Limited Availability - 15-Minute Forecast
API User Document
Version 1.0

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Audience
This API is intended for web and mobile platforms.

Geography
Worldwide.

Background Technology
This API is a REST-based web service.

Response Format
This TWC API can return either JSON or XML formatted responses.

Icon Codes, Weather Phrases and Images
For the mapping of icon codes, weather phrases and images please refer to the Icon Code, Weather Phrases and Images document.

Translations
This TWC API handles the translation of phrases. However, when formatting a request URL a valid language must be passed along (see the language code table for the supported codes).

Fields Translated
- golf_category
- wdir_cardinal
- phrase_32char
- dow
- uv_desc

Data Lifetime - Caching & Expiration
Standard HTTP Cache-Control headers are used to define caching length. The TTL value is provided in the HTTP Header as an absolute time value using the “Expires” parameter, for example: “Expires: Fri, 12 Jul 2013 12:00:00 GMT” The response provides a data element expire_time_gmt. The value in this data element should be used to expire and remove a record from your system.

URL Construction
Please refer to the TWC API Common Usage document for a tutorial on URL construction and URL references.

Overview

The short range 15 Minute Forecast API is sourced from the TWC Forecast system. This API returns weather content consisting of forecasted weather for the next 15 minutes increment time steps out to 7 hours. Please refer to the Data Elements section later in this document for more details.

URL Format

Atomic API URL Examples: Your content licensing agreement with TWC determines the number of days returned in the API response and is constrained by the API Key that is provided to your company.	
Request by Geocode (Latitude & Longitude): https://api.weather.com/v1/**geocode/34.063/-84.217**/forecast/fifteenminute.**json?language=en-US**&**units=e**&**apiKey=yourApiKey**	**Required Parameters:** geocode, language, format
https://api.weather.com/v1/geocode/34.063/-84.217/**forecast/fifteenminute**.json?language=en-US&units=e&apiKey=**yourApiKey**	
Request by Postal Code: The Postal Code has a TWC proprietary location type (4) with the following format: location/<postal code>:<location type>:<country code> https://api.weather.com/v1/**location/30075:4:US**/forecast/fifteenminute.**json?language=en-US**&**units=e**&**apiKey=yourApiKey**	**Required Parameters:** postal code:4:country code, language, format
https://api.weather.com/v1/location/30075:4:US/**forecast/fifteenminute**.json?language=en-US&units=e&apiKey=**yourApiKey**	

Understanding the 15-Minute Forecasts

Implementing our forecasts requires your applications to perform basic processing in order to properly ingest the forecast data feeds.

Forecast Composition

The TWC 15 Minute forecast product can contain up to 28 short range forecasts for each location. You should discard all previous hourly forecasts for a given forecast location when a new record is received.

Forecast Implementation

To request and display the 15 Minute Forecast product there is no need to pass a parameter to select an hour. Each request will return the full 15 Minute Forecast.

Data Elements

Data Element Rule Definitions

Each data element has three rules associated with it as defined below.

This Rule …	… does this …	… and answers this …
Usage Rule	Determines whether a data element is required or optional. If it is optional, determines whether or not you can substitute it with a different data element.	Must I use this data element or can I replace it with a different one?
Processing Rule	Defines how to process a data element so the results are correct.	If I use this data element, how do I process it?
Display Rule	Defines the proper display format for a data element.	How do I display this data element?

Data Element Descriptions

Outbound JSON/XML	Description	Type	Length	Range	Null	Sample	Usage	Processing	Display
Metadata									
Metadata fields including echo parameters defined in API Common Usage & Style Guide									
15-Minute Forecast	**This section will repeat 28 times**								
class	Data identifier	string			N	fod_short_range_fifteen_minute	required	none	do not display
precip_rate	The forecasted hourly precipitation rate calculated for the 15-minute period. As this is a standard hourly rate, the approximate expected precipitation forecast for the 15-Minute period is the displayed value divided by 4.	decimal	5,2		N	0.13	optional	none	Display as provided with the correct unit of measure (inches or millimeters).
expire_time_gmt	Expiration time in UNIX seconds	epoch	11		N	1373914800	required	none	do not display
fcst_valid	Time forecast is valid in UNIX seconds	epoch	10		N	1369306800	required	none	do not display
fcst_valid_local	Time forecast is valid in local apparent time.	ISO			N	2013-08-06T07:00:00-0400	required	none	do not display
num	This data field is the sequential number that identifies each of the forecasted days in the API. They start on day 1, which is the forecast for the current day. Then the forecast for tomorrow uses number 2, then number 3 for the day after tomorrow, and so forth.	Integer	2	1 - 15	N	1	optional	none	display as provided
day_ind	This data field indicates whether it is daytime or nighttime based on the Local Apparent Time of the location.	string	1	D = Day, N = Night, X = missing (for extreme northern and southern hemisphere	N	D	optional	none	do not display
dow	Day of week	string	10		N	Thursday	required	You must display this field in your application. According to the space limits of your application to show text, use the name of the week in its abbreviated form. **Examples**: Monday MON Mon. M Tuesday TUE Tue. Tu Wednesday WED Wed. W Thursday THU Thur. Th Friday FRI Fri. F Saturday SAT Sat. Sa Sunday SUN Sun. Su	display as processed by your system
temp	Temperature for the 15-minute forecast period. The temperature of the air, measured	integer	4	-140 to 140 (F)	N	68	required	none	Display as provided in degrees Fahrenheit or degrees Celsius based on the Unit of Measure in

	by a thermometer 1.5 meters (4.5 feet) above the ground that is shaded from the other elements. You will receive this data field in Fahrenheit degrees or Celsius degrees.								the API request. Always display the unit of temperature (°F or °C) with the value.
dewpt	Dew point for the 15-minute forecast period The temperature which air must be cooled at constant pressure to reach saturation. The Dew Point is also an indirect measure of the humidity of the air. The Dew Point will never exceed the Temperature. When the Dew Point and Temperature are equal, clouds or fog will typically form. The closer the values of Temperature and Dew Point, the higher the relative humidity.	integer	3	-80 to 100 (°F) or -62 to 37 (°C)	N	63	optional	none	Display as provided in degrees Fahrenheit or degrees Celsius based on the Unit of Measure in the API request. Always display the unit of temperature (°F or °C) with the value.
hi	15-minute maximum heat index. An apparent temperature. It represents what the air temperature “feels like” on exposed human skin due to the combined effect of warm temperatures and high humidity. When the temperature is ***70°F or higher***, the Feels Like value represents the computed **Heat Index**. For temperatures ***between 40°F and 70°F***, the Feels Like value and Temperature are the same, regardless of wind speed and humidity, so use the Temperature value.	integer	4		Y	84	optional	Display Heat Index only when the Heat Index value in your data feed is more than 21°C or 70°F.	Use either Celsius degrees **or** Fahrenheit degrees **or** both. Always display the unit of temperature (°F or °C) with the value.
wc	15-minute minimum wind chill. An apparent temperature. It represents what the air temperature “feels like” on exposed human skin due to the combined effect of the cold temperatures and wind speed. When the temperature is ***61°F or lower*** the Feels Like value represents the computed **Wind Chill** so display the Wind Chill value. For temperatures ***between 61°F and 75°F***, the Feels Like value and Temperature are the same, regardless of wind speed and humidity, so display the Temperature value.	integer	4		N	68	optional	Display Wind Chill only when the Wind Chill value in your data feed is less than 5°C or 40°F.	Use either Celsius degrees **or** Fahrenheit degrees **or** both. Always display the unit of temperature (°F or °C) with the value.

feels_like	15-minute feels like temperature. An apparent temperature. It represents what the air temperature “feels like” on exposed human skin due to the combined effect of the wind chill or heat index.	integer	4		N	84	optional	none	When the temperature is ***40°F or lower*** the Feels Like value represents the computed **Wind Chill** so display the Wind Chill value. When the temperature is ***70°F or higher***, the Feels Like value represents the computed **Heat Index** so display the Heat Index value. For temperatures ***between 40°F and 70°F***, the Feels Like value and Temperature are the same, regardless of wind speed and humidity, so display the Temperature value. Always display the unit of temperature (°F or °C) with the value.
icon_extd	Code representing explicit full set sensible weather. Please refer to the Forecast Icon Code, Weather Phrases and Images document.	integer	4		N	5500	required	none	do not display
wxman	Code combining Hourly sensible weather and temperature conditions	string	6		N	wx4400			
icon_code	This number is the key to the weather icon lookup. The data field shows the icon number that is matched to represent the observed weather conditions. Please refer to the Forecast Icon Code, Weather Phrases and Images document.	integer	2		N	26	required	none	do not display
phrase_12char	15-minute sensible weather phrase	string	12		N	Cloudy	required	none	display as provided
phrase_22char	15-minute sensible weather phrase	string	22		N	Cloudy	required	none	display as provided
phrase_32char	15-minute sensible weather phrase	string	32		N	Fog Late	required	none	display as provided
subphrase_pt1	Part 1 of 3-part 15-minute sensible weather phrase	string			N	Cloudy	optional	none	The three parts are to be displayed one after another in numerical order.
subphrase_pt2	Part 2 of 3-part 15-minute y sensible weather phrase	string	9		N	Late	optional	none	The three parts are to be displayed one after another in numerical order. display as provided
subphrase_pt3	Part 3 of 3-part 15-minute sensible weather phrase	string	9		N	Thunder	optional	none	The three parts are to be displayed one after another in numerical order. display as provided
pop	15-minute maximum probability of precipitation	integer	3	0 to 100	N	20	required	none	Display the percent **%** sign after the value
precip_type	The short text describing the expected	string	6	rain,snow, precip	N	rain	required	none	display as provided

	type accumulation associated with the Probability of Precipitation (POP) display for the 15-minute period.								
snow_rate	The forecasted hourly snow accumulation during the 15-minute period. As this is a standard hourly rate, the approximate expected snowfall forecast for the 15-Minute period is the displayed valued divided by 4.	decimal	5,1		N	0.2	optional	none	Display as provided with the correct unit of measure (inches or centimeters).
rh	The relative humidity of the air, which is defined as the ratio of the amount of water vapor in the air to the amount of vapor required to bring the air to saturation at a constant temperature. Relative humidity is always expressed as a percentage.	integer	3	0 to 100	N	83	required	none	You must display the percent sign “%” after the value.
wspd	The maximum forecasted hourly wind speed for the 15-minute period. The wind is treated as a vector; hence, winds must have direction and magnitude (speed). The wind information reported in the hourly current conditions corresponds to a 10-minute average called the sustained wind speed. Sudden or brief variations in the wind speed are known as “wind gusts” and are reported in a separate data field. Wind directions are always expressed as "from whence the wind blows" meaning that a North wind blows from North to South. If you face North in a North wind the wind is at your face. Face southward and the North wind is at your back.	integer	3		N	5	required	none	Display the Wind Speed with its Wind Direction. Use the value as it appears in the data feed (numeric value) and always display its unit of measure, either the fully spelled version or its abbreviation. **Examples** ***Wind:*** *from the Southeast at 8 miles per hour.* ***Wind:*** *from the Northwest at 12 kilometers/hour.*
wdir	Average wind direction in magnetic notation for the 15-minute period.	integer	3	0 to 359	N	145	required	none	Display the Wind Speed with its Wind Direction. Use the value as it appears in the data feed (numeric value) and always display its unit of measure, either the fully spelled version or its abbreviation. **Examples** ***Wind:*** *from the Southeast at 8 miles per hour.* ***Wind:*** *from the Northwest at 12 kilometers/hour.*
wdir_cardinal	Average wind direction in cardinal	string	4	N , NNE , NE, ENE,	N	SE	required	none	Display the Wind Speed with

	notation for the 15-minute period.			E, ESE, SE, SSE, S, SSW, SW, WSW, W, WNW, NW, NNW, CALM, VAR					its Wind Direction. Use the value as it appears in the data feed (numeric value) and always display its unit of measure, either the fully spelled version or its abbreviation. **Examples** ***Wind:*** *from the Southeast at 8 miles per hour.* ***Wind:*** *from the Northwest at 12 kilometers/hour.*
gust	The maximum expected wind gust speed.	integer	3		Y	7	required	none	It is a required display field if Wind Speed is shown. The speed of the gust can be expressed in miles per hour or kilometers per hour.
clds	Average cloud cover expressed as a percentage for the 15-minute period.	integer	3	0 to 100	N	82	optional	none	You must display the percent sign “%” after the value.
vis	Prevailing hourly visibility	decimal	6,3	0 to 10 (Imperial units) 0 to 16 (Metric units)	N	5.2	optional	none	display as provided; For value > 1 = no decimal. For value <1 = 2 decimal places
mslp	Mean sea level pressure	decimal	5,2		N	30.21	required	none	display as provided
uv_index_raw	The non-truncated UV Index which is the intensity of the solar radiation based on a number of factors.	decimal	4,2		N	2.22	optional	none	do not display
uv_index	Maximum UV index for the 15-minute period.	integer	3		N	2	optional	None.	Display as provided. If the data value is greater than or equal to 11, convert the value to "10+"
uv_desc	The UV Index Description which complements the UV Index value by providing an associated level of risk of skin damage due to exposure.	string	20	-2 is Not Available -1 is No Report 0 to 2 is Low 3 to 5 is Moderate 6 to 7 is High 8 to 10 is Very High 11 to 16 is Extreme	N	Low	optional	none	display as provided
uv_warning	TWC-created UV warning based on UV index of 11 or greater.	integer	1		N	0	optional	If the data value is 1, then a UV warning is in effect. If the data value is 0, then no UV warning is in effect.	do not display
severity	A code denoting how impactful is the forecasted weather for this 15-minute period.	integer	1	0 = no threat 6 = dangerous / life threatening	N	2	optional	none	

Response Field Maintenance

TWC strives to minimize the impact of changes in our weather content to your applications. TWC will not remove, rename or change the data type (int, string) of any data fields in the API response. However, TWC

may add new data fields without notice.
Note: Outbound File Format: If data is null, then the data element tag will be displayed with the value “null” If the data value is an empty string, the element tag will return the tag and the value will have no value displayed (XML) or display double quotes with no data (JSON).
* The following examples may not be exact replications of API outbound format, due to possible API updates. Please refer to actual outbound for current formatting and data elements.

Formatted Response Samples

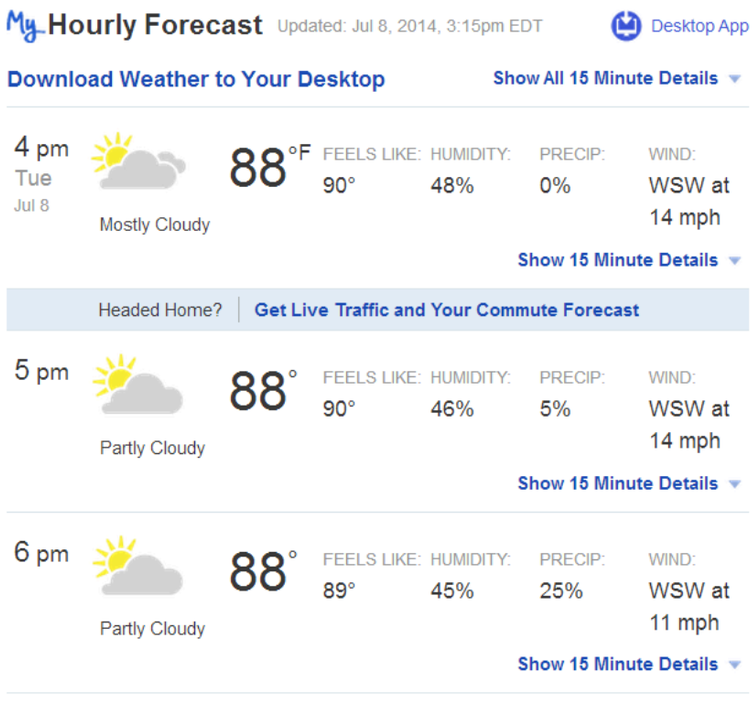
XML Example	JSON Example
<metadata> <version>1</version> <transaction_id>3453363323197243904</transaction_id> <expire_time_gmt>1397773588</expire_time_gmt> </metadata> <forecasts> <forecast> <class> <![CDATA[fod_short_range_fifteen_minute]]></class> <phrase_22char>![CDATA[Thundershowers]]phrase_22char> <hi>84 <snow_rate>0.2<snow_rate> <day_ind>![CDATA[D]]day_ind> <precip_type>![CDATA[rain]]precip_type> <fcst_valid_local>![CDATA[2014-01-17T14:30:00+00:00]]fcst_valid_local> <precip_rate>0.13<precip_rate> <fcst_valid>1389969000<fcst_valid> <rh>89<rh> <vis>1.5<vis> <icon_extd>1140<icon_extd> <mslp>29.88<mslp> <wxman>![CDATA[wx6500]]wxman> <subphrase_pt3>![CDATA[Wind]]subphrase_pt3> <gust>25<gust> <dewpt>62<dewpt> <temp>63<temp> <wdir_cardinal>![CDATA[SSE]]wdir_cardinal> <uv_warning>0<uv_warning> <wspd>16<wspd> <num>1<num> <clds>88<clds> <feels_like>84 <feels_like> <uv_index_raw>2.01<uv_index_raw> <phrase_32char>![CDATA[Thundershowers]]phrase_32char> <icon_code>11<icon_code> <subphrase_pt2>![CDATA[Thunder>	{"metadata": {"version":"1", transactionId:"6864132804432347584", expireTimeGMT:"1390843500"}, { "class" : "fod_short_range_fifteen_minute", "phrase_22char" : "Thundershowers", "hi" : 84, "snow_rate" : 0.2, "day_ind" : "D", "precip_type" : "rain", "fcst_valid_local" : "2014-01-17T14:30:00+00:00", "precip_rate" : 0.13, "fcst_valid" : 1389969000, "rh" : 89, "vis" : 1.5, "icon_extd" : 1140, "mslp" : 29.88, "wxman" : "wx6500", "subphrase_pt3" : "Wind", "gust" : 25, "dewpt" : 62, "temp" : 63, "wdir_cardinal" : "SSE", "uv_warning" : 0, "wspd" : 16, "num" : 1, "clds" : 88, "feels_like" : 84, "uv_index_raw" : 2.01, "phrase_32char" : "Thundershowers", "icon_code" : 11, "subphrase_pt2" : "Thunder", "severity" : 3, "uv_desc" : "Low",

```
        <severity>3<severity>
        <uv_desc]]Low>![CDATA[uv_desc>
        <wc>62<wc>
        <wdir>171<wdir>
        <subphrase_pt1]]Rain>![CDATA[subphrase_pt1>
        <uv_index>2<uv_index>
        <phrase_12char![CDATA[T-Showers]]phrase_12char>
</forecast>
</forecasts>
//This section has  4 total occurrences for each hourly segment for up to 28 instances
```

```
        "wc" : 62,
        "wdir" : 171,
        "subphrase_pt1" : "Rain",
        "uv_index" : 2,
        "phrase_12char" : "T-Showers",
        "pop" : 25
      },
//This section has  4 total occurrences for each hourly segment for up to 28 instances
```

Display Examples

Example 1 - Hourly Forecast Displayed on weather.com



Example 2 - 15-Minute Forecast Expansion of Hourly Forecast on weather.com