

Geocode Oregon Addresses with a Web Service

February 2024

The Oregon Address geocode locator web service is free and available to the public. Use it in web applications by sending a REST request to the service URL and receiving the results, usually as [JSON](#). Individual addresses or large address lists can be geocoded this way. The output coordinates will be in Oregon Lambert feet (2992) unless an optional output spatial reference is included (such as 4326 for longitude and latitude).

The link to the new geocoding service is -

<https://navigator.state.or.us/arcgis/rest/services/Locators/OregonAddress/GeocodeServer>

All the supported operations are shown at the very bottom of the page.

Supported Operations: [Find Address Candidates](#) [Reverse Geocode](#) [Geocode Addresses](#) [Suggest](#)

Child Resources: [Info](#)

These operations are detailed below:

1. Find Address Candidates (with Python and JavaScript code samples).
2. Geocode Addresses
3. Reverse Geocode

The [Info](#) link will provide brief metadata for the service including the date it was last updated.

For assistance with the Oregon geocode locators contact GIS.Info@das.oregon.gov



Oregon Department of Administrative Services
Enterprise Information Services
Data Governance and Transparency
Geospatial Enterprise Operations

Use **findAddressCandidates** for individual address lookup.

<https://navigator.state.or.us/arcgis/rest/services/Locators/OregonAddress/GeocodeServer/findAddressCandidates?Address=500+Summer+St+NE&City=Salem&Region=OR&Postal=97301&outSR=4326&f=html>

The screenshot shows a web browser window with the URL <https://navigator.state.or.us/arcgis/rest/services/Locators/OregonAddress/GeocodeServer/findAddressCandidates?Address=500+Summer+St+NE&City=Salem&Region=OR&Postal=97301&outSR=4326&f=html>. The page title is "Find Address Candidates: (Locators/OregonAddress)". The form contains the following fields:

- Address: 500 Summer St NE
- Address2:
- Address3:
- Neighborhood:
- City: Salem
- Subregion:
- Region: OR
- Postal:
- PostalExt:
- CountryCode:
- SingleLine:
- Out Fields: *
- Max Locations:
- Match out of range: ☒ True ☐ False
- Language Code:
- Location Type:
- Source Country:
- Category:
- Location:
- Distance in Meters:
- Search Extent:
- Output Spatial Reference: 4326
- Magic Key:
- Format: HTML

Buttons: Find Address Candidates (GET), Find Address Candidates (POST)

Address Candidates: (# address candidates : 1)

Shape:

Point:
X: -123.02734500000142
Y: 44.94277800000006

Score: 100.0
Address: 500 Summer Street Northeast, SALEM, OR, 97301
Status: M
Score: 100
Match_addr: 500 Summer Street Northeast, SALEM, OR, 97301
LongLabel: 500 Summer Street Northeast, SALEM, OR, 97301

The results can include the following fields.

Shape:

Point:

X: **-123.02734500000142** (from outSR = 4326 Longitude, otherwise feet)

Y: **44.94277800000006** (from outSR = 4326 Latitude, otherwise feet)

Score: **100.0**

Address: **500 Summer Street Northeast, SALEM, OR, 97301**

Status: **M**

Score: **100**

Match_addr: **500 Summer Street Northeast, SALEM, OR, 97301**

LongLabel: **500 Summer Street Northeast, SALEM, OR, 97301**

ShortLabel: **500 Summer Street Northeast**

Addr_type: **PointAddress** (or Subaddress or StreetAddress)

Type: (not used)

PlaceName: (not used)

Place_addr: **500 Summer Street Northeast, SALEM, OR, 97301**

Phone: (not used)

URL: (not used)

Rank: **20**

AddBldg: (not used)

AddNum: **500**

AddNumFrom: (for StreetAddress Addr_type)

AddNumTo: (for StreetAddress Addr_type)

<i>AddRange:</i>	(for StreetAddress Addr_type)
<i>Side:</i>	(for StreetAddress Addr_type)
<i>StPreDir:</i>	
<i>StPreType:</i>	
<i>StName:</i>	Summer
<i>StType:</i>	Street
<i>StDir:</i>	Northeast
<i>BldgType:</i>	(not used)
<i>BldgName:</i>	(not used)
<i>LevelType:</i>	(not used)
<i>LevelName:</i>	(not used)
<i>UnitType:</i>	(not used)
<i>UnitName:</i>	(for Subaddress Addr_type)
<i>SubAddr:</i>	(for Subaddress Addr_type)
<i>StAddr:</i>	500 Summer Street Northeast
<i>Block:</i>	(not used)
<i>Sector:</i>	(not used)
<i>Nbrhd:</i>	(not used)
<i>District:</i>	(not used)
<i>City:</i>	SALEM (Postal city for ZIP Code)
<i>MetroArea:</i>	(not used)
<i>Subregion:</i>	MARION
<i>Region:</i>	OR
<i>RegionAbbr:</i>	(not used)
<i>Territory:</i>	(not used)
<i>Zone:</i>	(not used)
<i>Postal:</i>	97301
<i>PostalExt:</i>	(not used)
<i>Country:</i>	(not used)
<i>CntryName:</i>	USA
<i>LangCode:</i>	ENG
<i>Distance:</i>	0
<i>X:</i>	658117.1945519828 (Oregon Lambert feet)
<i>Y:</i>	1173851.2784443316 (Oregon Lambert feet)
<i>DisplayX:</i>	658117.1945519828
<i>DisplayY:</i>	1173851.2784443316
<i>Xmin:</i>	657847.1946875228
<i>Xmax:</i>	658387.1856419924
<i>Ymin:</i>	1173494.8794374284
<i>Ymax:</i>	1174207.6810170147
<i>ExInfo:</i>	

For more information on geocoding individual addresses and the output see –

<https://developers.arcgis.com/rest/geocode/api-reference/geocoding-find-address-candidates.htm>
<https://developers.arcgis.com/rest/geocode/api-reference/geocoding-service-output.htm>

Code Samples

Programming *examples* of using findAddressCandidates with [REST](#) and [JSON](#).

Python

```
File Edit View Insert Cell Kernel Help Python 3 (ipykernel) | ⌵ ⌶

+ %< ⌵ ⌶ ⬆ ⬇ ▶ Run ■ ↺ ⬆ Code ⌵ ⌶ ⌵

In [3]: import json, urllib, urllib.parse, urllib.request, urllib.error
example_address = "500 Summer St NE"
example_city = "Salem"
example_state = "OR"
example_zip = "97301"

In [15]: Service = r"https://navigator.state.or.us/arcgis/rest/services/Locators/OregonAddress/GeocodeServer/findAddressCandidates"
Request = urllib.parse.urlencode({"Address" : example_address
                                , "City" : example_city
                                , "Region" : example_state
                                , "Postal" : example_zip
                                , "outFields" : "*" # Return all output fields (optional).
                                , "maxLocations" : 1 # Return only the top candidate (optional).
                                , "outSR" : "4326" # Return the location in Longitude and Latitude (optional).
                                , "f" : "pjson"}) # Return the results as JSON.

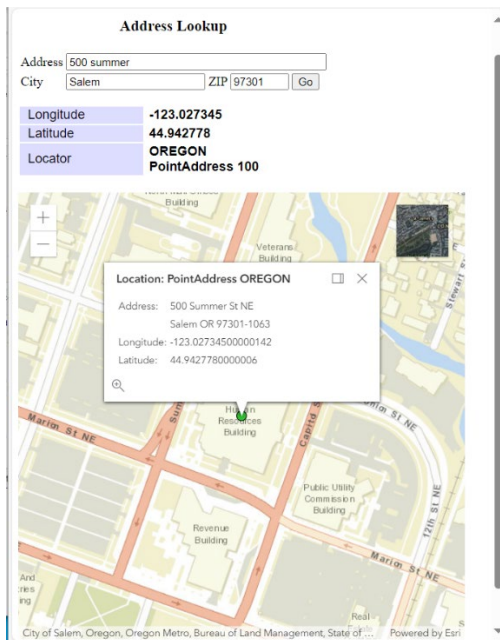
try:
    RequestREST = urllib.request.urlopen(Service + "?" + Request)
except Exception as error:
    print("ERROR",error)

In [16]: ResultsJSON = json.loads(RequestREST.read().decode("cp1252"))
ResultsJSON

Out[16]: {'spatialReference': {'wkid': 4326, 'latestWkid': 4326},
'candidates': [{'address': '500 Summer Street Northeast, SALEM, OR, 97301',
'location': {'x': -123.02734500000142, 'y': 44.94277800000006},
'score': 100,
'attributes': {'Status': 'M',
'Score': 100,
'Match_addr': '500 Summer Street Northeast, SALEM, OR, 97301',
'LongLabel': '500 Summer Street Northeast, SALEM, OR, 97301',
'ShortLabel': '500 Summer Street Northeast',
'Addr_type': 'PointAddress',
'Type': '',
'PlaceName': '',
'Place_addr': '500 Summer Street Northeast, SALEM, OR, 97301',
'Phone': '',
'URL': '',
'Rank': 20,
'AddBldg': '',
'AddNum': '500',
```

JavaScript

Provide the address from a web form and display the results in a table and on a map using [AJAX](#).



```
93 gisApp.getLocation = function()  
94 {  
95     var requestLocation = "https://navigator.state.or.us/arcgis/rest/services/Locators/OregonAddress/GeocodeServer/findAddressCandidates" +  
96         "?Address=" + document.getElementById("inputAddress").value +  
97         "&City=" + document.getElementById("inputCity").value +  
98         "&Postal=" + document.getElementById("inputZip").value +  
99         "&Region=OR" +  
100         "&maxLocations=1" +  
101         "&outFields=*" +  
102         "&outSR=4326" +  
103         "&f=pjson";  
104  
105     console.log("REQUEST",requestLocation); // For troubleshooting and debugging.  
106     ajax.open("GET",requestLocation,true);  
107     ajax.send();  
108     ajax.onreadystatechange = seeLocation;  
109 }  
110  
111 function seeLocation()  
112 {  
113     if (ajax.readyState == 4 && ajax.status == 200)  
114     {  
115         var resultLocation = eval("(" + ajax.responseText + ")");  
116         gisApp.result.location = resultLocation;  
117         console.log("RESULTS",gisApp.result.location); // For troubleshooting and debugging.  
118         gisApp.decidePassFail(); // Evaluate the results from the location.  
119     }  
120     else if (ajax.readyState == 4 && ajax.status != 200) // If the service is down or not responding.  
121     {  
122         document.getElementById("divError").innerHTML = "<img src='note.jpg' width='25' height='25'>Service Unavailable";  
123     }  
124 }  
125 }
```

Use **geocodeAddresses** for bulk address lists.

A JSON formatted address list can be used to geocode multiple addresses at a time.

<https://navigator.state.or.us/arcgis/rest/services/Locators/OregonAddress/GeocodeServer/geocodeAddresses?address=es=>

```
{ "records": [
  { "attributes": { "OBJECTID": 1, "Address": "500 Summer St NE", "City": "Salem", "Region": "OR", "Postal": "97301" } },
  { "attributes": { "OBJECTID": 2, "Address": "631 Winter St NE", "City": "Salem", "Region": "OR", "Postal": "97301" } } ] }
```

&outSR=4326&f=json

Note: **addresses=** and **f=** parameters are required but a token is *not* required for the Oregon geocoder.

Note: The **OBJECTID** and either **City**, **Region** and/or **Postal** keys are required in the address list.

The JSON list will be [URL encoded](#) when the request is sent. See the handy table below for the URL codes for the ASCII characters most commonly used for JSON to help you make sense of the query string.

<https://navigator.state.or.us/arcgis/rest/services/Locators/OregonAddress/GeocodeServer/geocodeAddresses?f=html&addresses=%7B%22records%22%3A%5B%7B%22attributes%22%3A%7B%22OBJECTID%22%3A1%2C%22Address%22%3A%22500+Summer+St+NE%22%2C%22City%22%3A%22Salem%22%2C%22Region%22%3A%22OR%22%2C%22Postal%22%3A%2297301%22%7D%7D%2C%7B%22attributes%22%3A%7B%22OBJECTID%22%3A2%2C%22Address%22%3A%22631+Winter+St+NE%22%2C%22City%22%3A%22Salem%22%2C%22Region%22%3A%22OR%22%2C%22Postal%22%3A%2297301%22%7D%7D%5D%7D%0D%0A>

ArcGIS REST Services Directory

Home > services > Locators > OregonAddress (GeocodeServer) > geocodeAddresses

Geocode Addresses: (Locators/OregonAddress)

Addresses:

```
{ "records": [
  { "attributes": { "OBJECTID": 1, "Address": "500 Summer St NE", "City": "Salem", "Region": "OR", "Postal": "97301" } },
  { "attributes": { "OBJECTID": 2, "Address": "631 Winter St NE", "City": "Salem", "Region": "OR", "Postal": "97301" } } ] }
```

Category:

Source Country:

Match out of range: ☒ True ☐ False

Language Code:

Location Type:

Search Extent:

Output Spatial Reference:

Format:

Geocoded Addresses:

address: 500 Summer Street Northeast, SALEM, OR, 97301
location: {"x":-123.02733058199999,"y":44.94277260400003}
score: 100
attributes: {"ResultID":1,"Status":"M","Score":100,"Match_addr":"500 Summer Street Northeast, SALEM, OR, 97301","LongLabel":"500 Summer Street Northeast, SALEM, OR, 97301","Addr_type":"PointAddress","Type":"","PlaceName":"","Place_addr":"500 Summer Street Northeast, SALEM, OR, 97301","Rank":20,"AddNum":"500","AddNumFrom":"","AddNumTo":"","AddRange":"","Side":"","StPreDir":"","StName":"Summer","StType":"Street","StDir":"North","City":"SALEM","Subregion":"MARION","Region":"OR","RegionAbbr":"","Postal":"97301","CntryName":"USA","LangCode":"ENG","X":658117.1945519828,"Y":117381.1945519828}

address: 631 Winter Street Northeast, SALEM, OR, 97301
location: {"x":-123.02978308099995,"y":44.944734604000075}
score: 100
attributes: {"ResultID":2,"Status":"M","Score":100,"Match_addr":"631 Winter Street Northeast, SALEM, OR, 97301","LongLabel":"631 Winter Street Northeast, SALEM, OR, 97301","Addr_type":"PointAddress","Type":"","PlaceName":"","Place_addr":"631 Winter Street Northeast, SALEM, OR, 97301","Rank":20,"AddNum":"631","AddNumFrom":"","AddNumTo":"","AddRange":"","Side":"","StPreDir":"","StName":"Winter","StType":"Street","StDir":"North","City":"SALEM","Subregion":"MARION","Region":"OR","RegionAbbr":"","Postal":"97301","CntryName":"USA","LangCode":"ENG","X":657504.5815270196,"Y":117451.1945519828}

For more information about geocoding address lists see -

<https://developers.arcgis.com/rest/geocode/api-reference/geocoding-geocode-addresses.htm>

URL Encoded Characters commonly used for JSON.

URL	ASCII	URL	ASCII	URL	ASCII
%20	space	%3A	:	%7B	{
%22	"	%5B	[%7D	}
%2C	,	%5D]		

Use **reverseGeocode** to find an approximate address for a location.

Provide the X and Y location coordinates in Oregon Lambert feet (Spatial Reference ID 2992).

location=658117.2,1173851.3

<https://navigator.state.or.us/arcgis/rest/services/Locators/OregonAddress/GeocodeServer/reverseGeocode?location=658117.2%2C1173851.3&f=html>

ArcGIS REST Services Directory

Home > services > Locators > OregonAddress (GeocodeServer) > reverseGeocode

Reverse Geocode: (Locators/OregonAddress)

Location: 658117.2,1173851.3

Distance:

Language Code:

Location Type:

Feature Types:

Output Spatial Reference:

Return Intersection: ☐ True ☒ False

Format: HTML

Reverse Geocode (GET) Reverse Geocode (POST)

Reverse Geocoded Address:

Match_addr: 500 Summer Street Northeast, SALEM, OR, 97301
LongLabel: 500 Summer Street Northeast, SALEM, OR, 97301
ShortLabel: 500 Summer Street Northeast
Addr_type: PointAddress
Type:
PlaceName:
AddNum: 500
Address: 500 Summer Street Northeast
Block:
Sector:
Neighborhood:
District:
City: SALEM
MetroArea:
Subregion: MARION
Region: OR
RegionAbbr:
Territory:
Postal: 97301
PostalExt:
CntryName: USA
CountryCode:

Reverse Geocoded Location:

Point:
X: 658117.1945519828
Y: 1173851.2784443316
Spatial Reference: 2992 (2992)

Or the location can be provided using another projection and coordinate system such as longitude and latitude. Coordinates other than Oregon Lambert (2992) must be provided in JSON format and must include the spatial reference ID. Again, the JSON characters are URL encoded as in geocodeAddresses.

location={"x":-123.0273305,"y":44.942772,"spatialReference":{"wkid":4326}}

<https://navigator.state.or.us/arcgis/rest/services/Locators/OregonAddress/GeocodeServer/reverseGeocode?location=%7B%22x%22%3A-123.0273305%2C%22y%22%3A44.942772%2C%22spatialReference%22%3A%7B%22wkid%22%3A4326%7D%7D&f=html>

← ↻ 🏠 🔒 https://navigator.state.or.us/arcgis/rest/services/Locators/OregonAddress/GeocodeServer/reverseGeocode?... 🔊 ☆ ⚙️ ...

ArcGIS REST Services Directory [Login](#) | [Get Token](#)

[Home](#) > [services](#) > [Locators](#) > [OregonAddress \(GeocodeServer\)](#) > [reverseGeocode](#) [Help](#) | [API Reference](#)

Reverse Geocode: (Locators/OregonAddress)

Location:

Distance:

Language Code:

Location Type:

Feature Types:

Output Spatial Reference:

Return Intersection: ☐ True ☒ False

Format:

Reverse Geocoded Address:

Match_addr: 500 Summer Street Northeast, SALEM, OR, 97301
LongLabel: 500 Summer Street Northeast, SALEM, OR, 97301
ShortLabel: 500 Summer Street Northeast
Addr_type: PointAddress
Type:
PlaceName:
AddNum: 500
Address: 500 Summer Street Northeast
Block:
Sector:
Neighborhood:
District:
City: SALEM
MetroArea:
Subregion: MARION
Region: OR
RegionAbbr:
Territory:
Postal: 97301
PostalExt:
CntryName: USA
CountryCode:

Reverse Geocoded Location:

Point:
X: 658117.1945519828
Y: 1173851.2784443316
Spatial Reference: 2992 (2992)

For more information on reverse geocoding see –

<https://developers.arcgis.com/rest/geocode/api-reference/geocoding-reverse-geocode.htm>