

IBM-Weather Data Package Descriptions



The Weather Company Data Packages

Robust set of APIs to integrate weather into client applications, systems and processes

Core	Enhanced Current Conditions	Enhanced Forecast	Probabilistic Forecast	Severe Weather	Lightning	History on Demand (HoD)	Agriculture
Site based current conditions 10-Day Daily forecasts 48-Hr Hourly forecasts Weather Alerts Almanac Weather Imagery including radar and satellite Snow depth	Currents on Demand	Precipitation Forecast 15 Minute Forecast	Distributions out 15 days	Power Disruption Index	Recent lightning strikes	Historical weather data on demand with 4 km resolution	Reference Evapo Crop specific, Reference Evapo, Model Evapo, Soil Moisture, Soil Temperature
	Daily and Monthly Summaries		Temperature	Tropical Info		Cleaned Historical	Renewables (Wind & Solar)
	Personal Weather Station Observations	QPF (hourly accumulated precipitation)	Storm Reports	Wind Speed & Direction Air Density Irradiance			
	Gridded and current conditions data	Wind speed, gusts, direction	Strike, Hail Prediction	Seasonal Forecast			
		Dew point and relative humidity	Shear, Hail, Rain, Snow, Ice trailing estimates	Seasonal & Sub-seasonal 3-5 week and 1-7 month			
		Precipitation and snowfall	Lightning forecast	Traffic Data			
		Visibility	Fire Information	Traffic Services, Insights Trips, Road Safety, Truck & Fleet			
						Lifestyle Indices	
						Nearly 40 years of historical weather Hi-resolution precipitation	Air Quality , Pollen , Flu Outbreak, Tides, Aches & Pains, Breathing, Dry Skin, Frizz, Frost Potential Golf Heating & Cooling, Leisure Travel Running Weather, Ski, Static Electricity

Point-Based Data

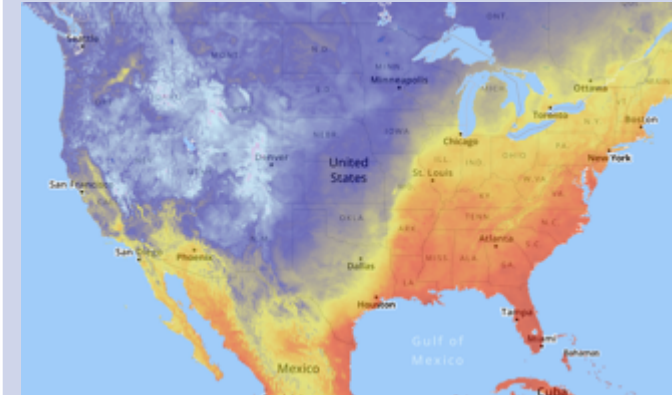
Data for specific location (.json, .xml and .csv output)



```
observations :  
{  
  "stationID": "KILCHICA16S",  
  "tz": "America/Chicago",  
  "obsTimeUtc": "2017-12-07T19:45:02Z",  
  "obsTimeLocal": "2017-12-07 13:45:02",  
  "epoch": 1512675902,  
  "lat": 41.89286041,  
  "lon": -87.64962769,  
  "solarRadiationHigh": null,  
  "uvHigh": null,  
  "winddirAvg": null,  
  "humidityHigh": 57,  
  "humidityLow": 57,  
  "humidityAvg": 57,  
  "imperial": {  
    "tempHigh": 40,  
    "tempLow": 40,  
    "tempAvg": 40,  
    "windspeedHigh": null,  
    "windspeedLow": null,  
    "windspeedAvg": null,  
  },  
}
```

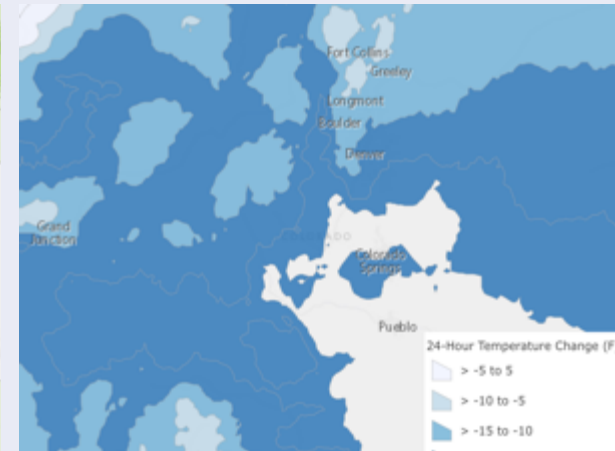
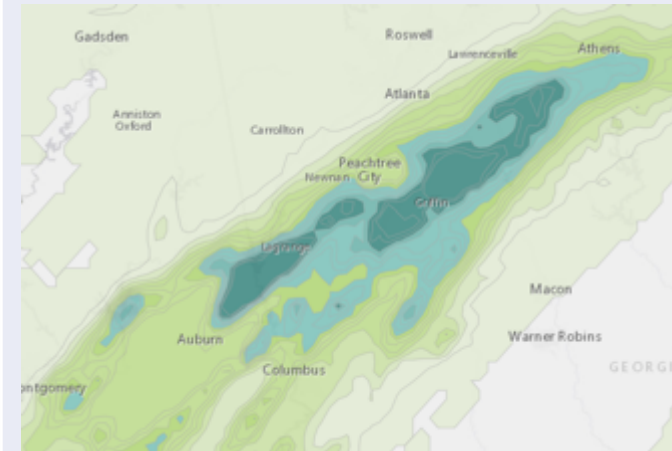
Imagery

Pre-rendered .png images ready to put on a base map



GIS Layers

Threshold-based calls like seasonal forecasts and custom maps.



Core Package Details

API Type	API Details	Spatial Resolution	Temporal Resolution	Geographic Coverage	Update Frequency	Documentation
Governmental Alerts	Alert Details	NA	As reported	US, Canada, Japan, Western Europe, Australia	As reported	https://goo.gl/sbSqMp
Governmental Alerts	Alert Headlines	NA	As reported	US, Canada, Japan, Western Europe, Australia	As reported	https://goo.gl/vjaqys
Daily Forecast	Daily Forecast (3 Day, 5 Day, 7 Day, 10 Day)	Down to 500 m*	Daily	Global	15 minutes	https://goo.gl/QBN6Rc
Hourly Forecast	48-Hour (2 Day) Hourly Forecast	Down to 500 m*	Hourly	Global	15 minutes	https://goo.gl/CwCEkJ
Intraday Forecast	Intraday Forecast (3 Day, 5 Day, 7 Day, 10 Day)	Down to 500 m*	4 times/day	Global	15 minutes	https://goo.gl/ZzU2cb
Almanac	Almanac - Daily	NA	Daily	US	Monthly	https://goo.gl/p8BqCl
Almanac	Almanac - Monthly	NA	Monthly	Global	Monthly	https://goo.gl/om8xp0
Current Conditions	Site-Based Current Conditions	NA-Site based	NA	Global	Typically hourly with some more frequent (station dependent)	https://goo.gl/vycisA
Current Conditions	Site-Based Time-Series Observations	NA-Site based	Hourly	Global	Typically hourly with some more frequent (station dependent)	https://goo.gl/1RWzPl
Weather Imagery	Current Conditions and Radar	4 km (radar 1km)	NA	Global	GCOD every 15 minutes Radar every 5 minutes	https://goo.gl/LXP7HM
Weather Imagery	Forecasts	4 km	Short range GFOD 15 minute time steps Long range GFOD hourly + multi hour/days	Global	Short range GFOD every 15 minutes long range GFOD every 60 minutes	https://goo.gl/LXP7HM
Weather Imagery	Watches and Warnings Vector Products	NA	As reported	US, Canada, Japan, Western Europe, Australia	As reported	https://goo.gl/7aUZio

*** Temperature and temp derived parameters are elevation adjusted to 500m globally; other parameters use the native resolution of the observation or forecast input(s).**

Sum of calls from each API in the Core Package contribute towards monthly allowance, which starts at 5 million calls

Enhanced Current Conditions Package Details

API Type	API Details	Spatial Resolution	Temporal Resolution	Geographic Coverage	Update Frequency	Documentation
Historical	Past 30 days Daily Summaries	Non-uniform, but down to 500 m	Daily	Global	Hourly	https://goo.gl/DwqaLW
Historical	Past 24 Hour Summary	Non-uniform, but down to 500 m	Hourly	Global	Hourly	https://goo.gl/NvkSgS
Current Conditions	Currents On Demand	Down to 500 m*	NA	Global	10 minutes	https://goo.gl/Qsukuf
Current Conditions Raster Tiles and Featurizer	Current Conditions - Gridded (Tiler) & Polygonal (Featurizer)	4 km	NA	Global	15 minutes	https://goo.gl/l7MXi8
Current Conditions	PWS Observations - Current Conditions	NA-Site based	NA	Global	as often as 5 minutes	https://goo.gl/ZUoqvC
Historical	PWS Daily Summary - 7 Day History	NA-Site based	Daily	Global	as often as 5 minutes	https://goo.gl/ma3c4T
Historical	PWS Recent History - 1 Day - Rapid History	NA-Site based	Hourly	Global	as often as 5 minutes	https://goo.gl/Sama1l
Historical	PWS Recent History - 7 Day - Hourly History	NA-Site based	Hourly	Global	as often as 5 minutes	https://goo.gl/naux4b

*** Temperature and temp derived parameters are elevation adjusted to 500m globally; other parameters use the native resolution of the observation or forecast input(s).**
This data package has 500M API calls/month limit

Enhanced Forecast Package Details

API Type	API Details	Spatial Resolution	Temporal Resolution	Geographic Coverage	Update Frequency	Documentation
Forecast	15-Day Daily Forecast	Down to 500 m*	Daily	Global	15 minutes	https://goo.gl/WywifJ
Forecast	15-Day Hourly Forecast	Down to 500 m*	Hourly	Global	15 minutes	https://goo.gl/ewnZLW
Forecast	Hourly Forecast - Enterprise	Down to 500 m*	Hourly	Global	15 minutes	https://goo.gl/YvpWb1
Forecast	15-Day Intraday Forecast	Down to 500 m*	4 times/day	Global	15 minutes	https://goo.gl/hYun7X
Forecast	15 Minute	Down to 500 m*	15 minute	Global	15 minutes	https://goo.gl/nb5XUx
Forecast	Nowcast	Down to 500 m*	Describes next 6 hour period	Global	15 minutes	https://goo.gl/G65500
Forecast	Precipitation	Down to 500 m*	15 minutes	Global	15 minutes	https://goo.gl/9qJBpN
Forecast	When Will It Rain	Down to 500 m*	15 minutes	Global	15 minutes	https://goo.gl/NaT8SG
Forecast Raster Tiles and Featurizer	Forecast - 15 Day - Gridded (Tiler) & Polygonal (Featurizer)	4 km	Short range GFOD 15 minute time steps Long range GFOD hourly + multi hour/days	Global	Short range GFOD every 15 minutes long range GFOD every 60 minutes	https://goo.gl/iY4A1o
Forecast	ECMWF Marine Forecast	20 km	3 hours for days 1-6; 6 hours from 7-10	Global	12 hours	https://goo.gl/Bbnoxu

* Temperature and temp derived parameters are elevation adjusted to 500m globally; other parameters use the native resolution of the observation or forecast input(s).

This data package has 500M API calls/month limit

Severe Weather Package Details

This data package has a 500M monthly call limit

API Type	API Details	Spatial Resolution	Temporal Resolution	Geographic Coverage	Update Frequency	Documentation
Alerts	Local Storm Reports (LSR)	As reported	NA	Global	Hourly	https://goo.gl/uLpaOj
Power Disruption Index	Power Disruption Index - Daypart - 15 Day	500 m	Hourly	Global	Hourly	https://goo.gl/tv4B3f
Forecast	Tropical - Projected Path	NA	NA	Global	As reported	https://goo.gl/xKCfCR
Forecast	Tropical - Historical Past Track	NA	NA	Global	NA	https://goo.gl/Xsn1JE
Forecast	Tropical Forecast - Cone	NA	NA	Global	As reported	https://goo.gl/4g4S6v
Current Conditions	Tropical - Current Position	NA	NA	Global	As reported	https://goo.gl/IXr65u
Weather imagery	Tropical Cyclone Probability - Forecast - 15 Day	80 km	Daily	Major Tropical Cyclone Regions	Twice Daily	https://goo.gl/t2zLFM
Weather imagery	HailVision - (30-Minute, 1-Hour, 2-Hour, 3-Hour, 6-Hour, 24-Hour)	1 km	Up to 30 minutes	US Only	Hourly	https://goo.gl/7bf7kz
Weather imagery	HailZone - 30-Minute	1 km	30 minutes	US Only	Hourly	https://goo.gl/gk7Vma
Weather imagery	IceVision - (1-Hour, 3-Hour, 6-Hour, 12-Hour, 24-Hour)	1 km	Up to 1 hour	US Only	Hourly	https://goo.gl/bkxMla
Weather imagery	Lightning StrikeZone - 30-Minute	1 km	Up to 1 hour	US Only	Hourly	https://goo.gl/UEw3Yt
Weather imagery	RainVision - (1-Hour, 3-Hour, 6-Hour, 12-Hour, 24-Hour)	1 km	Up to 1 hour	US Only	Hourly	https://goo.gl/HDX3AM
Weather imagery	ShearVision - 1-Hour	1 km	Hourly	US Only	Hourly	https://goo.gl/Ovu5QS
Weather imagery	SnowVision - (1-Hour, 3-Hour, 6-Hour, 12-Hour, 24-Hour)	1 km	Up to 1 hour	US Only	Hourly	https://goo.gl/jaU8Nr
Weather imagery	HailVision - (30-Minute, 1-Hour, 2-Hour, 3-Hour, 6-Hour, 24-Hour)	1 km	Up to 30 minutes	US Only	Hourly	https://goo.gl/t2zLFM
Forecast	Global Lightning Forecast	1 km	30 minute forecast	Global	5 minutes	https://goo.gl/uzdy1P
Conditions	Weather Imagery	OSPO HMS Fire	NA	Global	Irregular	https://goo.gl/5WrQoB
Conditions	Weather Imagery	OSPO HMS Smoke	NA	Global	Irregular	https://goo.gl/28fKR7
Conditions	Weather Imagery	Wildfire	NA	Global	Irregular	https://goo.gl/FExjng
Conditions	Weather Imagery	Earthquakes	NA	Global	Hourly	https://goo.gl/GywvNE
Conditions	Weather Imagery	GeoMAC Active Fire Perimeters	NA	US Only	Daily	https://goo.gl/YMDeqC

API Type	API Details	Geographic Coverage	Documentation
Air Quality	Data from multiple air quality sensor networks. Includes category, index and concentration for principal pollutants: Ozone, PM2.5, PM10, Carbon Monoxide, Nitrogen Dioxide and Sulfur Dioxide.	Global	https://goo.gl/mJnRmZ
Pollen	Data observations from available allergists offices on weekdays excluding holidays. Includes pollen count and index for all major pollen categories: Tree, Grass, Weed and Mold. Both current conditions and forecasts available.	US	https://goo.gl/UwqyWG and https://goo.gl/xu4oBU
Flu Outbreak Observations	Flu activity levels distributed weekly during flu season via the CDC. The data includes flu level descriptions and colors for available states and territorial geos.	US	https://goo.gl/8vYB6N
Tides	The U.S. Tides API returns marine tide predictions for up to the next 30 days for coastal locations in United States and its territories.	US	https://goo.gl/KuhH6i
Aches and Pains	The Aches and Pains index indicates the weather's influence on an individual's potential	Worldwide	https://goo.gl/PvD1Fe
Breathing	The Breathing index indicates weather's influence on the ability to breath for respiratory- sensitive individuals.	Worldwide	https://goo.gl/4boRly
Degree Days	15 day daily indices for heating degree days, cooling degree days and growing degree days.	Worldwide	https://goo.gl/2FPKtA
Driving Difficulty	The Driving Difficulty index provides indices of driving difficulty, or road weather conditions. Both current conditions and forecasts available.	Worldwide	https://goo.gl/pnbdhl and https://goo.gl/1CW2R7 and https://goo.gl/64InCp
Dry Skin	The Dry Skin index provides indices indicating likelihood that a person will experience dry skin based on weather conditions.	Worldwide	https://goo.gl/TU7136
Frizz	The Frizz Index provides indices indicating likelihood that a person will experience frizzy hair based on weather conditions.	Worldwide	https://goo.gl/OAbjdE
Frost Potential	The Frost Potential Index provides an indicex indicating likelihood of Frost.	Worldwide	https://goo.gl/VJExYp
Golf Index	The Golf Index provides an indices of golfing weather conditions. This index is also available as an hourly value out to 360 hours.	Worldwide	https://goo.gl/Lg7kJY and https://goo.gl/pWnkco
Heating and Cooling	The Heating and Cooling index provides indices describing the amount of heating/cooling that is required to maintain a comfortable indoor temperature, based on weather conditions.	Worldwide	https://goo.gl/D2ugV6
Leisure Travel	The Leisure Travel index provides indices of outdoor travel / sightseeing conditions due to weather. This index is also available as an hourly value out to 360 hours.	Worldwide	https://goo.gl/AwlptI
Running Weather	The Running Weather Index provides indices of outdoor running conditions due to weather – for short, and long runs. This index is also available as an hourly value out to 360 hours.	Worldwide	tts://goo.gl/0vP6q9 and https://goo.gl/krP8FV
Ski Index	The Ski Index provides indices of ski conditions due to weather.	Worldwide	https://goo.gl/LnAqFI
Static Electricity	The Static Electricity Index provides indices indicating the potential for static electricity based on weather conditions.	Worldwide	https://goo.gl/Sw4WP3
UV Index	The UV Index provides indices of the intensity of the solar radiation level and risk of skin damage due to exposure. Both current conditions and forecasts available.	Worldwide	https://goo.gl/7hJ0Q3 and https://goo.gl/8kVQWX and https://goo.gl/xXE969

Agriculture Package Details

API Type	API Details	Spatial Resolution	Temporal Resolution	Geographic Coverage	Update Frequency	Documentation
Degree Days	Degree Days Index - Daily - 15 Day	Down to 500 m	Daily	Global	15 minutes	https://goo.gl/2FPKtA
Frost Potential	Frost Potential Index - Daypart - 15 Day	Down to 500 m	12 hour dayparts	Global	15 minutes	https://goo.gl/VJExYp
Watering Needs	Watering Needs Index - Daypart - 10 Day	Down to 500 m	12 hour dayparts	Global	15 minutes	https://goo.gl/He2ymz
Hourly Forecast - Agriculture	Agriculture - Croptype Lookup	500 m	Hourly	Global	15 minute	https://goo.gl/fjswlY
Hourly Forecast - Agriculture	Contains soil moisture, soil temperature, and ET	500 m	Hourly	Global	15 minute	https://goo.gl/fjswlY
Hourly Forecast - Energy	15-Day Solar Energy - Hourly Forecast	500 m	Hourly	Global	15 minute	https://goo.gl/W4078Vt
15 Minute Solar	7-Day Solar Energy - 15 Minute Forecast	500 m	15 minute	Global	15 minute	https://goo.gl/LovGmr

This data package has 500M API calls/month limit
API calls are limited to 200 requests per second

Renewable Package Details

API Type	API Details	Spatial Resolution	Temporal Resolution	Geographic Coverage	Update Frequency	Documentation
Hourly Forecast – Wind Energy	Wind speed, direction, and density from 10 m to 260 m	500 m	Hourly	Global	15 minute	https://goo.gl/AtF4ku
Hourly Forecast – Solar Energy	15-Day Solar Energy - Hourly Forecast	500 m	Hourly	Global	15 minute	https://goo.gl/W4078Vt
15 Minute Solar	7-Day Solar Energy - 15 Minute Forecast	500 m	15 minute	Global	15 minute	https://goo.gl/LovGmr

This data package has 500M API calls/month limit
API calls are limited to 200 requests per second

Probablistic Forecast Package Details

API Type	API Details	Spatial Resolution	Temporal Resolution	Geographic Coverage	Update Frequency	Documentation
15-Day Probablistic Forecast	Full Probability Distribution Function, percentiles, probabilities and prototypes for temperature, dew point, precipitation, relative humidity, wind speed, wind direction, gusts, visibility, and snow	500 m	Hourly	Global	15 minute	https://goo.gl/dbBs9f

API calls are limited to 200 requests per second

Lightning Package Details

API Type	Geographic Coverage	Update Frequency	Documentation
Recent Lightning Strikes for Single Site	Within a 10 mile (16 km) radius of a desired location.	As often as every 15 seconds	https://goo.gl/bgCs77
Recent Lightning Strikes for Locality	Within a 25 mile (40 km) radius of a desired location.	As often as every 15 seconds	https://goo.gl/v2kYkU
Recent Lightning Strikes for Small Region	Within a 100 mile (160 km) radius of a desired location.	As often as every 15 seconds	https://goo.gl/vtRLs7
Recent Lightning Strikes for Large Region	Within a 200 mile (325 km) radius of a desired location.	As often as every 15 seconds	https://goo.gl/gLrq8J
Recent Lightning Strikes for US	Continental US	As often as every 15 seconds	https://goo.gl/7aecT6
Recent Lightning Strikes for Global	Global	As often as every 15 seconds	https://goo.gl/ZHf3Nd

This data package has 500M monthly call limit

History on Demand Package Details

API Type	API Details	Spatial Resolution	Time Horizon	Temporal Resolution	Geographic Coverage	Update Frequency	Documentation
Historical	History on Demand - Reanalysis	22.5 km	Since April 2011	Hourly	Global	Monthly - Up to the 1st of last month (ie. If November 22, latest date is October 1)	https://goo.gl/b44JFF
Historical	History on Demand - Conditions	4 km	Since July 2015	Hourly	Global	24 hours	https://goo.gl/262AUA
Historical	Historical Historical Data for Analytical Tooling	Zip code or 4 km, depending on location	Since July 2015	Daily	Request by Postal Key: Australia, Austria, Canada, France, Germany, Great Britain, Italy, Japan, Norway, Switzerland, CONUS Request by Geocode: Canada, CONUS	Daily	https://goo.gl/usxi9U

This data package has a 250 requests/minute limit for point based calls

Cleaned Historical Package Details

Product	Spatial Resolution	Geographic Coverage	Time Horizon	Temporal Resolution	Update Frequency	Documentation
Cleaned Historical METAR (available as API or bulk delivery)	NA-site based	Global	Varies by location, but as far back as 1979	Hourly Daily Monthly	2 times per Day <ul style="list-style-type: none">04:30UTC – Provides previous day hours 1200-2300 UTC18:30UTC – Provides same day hours 0000-1100 UTC	https://goo.gl/RJUotE
Cleaned Historical CFSR Reanalysis (available as API or bulk delivery)	30 km	Global	January 1979 to Present	Hourly Daily Monthly	4 times per Day <ul style="list-style-type: none">7:30UTC – provides same day hours 0000 through 0500UTC13:30UTC – provides same day hours 0600 through 1100UTC19:30UTC – provides same day hours 1200 through 1700UTC01:30UTC – provides previous day hours 1800 through 2300UTC	
Hi-Res Precipitation – 1 km (API only)	1 km	CONUS	1 km - June 2015 to Present	Hourly Daily Monthly	API updates hourly, but data feed updates every 2 hours	
Hi-Res Precipitation – 4 km (API only)	4 km	CONUS	4 km - January 2002 to Present	Hourly Daily Monthly	API updates hourly, but data feed updates every 43 hours	
Hi-Res Precipitation – 8 km (API only)	8 km	Global between 60°N and 60°S	8 km - December 2015 to Present	Hourly Daily Monthly	API updates hourly, but data feed updates every 19 hours	

This data package has a 250 requests/minute limit

Seasonal Package Details

API Type	API Details	Spatial Resolution	Temporal Resolution	Geographic Coverage	Update Frequency	Documentation
Weekly sub-seasonal weeks 3, 4 & 5	Temperature and precipitation departure from normal forecast for 7 day periods	110 km	Weekly	Global	Daily	https://goo.gl/fym8m0
30 day seasonal out to 7 months	Temperature and precipitation departure from normal forecast for 30 day periods	40 km	Monthly	Global	Twice/month	https://goo.gl/fym8m0
90 day seasonal out to 7 months	Temperature and precipitation departure from normal forecast for 90 day periods	40 km	90 days	Global	Twice/month	https://goo.gl/fym8m0
Climatology averages	Normal climatological values for temperature and precipitation for 30 day periods	27 km	Monthly	Global	Annual	https://goo.gl/9XkE8X

This data package has 500M API calls/month limit

Aggregation and Utility APIs

API Type	API Details	Documentation
Search	Location Services - Point	https://goo.gl/AHVSL3
Search	Location Services - Search	https://goo.gl/AHVSL3
Search	Location Services - Near	https://goo.gl/zcGMWW
Search	Location Services - Boundary	https://goo.gl/LC0ZV9
Aggregation	Aggregation Engine - Common Parameter	https://goo.gl/bhschM

Additional API Resources

Common Usage Guide: <https://goo.gl/xDJKPE>

Icon Codes and Icon Images: <https://goo.gl/G75I1Z>