThe first snow system of 2015 arrived across the Tri-State overnight, dropping the heaviest accumulations in the northern Cincinnati suburbs. Full Story >\nThe first snow system of 2015 arrived across the Tri-State overnight, dropping the heaviest accumulations in the northern Cincinnati suburbs. Full Story >\nEx-Virginia Gov. Bob McDonnell makes bid to avoid prison\nFormer Virginia Gov. Bob McDonnell, once a top Republican prospect for national office, faces sentencing Tuesday for selling the influence of his office to the CEO of a dietary supplements company. Full Story >\nFormer Virginia Gov. Bob McDonnell, once a top Republican prospect for national office, faces sentencing Tuesday for selling the influence of his office to the CEO of a dietary supplements company. Full Story >\n2 New York City police officers shot, wounded in the Bronx\nTwo New York City police officers responding to a robbery in the Bronx were shot and wounded Monday night, and a manhunt was underway for at least two suspects, authorities said. Full Story >\nTwo New York City police officers responding to a robbery in the Bronx were shot and wounded Monday night, and a manhunt was still underway hours later for a pair of suspects, authorities said. Full Story >\nUS says NKorea sanctions step 1 in Sony response\nThe United States says its new round of sanctions against North Korea is just the opening salvo in its response to an unprecedented cyberattack on Sony. Yet there may be little else the U.S. can do to further... Full Story >\nThe United States says its new round of sanctions against North Korea is just the opening salvo in its response to an unprecedented cyberattack on Sony. Yet there may be little else the U.S. can do to further isolate a... Full Story >\nSpaceX shoots for launch to station, rocket landing on barge\nSpaceX is making another supply run to the International Space Station for NASA. But it's the rocket's return - not its takeoff - that has space fans talking. Full Story >\nSpaceX is making another supply run to the International Space Station for NASA. But it's the rocket's return - not its takeoff - that has space fans talking. Full Story >\nSnow expected from Midwest to Northeast, then bitter cold\nA winter weather system expected to dump more than a foot of snow in some places has begun its trek east, with a separate blast of arctic air on its heels. Full Story >\nA winter weather system expected to dump more than a foot of snow in some places has begun its trek east, with a separate blast of arctic air right on its heels. Full Story >\n\n7-year-old crash survivor may be able to help investigators determine what brought plane down Full Story >\n7-year-old crash survivor may be able to help investigators determine what brought plane down Full Story >\nWith Mario Cuomo's death, Democrats lose a liberal lion who epitomized an older party Full Story >\nWith Mario Cuomo's death, Democrats lose a liberal lion who epitomized an older party Full

Story >\nRoad salt buries cars in Chicago after wall collapse at Morton Salt facility Full Story >\nRoad salt buries cars in Chicago after wall collapse at Morton Salt facility Full Story >\nMother of 2 US citizens seeks refuge in Philadelphia church to avoid deportation to Honduras Full Story >\nMother of 2 US citizens seeks refuge in Philadelphia church to avoid deportation to Honduras Full Story >\nRuling opens door for medical malpractice lawsuits over health care aboard cruise ships Full Story >\nRuling opens door for medical malpractice lawsuits over health care aboard cruise ships Full Story >\n \nBy ACHMAD IBRAHIM\nAssociated Press\nPANGKALAN BUN, Indonesia (AP) - Strong currents forced Indonesia to expand the search area for the crashed AirAsia plane Tuesday, as rough seas and bad weather pushed debris and made it difficult to reach suspected chunks of the fuselage on the ocean floor.\nWith only 37 bodies recovered since Flight 8501 crashed Dec. 28, there are also concerns that it will become harder to find the remaining corpses.\n\"Time is of the essence,\" said the National Search and Rescue Agency's director of operation, Suryadi B. Supriyadi. \"But it seems like it is hard to beat the weather.\" \n\"The search operation will expand by about 185 square kilometers (71 square miles), search and rescue chief Henry Bambang Soelistyo said.\nIndonesia has suffered a string of accidents in recent years. It deregulated its aviation industry in the 1990s, and dozens of new carriers have made air travel affordable for the first time for many in the world's fourth most populous nation.\nExperts say poor maintenance, rule-bending and a shortage of trained personnel are largely to blame. Infrastructure has also failed to keep pace with exploding demand.\n\"The country's transportation ministry cracked down Monday after it was discovered that Flight 8501 did not have a permit to fly between Surabaya, Indonesia, and Singapore on the day of the crash. The ministry suspended several officials, including the airport operator and those who were in the control tower.\nAll AirAsia flights on that route also have been canceled, pending an investigation.\nIt is not known what caused the Airbus A320 to crash into the Java Sea 42 minutes after takeoff, though Indonesia's Meteorology, Climatology and Geophysics Agency says bad weather appears to have been a factor.\nJust before losing contact, the pilot told air traffic control he was approaching threatening clouds, but was denied permission to climb to a higher altitude because of heavy air traffic. No distress signal was issued.\nSonar has identified five large objects that are believed to be pieces of the fuselage on the ocean floor, but strong currents, silt and mud have kept divers from seeing or reaching the objects.\nNo pings have been detected from the plane's all-important cockpit voice and flight data recorders. That's because high waves have prevented the deployment of ships that drag ping locators. The batteries in the pingers on the black boxes are likely to go dead in about 20 more days.\n\"We are confident that rescuers would be able to locate them in time,\" said Nurcahyo Utomo, an investigator for Indonesia's National Committee on Transportation Safety.\n\"The search for the remaining 125 bodies has been exhausting for family members anxiously waiting to identify and bury their loved ones.\nEight Islamic clerics flew in a helicopter over the site Monday and scattered rice into the sea, a local tradition, and prayed for those who perished.\nAssociated Press writers Niniek Karmini and Ali Kotarumalos in Jakarta contributed to this report.\nCopyright 2015 The Associated Press. All rights reserved. This material may not be published, broadcast, rewritten or redistributed.\nSearching for Malaysian Airlines Flight 370 More>>\n\",

"titleNegative": 0.08136906873976942,
 "loc_hash": "dqcjgq2v2n29ppn2ykd7",
 "descriptionPositive": 0.999209798049941,
 "luceneScore": 0.2857142857142857,
 "negativeSentiment": 0.20764616598326996,

```

"ccScore": 0.447294319294809,
"positiveSentiment": 0.7923538340167301,
"author": "",
"gazIndexId": "300897",
"nerScore": 0.9990962622238176,
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"process_version": "20140909T120800Z",
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"language": null,
"title": "Strong currents force expanded search area for AirAsia plane",
"locName": "Indonesia",
"url": "http://www.fox19.com/story/27768085/strong-currents-force-expanded-search-area-for-airasia-plane",
"geo": {
  "lat": 38.9103893,
  "lon": -77.0460882
},
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"provCode": "not_defined",
"sentenceNum": 8,
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```

```

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s.com/world/rest-of-world/AirAsia-crash-Search-to-continue-with-waves-forecast-2-3-
metres/articleshow/45771078.cms">AirAsia crash: Search to continue with waves
forecast 2-3 metres</a><font size="-1" color="#6f6f6f"><nobr>Times of
India</nobr></font></font><br><font size="-1" class="p"></font><br><font
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    "category": "TOP STORIES"
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  "_source": {
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    "text": "US concerns over rising Pak-India tension\nPasaki encourages dialogue
between Pakistan, India\nTweet\nWASHINGTON – The United States on Monday
expressed concern over rising Pakistan-India tensions and the exchange of fire along the
working boundary, which has claimed four Pakistani civilian lives.\nState Department
spokesperson Jen Psaki said that Washington encourages Islamabad and New Delhi to
engage in a dialogue. “We certainly remain concerned and watch over tensions along the
border. We encourage dialogue between the (two) countries,” Psaki said, when the issue
of flare-up in border tensions between Pakistan and India was raised at the daily
briefing.\nWhen her attention was drawn to the reports of four Pakistanis deaths in Indian
fire in Sialkot sector, the spokesperson said that she did not have any confirmation but
added the US would obviously sympathise with families on loss of any lives. “Our hearts
will go out to the families for any lives lost,” he added. In response to another question,
the spokesperson noted that Washington has been supporting dialogue between
Islamabad and New Delhi.\nShe said that there have been some steps in the past and
positive exchanges over the years but obviously more work needs to be done. On US-
Pakistan Strategic Dialogue, she said that the two sides work on a range of issues
including counterterrorism and security issues.\n\n",
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    "negativeSentiment": 0.009471888063340072,
    "ccScore": 0.5981308411214954,

```

```

"positiveSentiment": 0.99052811193666,
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"gazIndexId": "299942",
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Monday expressed concern over rising Pakistan-India tensions and the exchange of fire
along the working boundary, which has claimed four Pakistani civilian lives.",
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"title": "US concerns over rising Pak-India tension",
"locName": "Pakistan",
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"geo": {
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  "lon": -77.0516438
},
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"countryCode": "us",
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over-rising-pak-india-tension\"><img
src=\"/t3.gstatic.com/images?q=tbn:ANd9GcTzyRHwvMm6MvpJ8VxeVYtU6G6j9TT
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Times</font></a></font></td><td valign=\"top\" class=\"j\"><font style=\"font-
size:85%;font-family:arial,sans-serif\"><br><div style=\"padding-top:0.8em;\"><img
alt=\"\" height=\"1\" width=\"1\"></div><div class=\"lh\"><a
href=\"http://news.google.com/news/url?sa=t&fd=R&ct2=us&usg=AFQj
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331&cid=52778702951678&ei=3birVJCAGoXngAf0-
4GgDQ&url=http://www.dailytimes.com.pk/national/06-Jan-2015/us-concerns-
over-rising-pak-india-tension\"><b>US concerns over rising Pak-India
tension</b></a><br><font size=\"-1\"><b><font color=\"#6f6f6f\">Daily
Times</font></b></font><br><font size=\"-1\">WASHINGTON – The United States on
Monday expressed concern over rising Pakistan-India tensions and the exchange of fire
along the working boundary, which has claimed four Pakistani civilian lives. State
Department spokesperson Jen Psaki said that&nbsp;...</font><br><font size=\"-1\"><a

```

```

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flee/">Thousands Flee Homes as Clashes by India-Pakistan Border Escalate</a><font
size="-1" color="#6f6f6f"><nobr>TIME</nobr></font></font><br><font size="-
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4GgDQ&url=http://indianexpress.com/photos/picture-gallery-others/thousands-flee-
their-homes-as-pakistani-shelling-intensifies-in-j-k/">Thousands flee their homes as
Pakistani shelling intensifies in JK</a><font size="-1" color="#6f6f6f"><nobr>The
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4GgDQ&url=http://nation.com.pk/national/06-Jan-2015/people-forced-to-vacate-
homes-midst-of-india-pakistan-clashes/">People forced to vacate homes midst of India
Pakistan clashes</a><font size="-1" color="#6f6f6f"><nobr>The
Nation</nobr></font></font><br><font size="-1" class="p"><a
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protest-notes-over-ceasefire--BSF-.html/"><nobr>Press Trust of
India</nobr></a>&nbsp;-<a
href="\http://news.google.com/news/url?sa=t&fd=R&ct2=us&usg=AFQj
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331&cid=52778702951678&ei=3birVJCAGoXNgAf0-
4GgDQ&url=http://tribune.com.pk/story/817341/counter-terrorism-the-cost-of-war-
for-pakistan/"><nobr>The Express Tribune</nobr></a></font><br><font class="p"
size="-1"><a class="p"
href="\http://news.google.com/news/more?ncl=dqyTJtRrGMbpJbMgizUHD5bdJQcfM&
amp;authuser=0&ned=us&topic=h/"><nobr><b>all 408 news
articles&nbsp;&raquo;</b></nobr></a></font></div></font></td></tr></table>",
"locType": "Building",
"category": "TOP STORIES"
}
}
]
}
}
}

```

4.2.1.10.2 Twitter – Tweets

1. Submit a GET request to retrieve InsightCloud Social Media information. The REST call via monocle-3 application will look similar to the following for **Twitter**:

```

https://iipbeta.digitalglobe.com/monocle-
3/app/broker/sma/sma/twitter/tweets?bbox=-77.262458,38.758259,-

```

76.713142,39.029141&datetimerange=2015-01-06T09:06:07.397Z,2015-01-06T15:06:07.397Z

2. If this is the first request of the session, user will be redirected to the CAS authentication page; enter credentials and CAS will redirect to the response (see 3.)

3. The GET call returns a response with a header of 200 OK and a body of:

```
{
  "took": 1317,
  "timed_out": false,
  "_shards": {
    "total": 5,
    "successful": 5,
    "failed": 0
  },
  "hits": {
    "total": 7160,
    "max_score": 1,
    "hits": [
      {
        "_index": "orbit-2015-01-06",
        "_type": "tweet",
        "_id": "552392722808832000",
        "_score": 1,
        "_source": {
          "text": "Finally home Zzzzzzz",
          "screenName": "PrettiLilLiar",
          "loc_hash": "dqcm89cvbmvmvz57n4m7tk",
          "retweets": null,
          "gnipLanguage": "en",
          "friendsCount": 817,
          "actorDescription": "Jamaican || Tourism & Social Media",
          "followersCount": 539,
          "negativeSentiment": 0.12350527515535029,
          "favoritesCount": 0,
          "positiveSentiment": 0.8764947248446497,
          "process_version": "20140909T120800Z",
          "twitterCountryCode": "US",
          "twitterLanguage": null,
          "device": "Twitter for iPhone",
          "created": "2015-01-06T09:14:22.000Z",
          "geo": {
            "lat": 38.946179,
            "lon": -76.967793
          },
          "actorDisplayName": "Shea Powell",
          "listedCount": 10,
          "exactGeo": "true",
          "verb": "post",
          "countryCode": "United States",

```



```

    "statusesCount": 59149,
    "id": "552392722808832000",
    "actorLanguages": [
      "en"
    ],
    "actorId": "97049501",
    "placeGeoType": "Polygon"
  }
},
...
{
  "_index": "orbit-2015-01-06",
  "_type": "tweet",
  "_id": "552394727916859394",
  "_score": 1,
  "_source": {
    "text": "Tonight a theater became a classroom for youth & leaders to
experience & discuss the \"masterful\"... http://t.co/GFHYJWP6b6",
    "screenName": "jonctaylor",
    "loc_hash": "dqcjr374rg8jb2vq1muw",
    "retweets": null,
    "gnipLanguage": "en",
    "friendsCount": 780,
    "actorDescription": "#lifetogether",
    "followersCount": 874,
    "negativeSentiment": 0.15185095588180453,
    "favoritesCount": 0,
    "positiveSentiment": 0.8481490441181956,
    "process_version": "20140909T120800Z",
    "twitterCountryCode": "US",
    "twitterLanguage": null,
    "device": "Instagram",
    "created": "2015-01-06T09:22:20.000Z",
    "geo": {
      "lat": 38.898874,
      "lon": -77.020694
    },
    "actorDisplayName": "jt",
    "listedCount": 21,
    "exactGeo": "true",
    "verb": "post",
    "countryCode": "United States",
    "statusesCount": 11229,
    "id": "552394727916859394",
    "actorLanguages": [
      "en"
    ],
    "actorId": "14708751",
    "placeGeoType": "Polygon"
  }
}

```

```

    }
  ]
}
}

```

4.2.1.11 Steps for REST View - Word Cloud

The Word Cloud has two primary options for dimensions settings, plus an extra dimension option for Twitter. The three dimension options are: *term*, *sigterm*, and the Twitter-only option of *hashtag*.

4.2.1.11.1 RSS

1. Submit a GET request to retrieve InsightCloud Social Media information. The REST call via monocle-3 application will look similar to the following for **RSS**:

```

https://iipbeta.digitalglobe.com/monocle-
3/app/broker/sma/sma/rss/sentences?bbox=-77.262458,38.758259,-
76.713142,39.029141&datetimerange=2015-01-06T09:00:46.674Z,2015-01-
06T15:00:46.674Z&dimensions=sigterm

```

2. If this is the first request of the session, user will be redirected to the CAS authentication page; enter credentials and CAS will redirect to the response (see 3.)

3. The GET call returns a response with a header of 200 OK and a body of:

```

{
  "took": 355,
  "timed_out": false,
  "_shards": {
    "total": 5,
    "successful": 5,
    "failed": 0
  },
  "hits": {
    "total": 31525,
    "max_score": 0,
    "hits": []
  },
  "aggregations": {
    "results": {
      "doc_count": 34,
      "term": {
        "doc_count": 34,
        "buckets": [
          {
            "key": "currents",
            "doc_count": 20,
            "score": 48.42048205295751,
            "bg_count": 233
          },
          {
            "key": "expanded",
            "doc_count": 20,

```

```

    "score": 44.192278987719654,
    "bg_count": 255
  },
  {
    "key": "area",
    "doc_count": 20,
    "score": 43.162841877792374,
    "bg_count": 261
  },
  ...
  {
    "key": "2",
    "doc_count": 8,
    "score": 1.29361381766588,
    "bg_count": 1195
  },
  {
    "key": "over",
    "doc_count": 3,
    "score": 0.6137543252595157,
    "bg_count": 366
  },
  {
    "key": "as",
    "doc_count": 8,
    "score": 0.6020317222699723,
    "bg_count": 2182
  }
]
}
}
}
}
}
}
}

```

4.2.1.11.2 Twitter

1. Submit a GET request to retrieve InsightCloud Social Media information. The REST call via monocle-3 application will look similar to the following for **Twitter**:

```

https://ipbeta.digitalglobe.com/monocle-
3/app/broker/sma/sma/twitter/tweets?bbox=-77.262458,38.758259,-
76.713142,39.029141&datetimerange=2015-01-06T09:01:57.051Z,2015-01-
06T15:01:57.051Z&dimensions=hashtag

```

2. If this is the first request of the session, user will be redirected to the CAS authentication page; enter credentials and CAS will redirect to the response (see 3.)
3. The GET call returns a response with a header of 200 OK and a body of:

```

{
  "took": 745,
  "timed_out": false,
  "_shards": {

```

```

    "total": 5,
    "successful": 5,
    "failed": 0
  },
  "hits": {
    "total": 5328188,
    "max_score": 0,
    "hits": []
  },
  "aggregations": {
    "results": {
      "doc_count": 7029,
      "term": {
        "doc_count_error_upper_bound": 5,
        "sum_other_doc_count": 1308,
        "buckets": [
          {
            "key": "closefcps",
            "doc_count": 129
          },
          {
            "key": "snow",
            "doc_count": 83
          },
          {
            "key": "dc",
            "doc_count": 82
          },
          ...
          {
            "key": "weather",
            "doc_count": 8
          },
          {
            "key": "closeacps",
            "doc_count": 7
          },
          {
            "key": "fail",
            "doc_count": 7
          }
        ]
      }
    }
  }
}

```

4.2.1.12 Steps for REST Download

4.2.1.12.1 RSS

1. Submit a GET request to download the results of an InsightCloud Social Media query. The REST call via monocle-3 application will look similar to the following for **RSS**:
<https://iipbeta.digitalglobe.com/monocle-3/app/broker/sma/sma/rss/sentences?bbox=-77.262458,38.758259,-76.713142,39.029141&datetimerange=2015-01-06T09:05:14.942Z,2015-01-06T15:05:14.942Z&pageSize=22&format=shp&stream-shape-file=true>
2. If this is the first request of the session, user will be redirected to the CAS authentication page; enter credentials and CAS will redirect to the response (see 3.)
3. The GET call triggers a response with a header of 200 OK, a Content-Type of application/octet-stream, and downloads a zip file containing a shapefile; save or open at user discretion.

4.2.1.12.2 Twitter

1. Submit a GET request to download the results of an InsightCloud Social Media query. The REST call via monocle-3 application will look similar to the following for **Twitter**:
<https://iipbeta.digitalglobe.com/monocle-3/app/broker/sma/sma/twitter/tweets?bbox=-77.262458,38.758259,-76.713142,39.029141&datetimerange=2015-01-06T09:06:07.397Z,2015-01-06T15:06:07.397Z&pageSize=22&format=shp&stream-shape-file=true>
2. If this is the first request of the session, user will be redirected to the CAS authentication page; enter credentials and CAS will redirect to the response (see 3.)
3. The GET call triggers a response with a header of 200 OK, a Content-Type of application/octet-stream, and downloads a zip file containing a shapefile; save or open at user discretion.

4.2.2 Unified Vector Index

The Unified Vector Index (UVI) provides the analyst with a tool for visually mapping all available vectors within a given aoi. Analysts may then refine the resulting vectors into a desired selection. These quickly polled and returned arrays of points, polylines, and polygons may then be used in further analytical studies of the area.

4.2.2.1 Aggregation Queries

4.2.2.1.1 Parameters

Parameters	Data Type	Parameter Type	Description
left	String	Query	Longitude in decimal degrees of the lower left bounding box corner
lower	String	Query	Latitude in decimal degrees of the lower left bounding box corner

Parameters	Data Type	Parameter Type	Description
right	String	Query	Longitude in decimal degrees of the upper right bounding box corner
upper	String	Query	Latitude in decimal degrees of the upper right bounding box corner
binCountX	Integer	Query	The number of horizontal partitions of the bounding box; total bins limited to 20 <i>Note: total bins = binCountX x binCountY</i>
binCountY	Integer	Query	The number of vertical partitions of the bounding box; total bins limited to 20 <i>Note: total bins = binCountX x binCountY</i>

Table 4.14 Aggregation UVI Parameters

Parameters	Limits
Left	Between -180 and 180 degrees inclusive
Right	Between -180 and 180 degrees inclusive
Lower	Between -90 and 90 degrees inclusive
Upper	Between -90 and 90 degrees inclusive
Source	Current source options are: ACLED, Anthrometer, Gazetteer, GDB, GDELT, HGIS, IIP-SA-Raster, ImageMining, InsightCloudMR, MASS Service, OSM, SETD, Tomnod <i>*Note: Less in Staging</i>

Table 4.15 Aggregation UVI Parameter Limits**4.2.2.1.2 List Available Sources**

Basic call format: <https://iipbeta.digitalglobe.com/monocle-3/app/broker/vector/api/aggs/sources?left={value}&right={value}&upper={value}&lower={value}>

1. Submit a GET request to retrieve InsightCloud Anthrometer information. The REST call via monocle-3 application will look similar to the following:
<https://iipbeta.digitalglobe.com/monocle-3/app/broker/vector/api/aggs/sources?north=42.631&east=37.2633&south=34.7208&west=32.3964>
2. If this is the first request of the session, user will be redirected to the CAS authentication page; enter credentials and CAS will redirect to the response (see 3.)
3. The GET call returns a response with a header of 200 OK and a body of:

```
{
  "data": [
    {
      "name": "SETD",
      "count": 76063
    },
    {
      "name": "HGIS",
      "count": 58492
    },
    ...
    {
      "name": "OSM",
      "count": 2
    }
  ],
  "shards": 535
}
```

4.2.2.1.3 List Available Sources (binned)

Basic call format: <https://iipbeta.digitalglobe.com/monocle-3/app/broker/vector/api/aggs/sources/binned?north={value}&east={value}&south={value}&west={value}>

1. Submit a GET request to retrieve InsightCloud ESRI UVI information. The REST call via monocle-3 application will look similar to the following:
<https://iipbeta.digitalglobe.com/monocle-3/app/broker/vector/api/aggs/sources/binned?north=42.631&east=37.2633&south=34.7208&west=32.3964&binCountX=1&binCountY=2>
2. If this is the first request of the session, user will be redirected to the CAS authentication page; enter credentials and CAS will redirect to the response (see 3.)
3. The GET call returns a response with a header of 200 OK and a body of:

```
{
  "data": [
    {
      "xIndex": 0,
      "yIndex": 0,
      "north": 42.631,
      "east": 37.2633,
      "south": 38.6759,
      "west": 32.3964,
      "geom": {
        "type": "Polygon",
        "coordinates": [
          [
            32.3964,
            42.631
          ]
        ]
      }
    }
  ]
}
```

```

    ],
    [
      37.2633,
      42.631
    ],
    [
      37.2633,
      38.6759
    ],
    [
      32.3964,
      38.6759
    ],
    [
      32.3964,
      42.631
    ]
  ]
},
"data": [
  {
    "name": "Gazeteer",
    "count": 11895
  },
  {
    "name": "Anthrometer",
    "count": 3
  }
]
},
{
  "xIndex": 0,
  "yIndex": 1,
  "north": 38.6759,
  "east": 37.2633,
  "south": 34.7208,
  "west": 32.3964,
  "geom": {
    "type": "Polygon",
    "coordinates": [
      [
        [
          32.3964,
          38.6759
        ],
        [
          37.2633,
          38.6759
        ],

```



```

[
  37.2633,
  34.7208
],
[
  32.3964,
  34.7208
],
[
  32.3964,
  38.6759
]
]
],
"data": [
  {
    "name": "SETD",
    "count": 76063
  },
  {
    "name": "HGIS",
    "count": 58492
  },
  {
    "name": "Gazeteer",
    "count": 23292
  },
  ...
  {
    "name": "OSM",
    "count": 2
  },
  {
    "name": "Anthrometer",
    "count": 1
  }
]
},
"shards": 535
}

```

4.2.2.2 UVI in ESRI ArcMap Add-In

Note: Sources are subject to rapid change, and both the list of available sources as well as the vector count within each listed source may be different than the given examples. Basic principles still apply.

4.2.2.2.1 Parameters

Parameters	Data Type	Parameter Type	Description
left	String	Query	Longitude in decimal degrees of the lower left bounding box corner
lower	String	Query	Latitude in decimal degrees of the lower left bounding box corner
right	String	Query	Longitude in decimal degrees of the upper right bounding box corner
upper	String	Query	Latitude in decimal degrees of the upper right bounding box corner
geometry	String	Path	The geometry type for which to list items or types (e.g. “Point”)
type	String	Path	The vector item type for which to list items (e.g. “Road” or “Media Outlet”)
ttl	String	Query	The time to live for the Elasticsearch paging session.
count	Integer	Query	The number of records to return per shard per page request.
fields	String	Path	The comma-separated list of fields to return for the items.
source	String	Path	The source for which to list items or types.
pagingId	String	Form	The paging session ID for which to retrieve a page.

Table 4.16 ESRI UVI Parameters

Parameters	Limits
Left	Between -180 and 180 degrees inclusive
Right	Between -180 and 180 degrees inclusive
Lower	Between -90 and 90 degrees inclusive
Upper	Between -90 and 90 degrees inclusive
Fields	Possible field options are: id, itemDate, ingestDate, ingestSource, name, itemType, format, source, geomType, geom, originalCrs, text, attributes, ingestAttributes
Source	Current source options are: ACLED, Anthrometer, Gazetteer, GDB,

Parameters	Limits
	GDELT, HGIS, IIP-SA-Raster, ImageMining, InsightCloudMR, MASS Service, OSM, SETD, Tomnod *Note: Less in Staging

Table 4.17 ESRI UVI Parameter Limits**4.2.2.2.2 List Available Sources**

Basic call format: <https://iipbeta.digitalglobe.com/monocle-3/app/broker/vector/api/esri/sources?left={value}&right={value}&upper={value}&lower={value}>

- Submit a GET request to retrieve InsightCloud ESRI UVI information. The REST call via monocle-3 application will look similar to the following:
<https://iipbeta.digitalglobe.com/monocle-3/app/broker/vector/api/esri/sources?left=32.3964&right=37.2633&upper=42.631&lower=34.7208>

2. If this is the first request of the session, user will be redirected to the CAS authentication page; enter credentials and CAS will redirect to the response (see 3.)

- The GET call returns a response with a header of 200 OK and a body of:

```
{
  "shards": 175,
  "data": [
    {
      "name": "OSM",
      "count": 127599
    },
    {
      "name": "HGIS",
      "count": 58493
    }
  ]
}
```

4.2.2.2.3 List Available Geometries for a Given Source

Basic call format: <https://iipbeta.digitalglobe.com/monocle-3/app/broker/vector/api/esri/{source}/geometries?left={value}&right={value}&upper={value}&lower={value}>

- Submit a GET request to retrieve InsightCloud ESRI UVI information. The REST call via monocle-3 application will look similar to the following:
<https://iipbeta.digitalglobe.com/monocle-3/app/broker/vector/api/esri/HGIS/geometries?left=32.3964&right=37.2633&upper=42.631&lower=34.7208>

2. If this is the first request of the session, user will be redirected to the CAS authentication page; enter credentials and CAS will redirect to the response (see 3.)

3. The GET call returns a response with a header of 200 OK and a body of:

```
{
  "shards": 175,
  "data": [
    {
      "name": "Polygon",
      "count": 23635
    },
    {
      "name": "PolyLine",
      "count": 8091
    },
    {
      "name": "Point",
      "count": 26766
    }
  ]
}
```

4.2.2.2.4 List Available Item Types for a Given Geometry and Source

Basic call format: <https://iipbeta.digitalglobe.com/monocle-3/app/broker/vector/api/esri/{source}/{geometry}/types?left={value}&right={value}&upper={value}&lower={value}>

1. Submit a GET request to retrieve InsightCloud ESRI UVI information. The REST call via monocle-3 application will look similar to the following:
<https://iipbeta.digitalglobe.com/monocle-3/app/broker/vector/api/esri/HGIS/Polygon/types?left=32.3964&right=37.2633&upper=42.631&lower=34.7208>

2. If this is the first request of the session, user will be redirected to the CAS authentication page; enter credentials and CAS will redirect to the response (see 3.)

3. The GET call returns a response with a header of 200 OK and a body of:

```
{
  "shards": 175,
  "data": [
    {
      "name": "Cropland",
      "count": 23137
    },
    {
      "name": "Religions",
      "count": 119
    },
    {
      "name": "Languages",

```

```

    "count": 59
  },
  {
    "name": "Admin2",
    "count": 27
  },
  ...
  {
    "name": "Admin1 Unemployment",
    "count": 6
  },
  {
    "name": "Political Party",
    "count": 6
  },
  {
    "name": "Admin0",
    "count": 1
  }
]
}

```

4.2.2.2.5 List Available Vector Items for Given Item Type, Geometry, and Source (Returns Default Fields)

Basic call format: <https://iipbeta.digitalglobe.com/monocle-3/app/broker/vector/api/esri/{source}/{geometry}/{type}?left={value}&right={value}&upper={value}&lower={value}&count={value}>

1. Submit a GET request to retrieve InsightCloud ESRI UVI information. The REST call via monocle-3 application will look similar to the following:
<https://iipbeta.digitalglobe.com/monocle-3/app/broker/vector/api/esri/HGIS/Polygon/Admin0?left=32.3964&right=37.2633&upper=42.631&lower=34.7208&count=100>

2. If this is the first request of the session, user will be redirected to the CAS authentication page; enter credentials and CAS will redirect to the response (see 3.)

3. The GET call returns a response with a header of 200 OK and a body of:

```

{
  "displayFieldName": "",
  "features": [
    {
      "attributes": {
        "vector_name": "SYRIAN ARAB REPUBLIC",
        "item_NAME_FAO": "Syrian Arab Republic",
        "item_VALIDTO": "Present",
        "item_NAME_VARIA": "Syrian Arab Republic|Alaouites|United Arab Republic",
        "item_Shape_Length": "24.598553",
        "item_ISO3": "SYR",
        "item_NAME_LOCAL": "Suriyah",

```

```

"item_Shape_Area_dbl": 18.423695,
"vector_itemType": "Admin0",
"item_ISO2": "SY",
"item_ISON": "760.0",
"item_Shape_Length_dbl": 24.598553,
"item_SOURCE": "www.gadm.org",
"item_FIPS": "SY",
"item_ISON_dbl": 760,
"item_VALIDFR": "Unknown",
"item_NAME_ENGLI": "Syria",
"vector_source": "www.gadm.org",
"item_NAME_FRENC": "Syrienne, République Arabe",
"item_NAME_ISO": "SYRIAN ARAB REPUBLIC",
"item_Shape_Area": "18.423695"
},
"geometry": {
  "rings": [
    [
      [
        35.859859467000035,
        34.85949707000009
      ],
      [
        35.859859467000035,
        34.85930633500004
      ],
      [
        35.86071777300009,
        34.85931396500007
      ],
      ...
      [
        35.859859467000035,
        34.85949707000009
      ]
    ],
    ...
    [
      [
        42.220829010000045,
        37.27747726400008
      ],
      ...
      [
        42.220829010000045,
        37.27747726400008
      ]
    ]
  ],
  "spatialReference": {

```

```

        "wkid": 4326
      }
    }
  ],
  "spatialReference": {
    "wkid": 4326
  },
  "geometryType": "esriGeometryPolygon",
  "fields": [
    {
      "alias": "Name",
      "name": "vector_name",
      "length": 32,
      "type": "esriFieldTypeString"
    },
    {
      "alias": "Item Type",
      "name": "vector_itemType",
      "length": 22,
      "type": "esriFieldTypeString"
    },
    ...
    {
      "alias": "NAME_FAO",
      "name": "item_NAME_FAO",
      "length": 34,
      "type": "esriFieldTypeString"
    }
  ]
}

```

4.2.2.2.6 List Available Vector Items for Given Item Type, Geometry, and Source (Returns Selected Fields)

Basic call format: <https://iipbeta.digitalglobe.com/monocle-3/app/broker/vector/api/esri/{source}/{geometry}/{type}/{fields}?left={value}&right={value}&upper={value}&lower={value}&count={value}>

1. Submit a GET request to retrieve InsightCloud ESRI UVI information. The REST call via monocle-3 application will look similar to the following:
<https://iipbeta.digitalglobe.com/monocle-3/app/broker/vector/api/esri/HGIS/Polygon/Political%20Party/ingestDate%2CingestSource?left=32.3964&right=37.2633&upper=42.631&lower=34.7208&count=100>
2. If this is the first request of the session, user will be redirected to the CAS authentication page; enter credentials and CAS will redirect to the response (see 3.)
3. The GET call returns a response with a header of 200 OK and a body of:


```
{
```

```

"displayFieldName": "",
"features": [
  {
    "attributes": {
      "vector_ingestSource": "HGIS",
      "vector_ingestDate": "2015-03-09T21:53:13Z"
    },
    "geometry": {
      "rings": [
        [
          [
            36.73624420200008,
            36.31853103600008
          ],
          [
            36.754726410000046,
            36.29829025300006
          ],
          ...
          [
            36.193588257000044,
            35.214267731000064
          ]
        ]
      ],
      "spatialReference": {
        "wkid": 4326
      }
    }
  },
  {
    "spatialReference": {
      "wkid": 4326
    },
    "geometryType": "esriGeometryPolygon",
    "fields": [
      {
        "alias": "Ingest Date",
        "name": "vector_ingestDate",
        "length": 38,
        "type": "esriFieldTypeDate"
      },
      {
        "alias": "Ingest Source",
        "name": "vector_ingestSource",
        "length": 24,
        "type": "esriFieldTypeString"
      }
    ]
  }
]
}

```


4.2.2.2.7 List Available Geometries Matching A Given Query

Basic call format: <https://iipbeta.digitalglobe.com/monocle-3/app/broker/vector/api/esri/query/geometries?q={query}&left={value}&right={value}&upper={value}&lower={value}>

1. Submit a GET request to retrieve InsightCloud ESRI UVI information. The REST call via monocle-3 application will look similar to the following:
<https://iipbeta.digitalglobe.com/monocle-3/app/broker/vector/api/esri/query/geometries?q=highway&left=32.3964&right=37.2633&upper=42.631&lower=34.7208>
2. If this is the first request of the session, user will be redirected to the CAS authentication page; enter credentials and CAS will redirect to the response (see 3.)
3. The GET call returns a response with a header of 200 OK and a body of:

```
{
  "data": [
    {
      "name": "PolyLine",
      "count": 106
    }
  ],
  "shards": 540
}
```

4.2.2.2.8 List Available Vector Item Types Matching Given Geometry and Query

Basic call format: <https://iipbeta.digitalglobe.com/monocle-3/app/broker/vector/api/esri/query/{geometry}/types?q={query}&left={value}&right={value}&upper={value}&lower={value}>

1. Submit a GET request to retrieve InsightCloud ESRI UVI information. The REST call via monocle-3 application will look similar to the following:
<https://iipbeta.digitalglobe.com/monocle-3/app/broker/vector/api/esri/query/PolyLine/types?q=highway&left=32.3964&right=37.2633&upper=42.631&lower=34.7208>
2. If this is the first request of the session, user will be redirected to the CAS authentication page; enter credentials and CAS will redirect to the response (see 3.)
3. The GET call returns a response with a header of 200 OK and a body of:

```
{
  "data": [
    {
      "name": "Roads",
      "count": 102
    },
    {
      "name": "Roads Local",

```

```

    "count": 4
  }
],
"shards": 540
}

```

4.2.2.2.9 List Available Vector Items Matching Given Query, Geometry Type, and Item Type

Basic call format: <https://iipbeta.digitalglobe.com/monocle-3/app/broker/vector/api/esri/query/{geometry}/{type}/{fields}?q={query}&left={value}&right={value}&upper={value}&lower={value}&count={value}>

1. Submit a GET request to retrieve InsightCloud ESRI UVI information. The REST call via monocle-3 application will look similar to the following:
<https://iipbeta.digitalglobe.com/monocle-3/app/broker/vector/api/esri/query/PolyLine/Roads%20Local/itemDate%20CingestSource%20Cname%20Ctext?q=highway&left=32.3964&right=37.2633&upper=42.631&lower=34.7208&count=100>
2. If this is the first request of the session, user will be redirected to the CAS authentication page; enter credentials and CAS will redirect to the response (see 3.)
3. The GET call returns a response with a header of 200 OK and a body of:

```

{
  "displayFieldName": "",
  "features": [
    {
      "attributes": {
        "vector_name": "Road Highway Tartus - Arida",
        "vector_ingestSource": "HGIS-with-raw",
        "vector_text": "SYR | Road Highway Tartus - Arida | No | MapCruzin | 0.05605598 | Secondary",
        "vector_itemDate": "2015-06-01T18:57:02Z"
      },
      "geometry": {
        "paths": [
          [
            [
              35.991930400000006,
              34.7324307000000066
            ],
            [
              35.991782800000007,
              34.732466400000008
            ],
            [
              35.990857800000007,
              34.732731300000007
            ]
          ]
        ]
      }
    }
  ]
}

```

```
35.989278600000034,  
34.733212100000006  
],  
[  
  35.987485300000006,  
  34.733746800000006  
],  
[  
  35.984997300000009,  
  34.734496900000007  
],  
[  
  35.979523700000007,  
  34.736159500000004  
],  
[  
  35.976379600000009,  
  34.737083500000004  
],  
[  
  35.973414700000035,  
  34.737972900000045  
],  
[  
  35.971976800000005,  
  34.738396700000007  
],  
[  
  35.970284600000007,  
  34.738903600000007  
],  
[  
  35.968218600000006,  
  34.739517500000034  
],  
[  
  35.964500000000044,  
  34.740654500000006  
],  
[  
  35.962863700000007,  
  34.741061700000046  
],  
[  
  35.961689000000035,  
  34.741161400000007  
],  
[  
  35.960242700000004,  
  34.741293100000064
```

```

],
[
  35.958588200000065,
  34.741428900000074
],
[
  35.956250700000055,
  34.741596900000005
],
[
  35.954416200000008,
  34.741772300000004
],
[
  35.952798100000005,
  34.742482000000005
],
[
  35.950802500000066,
  34.743491400000004
],
[
  35.947681600000007,
  34.745031800000005
],
[
  35.945194000000007,
  34.746221600000007
],
[
  35.943901500000004,
  34.746841100000004
],
[
  35.943010200000006,
  34.747272700000005
],
[
  35.942315800000074,
  34.747607700000006
],
[
  35.941519700000007,
  34.748036300000008
],
[
  35.940456700000084,
  34.748550500000008
],
[

```

```

        35.939428500000076,
        34.749022900000006
    ],
    [
        35.939171100000007,
        34.749162300000008
    ],
    [
        35.9388689000000045,
        34.749231700000005
    ]
    ]
    ],
    "spatialReference": {
        "wkid": 4326
    }
    },
    ...
],
"spatialReference": {
    "wkid": 4326
},
"geometryType": "esriGeometryPolyline",
"fields": [
    {
        "alias": "Name",
        "name": "vector_name",
        "length": 1,
        "type": "esriFieldTypeString"
    },
    {
        "alias": "Ingest Source",
        "name": "vector_ingestSource",
        "length": 1,
        "type": "esriFieldTypeString"
    },
    {
        "alias": "Text",
        "name": "vector_text",
        "length": 1,
        "type": "esriFieldTypeString"
    },
    {
        "alias": "Item Date",
        "name": "vector_itemDate",
        "length": 1,
        "type": "esriFieldTypeDate"
    }
]

```

3/app/broker/vector/api/esri/query/{geometry}/{type}/paging?q={query}&left={value}&right={value}&upper={value}&lower={value}&ttl={value}&count={value}

- ```
3/app/broker/vector/api/esri/query/PolyLine/Roads%20Local/paging?q=hi
ghway&left=32.3964&right=37.2633&upper=42.631&lower=34.7208&ttl
=5m&count=500
```

- "pagingId":  
"c2Nhbjs1NDA7NTkyNzY1ODp2YV8tc2pLdFNndWVEVzQzdVhmWlJ3OzU5MjQ1MjQ6VmVxUVhVa  
mpRWnk1dUVIM3ppcXN6QTs1OTI0NTI1OlZlcVFYVWpqUVp5NXVFZTN6aXFzekE7NTkyNjExMDp0  
TWZsVUZoX1QzV21BQmJfek5pYVWROzU5MjQ1MjY6VmVxUVhVampRWnk1dUVIM3ppcXN6QTs1  
OTI2MTg5OlpiaHpiS3YwU0JtREJQaWs1MDUxX0E7NTkyNzY2MDp2YV8tc2pLdFNndWVEVzQzdVh  
mWlJ3OzU5MjQ1MjY6VmVxUVhVampRWnk1dUVIM3ppcXN6QTs1OTI3NjU5OnZhXy1zakt0U2d1ZU  
RXNDN1WGZaUnc7NTkyNDUyOTpWZXFRWFVqalFaeTV1RWUzemlxc3pBoZU5MjY0NTA6ZkhzU1  
RuT19RLVdzRF9WZTdTY0paUTs1OTI0NTI4OlZlcVFYVWpqUVp5NXVFZTN6aXFzekE7NTkyNjExM  
Tp0TWZsVUZoX1QzV21BQmJfek5pYVWROzU5MjQ1MzA6VmVxUVhVampRWnk1dUVIM3ppcXN6Q  
Ts1OTI2MTEyOnRNZmxVRmhfvDNXbUFCY196TmlhZVE7NTkyNjExMDp0TWZsVUZoX1QzV21BQm  
Jfek5pYVWROzU5MjQ2NjJl6dmFfLXNqS3RTZ3VIRFc0M3VYZlpSdzs1OTI3NjYxOnZhXy1zakt0U2d1Z  
URXNDN1WGZaUnc7NTkyNDUzMTpWZXFRWFVqalFaeTV1RWUzemlxc3pBoZU5MjQ1MzI6VmVx  
UVhVampRWnk1dUVIM3ppcXN6QTs1OTI2MTE0OnRNZmxVRmhfvDNXbUFCY196TmlhZVE7NTkyN  
DUzZmpWZXFRWFVqalFaeTV1RWUzemlxc3pBoZU5MjQ1MzQ6VmVxUVhVampRWnk1dUVIM3ppc  
XN6QTs1OTI3NjYzOnZhXy1zakt0U2d1ZURXNDN1WGZaUnc7NTkyNjE5MDpaYmh6Ykt2MFNCbUR  
CUGlrNTA1MV9BoZU5MjQ1MzU6VmVxUVhVampRWnk1dUVIM3ppcXN6QTs1OTI2NDUxOmZlC1N  
Ubk9fUS1Xc0RfVmU3U2NKWIE7NTkyNzY2NDp2YV8tc2pLdFNndWVEVzQzdVhmWlJ3OzU5MjQ1M  
zY6VmVxUVhVampRWnk1dUVIM3ppcXN6QTs1OTI2MTkxOlpiaHpiS3YwU0JtREJQaWs1MDUxX0E7  
NTkyNjE5MjpaYmh6Ykt2MFNCbURCUGlrNTA1MV9BoZU5MjYxMTU6dE1mbFVGaF9UM1dtQUJiX3  
pOaWFIUTs1OTI2MTE2OnRNZmxVRmhfvDNXbUFCY196TmlhZVE7NTkyNDUzNzpWZXFRWFVqalF  
aeTV1RWUzemlxc3pBoZU5MjQ1Mzg6VmVxUVhVampRWnk1dUVIM3ppcXN6QTs1OTI0NTM5OlZlc  
VFYVWpqUVp5NXVFZTN6aXFzekE7NTkyNjExNzp0TWZsVUZoX1QzV21BQmJfek5pYVWROzU5Mj  
c2OTc6dmFfLXNqS3RTZ3VIRFc0M3VYZlpSdzs1OTI0NTg5OlZlcVFYVWpqUVp5NXVFZTN6aXFzekE  
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```
ZoX1QzV21BQmJfek5pYWVROzU5MjYxNzU6dE1mbFVGaF9UM1dtQUJiX3pOaWFIUTs1OTI3NzUw
OnZhXy1zakt0U2d1ZURXNDN1WGZaUnc7NTkyNjE3Mjp0TWZsVUZoX1QzV21BQmJfek5pYWVROz
U5MjY1NDM6ZkhzU1RuT19RLVdzRF9WZTdTY0paUTs1OTI2MTkyOnRNZmxVRmhfVDNXbUFCYI9
6TmlhZVE7NTkyNzc1MTp2YV8tc2pLdFNndWVEVzQzdVhmWlJ3OzU5MjYxODQ6dE1mbFVGaF9UM
1dtQUJiX3pOaWFIUTs1OTI2NTUwOmZlclNUbk9fUS1Xc0RfVmU3U2NKWIE7NTkyNjU0NjpmSHNT
VG5PX1EtV3NEX1ZIN1NjSlpRozU5MjYzMDc6WmJoemJLdjBTQm1EQlBpazUwNTFFQTs1OTI0NjlyO
lZlcVFYVWpqUVp5NXVFZTN6aXFzekE7NTkyNzc2NDp2YV8tc2pLdFNndWVEVzQzdVhmWlJ3OzU5
MjQ2MjM6VmVxUVhVampRWnk1dUVIM3ppcXN6QTs1OTI2NTQ5OmZlclNUbk9fUS1Xc0RfVmU3U
2NKWIE7NTkyNzc1MTp2YV8tc2pLdFNndWVEVzQzdVhmWlJ3OzU5Mjc3NjA6dmFfLXNqS3RTZ3VIR
Fc0M3VYZlpSdzs1OTI3NzY1OnZhXy1zakt0U2d1ZURXNDN1WGZaUnc7NTkyNzc1Mzp2YV8tc2pLdF
NndWVEVzQzdVhmWlJ3OzU5MjYxOTQ6dE1mbFVGaF9UM1dtQUJiX3pOaWFIUTs1OTI2MzA0Olpi
HpiS3YwU0JtREJQaWs1MDUxX0E7NTkyNjE4MTp0TWZsVUZoX1QzV21BQmJfek5pYWVROzU5Mj
YxNzc6dE1mbFVGaF9UM1dtQUJiX3pOaWFIUTs1OTI3NzY2OnZhXy1zakt0U2d1ZURXNDN1WGZaUn
c7NTkyNjU1MTpmSHNTVG5PX1EtV3NEX1ZIN1NjSlpRozU5MjQ2MzA6VmVxUVhVampRWnk1dUV
IM3ppcXN6QTs1OTI2MjAzOnRNZmxVRmhfVDNXbUFCYI96TmlhZVE7MTt0b3RhbF9oaXRzOjQ7"
```

#### 4.2.2.2.11 Retrieve Page of Vector Items by Type (GET)

Basic call format: <https://iipbeta.digitalglobe.com/monocle-3/app/broker/vector/api/esri/{source}/{geometry}/{type}/paging?left={value}&right={value}&upper={value}&lower={value}&ttl={value}&count={value}>

1. Submit a GET request to retrieve InsightCloud ESRI UVI information. The REST call via monocle-3 application will look similar to the following:  
<https://iipbeta.digitalglobe.com/monocle-3/app/broker/vector/api/esri/OSM/Point/Tower/paging?left=32.3964&right=37.2633&upper=42.631&lower=34.7208&ttl=5m&count=500>
2. If this is the first request of the session, user will be redirected to the CAS authentication page; enter credentials and CAS will redirect to the response (see 3.)
3. The GET call returns a response with a header of 200 OK and a body of:

```
{
 "pagingId":
 "c2NhbjsxNzU7MTc1OTczMjpWZXFRWFVqalFaeTV1RWUzemlxc3pBOzE3NjA2MTI6dE1mbFVGaF9
 UM1dtQUJiX3pOaWFIUTs1OTI3NzUwOnZhXy1zakt0U2d1ZURXNDN1WGZaUnc7NTkyNjE3Mjp0TWZs
 VUZoX1QzV21BQmJfek5pYWVROzU5MjYxNzU6dE1mbFVGaF9UM1dtQUJiX3pOaWFIUTs1OTI2MTky
 OnRNZmxVRmhfVDNXbUFCYI96TmlhZVE7MTc2MTg1NDp2YV8tc2pLdFNndWVEVzQzdVhmWlJ3OzU5
 MjYxODQ6dE1mbFVGaF9UM1dtQUJiX3pOaWFIUTs1OTI2NTUwOmZlclNUbk9fUS1Xc0RfVmU3U2NK
 WIE7NTkyNjU0NjpmSHNTVG5PX1EtV3NEX1ZIN1NjSlpRozU5MjYzMDc6WmJoemJLdjBTQm1EQlBpaz
 UwNTFFQTs1OTI0NjlyOlZlcVFYVWpqUVp5NXVFZTN6aXFzekE7NTkyNzc2NDp2YV8tc2pLdFNndWVE
 VzQzdVhmWlJ3OzU5MjQ2MjM6VmVxUVhVampRWnk1dUVIM3ppcXN6QTs1OTI2NTQ5OmZlclNUbk9f
 US1Xc0RfVmU3U2NKWIE7NTkyNzc1MTp2YV8tc2pLdFNndWVEVzQzdVhmWlJ3OzU5Mjc3NjA6dmFfL
 XNqS3RTZ3VIRFc0M3VYZlpSdzs1OTI3NzY1OnZhXy1zakt0U2d1ZURXNDN1WGZaUnc7NTkyNzc1Mz
 p2YV8tc2pLdFNndWVEVzQzdVhmWlJ3OzU5MjYxOTQ6dE1mbFVGaF9UM1dtQUJiX3pOaWFIUTs1O
 TI2MzA0OlpiHpiS3YwU0JtREJQaWs1MDUxX0E7NTkyNjE4MTp0TWZsVUZoX1QzV21BQmJfek5pY
 WVROzU5MjYxNzc6dE1mbFVGaF9UM1dtQUJiX3pOaWFIUTs1OTI3NzY2OnZhXy1zakt0U2d1ZURX
 NDN1WGZaUnc7NTkyNzc1Mzp2YV8tc2pLdFNndWVEVzQzdVhmWlJ3OzU5MjYxODQ6dE1mbFVGaF9U
 M1dtQUJiX3pOaWFIUTs1OTI2MTkyOnRNZmxVRmhfVDNXbUFCYI96TmlhZVE7MTc2MTg1NDp2YV8tc
 2pLdFNndWVEVzQzdVhmWlJ3OzU5MjYxODQ6dE1mbFVGaF9UM1dtQUJiX3pOaWFIUTs1OTI2NTUw
 OmZlclNUbk9fUS1Xc0RfVmU3U2NKWIE7NTkyNjU0NjpmSHNTVG5PX1EtV3NEX1ZIN1NjSlpRozU5
 MjYzMDc6WmJoemJLdjBTQm1EQlBpazUwNTFFQTs1OTI0NjlyOlZlcVFYVWpqUVp5NXVFZTN6aX
 FzekE7NTkyNzc2NDp2YV8tc2pLdFNndWVEVzQzdVhmWlJ3OzU5MjQ2MjM6VmVxUVhVampRWnk1dU
 VIM3ppcXN6QTs1OTI2NTQ5OmZlclNUbk9fUS1Xc0RfVmU3U2NKWIE7NTkyNzc1MTp2YV8tc2pLdF
 NndWVEVzQzdVhmWlJ3OzU5MjYxOTQ6dE1mbFVGaF9UM1dtQUJiX3pOaWFIUTs1OTI2MzA0Olpi
 HpiS3YwU0JtREJQaWs1MDUxX0E7NTkyNjE4MTp0TWZsVUZoX1QzV21BQmJfek5pYWVROzU5MjY
 xNzc6dE1mbFVGaF9UM1dtQUJiX3pOaWFIUTs1OTI3NzY2OnZhXy1zakt0U2d1ZURXNDN1WGZaUn
 c7NTkyNjU1MTpmSHNTVG5PX1EtV3NEX1ZIN1NjSlpRozU5MjQ2MzA6VmVxUVhVampRWnk1dUVIM3
 ppXN6QTs1OTI2MjAzOnRNZmxVRmhfVDNXbUFCYI96TmlhZVE7MTt0b3RhbF9oaXRzOjQ7"
```

VhmWlJ3OzE3NTk3Mzk6VmVxUVhVampRWnk1dUVIM3ppcXN6QTsxNzU5NzQ5OIZlcVFYVWpqUVp5NXVFZTN6aXFzekE7MTc2MDU5MjpaYmh6Ykt2MFNCbURCUGlrNTA1MV9BOzE3NjA2MTY6WmJoemJLdjBTQm1EQlBpazUwNTFfQTsxNzU5NzQzOIZlcVFYVWpqUVp5NXVFZTN6aXFzekE7MTc1OTc2NTpWZXFRWFVqalFaeTV1RWUzemlxc3pBozE3NjE4Nzc6dmFfLXNqS3RTZ3VIRFc0M3VYzlpSdzsxNzU5NzQwOIZlcVFYVWpqUVp5NXVFZTN6aXFzekE7MTc2MTg2Mzp2YV8tc2pLdFNndWVEVzQzdVhmWlJ3OzE3NjA2MDI6WmJoemJLdjBTQm1EQlBpazUwNTFfQTsxNzYxNDk3OmZlc1NUbk9fUS1Xc0RfVmU3U2NKWIE7MTc1OTc1NzpWZXFRWFVqalFaeTV1RWUzemlxc3pBozE3NjA2MDY6dE1mbFVGaF9UM1dtQUJiX3pOaWFIUTsxNzYxODg1OnZhXy1zakt0U2d1ZURXNDN1WGZaUnc7MTc2MTg2Mjp2YV8tc2pLdFNndWVEVzQzdVhmWlJ3OzE3NTk3NDE6VmVxUVhVampRWnk1dUVIM3ppcXN6QTsxNzYxODcXOnZhXy1zakt0U2d1ZURXNDN1WGZaUnc7MTc2MTg2NTp2YV8tc2pLdFNndWVEVzQzdVhmWlJ3OzE3NTk3NDg6VmVxUVhVampRWnk1dUVIM3ppcXN6QTsxNzU5NzQyOIZlcVFYVWpqUVp5NXVFZTN6aXFzekE7MTc1OTc2MzpWZXFRWFVqalFaeTV1RWUzemlxc3pBozE3NjE4Nzc6dmFfLXNqS3RTZ3VIRFc0M3VYzlpSdzsxNzYxODY0OnZhXy1zakt0U2d1ZURXNDN1WGZaUnc7MTc2MTg4OTp2YV8tc2pLdFNndWVEVzQzdVhmWlJ3OzE3NTk3NDU6VmVxUVhVampRWnk1dUVIM3ppcXN6QTsxNzYxODc0OnZhXy1zakt0U2d1ZURXNDN1WGZaUnc7MTc1OTc1NtpWZXFRWFVqalFaeTV1RWUzemlxc3pBozE3NjA1OTg6WmJoemJLdjBTQm1EQlBpazUwNTFfQTsxNzYxNDg2OmZlc1NUbk9fUS1Xc0RfVmU3U2NKWIE7MTc2MDU5NTpaYmh6Ykt2MFNCbURCUGlrNTA1MV9BOzE3NjE1MDK6ZkhzU1RuT19RLVdzRF9WZTdTY0paUTsxNzYxNDg3OmZlc1NUbk9fUS1Xc0RfVmU3U2NKWIE7MTc2MTUxMzpmSHNTVG5PX1EtV3NEX1ZIN1NjSlpROzE3NjA2MTk6WmJoemJLdjBTQm1EQlBpazUwNTFfQTsxNzYxNTAzOmZlc1NUbk9fUS1Xc0RfVmU3U2NKWIE7MTc2MTQ5ODpmSHNTVG5PX1EtV3NEX1ZIN1NjSlpROzE3NjA2MDQ6WmJoemJLdjBTQm1EQlBpazUwNTFfQTsxNzYxODgzOnZhXy1zakt0U2d1ZURXNDN1WGZaUnc7MTc2MTg2Njp2YV8tc2pLdFNndWVEVzQzdVhmWlJ3OzE3NjA2MTQ6WmJoemJLdjBTQm1EQlBpazUwNTFfQTsxNzYxNDg4OmZlc1NUbk9fUS1Xc0RfVmU3U2NKWIE7MTc2MTg3OTp2YV8tc2pLdFNndWVEVzQzdVhmWlJ3OzE3NjA1OTk6dE1mbFVGaF9UM1dtQUJiX3pOaWFIUTsxNzYwNTk0OlpiAHPiS3YwU0JtREJQaWs1MDUxX0E7MTc2MTg2OTp2YV8tc2pLdFNndWVEVzQzdVhmWlJ3OzE3NTk3NTk6VmVxUVhVampRWnk1dUVIM3ppcXN6QTsxNzYxNTA1OmZlc1NUbk9fUS1Xc0RfVmU3U2NKWIE7MTc2MTQ4OTpmSHNTVG5PX1EtV3NEX1ZIN1NjSlpROzE3NjA2MTQ6dE1mbFVGaF9UM1dtQUJiX3pOaWFIUTsxNzU5NzQ3OIZlcVFYVWpqUVp5NXVFZTN6aXFzekE7MTc2MTUxODpmSHNTVG5PX1EtV3NEX1ZIN1NjSlpROzE3NjE1MDA6ZkhzU1RuT19RLVdzRF9WZTdTY0paUTsxNzYwNjAwOnRNZmxVRmhfVDNXbUFCYI96TmlhZVE7MTc2MTQ5OTpmSHNTVG5PX1EtV3NEX1ZIN1NjSlpROzE3NjA2Mjc6dE1mbFVGaF9UM1dtQUJiX3pOaWFIUTsxNzYxNDkwOmZlc1NUbk9fUS1Xc0RfVmU3U2NKWIE7MTc2MDYwMzpaYmh6Ykt2MFNCbURCUGlrNTA1MV9BOzE3NjA1OTc6WmJoemJLdjBTQm1EQlBpazUwNTFfQTsxNzYwNjIwOlpiAHPiS3YwU0JtREJQaWs1MDUxX0E7MTc2MTUxMTpmSHNTVG5PX1EtV3NEX1ZIN1NjSlpROzE3NjE0OTE6ZkhzU1RuT19RLVdzRF9WZTdTY0paUTsxNzYwNjA5OlpiAHPiS3YwU0JtREJQaWs1MDUxX0E7MTc2MDYyNTp0TWZsVUZoX1QzV21BQmJfek5pYwVROzE3NjA2MTg6WmJoemJLdjBTQm1EQlBpazUwNTFfQTsxNzU5NzUwOIZlcVFYVWpqUVp5NXVFZTN6aXFzekE7MTc2MDYwNzp0TWZsVUZoX1QzV21BQmJfek5pYwVROzE3NjA2MDE6dE1mbFVGaF9UM1dtQUJiX3pOaWFIUTsxNzYwNTk2OlpiAHPiS3YwU0JtREJQaWs1MDUxX0E7MTc1OTc2NDpWZXFRWFVqalFaeTV1RWUzemlxc3pBozE3NjA2MDU6WmJoemJLdjBTQm1EQlBpazUwNTFfQTsxNzYwNjE2OnRNZmxVRmhfVDNXbUFCYI96TmlhZVE7MTc2MDYwMjp0TWZsVUZoX1QzV21BQmJfek5pYwVROzE3NjA1OTM6WmJoemJLdjBTQm1EQlBpazUwNTFfQTsxNzYwNjIwOlpiAHPiS3YwU0JtREJQaWs1MDUxX0E7MTc2MDYwNjA5OlpiAHPiS3YwU0JtREJQaWs1MDUxX0E7MTc2MDYwNjA4OnRNZmxVRmhfVDNXbUFCYI96TmlhZVE7MTc2MDYxNzpaYmh6Ykt2MFNCbURCUGlrNTA1MV9BOzE3NjE1MTQ6ZkhzU1RuT19RLVdzRF9WZTdTY0paUTsxNzYxODkwOnZhXy1zakt0U2d1ZURXNDN1WGZaUnc7MTc2MTg4Nzp2YV8tc2pLdFNndWVEVzQzdVhmWlJ3OzE3NjA2MDM6dE1mbFVGaF9UM1dtQUJiX3pOaWFIUTsxNzYxODg4OnZhXy1zakt0U2d1ZURXNDN1WGZaUnc7MTc2MTUxMjpmSHNTVG5PX1EtV3NEX1ZIN1NjSlpROzE3NjE1MDI6ZkhzU1RuT19RLVdzRF9WZTdTY0paUTsxNzYxNDkyOmZlc1NUbk9fUS1Xc0RfVmU3U2NKWIE7MTc1OTc2MjpWZXFRWFVqalFaeTV1RWUzemlxc3pBozE3NjA2MTU6dE1mbFVGaF9UM1dtQUJiX3pOaWFIUTsxNzYxNTA3OmZlc1NUbk9fUS1Xc0RfVmU3U2NKWIE7MTc2MTQ5MzpmSHNTVG5PX1EtV3NEX1ZIN1NjSlpROzE3NjE1MTY6ZkhzU1RuT19RLVdzRF9WZTdTY0paUTsxNzYxNTA4OmZlc1NUbk9fUS1Xc0RfVmU3U2NKWIE7MTc2MDU5OTpaYmh6Ykt2MFNCbURCUGlrNTA1MV9BOzE3NjA2MDQ6dE1mbFVGaF9UM1dtQUJiX3pOaWFIUTsxNzYxNTAxOmZlc1NUbk9fUS1Xc0RfVmU3U2NKWIE7MTc2MTQ5NDpmSHNTVG5PX1EtV3NEX1ZIN1NjSlpROzE3NjE1MTU6ZkhzU1RuT19RLVdzRF9WZTdTY0paUTsxNzYwNjA3OlpiAHPiS3YwU0JtREJQaWs1MDUxX0E7MTc1OTc1NjpWZXFRWFVqalFaeTV1RWUzemlxc3pBozE3NjE0OTU6ZkhzU1RuT19RLVdzRF9WZTdTY0paUTsxNzYxNTES5OmZlc1NUbk9fUS1Xc0RfVmU3U2NKWIE7MTc2MDYwNjpaYmh6Ykt2MFNCbURCUGlrNTA1MV9BOzE3NjE4NzU6dmFfLXNqS3RTZ3VIRFc0M3VYzlpSdzsxNzYwNjExOlpiAHPiS3YwU0JtREJQaWs1MDUxX0E7MTc2MDYyNDpaYmh6Ykt2MFNCbURCUGlrNTA1MV9BOzE3NjA2MTU6WmJoemJLdjBTQm1EQlBpazUwNTFfQTsxNzYwNjAwOlpiAHPiS3YwU0JtREJQaWs1MDUxX0E7MTc2MTg4NDp2YV8tc2pLdFNndWVEVzQzdVhmWlJ3OzE3NTk3NTg6VmVxUVhVampRWnk1dUVIM3ppcXN6QTsxNzYwNjA4OlpiAHPiS3YwU0JtREJQaWs1MDUxX0E7MTc2MDYyNjp0TWZsVUZoX1QzV21BQmJfek5pYwVROzE3Nj

```

E1MDQ6ZkhzU1RuT19RLVdzRF9WZTdTY0paUTsxNzYwNjEyOlpiHpiS3YwU0JtREJQaWs1MDUxX0
E7MTc2MDYyMjp0TWZsVUZoX1QzV21BQmJfek5pYWVROzE3NjE1MTc6ZkhzU1RuT19RLVdzRF9
WZTdTY0paUTsxNzYwODc2OnZhXy1zakt0U2d1ZURXNDN1WGZaUnc7MTc2MTQ5NjpmSHNTVG5P
X1EtV3NEX1ZIN1NjSlpROzE3NjA2MDk6dE1mbFVGaF9UM1dtQUJiX3pOaWFIUTsxNzYwNjExOnRN
ZmxVRmhFVDNXbUFCY196TmlhZVE7MTc2MDYxNzU0TWZsVUZoX1QzV21BQmJfek5pYWVROzE3
NjA2MTA6dE1mbFVGaF9UM1dtQUJiX3pOaWFIUTsxNzYwODkxOnZhXy1zakt0U2d1ZURXNDN1WG
ZaUnc7MTc2MDYxMzpaYmh6Ykt2MFNCbURCUGlrNTA1MV9BOzE3NjA2MTg6dE1mbFVGaF9UM1
dtQUJiX3pOaWFIUTsxNzU5NzUxOlZlcVFYVWpqUVp5NXVFZTN6aXFzekE7MTc2MTg4MDp2YV8tc
2pLdFNndWVEVzQzdVhmWlJ3OzE3NjA2MjA6dE1mbFVGaF9UM1dtQUJiX3pOaWFIUTsxNzYwNTA2
OmZlc1NUbk9fUS1Xc0RfVmU3U2NKWIE7MTc2MDYyMzpaYmh6Ykt2MFNCbURCUGlrNTA1MV9B
OzE3NjA2MTA6WmJoemJLdjBTQm1EQlBpazUwNTFfQTsxNzYwODg2OnZhXy1zakt0U2d1ZURXNDN
1WGZaUnc7MTc2MDYwMTpaYmh6Ykt2MFNCbURCUGlrNTA1MV9BOzE7dG90YWxfG10czo2Ow=
="
}

```

#### 4.2.2.2.12 Retrieve Page of Vector Items (POST)

1. Submit a POST request to retrieve InsightCloud ESRI UVI information. The REST call via monocle-3 application will look similar to the following:

<https://iipbeta.digitalglobe.com/monocle-3/app/broker/vector/api/esri/paging>

With a header Content-type:application/x-www-form-urlencoded and a body of the paging ID generated in Section: Retrieve Page of Vector Items by Type (GET) or in Section: Retrieve Page of Vector Items by Type and Query (GET)

2. If this is the first request of the session, user will be redirected to the CAS authentication page; enter credentials and CAS will redirect to the response (see 3.)
3. The GET call returns a response with a header of 200 OK and a body of:

```

[
{
 properties: {
 id: "OSM-node-1612839439",
 ingestDate: "2015-04-10T00:14:21Z",
 test: "tower",
 ingestAttributes:
 {
 "osm.host": "10.0.65.150",
 "osm.database": "osm"
 },
 source: null,
 originalCrs: "EPSG:4326",
 ingestSource: "OSM",
 name: null,
 itemType: "Tower",
 format: "OSM",
 asstributes:
 {
 "_osm.user.id.dbf": 196617,
 "_osm.version.int": 1,
 "_osm.user.name": "venerdi",
 "_osm.changeset.dbf": 10547383,
 }
 }
}

```

```

 "_osm.changeset.int": 10547383,
 "power": "tower",
 "_osm.version.dbl": 1,
 "_osm.changeset": "10547383",
 "_osm.user.id": "196617",
 "_osm.version": "1",
 "_osm.user.id.int": 196617
 },
 "itemDate": "2012-01-31T09:27:41Z"
},
"type": "Feature",
"geometry": {
 "type": "Point",
 "coordinates":
 [
 34.051577,
 31.16638
]
}
},
...
]

```

#### 4.2.2.3 UVI in Web application

##### 4.2.2.3.1 Parameters

| Parameters | Data Type | Parameter Type | Description                                                                  |
|------------|-----------|----------------|------------------------------------------------------------------------------|
| left       | String    | Query          | Longitude in decimal degrees of the lower left bounding box corner           |
| lower      | String    | Query          | Latitude in decimal degrees of the lower left bounding box corner            |
| right      | String    | Query          | Longitude in decimal degrees of the upper right bounding box corner          |
| upper      | String    | Query          | Latitude in decimal degrees of the upper right bounding box corner           |
| type       | String    | Path           | The vector item type for which to list items (e.g. “Road” or “Media Outlet”) |
| ttl        | String    | Query          | The time to live for the Elasticsearch paging session.                       |
| count      | Integer   | Query          | The number of records to return per shard per page request.                  |
| fields     | String    | Path           | The comma-separated list of fields to return for the                         |

| Parameters | Data Type | Parameter Type | Description                                         |
|------------|-----------|----------------|-----------------------------------------------------|
|            |           |                | items.                                              |
| source     | String    | Path           | The source for which to list items or types.        |
| pagingId   | String    | Form           | The paging session ID for which to retrieve a page. |

**Table 4.18 Web UVI Parameters**

| Parameters | Limits                                                                                                                                                                                                                         |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Left       | Between -180 and 180 degrees inclusive                                                                                                                                                                                         |
| Right      | Between -180 and 180 degrees inclusive                                                                                                                                                                                         |
| Lower      | Between -90 and 90 degrees inclusive                                                                                                                                                                                           |
| Upper      | Between -90 and 90 degrees inclusive                                                                                                                                                                                           |
| Fields     | Possible field options are: id, itemDate, ingestDate, ingestSource, name, itemType, format, source, geomType, geom*, originalCrs, text, attributes, ingestAttributes<br>*Note: geom will always display, even if not specified |
| Source     | Current source options are: ACLED, Anthrometer, Gazetteer, GDB, GDELT, HGIS, IIP-SA-Raster, ImageMining, InsightCloudMR, MASS Service, OSM, SETD, Tomnod<br>*Note: less in Staging                                             |

**Table 4.19 Web UVI Parameter Limits****4.2.2.3.2 List Available Sources**

Basic call format: <https://iipbeta.digitalglobe.com/monocle-3/app/broker/vector/api/vectors/sources?left={value}&right={value}&upper={value}&lower={value}>

1. Submit a GET request to retrieve InsightCloud UVI information. The REST call via monocle-3 application will look similar to the following:  
<https://iipbeta.digitalglobe.com/monocle-3/app/broker/vector/api/vectors/sources?left=32.3964&right=37.2633&upper=42.631&lower=34.7208>
2. If this is the first request of the session, user will be redirected to the CAS authentication page; enter credentials and CAS will redirect to the response (see 3.)

- The GET call returns a response with a header of 200 OK and a body of:

```
{
 "shards": 175,
 "data": [
 {
 "name": "OSM",
 "count": 127599
 },
 {
 "name": "HGIS",
 "count": 58493
 }
]
}
```

#### 4.2.2.3.3 List Available Vector Types for a Given Source

Basic call format: <https://iipbeta.digitalglobe.com/monocle-3/app/broker/vector/api/vectors/{source}/types?left={value}&right={value}&upper={value}&lower={value}>

- Submit a GET request to retrieve InsightCloud UVI information. The REST call via monocle-3 application will look similar to the following:  
<https://iipbeta.digitalglobe.com/monocle-3/app/broker/vector/api/vectors/HGIS/types?left=32.3964&right=37.2633&upper=42.631&lower=34.7208>
- If this is the first request of the session, user will be redirected to the CAS authentication page; enter credentials and CAS will redirect to the response (see 3.)
- The GET call returns a response with a header of 200 OK and a body of:

```
{
 "data": [
 {
 "name": "GNDB",
 "count": 25065
 },
 {
 "name": "Cropland",
 "count": 23137
 },
 {
 "name": "Roads Local",
 "count": 7608
 },
 {
 "name": "Peaks",
 "count": 529
 },
 {

```



```

 "name": "Earthquakes",
 "count": 469
 },
 {
 "name": "Roads",
 "count": 326
 },
 {
 "name": "Religious Institutions",
 "count": 291
 },
 {
 "name": "Springs",
 "count": 140
 },
 {
 "name": "Religions",
 "count": 119
 },
 {
 "name": "Water Lines 1993",
 "count": 112
 },
 {
 "name": "Tourist Locations",
 "count": 98
 },
 {
 "name": "Languages",
 "count": 59
 },
 {
 "name": "Bus Rail Stops",
 "count": 39
 },
 {
 "name": "Military Inst",
 "count": 38
 },
 {
 "name": "Admin2",
 "count": 27
 },
 {
 "name": "Admin2 Education",
 "count": 27
 },
 {
 "name": "Admin2 Employment",
 "count": 27
 }

```

```

},
{
 "name": "Admin2 Mortality",
 "count": 27
},
{
 "name": "Admin2 Population",
 "count": 27
},
{
 "name": "Admin2 Poverty",
 "count": 27
},
{
 "name": "Admin2 Services",
 "count": 27
},
{
 "name": "Admin2 Unemployment",
 "count": 27
},
{
 "name": "Powerlines",
 "count": 25
},
{
 "name": "Rail Lines",
 "count": 19
},
{
 "name": "2012 Crisis External Camps",
 "count": 15
},
{
 "name": "Irrigation Zones 2008",
 "count": 15
},
{
 "name": "Mines",
 "count": 13
},
{
 "name": "Water Poly 1993",
 "count": 12
},
{
 "name": "Ethnicity",
 "count": 9
},
{

```

```

 "name": "Oil Gas",
 "count": 9
 },
 {
 "name": "Embassy",
 "count": 8
 },
 {
 "name": "Internet Cafes",
 "count": 8
 },
 {
 "name": "2012 Crisis Conflict Areas",
 "count": 7
 },
 {
 "name": "Ports",
 "count": 7
 },
 {
 "name": "2012 Crisis External Refugee Registration",
 "count": 6
 },
 {
 "name": "Admin1",
 "count": 6
 },
 {
 "name": "Admin1 Education",
 "count": 6
 },
 {
 "name": "Admin1 Employment",
 "count": 6
 },
 {
 "name": "Admin1 Mortality",
 "count": 6
 },
 {
 "name": "Admin1 Population",
 "count": 6
 },
 {
 "name": "Admin1 Poverty",
 "count": 6
 },
 {
 "name": "Admin1 Services",
 "count": 6
 }

```

```

},
{
 "name": "Admin1 Unemployment",
 "count": 6
},
{
 "name": "Political Party",
 "count": 6
},
{
 "name": "Substations",
 "count": 6
},
{
 "name": "Airfields",
 "count": 5
},
{
 "name": "Media Outlets",
 "count": 5
},
{
 "name": "Powerplants",
 "count": 5
},
{
 "name": "Palestinian Refugee Camps",
 "count": 4
},
{
 "name": "2012 Crisis Border Crossings",
 "count": 3
},
{
 "name": "Dams 2008",
 "count": 3
},
{
 "name": "Free Trade Zones",
 "count": 3
},
{
 "name": "Mineral Resources",
 "count": 2
},
{
 "name": "Admin0",
 "count": 1
},
{

```

```

 "name": "Oil Gas Pipelines",
 "count": 1
 },
 {
 "name": "Volcanoes",
 "count": 1
 }
],
"shards": 540
}

```

#### 4.2.2.3.4 List Available Vector Items For Given Source and Item type

Basic call format: <https://iipbeta.digitalglobe.com/monocle-3/app/broker/vector/api/vectors/{source}/{type}?left={value}&right={value}&upper={value}&lower={value}&count={value}>

1. Submit a GET request to retrieve InsightCloud UVI information. The REST call via monocle-3 application will look similar to the following:  
<https://iipbeta.digitalglobe.com/monocle-3/app/broker/vector/api/vectors/HGIS/GNDB?left=32.3964&right=37.2633&upper=42.631&lower=34.7208&count=100>
2. If this is the first request of the session, user will be redirected to the CAS authentication page; enter credentials and CAS will redirect to the response (see 3.)
3. The GET call returns a response with a header of 200 OK and a body of:

```

[
 {
 "geometry": {
 "coordinates": [
 36.133333000000005,
 34.933333000000006
],
 "type": "Point"
 },
 "properties": {
 "ingestDate": "2015-05-12T00:36:34Z",
 "id": "496065da-cf1e-45da-923f-aa026b84d587",
 "text": "SY | 345600.0 | 360800.0 | PPL | Beït Nâflé | UNK | SYR | NI37-05 | 34.933334 | 36.13333 | 37SBU3816269403 | 3.0 | BEITNAFLE | http://earth-info.nga.mil/gns/html/namefiles.htm | -2540360.0 | -3487572.0",
 "ingestAttributes": {
 "filePath": "/home/jeffrey.erikson/HGIS2/unzipped/Syria.gdb",
 "originalLayer": "SYR_GNDB_120904_WGS84"
 },
 "source": "http://earth-info.nga.mil/gns/html/namefiles.htm",
 "originalCrs": "EPSG:4326",
 "itemType": "GNDB",
 "name": "Beït Nâflé",
 "ingestSource": "HGIS",

```

```

"attributes": {
 "DSG": "PPL",
 "DMS_LONG.dbf": 360800,
 "RC.dbf": 3,
 "RC": "3.0",
 "MGRS": "37SBU3816269403",
 "GENERIC": "UNK",
 "SORT_NAME_": "BEITNAFLE",
 "ISO3": "SYR",
 "DMS_LAT": "345600.0",
 "UNI.dbf": -3487572,
 "DMS_LAT.dbf": 345600,
 "UFI.dbf": -2540360,
 "LAT": "34.933334",
 "SOURCE": "http://earth-info.nga.mil/gns/html/namefiles.htm",
 "LAT.dbf": 34.933334,
 "LONG.dbf": 36.13333,
 "JOG": "NI37-05",
 "UNI": "-3487572.0",
 "LONG": "36.13333",
 "DMS_LONG": "360800.0",
 "FULL_NAME_": "Beit Nâflé",
 "CC1": "SY",
 "UFI": "-2540360.0"
},
"format": "FileGDB",
"access": {
 "users": [
 "_ALL_"
],
 "groups": [
 "_ALL_"
]
},
"itemDate": "2015-05-12T00:36:34Z"
},
"type": "Feature"
},
...
{
 "geometry": {
 "coordinates": [
 36.9297860000000036,
 35.969844000000008
],
 "type": "Point"
 },
 "properties": {
 "ingestDate": "2015-05-12T00:36:36Z",
 "id": "5bf40bc5-c5d7-42a2-a6b4-f4a8c8fd2b35",

```

```

 "text": "SY | 355811.0 | 365547.0 | AREA | Sahm al Misrad | UNK | SYR | NI37-01 |
35.969845 | 36.929787 | 37SCV1333382585 | 3.0 | SAHMALMISRAD | http://earth-
info.nga.mil/gns/html/namefiles.htm | -2546956.0 | -3506944.0",
 "ingestAttributes": {
 "filePath": "/home/jeffrey.erikson/HGIS2/unzipped/Syria.gdb",
 "originalLayer": "SYR_GNDB_120904_WGS84"
 },
 "source": "http://earth-info.nga.mil/gns/html/namefiles.htm",
 "originalCrs": "EPSG:4326",
 "itemType": "GNDB",
 "name": "Sahm al Misrad",
 "ingestSource": "HGIS",
 "attributes": {
 "DSG": "AREA",
 "DMS_LONG.dbf": 365547,
 "RC.dbf": 3,
 "RC": "3.0",
 "MGRS": "37SCV1333382585",
 "GENERIC": "UNK",
 "SORT_NAME_": "SAHMALMISRAD",
 "ISO3": "SYR",
 "DMS_LAT": "355811.0",
 "UNI.dbf": -3506944,
 "DMS_LAT.dbf": 355811,
 "UFI.dbf": -2546956,
 "LAT": "35.969845",
 "SOURCE": "http://earth-info.nga.mil/gns/html/namefiles.htm",
 "LAT.dbf": 35.969845,
 "LONG.dbf": 36.929787,
 "JOG": "NI37-01",
 "UNI": "-3506944.0",
 "LONG": "36.929787",
 "DMS_LONG": "365547.0",
 "FULL_NAME_": "Sahm al Misrad",
 "CC1": "SY",
 "UFI": "-2546956.0"
 },
 "format": "FileGDB",
 "access": {
 "users": [
 "_ALL_"
],
 "groups": [
 "_ALL_"
]
 },
 "itemDate": "2015-05-12T00:36:36Z"
 },
 "type": "Feature"
}

```

]

**4.2.2.3.5 List Available Vector Item Types Matching A Query**

Basic call format: <https://iipbeta.digitalglobe.com/monocle-3/app/broker/vector/api/vectors/query/types?left={value}&right={value}&upper={value}&lower={value}>

1. Submit a GET request to retrieve InsightCloud UVI information. The REST call via monocle-3 application will look similar to the following:  
<https://iipbeta.digitalglobe.com/monocle-3/app/broker/vector/api/vectors/query/types?q=building&left=32.3964&right=37.2633&upper=42.631&lower=34.7208>
2. If this is the first request of the session, user will be redirected to the CAS authentication page; enter credentials and CAS will redirect to the response (see 3.)
3. The GET call returns a response with a header of 200 OK and a body of:

```
{
 "data": [
 {
 "name": "Mines",
 "count": 6
 }
],
 "shards": 540
}
```

**4.2.2.3.6 List Available Vector Items for Given Item Type and Query**

Basic call format: <https://iipbeta.digitalglobe.com/monocle-3/app/broker/vector/api/vectors/query/{type}?q={query}&left={value}&right={value}&upper={value}&lower={value}&count={value}>

1. Submit a GET request to retrieve InsightCloud UVI information. The REST call via monocle-3 application will look similar to the following:  
<https://iipbeta.digitalglobe.com/monocle-3/app/broker/vector/api/vectors/query/Mines?q=building&left=32.3964&right=37.2633&upper=42.631&lower=34.7208&count=100>
2. If this is the first request of the session, user will be redirected to the CAS authentication page; enter credentials and CAS will redirect to the response (see 3.)
3. The GET call returns a response with a header of 200 OK and a body of:

```
[
 {
 "geometry": {
 "coordinates": [
 35.883000000000004,
 34.883000000000004
],
 "type": "Point"
 }
 }
]
```



```

},
"properties": {
 "ingestDate": "2015-06-01T18:56:17Z",
 "id": "882849e6-dc5e-463a-9023-84ddb3be1cc6",
 "text": "1,800 | Cement | Tartous Company for Cement & Building Materials | Syria |
Plant | -16 | SYR | 34.883 | 35.883 | UNK | Mining method is not known or is not
applicable because the operation is a processing plant rather than a mine | Tartous | USGS
| Active | The operation was producing in 2004 | t / yr",
 "ingestAttributes": {
 "filePath": "/home/jeffrey.erikson/HGIS2/unzipped/Syria.gdb",
 "originalLayer": "SYR_Mines_120905_WGS84"
 },
 "source": "USGS",
 "originalCrs": "EPSG:4326",
 "itemType": "Mines",
 "name": null,
 "ingestSource": "HGIS-with-raw",
 "attributes": {
 "SITE.raw": "Tartous",
 "METHOD.raw": "UNK",
 "LATITUDE.dbl": 34.883,
 "STATUS.raw": "Active",
 "CAPACITY": "1,800",
 "ID.raw": "-16",
 "ID.int": -16,
 "LONGITUDE.raw": "35.883",
 "ISO3": "SYR",
 "STATUS": "Active",
 "LATITUDE": "34.883",
 "SITE": "Tartous",
 "LATITUDE.raw": "34.883",
 "SOURCE": "USGS",
 "SOURCE.raw": "USGS",
 "COMMODITY.raw": "Cement",
 "ID": "-16",
 "COMMODITY": "Cement",
 "COUNTRY.raw": "Syria",
 "FACILITY.raw": "Plant",
 "COMPANY": "Tartous Company for Cement & Building Materials",
 "STATUS_1": "The operation was producing in 2004",
 "UNITS": "t / yr",
 "ID.dbl": -16,
 "ISO3.raw": "SYR",
 "UNITS.raw": "t / yr",
 "COUNTRY": "Syria",
 "FACILITY": "Plant",
 "LONGITUDE.dbl": 35.883,
 "COMPANY.raw": "Tartous Company for Cement & Building Materials",
 "METHOD_1": "Mining method is not known or is not applicable because the
operation is a processing plant rather than a mine",
 }
}

```

```

 "STATUS_1.raw": "The operation was producing in 2004",
 "METHOD_1.raw": "Mining method is not known or is not applicable because the
operation is a processing plant rather than a mine",
 "CAPACITY.raw": "1,800",
 "LONGITUDE": "35.883",
 "METHOD": "UNK"
 },
 "format": "FileGDB",
 "access": {
 "users": [
 "_ALL_"
],
 "groups": [
 "_ALL_"
]
 },
 "itemDate": "2015-06-01T18:56:20Z"
},
"type": "Feature"
},
...
{
 "geometry": {
 "coordinates": [
 37.159000000000005,
 36.203000000000009
],
 "type": "Point"
 },
 "properties": {
 "ingestDate": "2015-05-12T00:42:31Z",
 "id": "9eb61b90-9a03-4cc6-9998-efbf3f7c8d1f",
 "text": "920 | Cement | al-Chaba Cement & Building Materials (GOCBM, 100%) |
Syria | Plant | -22 | SYR | 36.203 | 37.159 | UNK | Mining method is not known or is not
applicable because the operation is a processing plant rather than a mine | Aleppo | USGS
| Active | The operation was producing in 2004 | t / yr",
 "ingestAttributes": {
 "filePath": "/home/jeffrey.erikson/HGIS2/unzipped/Syria.gdb",
 "originalLayer": "SYR_Mines_120905_WGS84"
 },
 "source": "USGS",
 "originalCrs": "EPSG:4326",
 "itemType": "Mines",
 "name": null,
 "ingestSource": "HGIS",
 "attributes": {
 "COMPANY": "al-Chaba Cement & Building Materials (GOCBM, 100%)",
 "STATUS_1": "The operation was producing in 2004",
 "UNITS": "t / yr",
 "LATITUDE.dbf": 36.203,

```

```

"ID.dbl": -22,
"COUNTRY": "Syria",
"CAPACITY": "920",
"CAPACITY.dbl": 920,
"ID.int": -22,
"FACILITY": "Plant",
"LONGITUDE.dbl": 37.159,
"ISO3": "SYR",
"STATUS": "Active",
"LATITUDE": "36.203",
"SITE": "Aleppo",
"SOURCE": "USGS",
"CAPACITY.int": 920,
"METHOD_1": "Mining method is not known or is not applicable because the
operation is a processing plant rather than a mine",
"ID": "-22",
"COMMODITY": "Cement",
"METHOD": "UNK",
"LONGITUDE": "37.159"
},
"format": "FileGDB",
"access": {
 "users": [
 "_ALL_"
],
 "groups": [
 "_ALL_"
]
},
"itemDate": "2015-05-12T00:42:33Z"
},
"type": "Feature"
}
]

```

#### 4.2.2.3.7 List Available Vector Items by Source, Type, and Matching A Query, Returning Only Specified Fields

Basic call format: <https://iipbeta.digitalglobe.com/monocle-3/app/broker/vector/api/vectors/query/{type}/{fields}?q={query}&left={value}&right={value}&upper={value}&lower={value}&count={value}>

2. Submit a GET request to retrieve InsightCloud UVI information. The REST call via monocle-3 application will look similar to the following:  
<https://iipbeta.digitalglobe.com/monocle-3/app/broker/vector/api/vectors/query/Mines/geomType%2Csource?q=buiding&left=32.3964&right=37.2633&upper=42.631&lower=34.7208&count=100>

2. If this is the first request of the session, user will be redirected to the CAS authentication page; enter credentials and CAS will redirect to the response (see 3.)

3. The GET call returns a response with a header of 200 OK and a body of:

```
[
 {
 "properties": {
 "source": "USGS",
 "access": {
 "users": [
 "_ALL_"
],
 "groups": [
 "_ALL_"
]
 }
 },
 "type": "Feature",
 "geometry": {
 "type": "Point",
 "coordinates": [
 35.883000000000004,
 34.883000000000004
]
 }
 },
 ...
 {
 "properties": {
 "source": "USGS",
 "access": {
 "users": [
 "_ALL_"
],
 "groups": [
 "_ALL_"
]
 }
 },
 "type": "Feature",
 "geometry": {
 "type": "Point",
 "coordinates": [
 37.159000000000005,
 36.203000000000009
]
 }
 }
]
```

#### 4.2.2.3.8 List Available Vector Items Matching A Query

Basic call format: <https://iipbeta.digitalglobe.com/monocle-3/app/broker/vector/api/vectors/query/items?q={query}&left={value}&right={value}&upper={value}&lower={value}&count={value}>

3. Submit a GET request to retrieve InsightCloud UVI information. The REST call via monocle-3 application will look similar to the following:  
<https://iipbeta.digitalglobe.com/monocle-3/app/broker/vector/api/vectors/query/items?q=building&left=32.3964&right=37.2633&upper=42.631&lower=34.7208&count=100>

2. If this is the first request of the session, user will be redirected to the CAS authentication page; enter credentials and CAS will redirect to the response (see 3.)

3. The GET call returns a response with a header of 200 OK and a body of:

```
[
 {
 "geometry": {
 "coordinates": [
 36.733000000000006,
 34.917000000000009
],
 "type": "Point"
 },
 "properties": {
 "ingestDate": "2015-05-12T00:42:31Z",
 "id": "0d3f6a01-0ce6-468c-9334-433430660262",
 "text": "120 | Cement | Rastan Co. for Cement and Building Materials (GOCBM, 100%) | Syria | Plant | -17 | SYR | 34.917 | 36.733 | UNK | Mining method is not known or is not applicable because the operation is a processing plant rather than a mine | Rastan | USGS | Active | The operation was producing in 2004 | t / yr",
 "ingestAttributes": {
 "filePath": "/home/jeffrey.erikson/HGIS2/unzipped/Syria.gdb",
 "originalLayer": "SYR_Mines_120905_WGS84"
 },
 "source": "USGS",
 "originalCrs": "EPSG:4326",
 "itemType": "Mines",
 "name": null,
 "ingestSource": "HGIS",
 "attributes": {
 "COMPANY": "Rastan Co. for Cement and Building Materials (GOCBM, 100%)",
 "STATUS_1": "The operation was producing in 2004",
 "UNITS": "t / yr",
 "LATITUDE.dbf": 34.917,
 "ID.dbf": -17,
 "COUNTRY": "Syria",
 "CAPACITY": "120",
 "CAPACITY.dbf": 120,
 "ID.int": -17,
 "FACILITY": "Plant",
```

```

"LONGITUDE.dbl": 36.733,
"ISO3": "SYR",
"STATUS": "Active",
"LATITUDE": "34.917",
"SITE": "Rastan",
"SOURCE": "USGS",
"CAPACITY.int": 120,
"METHOD_1": "Mining method is not known or is not applicable because the
operation is a processing plant rather than a mine",
"ID": "-17",
"COMMODITY": "Cement",
"METHOD": "UNK",
"LONGITUDE": "36.733"
},
"format": "FileGDB",
"access": {
 "users": [
 "_ALL_"
],
 "groups": [
 "_ALL_"
]
},
"itemDate": "2015-05-12T00:42:33Z"
},
"type": "Feature"
},
...
{
 "geometry": {
 "coordinates": [
 37.159000000000005,
 36.203000000000009
],
 "type": "Point"
 },
 "properties": {
 "ingestDate": "2015-05-12T00:42:31Z",
 "id": "9eb61b90-9a03-4cc6-9998-efbf3f7c8d1f",
 "text": "920 | Cement | al-Chaba Cement & Building Materials (GOCBM, 100%) |
Syria | Plant | -22 | SYR | 36.203 | 37.159 | UNK | Mining method is not known or is not
applicable because the operation is a processing plant rather than a mine | Aleppo | USGS
| Active | The operation was producing in 2004 | t / yr",
 "ingestAttributes": {
 "filePath": "/home/jeffrey.erikson/HGIS2/unzipped/Syria.gdb",
 "originalLayer": "SYR_Mines_120905_WGS84"
 },
 "source": "USGS",
 "originalCrs": "EPSG:4326",
 "itemType": "Mines",

```

```

"name": null,
"ingestSource": "HGIS",
"attributes": {
 "COMPANY": "al-Chaba Cement & Building Materials (GOCBM, 100%)",
 "STATUS_1": "The operation was producing in 2004",
 "UNITS": "t / yr",
 "LATITUDE.dbl": 36.203,
 "ID.dbl": -22,
 "COUNTRY": "Syria",
 "CAPACITY": "920",
 "CAPACITY.dbl": 920,
 "ID.int": -22,
 "FACILITY": "Plant",
 "LONGITUDE.dbl": 37.159,
 "ISO3": "SYR",
 "STATUS": "Active",
 "LATITUDE": "36.203",
 "SITE": "Aleppo",
 "SOURCE": "USGS",
 "CAPACITY.int": 920,
 "METHOD_1": "Mining method is not known or is not applicable because the
operation is a processing plant rather than a mine",
 "ID": "-22",
 "COMMODITY": "Cement",
 "METHOD": "UNK",
 "LONGITUDE": "37.159"
},
"format": "FileGDB",
"access": {
 "users": [
 "_ALL_"
],
 "groups": [
 "_ALL_"
]
},
"itemDate": "2015-05-12T00:42:33Z"
},
"type": "Feature"
}
]

```

#### 4.2.2.3.9 List Available Vector Items Matching A Query, Returning Only Specified Fields

Basic call format: <https://iipbeta.digitalglobe.com/monocle-3/app/broker/vector/api/vectors/query/items/{fields}?q={query}&left={value}&right={value}&upper={value}&lower={value}&count={value}>

4. Submit a GET request to retrieve InsightCloud UVI information. The REST call via monocle-3 application will look similar to the following:

<https://iipbeta.digitalglobe.com/monocle-3/app/broker/vector/api/vectors/query/items/name%2Csource?q=building&left=32.3964&right=37.2633&upper=42.631&lower=34.7208&count=100>

2. If this is the first request of the session, user will be redirected to the CAS authentication page; enter credentials and CAS will redirect to the response (see 3.)

3. The GET call returns a response with a header of 200 OK and a body of:

```
[
 {
 "properties": {
 "source": "USGS",
 "name": null,
 "access": {
 "users": [
 "_ALL_"
],
 "groups": [
 "_ALL_"
]
 }
 },
 "type": "Feature",
 "geometry": {
 "type": "Point",
 "coordinates": [
 36.73300000000006,
 34.91700000000009
]
 }
 },
 ...
 {
 "properties": {
 "source": "USGS",
 "name": null,
 "access": {
 "users": [
 "_ALL_"
],
 "groups": [
 "_ALL_"
]
 }
 },
 "type": "Feature",
 "geometry": {
 "type": "Point",
 "coordinates": [
```



```

37.159000000000005,
36.203000000000009
]
}
}
]

```

#### 4.2.2.3.10 Retrieve Page of Vector Items by Type and Query (GET)

Basic call format: <https://iipbeta.digitalglobe.com/monocle-3/app/broker/vector/api/vectors/query/{type}/paging?q={query}&left={value}&right={value}&upper={value}&lower={value}&ttl={value}&count={value}>

1. Submit a GET request to retrieve InsightCloud UVI information. The REST call via monocle-3 application will look similar to the following:  
<https://iipbeta.digitalglobe.com/monocle-3/app/broker/vector/api/vectors/query/Roads/paging?q=highway&left=32.3964&right=37.2633&upper=42.631&lower=34.7208&ttl=5m&count=500>
2. If this is the first request of the session, user will be redirected to the CAS authentication page; enter credentials and CAS will redirect to the response (see 3.)
3. The GET call returns a response with a header of 200 OK and a body of:

```

{
 "pagingId":
 "c2Nhbjs1NDA7NTg5MTg5NjpWZXFRWFVqalFaeTV1RWUzemlxc3pBOzU4OTE4NzI6VmVxUVhVam
 pRWnk1dUVIM3ppcXN6QTs1ODkxODk4OIZlcVFYVWpqUVp5NXVFZTN6aXFzekE7NTg5MTg3NzpW
 ZXFRWFVqalFaeTV1RWUzemlxc3pBOzU4OTE4MzU6VmVxUVhVampRWnk1dUVIM3ppcXN6QTs1O
 DkzNDA4OnRNZmxVRmhfVDNXbUFCY196TmlhZVE7NTg5MTg1NDpWZXFRWFVqalFaeTV1RWUze
 mlxc3pBOzU4OTUwMDg6dmFfLXNqS3RTZ3VIRFc0M3VYZlpSdzs1ODkxODk3OIZlcVFYVWpqUVp5
 NXVFZTN6aXFzekE7NTg5MzQ2MDp0TWZsVUZoX1QzV21BQmJfek5pYWVROzU4OTE4NzQ6VmVx
 UVhVampRWnk1dUVIM3ppcXN6QTs1ODkzNDQ0OnRNZmxVRmhfVDNXbUFCY196TmlhZVE7NTg5
 MzU3MTpaYmh6Ykt2MFNCbURCUGlrNTA1MV9BOzU4OTM1Mjc6WmJoemJLdjBTQm1EQIBpazUw
 NTFFQTs1ODk0OTg3OnZhXy1zak0U2d1ZURXNDN1WGZaUnc7NTg5MzU5NDp0TWZsVUZoX1QzV
 21BQmJfek5pYWVROzU4OTM3NzY6ZkhzU1RuT19RLVdzRF9WZTdTY0paUTs1ODkxOTA0OIZlcVF
 YVWpqUVp5NXVFZTN6aXFzekE7NTg5MTg3ODpWZXFRWFVqalFaeTV1RWUzemlxc3pBOzU4OTE4
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mlhZVE7NTg5MzQ0MTp0TWZsVUZoX1QzV21BQmJfek5pYWVROzU4OTM0ODg6dE1mbFVGaF9U
M1dtQUJiX3pOaWFIUTs1ODk1MDg0OnZhXy1zakt0U2d1ZURXNDN1WGZaUnc7NTg5NTA2Njp2YV8
tc2pLdFNndWVEVzQzdVhmWlJ3OzU4OTE4NTM6VmVxUVhVampRWnk1dUVIM3ppcXN6QTs1ODkz
NDYzOnRNZmxVRmhfVDNXbUFCYI96TmlhZVE7MTt0b3Rhbf9oaXRzOjEwMjs="
}
```

#### 4.2.2.3.11 Retrieve Page of Vector Items by Query (GET)

Basic call format: [https://iipbeta.digitalglobe.com/monocle-](https://iipbeta.digitalglobe.com/monocle-3/app/broker/vector/api/vectors/query/paging?q={query}&left={value}&right={value}&upper={value}&lower={value}&ttl={value}&count={value})

[3/app/broker/vector/api/vectors/query/paging?q={query}&left={value}&right={value}&upper={value}&lower={value}&ttl={value}&count={value}](https://iipbeta.digitalglobe.com/monocle-3/app/broker/vector/api/vectors/query/paging?q={query}&left={value}&right={value}&upper={value}&lower={value}&ttl={value}&count={value})

- Submit a GET request to retrieve InsightCloud UVI information. The REST call via monocle-3 application will look similar to the following:  
<https://iipbeta.digitalglobe.com/monocle-3/app/broker/vector/api/vectors/query/paging?q=building&left=32.3964&right=37.2633&upper=42.631&lower=34.7208&ttl=5m&count=500>
- If this is the first request of the session, user will be redirected to the CAS authentication page; enter credentials and CAS will redirect to the response (see 3.)
- The GET call returns a response with a header of 200 OK and a body of:

```
{
 "pagingId":
 "c2Nhbjs1MzU7NzMyMTY0NjpWZXFRWFVqalFaeTV1RWUzemlxc3pBOzczMjE1NTg6VmVxUVhVam
 pRWnk1dUVIM3ppcXN6QTs3MzIxNTc4OlZlcVFYVWpqUVp5NXVFZTN6aXFzekE7NzMyMzY2MTp0
 TWZsVUZoX1QzV21BQmJfek5pYWVROzczMjM1NjU6ZkhzU1RuT19RLVdzRF9WZTdTY0paUTs3MzI
 zNTgxOnRNZmxVRmhfVDNXbUFCYI96TmlhZVE7NzMyMTU1NTpWZXFRWFVqalFaeTV1RWUzeml
 xc3pBOzczMjE1NzY6VmVxUVhVampRWnk1dUVIM3ppcXN6QTs3MzIxNTU2OlZlcVFYVWpqUVp5N
 XVFZTN6aXFzekE7NzMyMTY0NzpWZXFRWFVqalFaeTV1RWUzemlxc3pBOzczMjE1NTk6VmVxUV
 hVampRWnk1dUVIM3ppcXN6QTs3MzIxNTk3OlZlcVFYVWpqUVp5NXVFZTN6aXFzekE7NzMyMzU3
 Mjp0TWZsVUZoX1QzV21BQmJfek5pYWVROzczMjMzNDk6WmJoemJLdjBTQm1EQIBpazUwNTFfQT
 s3MzI0NjcxOnZhXy1zakt0U2d1ZURXNDN1WGZaUnc7NzMyMzU5Nzp0TWZsVUZoX1QzV21BQmJf
 e5pYWVROzczMjQ3NDY6dmFfLXNqS3RTZ3VIRFc0M3VYIzlpSdzs3MzIxNTU3OlZlcVFYVWpqUVp5
 NXVFZTN6aXFzekE7NzMyMzU3MTp0TWZsVUZoX1QzV21BQmJfek5pYWVROzczMjMzNTA6WmJo
 emJLdjBTQm1EQIBpazUwNTFfQTs3MzIzNjYyOnRNZmxVRmhfVDNXbUFCYI96TmlhZVE7NzMyND
 Y3Mjp2YV8tc2pLdFNndWVEVzQzdVhmWlJ3OzczMjQ3NjU6dmFfLXNqS3RTZ3VIRFc0M3VYIzlpSdzs
 3MzI0Njc0OnZhXy1zakt0U2d1ZURXNDN1WGZaUnc7NzMyMTU3MjpWZXFRWFVqalFaeTV1RWUze
```

mlxc3pBOzczMjM1ODI6dE1mbFVGaF9UM1dtQUJiX3pOaWFIUTs3MzIzNTk5OnRNZmxVRmhfVDNXbUFCY196TmlhZVE7NzMyMzU3Mzp0TWZsVUZoX1QzV21BQmJfek5pYWVROzczMjM1OTg6dE1mbFVGaF9UM1dtQUJiX3pOaWFIUTs3MzIzNTg5OIzlcVFYVWpqUVp5NXVFZTN6aXFzekE7NzMyMzY2Mzp0TWZsVUZoX1QzV21BQmJfek5pYWVROzczMjM1ODM6dE1mbFVGaF9UM1dtQUJiX3pOaWFIUTs3MzIzNTc0OIzlcVFYVWpqUVp5NXVFZTN6aXFzekE7NzMyMzYwOTp0TWZsVUZoX1QzV21BQmJfek5pYWVROzczMjE2MTk6VmVxUVhVampRWnk1dUVIM3ppcXN6QTs3MzIzNjY3OnRNZmxVRmhfVDNXbUFCY196TmlhZVE7NzMyMTU2MDpWZXFRWFVqalFaeTV1RWUzemlxc3pBOzczMjE1ODg6VmVxUVhVampRWnk1dUVIM3ppcXN6QTs3MzIzNDE5OlpiHpiS3YwU0JtREJQaWs1MDUxX0E7NzMyNDY4Nzp2YV8tc2pLdFNndWVEVzQzdVhmWlJ3OzczMjE1ODY6VmVxUVhVampRWnk1dUVIM3ppcXN6QTs3MzIzNjExOnRNZmxVRmhfVDNXbUFCY196TmlhZVE7NzMyMzU3Mzp0TWZsVUZoX1QzV21BQmJfek5pYWVROzczMjE1NzU6VmVxUVhVampRWnk1dUVIM3ppcXN6QTs3MzIzNTY2OmZlc1NUbk9fUS1Xc0RfVmU3U2NKWIE7NzMyMTYxODpWZXFRWFVqalFaeTV1RWUzemlxc3pBOzczMjE2NDg6VmVxUVhVampRWnk1dUVIM3ppcXN6QTs3MzIzNjY3OnRNZmxVRmhfVDNXbUFCY196TmlhZVE7NzMyMzU4Nzp0TWZsVUZoX1QzV21BQmJfek5pYWVROzczMjE1OTg6VmVxUVhVampRWnk1dUVIM3ppcXN6QTs3MzIzNTc5OIzlcVFYVWpqUVp5NXVFZTN6aXFzekE7NzMyMzU2NzpmSHNTVG5PX1EtV3NEX1ZIN1NjSlpROzczMjM1ODQ6dE1mbFVGaF9UM1dtQUJiX3pOaWFIUTs3MzI0NzQ3OnZhXy1zakt0U2d1ZURXNDN1WGZaUnc7NzMyMTU3NjpWZXFRWFVqalFaeTV1RWUzemlxc3pBOzczMjQ2Nzk6dmFfLXNqS3RTZ3VIRFc0M3VYzlpSdzs3MzI0NjczOnZhXy1zakt0U2d1ZURXNDN1WGZaUnc7NzMyMzU3NjY3OnRNZmxVRmhfVDNXbUFCY196TmlhZVE7NzMyMzU4Nzp0TWZsVUZoX1QzV21BQmJfek5pYWVROzczMjM2MTI6dE1mbFVGaF9UM1dtQUJiX3pOaWFIUTs3MzIzNjQ5OIzlcVFYVWpqUVp5NXVFZTN6aXFzekE7NzMyMTU2MTpWZXFRWFVqalFaeTV1RWUzemlxc3pBOzczMjQ2ODk6dmFfLXNqS3RTZ3VIRFc0M3VYzlpSdzs3MzI0NjczOnZhXy1zakt0U2d1ZURXNDN1WGZaUnc7NzMyMzU3NjY3OnRNZmxVRmhfVDNXbUFCY196TmlhZVE7NzMyMzU4Nzp0TWZsVUZoX1QzV21BQmJfek5pYWVROzczMjM0ODI6ZkhzU1RuT19RLVdzRF9WZTdTY0paUTs3MzI0NzAxOnZhXy1zakt0U2d1ZURXNDN1WGZaUnc7NzMyMzU3NjY3OnRNZmxVRmhfVDNXbUFCY196TmlhZVE7NzMyMzU4Nzp0TWZsVUZoX1QzV21BQmJfek5pYWVROzczMjQ2OTE6dmFfLXNqS3RTZ3VIRFc0M3VYzlpSdzs3MzIzNTc3OIzlcVFYVWpqUVp5NXVFZTN6aXFzekE7NzMyNDc1Nzp2YV8tc2pLdFNndWVEVzQzdVhmWlJ3OzczMjM1MDA6ZkhzU1RuT19RLVdzRF9WZTdTY0paUTs3MzI0NjczOnZhXy1zakt0U2d1ZURXNDN1WGZaUnc7NzMyMTYwMDpWZXFRWFVqalFaeTV1RWUzemlxc3pBOzczMjE1ODQ6VmVxUVhVampRWnk1dUVIM3ppcXN6QTs3MzI0NzYwOnZhXy1zakt0U2d1ZURXNDN1WGZaUnc7NzMyMzY2NDp0TWZsVUZoX1QzV21BQmJfek5pYWVROzczMjMzNjE6WmJoemJLdjBTQm1EQlBpazUwNTfQTs3MzI0NzAyOnZhXy1zakt0U2d1ZURXNDN1WGZaUnc7NzMyNDY5Mjp2YV8tc2pLdFNndWVEVzQzdVhmWlJ3OzczMjM2MDA6dE1mbFVGaF9UM1dtQUJiX3pOaWFIUTs3MzIzNDk5OmZlc1NUbk9fUS1Xc0RfVmU3U2NKWIE7NzMyNDY3Njp2YV8tc2pLdFNndWVEVzQzdVhmWlJ3OzczMjQ2ODA6dmFfLXNqS3RTZ3VIRFc0M3VYzlpSdzs3MzIzNjY3OnRNZmxVRmhfVDNXbUFCY196TmlhZVE7NzMyMzU4Nzp0TWZsVUZoX1QzV21BQmJfek5pYWVROzczMjE1ODM6VmVxUVhVampRWnk1dUVIM3ppcXN6QTs3MzI0NjczOnZhXy1zakt0U2d1ZURXNDN1WGZaUnc7NzMyMTYyMDpWZXFRWFVqalFaeTV1RWUzemlxc3pBOzczMjQ2ODE6dmFfLXNqS3RTZ3VIRFc0M3VYzlpSdzs3MzIzNjY3OnRNZmxVRmhfVDNXbUFCY196TmlhZVE7NzMyMzU4Nzp0TWZsVUZoX1QzV21BQmJfek5pYWVROzczMjQ3MDM6dmFfLXNqS3RTZ3VIRFc0M3VYzlpSdzs3MzIzNDk2OmZlc1NUbk9fUS1Xc0RfVmU3U2NKWIE7NzMyMzUwMjpmSHNTVG5PX1EtV3NEX1ZIN1NjSlpROzczMjM1MDE6ZkhzU1RuT19RLVdzRF9WZTdTY0paUTs3MzIzNTg0OmZlc1NUbk9fUS1Xc0RfVmU3U2NKWIE7NzMyMzQ5NzpmSHNTVG5PX1EtV3NEX1ZIN1NjSlpROzczMjM2MTQ6dE1mbFVGaF9UM1dtQUJiX3pOaWFIUTs3MzIzNjIxOIzlcVFYVWpqUVp5NXVFZTN6aXFzekE7NzMyNDY3Nzp2YV8tc2pLdFNndWVEVzQzdVhmWlJ3OzczMjM1Njg6ZkhzU1RuT19RLVdzRF9WZTdTY0paUTs3MzIzNTYyOIzlcVFYVWpqUVp5NXVFZTN6aXFzekE7NzMyMzQ5ODpmSHNTVG5PX1EtV3NEX1ZIN1NjSlpROzczMjM2NzU6dE1mbFVGaF9UM1dtQUJiX3pOaWFIUTs3MzIzNTg1OnRNZmxVRmhfVDNXbUFCY196TmlhZVE7NzMyMzYwODp0TWZsVUZoX1QzV21BQmJfek5pYWVROzczMjQ3MTE6dmFfLXNqS3RTZ3VIRFc0M3VYzlpSdzs3MzIzNTc3OnRNZmxVRmhfVDNXbUFCY196TmlhZVE7NzMyNDc1NDp2YV8tc2pLdFNndWVEVzQzdVhmWlJ3OzczMjE1OTY6VmVxUVhVampRWnk1dUVIM3ppcXN6QTs3MzIzNjY3OnRNZmxVRmhfVDNXbUFCY196TmlhZVE7NzMyMzU4Nzp0TWZsVUZoX1QzV21BQmJfek5pYWVROzczMjM2MTU6dE1mbFVGaF9UM1dtQUJiX3pOaWFIUTs3MzIzNDgxOmZlc1NUbk9fUS1Xc0RfVmU3U2NKWIE7NzMyMTYwMTpWZXFRWFVqalFaeTV1RWUzemlxc3pBOzczMjMzNTI6WmJoemJLdjBTQm1EQlBpazUwNTfQTs3MzIzNTg3OIzlcVFYVWpqUVp5NXVFZTN6aXFzekE7NzMyMTU4MTpWZXFRWFVqalFaeTV1RWUzemlxc3pBOzczMjM1ODg6dE1mbFVGaF9UM1dtQUJiX3pOaWFIUTs3MzI0NzU5OnZhXy1zakt0U2d1ZURXNDN1WGZaUnc7NzMyMTYyNDpWZXFRWFVqalFaeTV1RWUzemlxc3pBO







BpazUwNTffQTs3MzIzNTMwOmZlc1NUbk9fUS1Xc0RfVmU3U2NKWIE7NzMyMzQyMTpaYmh6Ykt2MFNCbURCUGlrNTA1MV9BOzczMjM1NDQ6ZkhzU1RuT19RLVdzRF9WZTdTY0paUTs3MzIzNTc1OmZlc1NUbk9fUS1Xc0RfVmU3U2NKWIE7NzMyNDcxODp2YV8tc2pLdFNndWVEVzQzdVhmWIJ3OzczMjM2NzQ6dE1mbFVGaF9UM1dtQUJiX3pOaWFIUTs3MzIzNDg3OmZlc1NUbk9fUS1Xc0RfVmU3U2NKWIE7NzMyMTU3MTpWZXFRWfVqalFaeTV1RWUzemlxc3pBOzczMjQ3NDk6dmFfLXNqS3RTZ3V1RfC0M3VYZlpSdzs3MzI0Nj1OnZhXy1zakt0U2d1ZURXNDN1WGZaUnc7NzMyMzY0MTp0TWZsVUZoX1QzV21BQmJfek5pYVWROzczMjM1MTk6ZkhzU1RuT19RLVdzRF9WZTdTY0paUTs3MzI0NzY4OnZhXy1zakt0U2d1ZURXNDN1WGZaUnc7NzMyNDcwMDp2YV8tc2pLdFNndWVEVzQzdVhmWIJ3OzczMjM2MzQ6dE1mbFVGaF9UM1dtQUJiX3pOaWFIUTs3MzIzNTk0OnRNZmxVRmhFVDNXbUFCYI96TmlhZVE7NzMyMzYyMDp0TWZsVUZoX1QzV21BQmJfek5pYVWROzczMjMzNjk6WmJoemJLdjBTQm1EQIBpazUwNTffQTs3MzIxNjE3OIzlcVFYVWpqUVp5NXVFZTN6aXFzEkE7NzMyMzQ1MjpaYmh6Ykt2MFNCbURCUGlrNTA1MV9BOzczMjMzNTU6WmJoemJLdjBTQm1EQIBpazUwNTffQTs3MzIzNDk0OmZlc1NUbk9fUS1Xc0RfVmU3U2NKWIE7NzMyM2ODpaYmh6Ykt2MFNCbURCUGlrNTA1MV9BOzczMjMzOTc6WmJoemJLdjBTQm1EQIBpazUwNTffQTs3MzIzNDI5OlpiHpiS3YwU0JtREJQaWs1MDUxX0E7NzMyMzUzMTpmSHNTVG5PX1EtV3NEX1ZIN1NjSlpROzczMjE1OTI6VmVxUVhVampRWnk1dUvIM3ppcXN6QTs3MzIzMzcOlpiHpiS3YwU0JtREJQaWs1MDUxX0E7NzMyMzQ0NjpaYmh6Ykt2MFNCbURCUGlrNTA1MV9BOzczMjM2MDI6dE1mbFVGaF9UM1dtQUJiX3pOaWFIUTs3MzIzNTQzOmZlc1NUbk9fUS1Xc0RfVmU3U2NKWIE7NzMyNDcwODp2YV8tc2pLdFNndWVEVzQzdVhmWIJ3OzczMjM1ODE6ZkhzU1RuT19RLVdzRF9WZTdTY0paUTs3MzIzMU5OlpiHpiS3YwU0JtREJQaWs1MDUxX0E7NzMyM3MDpaYmh6Ykt2MFNCbURCUGlrNTA1MV9BOzczMjQ3MjI6dmFfLXNqS3RTZ3V1RfC0M3VYZlpSdzs3MzIzMzcOlpiHpiS3YwU0JtREJQaWs1MDUxX0E7NzMyMzQ5MDpmSHNTVG5PX1EtV3NEX1ZIN1NjSlpROzczMjM1MjE6ZkhzU1RuT19RLVdzRF9WZTdTY0paUTs3MzIzNj1OnRNZmxVRmhFVDNXbUFCYI96TmlhZVE7NzMyMzQ5NTpmSHNTVG5PX1EtV3NEX1ZIN1NjSlpROzczMjM0MjM6WmJoemJLdjBTQm1EQIBpazUwNTffQTs3MzIzNTkzOIzlcVFYVWpqUVp5NXVFZTN6aXFzEkE7NzMyMzY0Mzp0TWZsVUZoX1QzV21BQmJfek5pYVWROzczMjMzNzU6WmJoemJLdjBTQm1EQIBpazUwNTffQTs3MzIxNjI5OIzlcVFYVWpqUVp5NXVFZTN6aXFzEkE7NzMyNDc1Nj2YV8tc2pLdFNndWVEVzQzdVhmWIJ3OzczMjM1MzI6ZkhzU1RuT19RLVdzRF9WZTdTY0paUTs3MzIzNjA4OIzlcVFYVWpqUVp5NXVFZTN6aXFzEkE7NzMyMzY3MDp0TWZsVUZoX1QzV21BQmJfek5pYVWROzczMjM2NDc6dE1mbFVGaF9UM1dtQUJiX3pOaWFIUTs3MzIzNDQzOlpiHpiS3YwU0JtREJQaWs1MDUxX0E7NzMyMzU0NjpmSHNTVG5PX1EtV3NEX1ZIN1NjSlpROzczMjMzOTk6WmJoemJLdjBTQm1EQIBpazUwNTffQTs3MzIzMzcOlpiHpiS3YwU0JtREJQaWs1MDUxX0E7NzMyMzU0NjpmSHNTVG5PX1EtV3NEX1ZIN1NjSlpROzczMjMzOTk6WmJoemJLdjBTQm1EQIBpazUwNTffQTs3MzIzNDQzOlpiHpiS3YwU0JtREJQaWs1MDUxX0E7NzMyMzU0NjpmSHNTVG5PX1EtV3NEX1ZIN1NjSlpROzczMjMzOTk6WmJoemJLdjBTQm1EQIBpazUwNTffQTs3MzIzNDQzOlpiHpiS3YwU0JtREJQaWs1MDUxX0E7NzMyMTU5OTpWZXFRWfVqalFaeTV1RWUzemlxc3pBOzczMjM0Mzk6WmJoemJLdjBTQm1EQIBpazUwNTffQTs3MzI0NzA3OnZhXy1zakt0U2d1ZURXNDN1WGZaUnc7NzMyMzQwMDpaYmh6Ykt2MFNCbURCUGlrNTA1MV9BOzczMjM1MDQ6ZkhzU1RuT19RLVdzRF9WZTdTY0paUTs3MzIzNTIyOmZlc1NUbk9fUS1Xc0RfVmU3U2NKWIE7NzMyMTYxNDpWZXFRWfVqalFaeTV1RWUzemlxc3pBOzczMjMzNzI6WmJoemJLdjBTQm1EQIBpazUwNTffQTs3MzI0NzE1OnZhXy1zakt0U2d1ZURXNDN1WGZaUnc7NzMyMzYyMTp0TWZsVUZoX1QzV21BQmJfek5pYVWROzczMjQ3MjI6dmFfLXNqS3RTZ3VIRfC0M3VYZlpSdzs3MzIzNDk6dE1mbFVGaF9UM1dtQUJiX3pOaWFIUTs3MzIzNTM1OmZlc1NUbk9fUS1Xc0RfVmU3U2NKWIE7NzMyNDcxNDp2YV8tc2pLdFNndWVEVzQzdVhmWIJ3OzczMjMzNzk6WmJoemJLdjBTQm1EQIBpazUwNTffQTs3MzI0NzI3OnZhXy1zakt0U2d1ZURXNDN1WGZaUnc7NzMyMzQ0NDpaYmh6Ykt2MFNCbURCUGlrNTA1MV9BOzczMjM2NDk6dE1mbFVGaF9UM1dtQUJiX3pOaWFIUTs3MzIzNTM1OmZlc1NUbk9fUS1Xc0RfVmU3U2NKWIE7NzMyNDcxNDp2YV8tc2pLdFNndWVEVzQzdVhmWIJ3OzczMjM1MDY6ZkhzU1RuT19RLVdzRF9WZTdTY0paUTs3MzIzNTI0OmZlc1NUbk9fUS1Xc0RfVmU3U2NKWIE7NzMyNDcyMTp2YV8tc2pLdFNndWVEVzQzdVhmWIJ3OzczMjQ3NzI6dmFfLXNqS3RTZ3VIRfC0M3VYZlpSdzs3MzI0NzEYOnZhXy1zakt0U2d1ZURXNDN1WGZaUnc7NzMyMzYzNj2YV8tc2pLdFNndWVEVzQzdVhmWIJ3OzczMjM2MDU6dE1mbFVGaF9UM1dtQUJiX3pOaWFIUTs3MzIzNTA5OmZlc1NUbk9fUS1Xc



```

NDp0TWZsVUZoX1QzV21BQmJfek5pYWVROzczMjE2MzU6VmVxUVhVampRWnk1dUVIM3ppcXN6
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DNXbUFCY196TmlhZVE7NzMyMzQxNDpaYmh6Ykt2MFNCbURCUGlrNTA1MV9BOzczMjM2Mjg6dE
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DczODp2YV8tc2pLdFNndWVEVzQzdVhmWlJ3OzczMjM2Nzk6dE1mbFVGaF9UM1dtQUJiX3pOaWFIU
Ts3MzIzNjYxOlZlcVFYVWpqUVp5NXVFZTN6aXFzekE7NzMyMzQxMDpaYmh6Ykt2MFNCbURCUGl
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X1QzV21BQmJfek5pYWVROzczMjM0MTg6WmJoemJLdjBTQm1EQIBpazUwNTffQTS3MzIzNjM3OlZl
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hZVE7NzMyMzY1MTp0TWZsVUZoX1QzV21BQmJfek5pYWVROzczE7dG90YWxfGI0czo2Ow=="
}

```

#### 4.2.2.3.12 Retrieve Page of Vector Items by Type (GET)

Basic call format: [https://iipbeta.digitalglobe.com/monocle-](https://iipbeta.digitalglobe.com/monocle-3/app/broker/vector/api/vectors/{source}/{type}/paging?left={value}&right={value}&upper={value}&lower={value}&ttl={value}&count={value})

[3/app/broker/vector/api/vectors/{source}/{type}/paging?left={value}&right={value}&upper={value}&lower={value}&ttl={value}&count={value}](https://iipbeta.digitalglobe.com/monocle-3/app/broker/vector/api/vectors/{source}/{type}/paging?left={value}&right={value}&upper={value}&lower={value}&ttl={value}&count={value})

1. Submit a GET request to retrieve InsightCloud UVI information. The REST call via monocle-3 application will look similar to the following:  
<https://iipbeta.digitalglobe.com/monocle-3/app/broker/vector/api/vectors/OSM/Tower/paging?left=32.3964&right=37.2633&upper=42.631&lower=34.7208&ttl=5m&count=500>
2. If this is the first request of the session, user will be redirected to the CAS authentication page; enter credentials and CAS will redirect to the response (see 3.)
3. The GET call returns a response with a header of 200 OK and a body of:
 

```

{
 "pagingId":
 "c2Nhbjs1NDA7NTg4Njc2NjpWZXFzFRWFVqalFaeTV1RWUzemlxc3pBOzU4ODY4MDk6VmVxUVhVa
 mpRWnk1dUVIM3ppcXN6QTs1ODg2NzY3OlZlcVFYVWpqUVp5NXVFZTN6aXFzekE7NTg4Njg0MDp
 WZXFzFRWFVqalFaeTV1RWUzemlxc3pBOzU4ODY3Njg6VmVxUVhVampRWnk1dUVIM3ppcXN6QTs1

```

ODg4MzQwOnRNZmxVRmhFVDNXbUFCYI96TmlhZVE7NTg4NjgzNjpWZXFRWFVqalFaeTV1RWUze  
 mlxc3pBOzU4ODk5MDY6dmFfLXNqS3RTZ3VIRFc0M3VYZlpSdzs1ODg2NzcyOlZlVfYVWpqUVp5N  
 XVFZTN6aXFzEkE7NTg4ODM2Mjp0TWZsVUZoX1QzV21BQmJfek5pYWVROzU4ODY4MDc6VmVx  
 UVhVampRWnk1dUVIM3ppcXN6QTs1ODg4MzQ1OnRNZmxVRmhFVDNXbUFCYI96TmlhZVE7NTg4  
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 6VmVxUVhVampRWnk1dUVIM3ppcXN6QTs1ODg4MzQxOnRNZmxVRmhFVDNXbUFCYI96TmlhZVE  
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 4ODk5MzA6dmFfLXNqS3RTZ3VIRFc0M3VYZlpSdzs1ODg4NDE5OnRNZmxVRmhFVDNXbUFCYI96T  
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 ROzU4ODg3MTQ6ZkhzU1RuT19RLVdzRF9WZTdTY0paUTs1ODg4MzcyOnRNZmxVRmhFVDNXbUF  
 CYI96TmlhZVE7NTg4ODc2MDpmSHNTVG5PX1EtV3NEX1ZIN1NjSlpROzU4ODk5MTQ6dmFfLXNqS



DY4NDk6VmVxUVhVampRWnk1dUVIM3ppcXN6QTs1ODg4NDg2OlpiaHpiS3YwU0JtREJQaWs1MDUxX0E7NTg5MDAwNjp2YV8tc2pLdFNndWVEVzQzdVhmWlJ3OzU4ODY4MjY6VmVxUVhVampRWnk1dUVIM3ppcXN6QTs1ODg4MzUyOnRNZmxVRmhfVDNXbUFCYI96TmlhZVE7NTg4Njg2NDpWZXFRWFVqalFaeTV1RWUzemlxc3pBOzU4ODg0MjU6dE1mbFVGaF9UM1dtQUJiX3pOaWFIUTs1ODg4NDA5OnRNZmxVRmhfVDNXbUFCYI96TmlhZVE7NTg4ODc5MTpmSHNTVG5PX1EtV3NEX1ZIN1NjSlpROzU4ODgZnzY6dE1mbFVGaF9UM1dtQUJiX3pOaWFIUTs1ODg4NzUwOmZlclNUbk9fUS1Xc0RfVmU3U2NKWIE7NTg4OTk3Mzp2YV8tc2pLdFNndWVEVzQzdVhmWlJ3OzU4ODg1MzY6WmJoemJLdjBTQm1EQIBpazUwNTFfQTs1ODg4MzgzOnRNZmxVRmhfVDNXbUFCYI96TmlhZVE7NTg4OTk5Mzp2YV8tc2pLdFNndWVEVzQzdVhmWlJ3OzU4ODk5NDE6dmFfLXNqS3RTZ3VIRFc0M3VYzlpSdzs1ODg5OTgWOnZhXy1zak0U2d1ZURXNDN1WGZaUnc7NTg4ODc5MjpmSHNTVG5PX1EtV3NEX1ZIN1NjSlpROzU4ODg0ODU6WmJoemJLdjBTQm1EQIBpazUwNTFfQTs1ODg4NDM0OnRNZmxVRmhfVDNXbUFCYI96TmlhZVE7NTg4ODU1MzpaYmh6Ykt2MFNCbURCUGlrNTA1MV9BOzU4ODg1Mjg6WmJoemJLdjBTQm1EQIBpazUwNTFfQTs1ODg4NTEyOlpiaHpiS3YwU0JtREJQaWs1MDUxX0E7NTg4NDg5MzpaYmh6Ykt2MFNCbURCUGlrNTA1MV9BOzU4ODg3MTk6ZkhzU1RuT19RLVdzRF9WZTdTY0paUTs1ODg4NzY5OmZlclNUbk9fUS1Xc0RfVmU3U2NKWIE7NTg4ODc5MTpmSHNTVG5PX1EtV3NEX1ZIN1NjSlpROzU4ODk5MTg6dmFfLXNqS3RTZ3VIRFc0M3VYzlpSdzs1ODg4Nzk0OmZlclNUbk9fUS1Xc0RfVmU3U2NKWIE7NTg5MDAxNjp2YV8tc2pLdFNndWVEVzQzdVhmWlJ3OzU4ODgZnTM6dE1mbFVGaF9UM1dtQUJiX3pOaWFIUTs1ODg4NzUzOmZlclNUbk9fUS1Xc0RfVmU3U2NKWIE7NTg4OTk1MTp2YV8tc2pLdFNndWVEVzQzdVhmWlJ3OzU4ODg3OTY6ZkhzU1RuT19RLVdzRF9WZTdTY0paUTs1ODg5OTk1MzpaYmh6Ykt2MFNCbURCUGlrNTA1WGZaUnc7NTg4ODUzNzpaYmh6Ykt2MFNCbURCUGlrNTA1MV9BOzU4ODg0ODc6WmJoemJLdjBTQm1EQIBpazUwNTFfQTs1ODg4NzlwOmZlclNUbk9fUS1Xc0RfVmU3U2NKWIE7NTg4OTkzNzp2YV8tc2pLdFNndWVEVzQzdVhmWlJ3OzU4ODg1Ntc6WmJoemJLdjBTQm1EQIBpazUwNTFfQTs1ODg4NDI5OnRNZmxVRmhfVDNXbUFCYI96TmlhZVE7NTg4ODUyOTpYmh6Ykt2MFNCbURCUGlrNTA1MV9BOzU4ODg3NzE6ZkhzU1RuT19RLVdzRF9WZTdTY0paUTs1ODg2Nzk0OlZlclVFYVWpqUVp5NXVFZTN6aXFzEkE7NTg4ODUxNDpaYmh6Ykt2MFNCbURCUGlrNTA1MV9BOzU4ODg0OTQ6WmJoemJLdjBTQm1EQIBpazUwNTFfQTs1ODg4NzM5OmZlclNUbk9fUS1Xc0RfVmU3U2NKWIE7NTg4NjgyNDpWZXFRWFVqalFaeTV1RWUzemlxc3pBOzU4ODg1NDA6WmJoemJLdjBTQm1EQIBpazUwNTFfQTs1ODg2Nzk0OlZlclVFYVWpqUVp5NXVFZTN6aXFzEkE7NTg4ODc5ODpmSHNTVG5PX1EtV3NEX1ZIN1NjSlpROzU4ODY4NTg6VmVxUVhVampRWnk1dUVIM3ppcXN6QTs1ODg4NDg4OlpiaHpiS3YwU0JtREJQaWs1MDUxX0E7NTg4NjgzMTpWZXFRWFVqalFaeTV1RWUzemlxc3pBOzU4ODgZnTl6dE1mbFVGaF9UM1dtQUJiX3pOaWFIUTs1ODg4NzU0OmZlclNUbk9fUS1Xc0RfVmU3U2NKWIE7NTg4OTk2ODp2YV8tc2pLdFNndWVEVzQzdVhmWlJ3OzU4ODg3OTc6ZkhzU1RuT19RLVdzRF9WZTdTY0paUTs1ODg2ODY4OlZlclVFYVWpqUVp5NXVFZTN6aXFzEkE7NTg4ODU1MDpaYmh6Ykt2MFNCbURCUGlrNTA1MV9BOzU4ODY3OTY6VmVxUVhVampRWnk1dUVIM3ppcXN6QTs1ODg4Mzc3OnRNZmxVRmhfVDNXbUFCYI96TmlhZVE7NTg4ODUzMDpaYmh6Ykt2MFNCbURCUGlrNTA1MV9BOzU4ODY4NjU6VmVxUVhVampRWnk1dUVIM3ppcXN6QTs1ODg5OTE5OnZhXy1zak0U2d1ZURXNDN1WGZaUnc7NTg4ODcyMzpmSHNTVG5PX1EtV3NEX1ZIN1NjSlpROzU4ODg3NzQ6ZkhzU1RuT19RLVdzRF9WZTdTY0paUTs1ODg4NTE1OlpiaHpiS3YwU0JtREJQaWs1MDUxX0E7NTg4ODc0MzpmSHNTVG5PX1EtV3NEX1ZIN1NjSlpROzU4ODg0MTU6dE1mbFVGaF9UM1dtQUJiX3pOaWFIUTs1ODkwMDA3OnZhXy1zak0U2d1ZURXNDN1WGZaUnc7NTg4OTk2MTp2YV8tc2pLdFNndWVEVzQzdVhmWlJ3OzU4ODk5OTQ6dmFfLXNqS3RTZ3VIRFc0M3VYzlpSdzs1ODg2Nzk4OlZlclVFYVWpqUVp5NXVFZTN6aXFzEkE7NTg4ODQZnTl0TWZsVUZOx1QzV21BQmJfek5pYWVROzU4ODgZnTQ6dE1mbFVGaF9UM1dtQUJiX3pOaWFIUTs1ODg4NDk2OlpiaHpiS3YwU0JtREJQaWs1MDUxX0E7NTg4ODc5NTpmSHNTVG5PX1EtV3NEX1ZIN1NjSlpROzU4ODY4NDg6VmVxUVhVampRWnk1dUVIM3ppcXN6QTs1ODg4NTQxOlpiaHpiS3YwU0JtREJQaWs1MDUxX0E7NTg4ODQ5MTpaYmh6Ykt2MFNCbURCUGlrNTA1MV9BOzU4ODk5MzM6dmFfLXNqS3RTZ3VIRFc0M3VYzlpSdzs1ODg4NDI2OnRNZmxVRmhfVDNXbUFCYI96TmlhZVE7NTg4ODc1NTpmSHNTVG5PX1EtV3NEX1ZIN1NjSlpROzU4ODg0MDE6dE1mbFVGaF9UM1dtQUJiX3pOaWFIUTs1ODg2ODI4OlZlclVFYVWpqUVp5NXVFZTN6aXFzEkE7NTg4ODU0NDpaYmh6Ykt2MFNCbURCUGlrNTA1MV9BOzU4ODY4NzY6VmVxUVhVampRWnk1dUVIM3ppcXN6QTs1ODg4Nzk5OmZlclNUbk9fUS1Xc0RfVmU3U2NKWIE7NTg4Njc5NzpWZXFRWFVqalFaeTV1RWUzemlxc3pBOzU4ODg3MjE6ZkhzU1RuT19RLVdzRF9WZTdTY0paUTs1ODg4Nzc2OmZlclNUbk9fUS1Xc0RfVmU3U2NKWIE7NTg4ODc0MTpmSHNTVG5PX1EtV3NEX1ZIN1NjSlpROzU4ODg4MDA6ZkhzU1RuT19RLVdzRF9WZTdTY0paUTs1ODg4NTM1OlpiaHpiS3YwU0JtREJQaWs1MDUxX0E7NTg4OTk2OTp2YV8tc2pLdFNndWVEVzQzdVhmWlJ3OzU4ODg3NTY6ZkhzU1RuT19RLVdzRF9WZTdTY0paUTs1ODg5OTIwOnZhXy1zak0U2d1ZURXNDN1WGZaUnc7NTg4ODM3ODp0TWZsVUZOx1QzV21BQmJfek5pYWVROzU4OTAwMDU6dmFfLXNqS3RTZ3VIRFc0M3VYzlpSdzs1ODg4NTE2OlpiaHpiS3YwU0JtREJQaWs1MDUxX0E7NTg4ODgWMTpmSHNTVG5PX1EtV3NEX1ZIN1NjSlpROzU4ODg0OTg6WmJoemJLdjBTQm1EQIBpazUwNTFfQTs1ODg4NzIyOmZlclNUbk9fUS1Xc0RfVmU3U2NKWIE7NTg4ODQwODp0TWZsVUZOx1QzV21BQmJfek5pYWVROzU4ODg1NjQ6WmJoemJLdjBTQm1EQIBpazUwNTFfQTs1ODg4NDg5OlpiaHpiS3YwU0JtREJQaWs1MDUxX0E7NTg4OTk1Mjp2YV8tc2pLdFNndWVEVzQzdVhmWlJ3OzU4ODg0MzY6dE1mbFVGaF9UM1dtQUJiX3pOaWFIUTs1ODg4Nzc5OmZlclNUbk9fUS1Xc0RfVmU3U2NKWIE7NTg4Njg3MDpWZXFRWFVqalFaeTV1RWUzemlxc3pBOz





N1NjSlpROzU4ODg0NDg6dE1mbFVGaF9UM1dtQUJiX3pOaWFIUTs1ODg4NTA2OlpiHpiS3YwU0JtREJQaWs1MDUxX0E7NTg5MDAxMjp2YV8tc2pLdFNndWVEVzQzdVhmWlJ3OzU4ODg3Mjc6ZkhzU1RuT19RLVdzRF9WZTdTY0paUTs1ODg5OTU1OnZhXy1zakt0U2d1ZURXNDN1WGZaUnc7NTg4ODQwNDp0TWZsVUZoX1QzV21BQmJfek5pYWVROzU4ODg3Nzg6ZkhzU1RuT19RLVdzRF9WZTdTY0paUTs1ODg2ODU1OlZlcVFYVWpqUVp5NXVFZTN6aXFzekE7NTg4ODc2NtpmSHNTVG5PX1EtV3NEX1ZIN1NjSlpROzU4ODk5ODk6dmFfLXNqS3RTZ3VIRFc0M3VYzlpSdzs1ODg2ODMzOlZlcVFYVWpqUVp5NXVFZTN6aXFzekE7NTg4Njg3NzpWZXFRWFVqalFaeTV1RWUzemlxc3pBoZU4ODg1Njk6WmJoe mJLdjBTQm1EQIBpazUwNTffQTs1ODg4NTAxOlpiHpiS3YwU0JtREJQaWs1MDUxX0E7NTg4OTk0MDp2YV8tc2pLdFNndWVEVzQzdVhmWlJ3OzU4ODg0NDU6dE1mbFVGaF9UM1dtQUJiX3pOaWFIUTs1ODg4NTU2OlpiHpiS3YwU0JtREJQaWs1MDUxX0E7NTg4OTk3Njp2YV8tc2pLdFNndWVEVzQzdVhmWlJ3OzU4ODg1NTk6WmJoe mJLdjBTQm1EQIBpazUwNTffQTs1ODg4NTI1OlpiHpiS3YwU0JtREJQaWs1MDUxX0E7NTg4ODUwODpaYmh6Ykt2MFNCbURCUGlrNTA1MV9BoZU4ODg1NzA6WmJoe mJLdjBTQm1EQIBpazUwNTffQTs1ODg4NTA0OlpiHpiS3YwU0JtREJQaWs1MDUxX0E7NTg4ODQ1MDp0TWZsVUZoX1QzV21BQmJfek5pYWVROzU4ODk5NTg6dmFfLXNqS3RTZ3VIRFc0M3VYzlpSdzs1ODg5OTg1OnZhXy1zakt0U2d1ZURXNDN1WGZaUnc7NTg4ODM4ODp0TWZsVUZoX1QzV21BQmJfek5pYWVROzU4ODY4MzU6VmVxUVhVampRWnk1dUVIM3ppcXN6QTs1ODg5OTM2OnZhXy1zakt0U2d1ZURXNDN1WGZaUnc7NTg4ODQ0Njp0TWZsVUZoX1QzV21BQmJfek5pYWVROzU4ODg1MjY6WmJoe mJLdjBTQm1EQIBpazUwNTffQTs1ODg4MzY2OnRNZmxVRmhfVDNXbUFCY196TmlhZVE7NTg4OTk5ODp2YV8tc2pLdFNndWVEVzQzdVhmWlJ3OzU4ODk5MjY6dmFfLXNqS3RTZ3VIRFc0M3VYzlpSdzs1ODg4NTA3OlpiHpiS3YwU0JtREJQaWs1MDUxX0E7NTg5MDAxMzp2YV8tc2pLdFNndWVEVzQzdVhmWlJ3OzU4ODg3ODQ6ZkhzU1RuT19RLVdzRF9WZTdTY0paUTs1ODg4NDMxOnRNZmxVRmhfVDNXbUFCY196TmlhZVE7NTg4ODM5Nzp0TWZsVUZoX1QzV21BQmJfek5pYWVROzU4ODg0NTQ6dE1mbFVGaF9UM1dtQUJiX3pOaWFIUTs1ODg2ODc4OlZlcVFYVWpqUVp5NXVFZTN6aXFzekE7NTg4ODM4OTp0TWZsVUZoX1QzV21BQmJfek5pYWVROzU4ODg4MTE6ZkhzU1RuT19RLVdzRF9WZTdTY0paUTs1ODg4NDQ3OnRNZmxVRmhfVDNXbUFCY196TmlhZVE7NTg4ODU3MtpaYmh6Ykt2MFNCbURCUGlrNTA1MV9BoZU4ODg1MDU6WmJoe mJLdjBTQm1EQIBpazUwNTffQTs1ODg2ODA2OlZlcVFYVWpqUVp5NXVFZTN6aXFzekE7NTg4ODU1NDpaYmh6Ykt2MFNCbURCUGlrNTA1MV9BoZU4ODk5NjQ6dmFfLXNqS3RTZ3VIRFc0M3VYzlpSdzs1ODg4MzYxOnRNZmxVRmhfVDNXbUFCY196TmlhZVE7NTg4ODU2MzpaYmh6Ykt2MFNCbURCUGlrNTA1MV9BoZU4ODg3Mjc6ZkhzU1RuT19RLVdzRF9WZTdTY0paUTs1ODg5OTkxOnZhXy1zakt0U2d1ZURXNDN1WGZaUnc7NTg4Njg3NDpWZXFRWFVqalFaeTV1RWUzemlxc3pBoZU4ODg0Mzg6dE1mbFVGaF9UM1dtQUJiX3pOaWFIUTs1ODg5OTQyOnZhXy1zakt0U2d1ZURXNDN1WGZaUnc7NTg4ODM5ODp0TWZsVUZoX1QzV21BQmJfek5pYWVROzU4ODg3NzU6ZkhzU1RuT19RLVdzRF9WZTdTY0paUTs1ODg5OTk5OnZhXy1zakt0U2d1ZURXNDN1WGZaUnc7NTg4OTkyNzp2YV8tc2pLdFNndWVEVzQzdVhmWlJ3OzU4ODg0NTI6dE1mbFVGaF9UM1dtQUJiX3pOaWFIUTs1ODg4NzY4OmZlc1NUbk9fUS1Xc0RFVmU3U2NKWIE7NTg5MDAxNDp2YV8tc2pLdFNndWVEVzQzdVhmWlJ3OzU4ODg0MTQ6dE1mbFVGaF9UM1dtQUJiX3pOaWFIUTs1ODg4NDUxOnRNZmxVRmhfVDNXbUFCY196TmlhZVE7NTg4OTk1OTp2YV8tc2pLdFNndWVEVzQzdVhmWlJ3OzU4ODY4MTc6VmVxUVhVampRWnk1dUVIM3ppcXN6QTs1ODg4NTI3OlpiHpiS3YwU0JtREJQaWs1MDUxX0E7NTg4Njg1NDpWZXFRWFVqalFaeTV1RWUzemlxc3pBoZU4ODk5ODY6dmFfLXNqS3RTZ3VIRFc0M3VYzlpSdzs1ODg4NDMyOnRNZmxVRmhfVDNXbUFCY196TmlhZVE7NTg4OTk0Mzp2YV8tc2pLdFNndWVEVzQzdVhmWlJ3OzU4OTAwMDA6dmFfLXNqS3RTZ3VIRFc0M3VYzlpSdzs1ODg4NDQyOnRNZmxVRmhfVDNXbUFCY196TmlhZVE7NTg4ODM5OTp0TWZsVUZoX1QzV21BQmJfek5pYWVROzU4ODg0NTM6dE1mbFVGaF9UM1dtQUJiX3pOaWFIUTs1ODg5OTYyOnZhXy1zakt0U2d1ZURXNDN1WGZaUnc7NTg5MDAxNTp2YV8tc2pLdFNndWVEVzQzdVhmWlJ3OzU4ODY4MzA6VmVxUVhVampRWnk1dUVIM3ppcXN6QTs1ODg4NDA1OnRNZmxVRmhfVDNXbUFCY196TmlhZVE7MTt0b3RhbF9oaXRzOjA7"

#### 4.2.2.3.13 Retrieve Page of Vector Items (POST)

1. Submit a POST request to retrieve InsightCloud UVI information. The REST call via monocle-3 application will look similar to the following:

<https://iipbeta.digitalglobe.com/monocle-3/app/broker/vector/api/vectors/paging>



With a header Content-type:application/x-www-form-urlencoded and a body of the paging ID generated in Section: Retrieve Page of Vector Items by Type (GET) or in Section: Retrieve Page of Vector Items by Type and Query (GET)

2. If this is the first request of the session, user will be redirected to the CAS authentication page; enter credentials and CAS will redirect to the response (see 3.)
3. The GET call returns a response with a header of 200 OK and a body of:

```
[
 {
 properties: {
 id: "OSM-node-1612839439",
 ingestDate: "2015-04-10T00:14:21Z",
 test: "tower",
 ingestAttributes:
 {
 "osm.host": "10.0.65.150",
 "osm.database": "osm"
 },
 source: null,
 originalCrs: "EPSG:4326",
 ingestSource: "OSM",
 name: null,
 itemType: "Tower",
 format: "OSM",
 asstributes:
 {
 "_osm.user.id.dbl": 196617,
 "_osm.version.int": 1,
 "_osm.user.name": "venerdi",
 "_osm.changeset.dbl": 10547383,
 "_osm.changeset.int": 10547383,
 "power": "tower",
 "_osm.version.dbl": 1,
 "_osm.changeset": "10547383",
 "_osm.user.id": "196617",
 "_osm.version": "1",
 "_osm.user.id.int": 196617
 },
 "itemDate": "2012-01-31T09:27:41Z"
 },
 "type": "Feature",
 "geometry": {
 "type": "Point",
 "coordinates":
 [
 34.051577,
 31.16638
]
 }
 }
]
```

```

 },
 ...
]

```

## 5 Appendix A - Acronyms

| Acronym | Description                   |
|---------|-------------------------------|
| AOI     | Area of Interest              |
| CEG     | Cumulative Exposure Grid      |
| DEM     | Digital Elevation Model       |
| GIS     | Geographic Information System |
| GPU     | Graphics Processing Unit      |
| HLZ     | Helicopter Landing Zone       |
| IED     | Improvised Explosive Device   |
| Lat/Lon | Latitude/Longitude            |
| TPI     | Topographic Position Index    |
| UI      | User Interface                |
| UVI     | Unified Vector Index          |
| VS      | Viewshed                      |