COMMON LAND UNIT BOUNDARIES

API Documentation 2020

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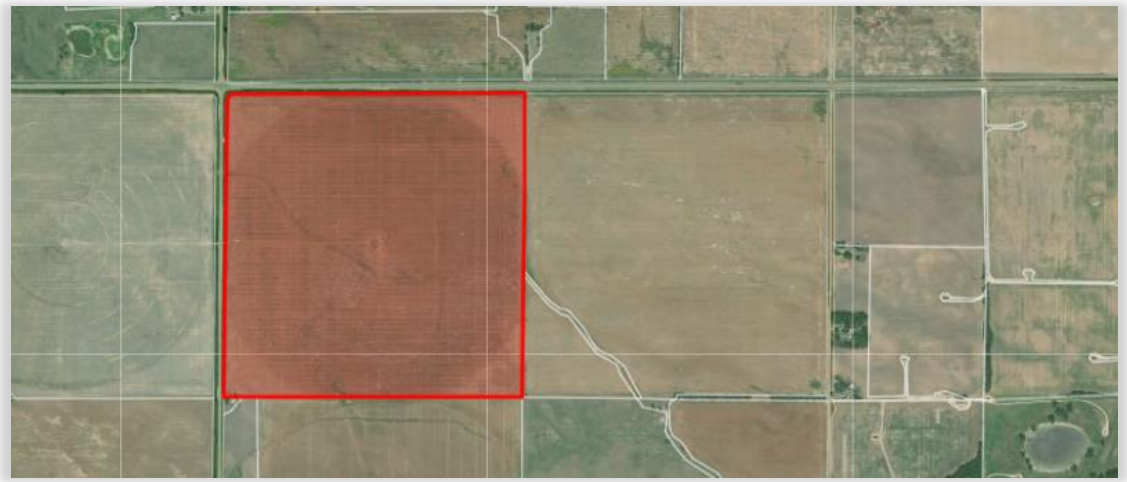
Service Overview

Common Land Unit (CLU) boundaries are farm or field boundaries used by the United States Department of Agriculture (USDA) in the delivery of certain farm programs. It is not uncommon for more than one crop to be grown on a CLU. These CLU boundaries are derived from the last publicly available USDA distribution from 2008. A single CLU is approximately interpreted as a "field". A Common Land Unit (CLU) is the smallest unit of land that has a permanent, contiguous boundary, a common land cover and land management, a common owner and a common producer in agricultural land associated with USDA farm programs.

The Ag-Analytics Common Land Unit Boundary API provides a service for which a user can pass a point (x, y coordinates pair), a line, an envelope (bounding box), or a polygon in geojson. The service will send back boundaries in geojson. To retrieve the desired level of boundary, user will need to pass a level parameter in the GET request.



CLU Boundaries shown in FarmScope

GET Request

GET Request Example – application/json


```
{
“Geometry”: “{"geometryType": "esriGeometryPolygon", "features": [{"geometry":
{"rings": [[[-91.53900737389114, 34.55980772414722], [-91.53894861128936,
34.560481053757655], [-91.53892673258258, 34.56192576336332], [-91.53889249809026,
34.56325987524309], [-91.5388720178293, 34.564625711607334], [-91.53882557593954,
34.566462376337654], [-91.53913423046032, 34.566538207172584], [-
91.53917447152463, 34.566730301462314], [-91.53962869840569, 34.566740245266146],
[-91.54305890694297, 34.56681730907161], [-91.54305614512498, 34.566585087032195],
[-91.54304565183531, 34.56613185570063], [-91.54306887772651, 34.56417543544802],
[-91.54310131717199, 34.562940478320456], [-91.54309762365637, 34.56170736210515],
[-91.54308258968973, 34.561319449433086], [-91.54285584362225, 34.56111836821816],
[-91.54218857094577, 34.56094358497853], [-91.54135688960872, 34.560665392294084],
[-91.54036096688509, 34.56031309277506], [-91.53965887605625, 34.560065743239534],
[-91.53900737389114, 34.55980772414722]]], "spatialReference": {"wkid": 4326}}}]}”

“Geometry_type”: “polygon”,

}
```


Header Parameters

Ocp-Apim-Subscription-Key: Subscription keys are given upon purchase - Purchase APIs

Request Parameters

Parameter	Type	Required?	Default	Option	
Geometry	GeoJSON /JSON	Yes	'envelope'	'envelope', 'point', 'line', 'polygon'	The AOI used for searching boundaries. It can be a point(x,y coordinate pairs), a line or polygon in GeoJSON, or an envelope (bounding box with xmin, xmax, ymin, ymax).
Geometry_ type	String	Yes	-	-	The geometry type of the geometry passed in the request.

GET Response

GET Response Example (Snippet) – application/json


```
{'msg': 'Found 2 results',
'results':
    {'crs': {'properties': {'name': 'EPSG:4326'}, 'type': 'name'},
    'features': [
      {'geometry': {'coordinates': [[[-91.52992284616238, 34.56657638609141], [-
      91.53092105316404, 34.56660643963551], [-91.53463674249161,
      34.56668041337042], [-91.53826525963399, 34.566753229677886], [-
      91.54311329704097, 34.56686304319493], ...], 'type': 'Polygon'},
      'id': 1744,
      'properties': {'CALCACRES':14.68000031,'CALCACRES2':None,'OBJECTID': 1744},
      'type': 'Feature'},
      {'geometry': {'coordinates': [[[-91.53900737389114, 34.55980772414722], [-
      91.53894861128936, 34.560481053757655], [-91.53892673258258,
      34.56192576336332], [-91.53889249809026, 34.56325987524309], ...],
      'type': 'Polygon'},
      'id': 1,
      'properties': {'CALCACRES': 65.45999908, 'CALCACRES2': None, 'OBJECTID': 1},
      'type': 'Feature'}
    ],
    'type': 'FeatureCollection'},
'status': 'SUCCEED'}
```


Response Parameters

Parameter	Data Type	Description
status	String	Status of the API call: 1. SUCCEED: API call was successful. 2. FAILURE: API call was failed, see msg for error message. 3. NoFound: No boundaries found for current geometry
msg	String	Messages from the API call
results	GeoJSON	If the API call was successful, all boundaries will be returned in GeoJSON as a feature collection

Citations:

- USDA Common Land Unit Boundaries
- GeoJSON Specification
- ArcGIS Features and Geometries
- ArcGIS REST API Query Information
- ArcGIS Esri Geometry Types
- Spatial Reference Information: World Geodetic System (WGS 84) - National Geospatial-Intelligence Agency – 1984

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Please contact **support@analytics.ag** or **josh@ag-analytics.org** with any comments or questions.

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