

# Localized Aviation Model Output Statistics (MOS) Program (LAMP) Onset/Cessation of Flight Categories (FC) AWDE User Assessment

Presented to: FPAW

By: AWDE Services Team

Date: November 2023



**Federal Aviation  
Administration**

# Introduction

This research is in response to requirements and funding by the Federal Aviation Administration (FAA). The views expressed are those of the authors and do not necessarily represent the official policy or position of the FAA.



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# Introduction

- The Aviation Weather Division (AWD), is funding research to refine the Localized Aviation Model Output Statistics (MOS) Program (LAMP) capability to address Traffic Flow Managers (TFM) need for the onset and cessation of flight categories.
- The National Oceanic and Atmospheric Administration's (NOAA) Meteorological Development Laboratory (MDL) developed a text-based product and graphic.
- The text and graphic solutions were developed and integrated into a website hosted by the Aviation Weather Center (AWC) Testbed.
- The text-based solution is similar to the currently used LAMP bulletin and the graphic solution provides a visual display presenting flight category (FC) information.



# Introduction

- Prior to further development, there is a need to determine if the text and graphic solutions meet the FAA functional requirements by determining if the solutions are suitable for use, provide adequate information to determine the onset and cessation of the FCs, and to determine which type of users would benefit from using the information.



# Objectives

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# Objectives

- Determine if the text and graphic solutions support decision making.
  - Determine if the text and graphic solutions have all the information necessary to support decision making.
  - Determine if the text and/or graphic solution are better suited to support decision making.
- Determine if the text and graphic solutions are easy to use.
  - Determine if information can be easily found.
  - Determine if information is easy to understand.



# Text and Graphic Solutions

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# Text Bulletin

“+” = Onset  
“/” = Cessation

VL = VLIFR  
L = LIFR  
I = IFR  
M = MVFR  
V = VFR

Flight Categories

Probabilities???

Aviation Weather Center Weather Products Tools Connect

## Onset/Cessation Text Bulletin

IDs:  [Load data](#) [Impacts](#) [API](#) [Raw data](#)

KLAX LOS ANGELES GFS LAMP 1930 UTC 5/23/2023

UTC	19	20	20	20	21	21	21	21	22	22	22	22	23	23	23	23	00	00	00	01	01	01		
MIN	45	00	15	30	45	00	15	30	45	00	15	30	45	00	15	30	45	00	15	30	45	00	15	30
FLT	I	I	I	I	I	I	I	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
MVF																								
IFR																								
CIG	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
VIS	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	
CPVL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	
CPL	1	2	4	5	3	5	4	3	3	3	3	3	3	1	0	0	1	4	4	6	6	6	7	
CPI	88	79	64	57	51	45	42	35	31	31	33	27	20	29	20	22	25	23	25	24	24	27	29	
CP2K	8	15	27	26	31	36	34	31	34	35	33	31	35	41	33	34	32	35	30	30	30	33	30	
CPM	1	3	4	11	13	9	10	10	9	9	15	11	16	13	14	13	9	9	10	12	13	9	9	
CPVFR	2	1	1	1	2	5	10	21	23	22	16	28	26	16	33	31	32	29	31	28	27	25	22	
VPVL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
VPL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	4	3	2	3	0	1	1	
VPI	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2	2	3	4	3	2	
VPM	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	8	5	6	8	11	14	2	
VPVFR	99	99	99	99	99	99	99	99	99	99	99	99	99	99	98	98	89	89	89	87	82	83	95	

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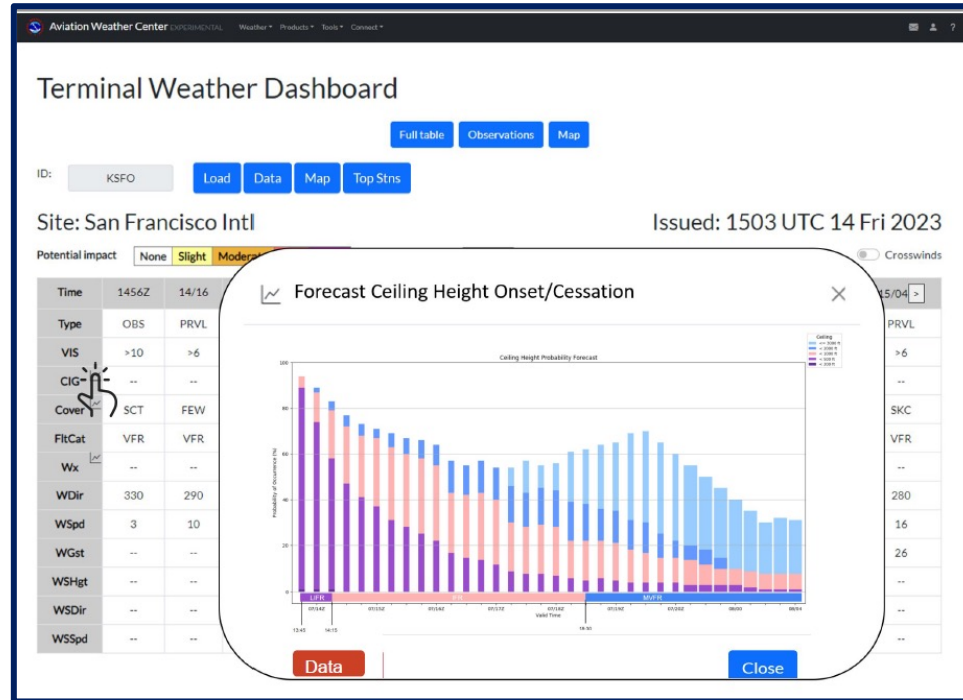




# Graphic

Y-axis - Probabilities

Ceiling Heights:  
< 200 ft. – dark purple, <  
500 ft. – purple  
< 1,000 ft. – pink  
< 2,000 ft. - dark blue,  
< = 3,000 ft – light blue



X-axis - Onset/Cessation  
is displayed above the  
time stamps:  
LIFR – purple  
IFR – pink  
MVFR – blue



# Text Bulletin

Who has used or are aware of the LAMP Text Bulletin?

Aviation Weather Center Weather Products Tools Connect

## Onset/Cessation Text Bulletin

IDs: **KLAX** Load data Impacts API Raw data

KLAX LOS ANGELES GFS LAMP 1930 UTC 5/23/2023

UTC	19	20	20	20	20	21	21	21	21	22	22	22	22	23	23	23	23	00	00	00	01	01	01	
MIN	45	00	15	30	45	00	15	30	45	00	15	30	45	00	15	30	45	00	15	30	45	00	15	30
FLT	I	I	I	I	I	I	I	I	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
MVF	+-----																							
IFR	-----/																							
CIG	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
VIS	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
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CPVFR	2	1	1	1	2	5	10	21	23	22	16	28	26	16	33	31	32	29	31	28	27	25	25	22
VPVL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VPL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	4	3	2	3	0	1	1	1
VPI	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2	2	3	4	3	2	1
VPM	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	8	5	6	8	11	14	2	13
VPVFR	99	99	99	99	99	99	99	99	99	99	99	99	99	99	98	98	89	89	89	87	82	83	95	85

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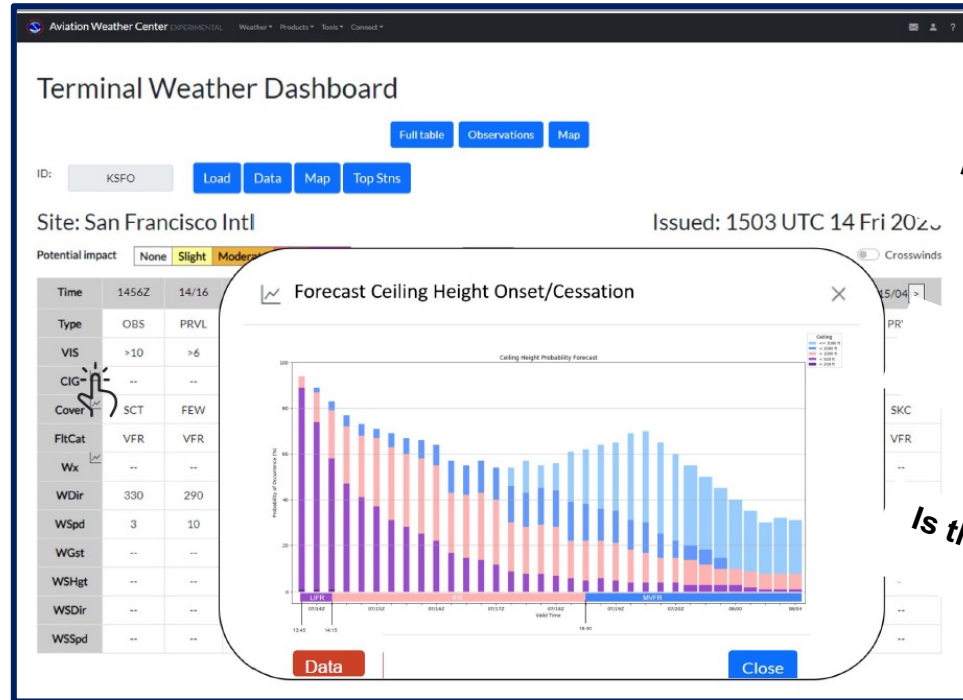
Is it easy to determine the onset/cessation?

Is it easy to interpret the probabilities?

Are the "+", "p" and "-" easy to interpret?

Does this product provide all the information you need related to low clouds and restricted visibility at the Core 30 airports? What improvements or additional information would you need?

# Graphic



Is it easy to determine the onset/cessation?

Is it easy to interpret the probabilities?

Is the graphic solution easy to use?

Does this product provide all the information you need related to low clouds and restricted visibility at the Core 30 airports? What improvements or additional information would you need?



# Questions

Do you prefer seeing probabilities text-based or depicted graphically using colors? Why?

Who are the users of onset/cessation of FC information and what is the best way to receive the information (website, ingested directly into systems)?

Do you prefer using the graphic or text to determine the onset and cessation times? Why?

