



1
00:00:06,840 --> 00:00:08,208
>> LIGHTNING CAN PROVE TO BE

2
00:00:08,208 --> 00:00:10,076
A DANGEROUS WORK HAZARD,

3
00:00:10,076 --> 00:00:11,511
ESPECIALLY WHEN TECHNOLOGY

4
00:00:11,511 --> 00:00:12,812
IS INVOLVED.

5
00:00:12,812 --> 00:00:13,713
HERE AT

6
00:00:13,713 --> 00:00:15,048
MARSHALL SPACE FLIGHT CENTER,

7
00:00:15,048 --> 00:00:16,883
WE AVERAGE 80 TO A 100 DAYS

8
00:00:16,883 --> 00:00:18,184
A YEAR IN WHICH LIGHTNING

9
00:00:18,184 --> 00:00:20,754
VIOLATES THE 9 TO 19 MILE RANGE

10
00:00:20,754 --> 00:00:21,788
USED TO ISSUE

11
00:00:21,788 --> 00:00:22,989
LIGHTNING WARNINGS.

12
00:00:22,989 --> 00:00:23,923
WITH THE CURRENT PRACTICE

13
00:00:23,923 --> 00:00:25,358

AT THE CENTER, THE EOC

14

00:00:25,358 --> 00:00:26,826
HAS TO WAIT 30 MINUTES

15

00:00:26,826 --> 00:00:28,528
TO RE-OPEN OUTDOOR ACTIVITIES

16

00:00:28,528 --> 00:00:30,830
AFTER THE LAST LIGHTNING FLASH.

17

00:00:30,830 --> 00:00:32,966
AT MSFC, WE WANT TO DETERMINE

18

00:00:32,966 --> 00:00:35,835
THE 96.5% OF THE TIME

19

00:00:35,835 --> 00:00:37,137
WHERE THE THREAT OF LIGHTNING

20

00:00:37,137 --> 00:00:38,471
IS OVER SO THAT FOLKS

21

00:00:38,471 --> 00:00:40,440
CAN GET BACK TO WORK.

22

00:00:40,440 --> 00:00:42,075
WE WILL ASSESS WHICH COMBINATION

23

00:00:42,075 --> 00:00:43,643
OF RADAR, SATELLITE,

24

00:00:43,643 --> 00:00:45,078
AND LIGHTNING INPUTS

25

00:00:45,078 --> 00:00:46,679
PROVIDE THE BEST INDICATORS

26
00:00:46,679 --> 00:00:47,814
THAT LIGHTNING HAS CEASED

27
00:00:47,814 --> 00:00:49,849
OVER MSFC, POTENTIALLY

28
00:00:49,849 --> 00:00:51,584
PROVIDING AN EARLY CANCELLATION

29
00:00:51,584 --> 00:00:52,786
OF THE 30 MINUTE

30
00:00:52,786 --> 00:00:54,454
STAND DOWN PERIOD.

31
00:00:54,454 --> 00:00:55,555
THIS PROJECT WILL USE

32
00:00:55,555 --> 00:00:57,090
REMOTELY SENSED SATELLITE,

33
00:00:57,090 --> 00:00:59,159
RADAR, AND LIGHTNING DATA

34
00:00:59,159 --> 00:01:00,593
THROUGH MACHINE LEARNING

35
00:01:00,593 --> 00:01:02,095
TECHNIQUES TO PROVIDE METRICS

36
00:01:02,095 --> 00:01:04,297
BY WHICH KEY DECISION MAKERS

37
00:01:04,297 --> 00:01:05,665
MAY MINIMIZE CLOSURE

38
00:01:05,665 --> 00:01:07,867

OF MSFC OUTDOOR OPERATIONS

39

00:01:07,867 --> 00:01:09,936
DUE TO THE THREAT OF LIGHTNING.

40

00:01:09,936 --> 00:01:11,504
ULTIMATELY, WE BELIEVE

41

00:01:11,504 --> 00:01:13,540
THAT THIS ALGORITHM TECHNOLOGY

42

00:01:13,540 --> 00:01:14,774
WILL SAVE THE CENTER

43

00:01:14,774 --> 00:01:16,543
COST DUE TO LOST TIME FROM

44

00:01:16,543 --> 00:01:18,344
UNNECESSARY DOWN TIME FROM

45

00:01:18,344 --> 00:01:20,346
A PERCEIVED LIGHTNING THREAT.

46

00:01:20,346 --> 00:01:22,248
CONSERVATIVE COST ESTIMATES

47

00:01:22,248 --> 00:01:23,783
HAVE THIS ON THE ORDER OF

48

00:01:23,783 --> 00:01:25,952
A MILLION DOLLARS PER YEAR.

49

00:01:25,952 --> 00:01:26,920
THE DEVELOPMENT OF

50

00:01:26,920 --> 00:01:28,121
A DYNAMIC LIGHTNING SAFETY

51
00:01:28,121 --> 00:01:30,190
ALGORITHM IS TRANSFORMATIVE

52
00:01:30,190 --> 00:01:31,291
IN THAT IT WILL USE

53
00:01:31,291 --> 00:01:33,092
NEW ANALYTICAL METHODS

54
00:01:33,092 --> 00:01:34,360
AND STATE OF THE ART

55
00:01:34,360 --> 00:01:36,596
DATA PRODUCTS TO REVOLUTIONIZE

56
00:01:36,596 --> 00:01:37,730
HOW DECISION MAKERS

57
00:01:37,730 --> 00:01:40,066
CAN CONFIDENTLY AND ACCURATELY

58
00:01:40,066 --> 00:01:42,135
MAKE DECISIONS ABOUT LIGHTNING

59
00:01:42,135 --> 00:01:43,436
WHILE WORKING TO MINIMIZE

60
00:01:43,436 --> 00:01:44,737
THE IMPACT OF NATURE

61
00:01:44,737 --> 00:01:46,673
ON MARSHALL OPERATIONS.

62
00:01:46,673 --> 00:01:48,441
ULTIMATELY, THE LIGHTNING SAFETY

63
00:01:48,441 --> 00:01:50,143

ALGORITHM WILL HOPEFULLY

64

00:01:50,143 --> 00:01:51,478

MAKE COMMUNITIES ACROSS

65

00:01:51,478 --> 00:01:53,213

THE UNITED STATES, NOT JUST

66

00:01:53,213 --> 00:01:55,081

AT MARSHALL SPACE FLIGHT CENTER,

67

00:01:55,081 --> 00:01:56,583

SAFER DUE TO TRACKING

68

00:01:56,583 --> 00:01:59,285

OF POSSIBLE LIGHTNING THREATS.

69

00:01:59,285 --> 00:02:01,154

IMPORTANTLY, TAXPAYERS

70

00:02:01,154 --> 00:02:02,355

WILL BE SAVING MONEY

71

00:02:02,355 --> 00:02:03,590

AS THIS NEW TECHNOLOGY

72

00:02:03,590 --> 00:02:05,458

IS BEING IMPLEMENTED.

73

00:02:05,458 --> 00:02:07,093

AS ALWAYS, OUR NUMBER ONE GOAL

74

00:02:07,093 --> 00:02:08,094

AT MARSHALL,

75

00:02:08,094 --> 00:02:09,362

AND AT NASA AS A WHOLE,

76

00:02:09,362 --> 00:02:10,830

IS TO KEEP OUR EMPLOYEES

77

00:02:10,830 --> 00:02:12,565

IN A SAFE WORK ENVIRONMENT,