
CAT

1
00:00:12,070 --> 00:00:07,670
a monsoon is a

2
00:00:17,430 --> 00:00:15,270
it is classified in terms of a

3
00:00:21,910 --> 00:00:17,440
prevailing strong winds

4
00:00:23,029 --> 00:00:21,920
that reverse distinctly as the season

5
00:00:26,310 --> 00:00:23,039
and also

6
00:00:28,230 --> 00:00:26,320
it is described by a very distinct wet

7
00:00:31,109 --> 00:00:28,240
and dry season

8
00:00:35,270 --> 00:00:31,119
the rainfall that fall within that wet

9
00:00:37,430 --> 00:00:35,280
season should should be more than 60

10
00:00:39,350 --> 00:00:37,440
of the entire year

11
00:00:40,950 --> 00:00:39,360
the fundamental drive for the monsoon

12
00:00:42,630 --> 00:00:40,960
both in india and other parts of the

13
00:00:44,549 --> 00:00:42,640

world is that there's a large area of

14
00:00:46,630 --> 00:00:44,559
land which gets warm compared to their

15
00:00:48,869 --> 00:00:46,640
surrounding ocean and that surrounding

16
00:00:51,029 --> 00:00:48,879
ocean provides the moisture which is

17
00:00:53,990 --> 00:00:51,039
then driving the precipitation that

18
00:00:56,470 --> 00:00:54,000
constitutes what we think of as monsoon

19
00:00:58,549 --> 00:00:56,480
if you simply look at asian monsoon you

20
00:01:01,029 --> 00:00:58,559
can estimate and various estimate more

21
00:01:03,430 --> 00:01:01,039
than 60 percent of the world population

22
00:01:06,789 --> 00:01:03,440
live in right in that area

23
00:01:09,190 --> 00:01:06,799
and the monsoon the water provided fresh

24
00:01:11,190 --> 00:01:09,200
water supply for this population not

25
00:01:13,510 --> 00:01:11,200
just for the daily life for agriculture

26
00:01:16,550 --> 00:01:13,520
for the for the industry and so the

27
00:01:19,109 --> 00:01:16,560
entire region the people's livelihood

28
00:01:22,469 --> 00:01:19,119
depend on the very delicate balance of

29
00:01:24,390 --> 00:01:22,479
the water balance in that region

30
00:01:26,950 --> 00:01:24,400
gpm gives us a chance to look at

31
00:01:28,870 --> 00:01:26,960
precipitation around the world and so in

32
00:01:30,950 --> 00:01:28,880
addition to the hurricanes and typhoons

33
00:01:32,870 --> 00:01:30,960
we're also looking at the monsoons

34
00:01:34,950 --> 00:01:32,880
because those storm systems are very

35
00:01:35,910 --> 00:01:34,960
important for driving floods

36
00:01:37,990 --> 00:01:35,920
and

37
00:01:39,350 --> 00:01:38,000
the advancements in gpm will allow us to

38
00:01:41,109 --> 00:01:39,360

do a better job of providing

39
00:01:43,190 --> 00:01:41,119
precipitation information so they can

40
00:01:45,190 --> 00:01:43,200
make better forecasts of the floods

41
00:01:48,069 --> 00:01:45,200
monsoon is not just simply a local

42
00:01:50,710 --> 00:01:48,079
problem a curiosity it actually has a

43
00:01:52,789 --> 00:01:50,720
huge amount of societal

44
00:01:54,550 --> 00:01:52,799
impact in terms of how it changes in

45
00:01:57,190 --> 00:01:54,560
that region the economy in that region

46
00:01:58,709 --> 00:01:57,200
can affect the entire world as well as

47
00:01:59,990 --> 00:01:58,719
many many things that happen in that

48
00:02:03,670 --> 00:02:00,000
region

49
00:02:06,709 --> 00:02:03,680
gpm has the most advanced duo frequency

50
00:02:09,109 --> 00:02:06,719
radar that actually measures the

51
00:02:11,029 --> 00:02:09,119
vertical structure of the ring for

52
00:02:13,190 --> 00:02:11,039
itself and that's very important

53
00:02:16,390 --> 00:02:13,200
the dpr gives us an unprecedented

54
00:02:17,910 --> 00:02:16,400
capability of teasing out relative sizes

55
00:02:19,910 --> 00:02:17,920
of particles and this is really

56
00:02:22,710 --> 00:02:19,920
important for understanding how the

57
00:02:25,430 --> 00:02:22,720
microphysics the the rain process works

58
00:02:27,350 --> 00:02:25,440
and the snow process and also how those

59
00:02:29,589 --> 00:02:27,360
can then be represented in numerical

60
00:02:31,830 --> 00:02:29,599
models that are critical for forecasting

61
00:02:34,790 --> 00:02:31,840
future events to study the monsoon one

62
00:02:36,470 --> 00:02:34,800
thing we didn't know is to note what we

63
00:02:38,150 --> 00:02:36,480

call the predictability in the monsoon

64
00:02:40,070 --> 00:02:38,160
how well can we predict the monsoon at

65
00:02:42,550 --> 00:02:40,080
that time and in order to do the

66
00:02:44,869 --> 00:02:42,560
prediction we need to have to know the

67
00:02:47,670 --> 00:02:44,879
variability very well this ranges from

68
00:02:50,229 --> 00:02:47,680
daily to weekly seasonal and then to

69
00:02:52,790 --> 00:02:50,239
what we call decadal variability the

70
00:02:54,710 --> 00:02:52,800
monsoon was first named in india

71
00:02:56,150 --> 00:02:54,720
but it turns out that the same driving

72
00:02:58,630 --> 00:02:56,160
force happens in other parts of the

73
00:03:01,270 --> 00:02:58,640
world and so for example in the northern

74
00:03:03,589 --> 00:03:01,280
hemisphere summer you have monsoon in

75
00:03:06,550 --> 00:03:03,599
west africa you have the monsoon in

76
00:03:08,309 --> 00:03:06,560
southwestern north america and then in

77
00:03:10,949 --> 00:03:08,319
our winter the southern hemisphere

78
00:03:13,110 --> 00:03:10,959
summer there's a monsoon that happens

79
00:03:15,030 --> 00:03:13,120
across northern australia

80
00:03:17,589 --> 00:03:15,040
the great thing about gpm is it allows

81
00:03:19,190 --> 00:03:17,599
you to see the orange systems as a whole

82
00:03:20,710 --> 00:03:19,200
you get to see them over the ocean and

83
00:03:22,869 --> 00:03:20,720
over the land you can see what the

84
00:03:24,869 --> 00:03:22,879
transitions are and so even before it

85
00:03:27,110 --> 00:03:24,879
gets to land where we have surface

86
00:03:29,670 --> 00:03:27,120
observations we can tell what's going to

87
00:03:31,270 --> 00:03:29,680
come in we can see what's been happening

88
00:03:32,789 --> 00:03:31,280

and of course scientifically that also

89
00:03:34,630 --> 00:03:32,799
allows us to understand the complete