# Using ArcGIS Online to Improve TAF Situational Awareness

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### Importance

Terminal Aerodrome Forecasts (TAFs) provide customers with support to make financial and life-saving decisions.

TAFs are regularly issued by NWS to capture current and anticipated prevailing conditions at airport terminals during the following 24 or 30 hours.

Important for forecasters to remain situationally aware during variable weather conditions.



### **ArcGIS** Online

Online GIS platform by ESRI that allows users to collaborate and create interactive maps, apps, and perform analysis.

ArcGIS StoryMaps, Dashboards, Map Viewer, and Survey123 most commonly used.









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	Serial chart
$\otimes$	Pie chart
99!	Indicator
Ri	Gauge
	List
	Table
	Details
abc	Rich text

Embedded content

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### Diverse ways to visualize data!

### Data

WFO New Orleans/Baton Rouge has 8 TAF sites we issue for regularly!

MCB: McComb, MS GPT: Gulfport, MS BTR: Baton Rouge, LA HDC: Hammond, LA ASD: Slidell, LA MSY: Louis Armstrong New Orleans Intl. NEW: New Orleans Lakefront HUM: Houma, LA





### METAR stations ArcGIS Online shapefile (ingested via FFC AWIPS)

#### Important variables:

- ★ Local ID
- ★ Flight Category
- ★ Ceiling Height
- ★ Visibility

#### METAR Observation at KMSY

Local ID **KMSY** Reference Time 2/13/2023, 1:53 PM Temperature 69 Dewpoint Temperature 46 Relative Humidity 43 Wind Direction Wind Speed 5 Wind Gust -9999 10.00 Visibility Ceiling Height 250 Flight Category VFR

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## Methodology

ArcGIS Dashboard composed of:

- ★ Web Map (hosts METAR data)
- ★ Indicators (for Flight Category)
- ★ Gauges (for CIGS/VIS)

Uses filtering of Flight Categories at site to determine binary coding of 0 = VFR, 1 = Below VFR

Gauges color coded based on flight categories using AWC HEMS tool colors.

Framework developed by Matthew Beitscher at NWS St. Louis

Style for value at or above reference

### KBTR BELOW VFR

Last update: 1 minute ago

Style for value below reference



VSBY



CIG

250 0 100

### Formatting

8 total TAF sites = 8 copies of everything

Challenges with amount of space available with a lot of indicators and gauges.

Wanted to include a map element to be able to visualize conditions at neighboring METAR sites and outside the CWA.

Decided on expandable group options where both site indicators and map could be expanded or resized.

#### S WFO New Orleans/Baton Rouge TAF Situational Awareness Display



<b>KBTR</b> VFR	KMSY VFR	KMCB VFR	KGPT VFR	<b>KHUM</b> VFR	KASD VFR	KNEW VFR	KHDC VFR
VSBY	VSBY	VSBY	VSBY	VSBY	VSBY	VSBY	VSBY
10	10	0 10	10	7 10	0 10	0 10 10	0 10
CIG	CIG	CIG	CIG	CIG	CIG	CIG	CIG
Clear	250	Clear	Clear	Clear	Clear	Clear	Clear

## **Service Backup**

Interchangeable Local IDs within template of dashboard.

Copies made to create service backup dashboards for WFOs in Mobile, Lake Charles, and Jacksonville.

Highlights value in data sharing in AGOL to enable others to repurpose product templates like these.



## **Other GIS Support using AGOL**



Expanding GIS project support locally and abroad:

- ★ Climatological Analysis Dashboards
- ★ Flooding Inundation Mapping
- ★ Social Vulnerability
- ★ Service Backup Situational Awareness
- ★ Mutual Aid for other WFOs

### **New AWC Resources**

#### https://beta.aviationweather.gov/gfa/#taf



#### https://beta.aviationweather.gov/data/example/

#### Data API Examples

Below are listed examples for each of the data API scripts. You can also use the API builder to construct your own requests



#### AREA FORECAST DISCUSSION National Weather Service Kansas City/Pleasant Hill MO 543 PM CST Wed Feb 22 2023

.Discussion... Issued at 256 PM CST WED FEB 22 2023

Overview:

Much colder temperatures arrive tonight behind the cold front. Expect Thursday morning wind chills in the single digits. Below normal temperatures will continue through Friday, but 50s and 60s are expected to return by the weekend. Our next chances for showers and thunderstorms will arrive Sunday night into Monday.

## **Thank You!**

Questions or comments?

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