

CROPLAND DATA LAYERS

API Documentation 2020

[API Portal](#)

[GitHub Repo](#)

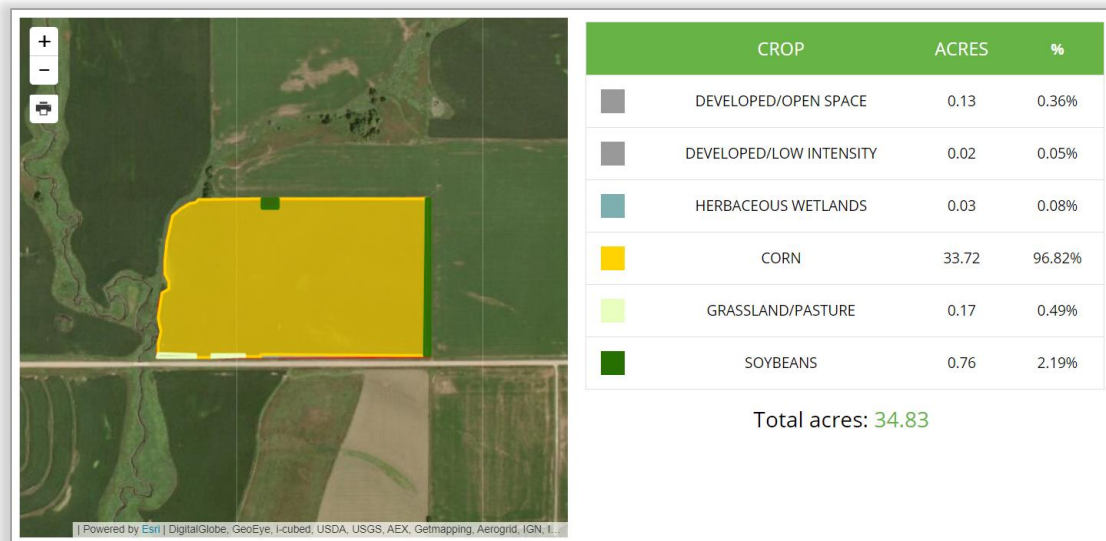
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Service Overview

The Cropland Data Layer (CDL), produced by the USDA, provides a raster, geo-referenced, crop-specific land cover map for the continental United States. The CDL also includes a crop mask layer and planting frequency layers, as well as boundary, water, and road layers. The Boundary Layer options provided are County, Agricultural Statistics Districts (ASD), State, and Region. The data is created annually using moderate resolution satellite imagery and extensive agricultural ground truth.

The purpose of the Cropland Data Layer Program is to use satellite imagery to (1) provide planted acreage estimates to the Agricultural Statistics Board for each state's major commodities and (2) produce digital, crop-specific, categorized geo-referenced output products.



Cropland Data Layer API in FarmScope


GET Request

GET Request Example – application/json

```
{
  "year": "2016",
  "inputShape": "{ \"geometryType\": \"esriGeometryPolygon\", \"features\": [ { \"geometry\": { \"rings\": [ [ [ -108.44617366790773, 38.864639721054544 ], [ -108.41922283172609, 38.862534532409406 ], [ -108.42145442962646, 38.851539756807774 ], [ -108.44282627105714, 38.85254239036426 ], [ -108.43523025512697, 38.85722116008798 ], [ -108.44617366790773, 38.864639721054544 ] ] ] ] } } } }\",
  \"env:outSR\": \"4326\"
}
```

Header Parameters

content-type: "x-www-form-urlencoded"

Ocp-Apim-Subscription-Key: Subscription keys are given upon purchase - [Purchase APIs](#) 

Request Parameters

Parameter	Data Type	Required?	Description
year	integer	Yes	Year of desired result
inputShape	Esri Polygon Shape	Yes	The shape information for field in esriGeometryPolygon format. Standard open source JavaScript front-end libraries (e.g., Leaflet) can be used to structure the shape.
env:outSR	String	Yes	Output Spatial Reference. Return features in the specified spatial reference by supplying specific wkid (eg. 4326).



GET Response

GET Response Example (Snippet) – application/json

```
{
  "results": [ {
    "paramName": "output2", "dataType": "GPFeatureRecordSetLayer", "value": {
      "displayFieldName": "", "geometryType": "esriGeometryPolygon", "spatialReference": {
        "wkid": 4326, "latestWkid": 4326 },
      "fields": [ {
        "name": "FID", "type": "esriFieldTypeOID", "alias": "FID" },
        {
          "name": "OBJECTID", "type": "esriFieldTypeInteger", "alias": "OBJECTID" },
        {
          "name": "Shape_Leng", "type": "esriFieldTypeDouble", "alias": "Shape_Leng" },
        {
          "name": "FID_08077", "type": "esriFieldTypeInteger", "alias": "FID_08077" },
        {
          "name": "ID", "type": "esriFieldTypeInteger", "alias": "ID" },
        {
          "name": "GRIDCODE", "type": "esriFieldTypeInteger", "alias": "GRIDCODE" },
        {
          "name": "acres", "type": "esriFieldTypeSingle", "alias": "acres" },
        {
          "name": "Shape_Length", "type": "esriFieldTypeDouble", "alias": "Shape_Length" },
        {
          "name": "Shape_Area", "type": "esriFieldTypeDouble", "alias": "Shape_Area" } ],
      "features": [ {
        "attributes": {
          "FID": 1, "OBJECTID": 0, "Shape_Leng": 0, "FID_08077": 294150,
          "ID": 294151, "GRIDCODE": 142, "acres": 1.708353, "Shape_Length": 0.0049166479059928056,
          "Shape_Area": 7.1753720205756623e-007 }, "geometry": {
          "rings": [ [ [ -108.44450487509988, 38.864509367613266 ],
            [ -108.44449055069833, 38.864425950996917 ], [ -108.44414454643362,
            38.86446089955092 ], [ -108.44414808346727, 38.864481498522366 ],
            [ -108.4437912918346, 38.864453628532203 ], [ -108.44375297442019,
            38.864230483350184 ], [ -108.44533435579586, 38.864070749365624 ], [ -108.44550549228461,
            38.864186762808913 ], [ -108.44552856259304, 38.864321099039557 ], [ -108.44568094911648,
            38.864305705344066 ], [ -108.44590388025983, 38.864456831018003 ], [ -108.44592014090176,
            38.864551510743695 ], [ -108.44557413573773, 38.864586462894977 ], [ -108.44557525449437,
            38.864592977583925 ], [ -108.44450487509988, 38.864509367613266 ] ] ] ] }, {
          "attributes": ...
        } ]
      } ]
    }
  ]
}
```

Response Parameters

Parameter	Data Type	Description
results	List	The GP result resource represents a result parameter for a GP job . It provides information about the result parameter such as its name, data type and value.
fields	List	In ArcGIS, rows are known as records and columns are referred to as fields. Each field in a table can store a specific type of data, such as a number, date, or piece of text. Fields form the attribute info for a layer.
fields.GRIDCODE	Integer	Each GRIDCODE corresponds to a specific crop.



features	List	An array of features. Each feature contains fields.
features.geometry	Points, lines or polygons	The structure for the geometries is same as the structure of the JSON geometry objects returned by the ArcGIS REST API.
features.attributes	List	Key-value pairs where the key is a field name in the list of fields of the record set and the value is the value of the corresponding field.

Crop Name – GRIDCODE Tables

Grid Code	CropName	Grid Code	CropName	Grid Code	CropName
1	Corn	55	Caneberries	207	Asparagus
2	Cotton	56	Hops	208	Garlic
3	Rice	57	Herbs	209	Cantaloupes
4	Sorghum	58	Clover/Wildflowers	210	Prunes
5	Soybeans	59	Sod/GrassSeed	211	Olives
6	Sunflower	60	Switchgrass	212	Oranges
10	Peanuts	61	Fallow/IdleCropland	213	HoneydewMelons
11	Tobacco	63	Forest	214	Broccoli
12	SweetCorn	64	Shrubland	216	Peppers
13	PoporOrnCorn	65	Barren	217	Pomegranates
14	Mint	66	Cherries	218	Nectarines
21	Barley	67	Peaches	219	Greens
22	DurumWheat	68	Apples	220	Plums
23	SpringWheat	69	Grapes	221	Strawberries
24	WinterWheat	70	ChristmasTrees	222	Squash
25	OtherSmallGrains	71	OtherTreeCrops	223	Apricots
26	DbICropWinWht/Soybeans	72	Citrus	224	Vetch
27	Rye	74	Pecans	225	DbICropWinWht/Corn
28	Oats	75	Almonds	226	DbICropOats/Corn
29	Millet	76	Walnuts	227	Lettuce
30	Speltz	77	Pears	229	Pumpkins
31	Canola	81	Clouds/NoData	230	DbICropLettuce/DurumWht
32	Flaxseed	82	Developed	231	DbICropLettuce/Cantaloupe
33	Safflower	83	Water	232	DbICropLettuce/Cotton
34	RapeSeed	87	Wetlands	233	DbICropLettuce/Barley



35	Mustard	88	Nonag/Undefined	234	DblCropDurumWht/Sorghum
36	Alfalfa	92	Aquaculture	235	DblCropBarley/Sorghum
37	OtherHay/NonAlfalfa	111	OpenWater	236	DblCropWinWht/Sorghum
38	Camelina	112	PerennialIce/Snow	237	DblCropBarley/Corn
39	Buckwheat	121	Developed/OpenSpace	238	DblCropWinWht/Cotton
41	Sugarbeets	122	Developed/LowIntensity	239	DblCropSoybeans/Cotton
42	DryBeans	123	Developed/MedIntensity	240	DblCropSoybeans/Oats
43	Potatoes	124	Developed/HighIntensity	241	DblCropCorn/Soybeans
44	OtherCrops	131	Barren	242	Blueberries
45	Sugarcane	141	DeciduousForest	243	Cabbage
46	SweetPotatoes	142	EvergreenForest	244	Cauliflower
47	MiscVegs&Fruits	143	MixedForest	245	Celery
48	Watermelons	152	Shrubland	246	Radishes
49	Onions	176	Grassland/Pasture	247	Turnips
50	Cucumbers	190	WoodyWetlands	248	Eggplants
51	ChickPeas	195	HerbaceousWetlands	249	Gourds
52	Lentils	204	Pistachios	250	Cranberries
53	Peas	205	Triticale	254	DblCropBarley/Soybeans
54	Tomatoes	206	Carrots		

Citations:

- [USDA Cropland Data Layer](#)
- [Esri Geometry Polygon Info](#)
- [Esri Geometry Polygon Result Info](#)
- [Esri Geometry Polygon Job Info](#)
- [JSON Geometry Objects](#)
- **Default Spatial Reference:** World Geodetic System (WGS 84) - National Geospatial-Intelligence Agency



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

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