Agriculture - 15 Day - v3

Domain Portfolio: Forecast | Domain: Hourly | Usage Classification: Limited Availability



Geography: Global

Attribution Required: NO

Attribution Requirements: N/A

Overview

The TWC Agriculture APIs provide a variety of business-ready forecast content for the agriculture markets, by generating it on-the-fly using proprietary wxmix technology from The Weather Company | An IBM Business (TWC). Agriculture product includes reference and modeled evapotranspiration. The hourly forecast starts at top of current hour and extends through the entire length of available forecast output (currently 15 days, including the current day).

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see The Weather Company Data | API Common Usage Guide.

Pre-Request Utility API Call

Prior to the primary request, the following call will first be made to expose the list of valid crop type parameters:

Atomic Request: Valid Crop Types: Required Parameters: apiKey

https://api.weather.com/v3/wx/forecast/agriculture/croptype?apiKey=yourApiKey

URL Construction

Atomic API URL Examples:

Atomic Request by Geocode: Required Parameters: geocode, format, units, apiKey | Optional Parameters: soilDepth, crop, elevation

https://api.weather.com/v3/wx/forecast/hourly/agriculture/15day?geocode=33.74,-84.39&format=json&units=e&apiKey=yourApiKey

Parameter Definitions

Parameter Name	Valid Parameter Value	Description	Required / Optional
сгор	Composite: (string:percent), null	String list of crops and percent value to specify the maturity of the crop required to calculate crop specific evapotranspiration	Optional
elevation	decimal	Optional parameter, value interpretation is dependent on the 'units' parameter. - Range (Imperial): English units range from -1,500 feet to 30,000 feet, inclusive. - Range (Metric): Metric units range from -500 meters to 9,000 meters, inclusive. Allow for one decimal place in any units.	Optional
soilDepth	single value numerical data, null	Single value representing the depth below surface that is being requested, in units consistent with the request. Format in decimal up to 1 unit of decimal precision. Units (e,m) - Range (English): <= 80 inches - Range (Metric): <= 200 centimeters	Optional
units	(e,m)	Note:(e,m) the only units valid for this API	Required

Valid Crop Type Parameters and Utility API

Common crop types include:

- cacao
- coffee
- corn
- cotton
- soybeans
- sugarcane
- wheat

A full list of valid crop type values can be found by calling the croptype utility API, which will return a full list of valid crop type parameter values:

Atomic Request: Valid Crop Types: Required Parameters: apiKey
https://api.weather.com/v3/wx/forecast/agriculture/croptype?apiKey=yourApiKey

Data Elements & Definitions

Note: The table below does not represent the sort order of the API response.

Field Name	Description	Туре	Range	Sample	Nulls Allowed
crop	String list of crops and percent value to specify the maturity of the crop required to calculate crop specific evapotranspiration. (left side of colon = string list of crops, right side = percent value of crop maturity)	[composite]	-	broccoli:75	Yes
elevation	Elevation of the surface level MSL.	decimal	(English): -1,500 to 30,000 feet (Metric): -500 to 9,000 meters	838.25	No
evapotranspirationRef	Reference evapotranspiration at surface in units consistent with the request.	[decimal]	-	2.251	No
evapotranspirationCrop	Crop evapotranspiration at surface in units consistent with the request. If crop is not specified in the url these values will be null.	[decimal]	-	2.251	Yes
evapotranspirationModel	Model evapotranspiration at surface in units consistent with the request. If the specified geocode is located over water, these values will be null.	[decimal]	-	2.251	Yes
initTimeUtc	Start date and time of forecast, rounded back to the top of the current hour.	epoch	-	1369252800	No
latitude	Latitude of a location where measurement occurs.	decimal	-	42.7169	No
longitude	Longitude of a location where measurement occurs.	decimal	-	-71.1217	No
soilDepth	Target depth below surface provided by the request in units consistent with the request.	decimal	(English): <= 80 inches (Metric): <= 200 centimeters	40.5	Yes
soilMoisture	Hourly soil moisture at depth in units consistent with the request. If soilDepth is not specified in the url, or if the specified geocode is located over water, these values will be null.	[decimal]	-	0.255	Yes
soilTemperature	Hourly soil temperature at depth in units consistent with the request. If soilDepth is not specified in the url, or if the specified geocode is located over water, these values will be null.	[decimal]	-	290.2	Yes

temperatureInversion	Temperature difference between the ground (or skin) temperature and the air temperature at 2 meters above the ground, i.e. air temp at $2m$ - skin temp. This is used as an indicator of temperature inversions close to the ground, which are significant for the application of herbicides and pesticides. A temperature inversion exists if temperatureInversion > 0, i.e. when the air above is warmer than the ground beneath.	[decimal]	-	-6.61	Yes
validTimeUtc	Time at which the forecast is valid in UNIX seconds.	[epoch]	-	1369252800	No

JSON Sample

// Response Collapsed for Presentation Purposes		
"metadata": { "procTime": 1560965651, "units": "m", "serviceTime": 0.01315416, "latitude": 39.6300, "longitude": -105.0100, "initTimeUtc": 1560963600, "elevation": 1622.70, "landuse": 1, "resource": "agriculture", "version": "v1", "requestId": 104234000000056, "soilDepth": 120.000,		
<pre>}, "forecasts1Hour": { "validTimeUtc": [1560963600,], "soilMoisture": [0.256,], "soilTemperature": [284.3,], "temperatureInversion": [-6.61,], "evapotranspirationRef": [0.570,], "evapotranspirationModel": [0.228,], "evapotranspirationCrop": [0.656,], }</pre>		

Units for Metric and English Request and Response

Metric Units (m):	English Units (e):
IN:	IN:
soilDepth: centimeters	soilDepth: inches
elevation: meters	elevation: feet
OUT:	OUT:
soilMoisture: meters ³ / meter ³	soilMoisture: feet ³ / foot ³
soilTemperature: degrees K	soilTemperature: degrees F
temperatureInversion: degrees K	temperatureInversion: degrees F
evapotranspirationRef: millimeters / hour	evapotranspirationRef: inches / hour
evapotranspirationCrop: millimeters / hour	evapotranspirationCrop: inches / hour
evapotranspirationModel: millimeters / hour	evapotranspirationModel: inches / hour