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Service Change Notice 24-50  
National Weather Service Headquarters Silver Spring MD  
1150 AM EDT Wed May 15 2024

To:           Subscribers:  
              -NOAA Weather Wire Service  
              -Emergency Managers Weather Information Network  
              -NOAAPort  
              Other NWS Partners, Users and Employees

From:         George Jungbluth  
              Director, Office of Dissemination

Subject: Migration of JSON and DWML Data Services to NWS's API Application at api.weather.gov and Removal from forecast.weather.gov: Effective June 27, 2024

On or about June 27, 2024, at 1200 Coordinated Universal Time (UTC), the National Centers for Environmental Prediction (NCEP) Central Operations (NCO) will terminate the digitalDWML and digitalJSON data services on the Forecast application at forecast.weather.gov. The same data is available in a similar format from the NWS's Application Programming Interface (API) application at api.weather.gov. In the event of a Critical Weather Day (CWD) or an Enhanced Caution Event (ECE), any changes will proceed within five (5) business days after expiration. Users can find CWD/ECE status at the link below and should monitor the weather.gov website headline for updated notifications.

<https://www.nco.ncep.noaa.gov/status/cwd/>

To better support the public, the NWS is committed to improving services across all of its domains. As part of this effort, the Office of Dissemination (DIS) is working with NCO to update dissemination applications for security, reliability and utility, and as well as minimize duplication of efforts across multiple platforms.

Weather.gov is moving to new, secure hosting infrastructure within the NWS Integrated Dissemination Program, requiring redevelopment of much of the base code. As this transition occurs, NWS will be discontinuing the DWML and JSON format forecast that is available via the Forecast application at forecast.weather.gov in favor of the same data also on the API application at api.weather.gov. The mechanism to retrieve it and the differences in output will require updates from users to enable a full switch between the two applications.

The full documentation for the NWS's API application at api.weather.gov is available here:

<https://www.weather.gov/documentation/services-web-api>

Details:

The forecast for a location is available via a single call to `forecast.weather.gov` using the latitude and longitude coordinates for that location, like so:

```
https://forecast.weather.gov/MapClick.php?lat=$LAT&lon=$LON&FcstType=digital$FORMAT
```

Where `$LAT` is the latitude, `$LON` is the longitude, and `$FORMAT` is either DWML or JSON

The API needs two calls to retrieve that same data if referenced to latitude and longitude. The first is to cross reference the latitude/longitude pair to a Weather Forecast Office (WFO) and gridpoint (X/Y coordinates):

```
https://api.weather.gov/points/$LAT,$LON
```

Where `$LAT` is the latitude and `$LON` is the longitude

The second call uses the WFO and gridpoint to then retrieve the data:

```
https://api.weather.gov/gridpoints/$WFO/$gridX,$gridY/forecast/hourly
```

Where `$WFO` is the 3-letter identifier of the WFO for that location and `$gridX` and `$gridY` are the grid coordinates.

This process is detailed in the Examples tab of the API documentation site linked above.

The API application has many formats available, but by default will typically return either geoJSON or json-LD. Please see either the specification file at [api.weather.gov/openapi.json](https://api.weather.gov/openapi.json) or view the Specification tab at [www.weather.gov/documentation/services-web-api](https://www.weather.gov/documentation/services-web-api) for more information. NOTE: geoJSON and json-LD differ from the JSON output by the Forecast application, so users will most likely need additional work to ingest.

In order to retrieve the data in DWML format, users will need to add an Accept header to the second API call, as shown in the detailed example below.

Detailed Example:

Here is the current link to retrieve the forecast in DWML format via the Forecast application for Kansas City's Downtown:

```
https://forecast.weather.gov/MapClick.php?lat=39.2985&lon=-94.4597&FcstType=digitalDWML
```

Here is the link for JSON output for the same location:

```
https://forecast.weather.gov/MapClick.php?lat=39.2985&lon=-94.4597&FcstType=digitalJSON
```

In advance of termination of the above forecast digitalDWML and digitalJSON, users should update their systems to use the following calls

to the API for comparable data. The first call passes the latitude/longitude pair to the API to discover the WFO and gridpoint. Following the example of Kansas City's Downtown, users would first make this call to the API:

<https://api.weather.gov/points/39.2987,-94.4597>

Among other information, this will return the following Properties:

```
"gridId": "EAX",  
"gridX": 48,  
"gridY": 60,
```

These are then passed to the API to pull out the forecast data:

<https://api.weather.gov/gridpoints/EAX/48,60/forecast/hourly>

This will return the hourly forecast in GeoJSON format.

To retrieve the data in DWML format instead of the JSON forecast, users will add an Accept header with the value application/vnd.noaa.dwml+xml to the request. Users will need to consult the documentation for their program's HTTP library on how to add a request header.

Discussions about the API and its use can be found here:

<https://github.com/weather-gov/api/discussions>

Known Errors with the API:

DIS and NCO are aware of an issue where data retrieval from the API can fail, requiring a retry. Users should add error handling and a retry process into their scripts, adding a delay between retries to avoid overloading the API service. The development and implementation groups are working to implement a code update to address this issue. Full resolution of these errors is expected by this fall.

For problems or operational issues with the Forecast or API applications, please contact:

NCEP Central Operations Tech Control  
[nco.ops@noaa.gov](mailto:nco.ops@noaa.gov)

For questions about the details of the termination in this notice, please contact:

NCEP Central Operations  
Implementation and Data Services Branch, Onboarding Team  
[idp-feedback@noaa.gov](mailto:idp-feedback@noaa.gov)

or

[nws.webfeedback@noaa.gov](mailto:nws.webfeedback@noaa.gov)

National Service Change Notices are online at:

<https://www.weather.gov/notification/>

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