

EUDR GeoJson File Description

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2 Introduction

This document is intended for users (Economic Operators) of the European Commission's EUDR Information System (IS) and for parties interested in producing compatible geolocation files for use in the central EUDR information system.

The EUDR Information System supports the import, processing, and export of GeoJSON files for defining production place coordinates for declared commodities in a Due Diligence Statement.

GeoJSON is a geospatial data interchange format based on JavaScript Object Notation (JSON). It defines several types of JSON objects and the way they are combined to represent data about geographic features, their properties, and their spatial extents.

GeoJSON uses the WGS 84 (EPSG:4326) coordinate system.

Two variants of GeoJSON files can be produced depending on the application: Type I and Type II. The corresponding details can be found in section "[4 File Types Description](#)" of this document.

EUDR IS users: Please note that the first production version of the EUDR Information System will support the above standard exclusively.

If the geocoordinates available to the Economic Operator are in another coordinates system, these must be converted to the WGS84 (EPSG:4326) coordinate system. There are several tools available that can convert most other coordinate system formats to the EUDR IS supported system format.

Support of additional coordinate system formats is deferred for future versions of the system.

Please also note that the information in this document applies to both the User Interface (UI) and the web services (API) for importing geocoordinates files.

3 Definitions

The GeoJSON file standard includes a number of mandatory and optional strings to define the various properties.

A GeoJSON geometry object of any type other than "GeometryCollection" must have a member with the name "coordinates". The value of the coordinates member is always an array. The structure for the elements in this array is determined by the type of geometry.

A position is the fundamental geometry construct. The "coordinates" member of a geometry object is composed of one position (in the case of a Point geometry), an array of positions (MultiPoint geometry), an array of arrays of positions (Polygons), or a multidimensional array of positions (MultiPolygon).

A position is represented by an array of numbers. There must be at least two elements and may be more. The order of elements must follow longitude, latitude for coordinates in a the EPSG:4326 geographic coordinate reference system.

The terms "*geometry*" and "*type*" refer to seven case-sensitive strings:

Point: Point geometry types consist of two coordinate values as in the following example:

```
{ "type": "Point",  
  "coordinates": [ 10.000000, 11.200000 ] }
```

MultiPoint: MultiPoint geometry types consist of two or more points (coordinate pairs) as in this example:

```
{ "type": "MultiPoint",  
  "coordinates": [[10.000000, 11.200000], [10.500000, 11.900000]] )
```

Polygon: Polygon geometry types consist of at least four pairs of coordinates and represent an enclosed area by these coordinate points as in this example:

```
('{ "type": "Polygon",  
  "coordinates": [ [[110.000000, 120.000000], [110.000000, 140.000000], [120.000000, 130.000000],  
  [110.000000, 120.000000]] ] }')
```

MultiPolygon: MultiPolygon geometry types contain two or more polygon definitions as in this example:

```
{ "type": "MultiPolygon",  
  "coordinates":  
  [[[[[10.000000, 11.200000], [10.500000, 11.900000], [10.800000, 12.000000], [10.000000, 11.200000]]],  
  [[9.000000, 11.200000], [10.500000, 11.900000], [10.300000, 13.000000], [9.000000, 11.200000]]]] ] }
```

Please note that the first and last point's coordinates of polygons are the same (they coincide geographically to close the shape).

Important note: Polygons with holes (i.e., doughnut shapes) and shapes with crossing lines (like a figure eight for example) are not supported and will not be processed.

Feature: A feature contains a single geometry object with the addition of properties. It will therefore be treated like described for the geometry types above. An example follows:

```
{ "type": "Feature", "geometry": { "type": "Point", "coordinates": [10.000000, 20.000000] } }
```

FeatureCollection: One or more features as in this example:

```
{ "type": "FeatureCollection", "features": [
  { "type": "Feature", "geometry": { "type": "Point", "coordinates": [10.000000, 5.000000] }, },
  { "type": "Feature", "geometry": { "type": "Polygon", "coordinates": [ [[110.000000, 120.000000],
    [110.000000, 140.000000], [120.000000, 130.000000], [110.000000, 120.000000]] ] } }
```

GeometryCollection: Two or more geometries

Please note that geometry types of "**LineString**" and "**MultiLineString**" do not represent valid geocoordinate shapes for declaring production places and are accepted/processed.

The system additionally accepts and will process the following optional properties:

ProducerName: An optional producer name for the corresponding geometry type.

ProducerCountry: The country of production ISO2 code.

ProductionPlace: An optional name for the corresponding geometry type.

Area: This represents the area of the geometry element "Point" in the GeoJSON file.

Any other properties that are syntactically valid but not included in the optional properties list above, are ignored.

4 File Types Description

Type I GeoJSON file format:

This file type is for use by the web services interface (API) and via the application's UI import utility at producer level and has the following characteristics:

1. Includes any required features listed in the "Definitions" section (such as point, multipoint, polygon, multipolygon).
2. May include any of the optional properties (ProductionPlace, Area).

Type II GeoJSON file format:

This file type is for use via the application's UI file import utility at commodity level. It contains multiple producers grouped by the "ProducerName" and "ProducerCountry" and has the following additional characteristics:

1. Includes any required features listed in the "Definitions" section (such as point, multipoint, polygon, multipolygon).
2. Includes the ProducerName and/or ProducerCountry properties per "Feature".
3. May include any of the optional properties (ProductionPlace, Area).

Important notes for users of the EUDR IS:

1. It is strongly recommended to provide the optional GeoJSON properties "ProducerName" and "ProducerCountry" in the generated geocoordinates files for importing into the system. These optional properties are used to group Producers and, if not provided, the resulting Commodity will contain a single unnamed Producer with all the geometries lumped together.
2. It is also recommended to provide the optional GeoJSON property "ProductionPlace" in the generated geocoordinates files for importing into the system. This optional property is used to describe the production place name.
3. The property "Area" for points is optional. If it is not provided, then it will be set by default to "4ha" when processed by the EUDR system.

5 Examples

Type I – geocoordinates list - single producer

```
{
  "type": "FeatureCollection",
  "features": [
    { "type": "Feature", "properties": { "ProductionPlace": "place 1" }, "geometry": { "type": "Polygon",
"coordinates": [ [ [ -105.02986587151608, 40.622831213346714 ], [ -105.02943288197343,
40.622833278769647 ], [ -105.02943210868428, 40.622696030748514 ], [ -105.02986509734743,
40.622693965328388 ], [ -105.02986587151608, 40.622831213346714 ] ] ] } },
    { "type": "Feature", "properties": { "ProductionPlace": "place 2" }, "geometry": { "type": "Polygon",
"coordinates": [ [ [ -105.13862279565058, 40.6232201583273 ], [ -105.13812524409848,
40.623217349613277 ], [ -105.13760146783295, 40.623214374764942 ], [ -105.13760812046291,
40.622840460212586 ], [ -105.1387482024759, 40.622848369151292 ], [ -105.13862279565058,
40.6232201583273 ] ] ] } },
    { "type": "Feature", "properties": { "ProductionPlace": "place 3" }, "geometry": { "type": "Polygon",
"coordinates": [ [ [ -105.03013965041124, 40.622831962192613 ], [ -105.03013896857112,
40.622707258734174 ], [ -105.03013897849677, 40.622705831427382 ], [ -105.03013906046871,
40.6227044044115 ], [ -105.03013921448689, 40.62270297768643 ], [ -105.03013944055138,
40.622701551252305 ], [ -105.03013973866214, 40.622700125109048 ], [ -105.0301401088192,
40.622698699256617 ], [ -105.03014051480848, 40.62269730099792 ], [ -105.030140992844,
40.622695903030049 ], [ -105.03014154273494, 40.622694532801269 ], [ -105.0301421284581,
40.62269319016616 ], [ -105.03014282244152, 40.622691820519137 ], [ -105.03014355206632,
40.622690505913958 ], [ -105.03014431771419, 40.622689191454214 ], [ -105.03014519104974,
40.622687932327217 ], [ -105.03014610040837, 40.622686673345655 ], [ -105.03014704579006,
40.622685414509483 ], [ -105.03014806283629, 40.622684210860619 ], [ -105.03014915173785,
40.622683034950811 ], [ -105.03015027647164, 40.622681886634716 ], [ -105.0301514370377,
40.62268076591215 ], [ -105.03015266945903, 40.622679672928719 ], [ -105.03015397373574,
40.62267860768435 ], [ -105.03015527763067, 40.622677597336349 ], [ -105.03015665338098,
40.622676614727411 ], [ -105.0301581009866, 40.622675659857585 ], [ -105.03015954821048,
40.622674759884092 ], [ -105.03016103126654, 40.62267388750427 ], [ -105.03016258598713,
40.622673070311713 ], [ -105.0301641765399, 40.622672280712749 ], [ -105.03016576690176,
40.622671518561965 ], [ -105.03016742892817, 40.622670811598489 ], [ -105.03016909057274,
40.62267015953136 ], [ -105.03017082388185, 40.622669562651488 ], [ -105.030172557,
40.622668993219818 ], [ -105.03017428992732, 40.622668451236336 ], [ -105.03017609432827,
40.622667991888271 ], [ -105.03017786251517, 40.622667559843002 ], [ -105.03017970236664,
40.622667182984948 ], [ -105.03018154183636, 40.622666861023291 ], [ -105.03018338111514,
40.6226665665098 ], [ -105.03018525584451, 40.622666354486348 ], [ -105.030187130383,
40.622666169911092 ], [ -105.03018900453972, 40.622666040232154 ], [ -105.0301908783148,
```

```
40.622665965449656 ], [ -105.03019275189897, 40.622665918115331 ], [ -105.03055804488612,
40.622664729669566 ], [ -105.0305589817865, 40.622830607617821 ], [ -105.03013965041124,
40.622831962192613 ] ] ] } } }
]
}
```

Type II – geocoordinates list - multiple producers

```
{
  "type": "FeatureCollection",
  "features": [
    { "type": "Feature", "properties": { "ProducerName": "Producer 1", "ProducerCountry": "US",
"ProductionPlace": "place 1" }, "geometry": { "type": "Polygon", "coordinates": [ [ [ -
105.02986587151608, 40.622831213346714 ], [ -105.02943288197343, 40.622833278769647 ], [ -
105.02943210868428, 40.622696030748514 ], [ -105.02986509734743, 40.622693965328388 ], [ -
105.02986587151608, 40.622831213346714 ] ] ] ] } },
    { "type": "Feature", "properties": { "ProducerName": "Producer 1", "ProducerCountry": "US",
"ProductionPlace": "place 2" }, "geometry": { "type": "Polygon", "coordinates": [ [ [ -
105.13862279565058, 40.6232201583273 ], [ -105.13812524409848, 40.623217349613277 ], [ -
105.13760146783295, 40.623214374764942 ], [ -105.13760812046291, 40.622840460212586 ], [ -
105.1387482024759, 40.622848369151292 ], [ -105.13862279565058, 40.6232201583273 ] ] ] ] } },
    { "type": "Feature", "properties": { "ProducerName": "Producer 2", "ProducerCountry": "US",
"ProductionPlace": "place 3" }, "geometry": { "type": "Polygon", "coordinates": [ [ [ -
105.03013965041124, 40.622831962192613 ], [ -105.03013896857112, 40.622707258734174 ], [ -
105.03013897849677, 40.622705831427382 ], [ -105.03013906046871, 40.6227044044115 ], [ -
105.03013921448689, 40.62270297768643 ], [ -105.03013944055138, 40.622701551252305 ], [ -
105.03013973866214, 40.622700125109048 ], [ -105.0301401088192, 40.622698699256617 ], [ -
105.03014051480848, 40.62269730099792 ], [ -105.030140992844, 40.622695903030049 ], [ -
105.03014154273494, 40.622694532801269 ], [ -105.0301421284581, 40.62269319016616 ], [ -
105.03014282244152, 40.622691820519137 ], [ -105.03014355206632, 40.622690505913958 ], [ -
105.03014431771419, 40.622689191454214 ], [ -105.03014519104974, 40.622687932327217 ], [ -
105.03014610040837, 40.622686673345655 ], [ -105.03014704579006, 40.622685414509483 ], [ -
105.03014806283629, 40.622684210860619 ], [ -105.03014915173785, 40.622683034950811 ], [ -
105.03015027647164, 40.622681886634716 ], [ -105.0301514370377, 40.62268076591215 ], [ -
105.03015266945903, 40.622679672928719 ], [ -105.03015397373574, 40.62267860768435 ], [ -
105.03015527763067, 40.622677597336349 ], [ -105.03015665338098, 40.622676614727411 ], [ -
105.0301581009866, 40.622675659857585 ], [ -105.03015954821048, 40.622674759884092 ], [ -
```


105.03016103126654, 40.62267388750427], [-105.03016258598713, 40.622673070311713], [-105.0301641765399, 40.622672280712749], [-105.03016576690176, 40.622671518561965], [-105.03016742892817, 40.622670811598489], [-105.03016909057274, 40.62267015953136], [-105.03017082388185, 40.622669562651488], [-105.030172557, 40.622668993219818], [-105.03017428992732, 40.622668451236336], [-105.03017609432827, 40.622667991888271], [-105.03017786251517, 40.622667559843002], [-105.03017970236664, 40.622667182984948], [-105.03018154183636, 40.622666861023291], [-105.03018338111514, 40.6226665665098], [-105.03018525584451, 40.622666354486348], [-105.030187130383, 40.622666169911092], [-105.03018900453972, 40.622666040232154], [-105.0301908783148, 40.622665965449656], [-105.03019275189897, 40.622665918115331], [-105.03055804488612, 40.622664729669566], [-105.0305589817865, 40.622830607617821], [-105.03013965041124, 40.622831962192613]]] } } ,

{ "type": "Feature", "properties": { "ProducerName": "Producer 2", "ProducerCountry": "US", "ProductionPlace": "place 4" }, "geometry": { "type": "Polygon", "coordinates": [[[-105.0305589817865, 40.622830607617821], [-105.03055804488612, 40.622664729669566], [-105.03092326581425, 40.622663539786807], [-105.03092517503987, 40.622663547482318], [-105.03092704767066, 40.622663637377201], [-105.03092892011091, 40.622663754720293], [-105.03093079217004, 40.622663926959717], [-105.03093266403869, 40.622664126647386], [-105.03093453533563, 40.622664408679611], [-105.03093637041894, 40.622664718014839], [-105.03093816909802, 40.622665082101271], [-105.0309400034191, 40.62266550122925], [-105.03094176531293, 40.62266597496324], [-105.03094352701618, 40.622666476145476], [-105.03094528833834, 40.622667032224022], [-105.0309469772332, 40.62266764290861], [-105.0309486659376, 40.622668281041392], [-105.03095031823773, 40.622668973925357], [-105.03095193432426, 40.622669694112339], [-105.03095355002972, 40.622670469195718], [-105.03095509330785, 40.622671298885102], [-105.03095660037236, 40.622672155877503], [-105.03095807103269, 40.622673067621101], [-105.03095950547939, 40.622674006667708], [-105.0309608676893, 40.622674972872105], [-105.03096222951817, 40.622675993972933], [-105.03096351911033, 40.622677042231579], [-105.0309647724888, 40.622678117793214], [-105.0309659536305, 40.622679220512723], [-105.03096709836807, 40.622680377983428], [-105.03096817105936, 40.622681535163707], [-105.03096920734646, 40.622682747095276], [-105.03097020741995, 40.622683986329811], [-105.03097109942408, 40.622685225128819], [-105.03097199104714, 40.622686518824231], [-105.03097277460083, 40.622687812084074], [-105.03097352194092, 40.622689132646954], [-105.03097419723471, 40.622690452919464], [-105.03097483612427, 40.6226918279432], [-105.03097540296768, 40.622693202676565], [-105.03097589776478, 40.622694577119567], [-105.03097632032504, 40.62269597872038], [-105.0309766708391, 40.622697380030864], [-105.0309769851394, 40.622698808644373], [-105.03097722739352, 40.622700236967532], [-105.03097739760132, 40.622701665000285], [-105.03097749576284, 40.622703092742697], [-105.03097755771066, 40.622704547788125], [-105.03097824128901, 40.622829223793509], [-105.0305589817865, 40.622830607617821]]]] } } ,

]

}