



Hubble's Inside The Image
Mystic Mountain



1
00:00:00,299 --> 00:00:04,440
foreign

2
00:00:04,450 --> 00:00:09,890
[Music]

3
00:00:15,550 --> 00:00:12,709
this image is one of the most iconic of

4
00:00:19,970 --> 00:00:15,560
all Hubble images called Mystic Mountain

5
00:00:21,470 --> 00:00:19,980
and it is a place of enormously Active

6
00:00:23,330 --> 00:00:21,480
Star formation

7
00:00:25,730 --> 00:00:23,340
[Music]

8
00:00:29,089 --> 00:00:25,740
this entire pillar is about three light

9
00:00:31,370 --> 00:00:29,099
years in duration that means it's so

10
00:00:34,910 --> 00:00:31,380
long that it takes light traveling at

11
00:00:37,670 --> 00:00:34,920
186 000 miles per second

12
00:00:40,010 --> 00:00:37,680
takes it three years to go from bottom

13
00:00:43,369 --> 00:00:40,020

to top and the entire area is filled

14

00:00:45,350 --> 00:00:43,379

with this really condensed collection of

15

00:00:47,150 --> 00:00:45,360

dust and gas that's created this Stellar

16

00:00:49,490 --> 00:00:47,160

Nursery

17

00:00:51,650 --> 00:00:49,500

we see on the outside edge here where

18

00:00:54,650 --> 00:00:51,660

the material is heated and evaporating

19

00:00:56,810 --> 00:00:54,660

off the surface of the cloud but you

20

00:00:58,850 --> 00:00:56,820

also have Stellar winds that are

21

00:01:00,770 --> 00:00:58,860

sculpting this like a like a

22

00:01:04,310 --> 00:01:00,780

Michelangelo that would be sculpting a

23

00:01:06,170 --> 00:01:04,320

statue knocking pieces of the nebula off

24

00:01:08,510 --> 00:01:06,180

into Interstellar space so we have a

25

00:01:11,030 --> 00:01:08,520

mechanical sculpting process along with

26
00:01:13,850 --> 00:01:11,040
a heating process from radiation coming

27
00:01:16,250 --> 00:01:13,860
off of the Stars so the two together are

28
00:01:19,910 --> 00:01:16,260
what combine to create this gloriously

29
00:01:24,710 --> 00:01:22,190
you see these Jets coming out of two

30
00:01:28,070 --> 00:01:24,720
sides of that top pillar and down here

31
00:01:31,010 --> 00:01:28,080
again those are signatures of stars

32
00:01:33,890 --> 00:01:31,020
actually forming material is coming down

33
00:01:35,929 --> 00:01:33,900
collapsing onto the star and getting

34
00:01:38,929 --> 00:01:35,939
heated up and when it tries to get out

35
00:01:42,350 --> 00:01:38,939
it has to shoot out in Jets

36
00:01:44,030 --> 00:01:42,360
this bow shape that is actually a shock

37
00:01:46,249 --> 00:01:44,040
wave from the material in the jet

38
00:01:48,350 --> 00:01:46,259

hitting the interstellar medium and

39

00:01:50,210 --> 00:01:48,360

heating it up one of one of the best

40

00:01:51,889 --> 00:01:50,220

images I think that we've we've gotten

41

00:01:54,590 --> 00:01:51,899

but this one is just the right angle

42

00:01:57,530 --> 00:01:54,600

that you get a gorgeous view of it

43

00:02:00,770 --> 00:01:57,540

it's it's become an iconic image I think

44

00:02:03,109 --> 00:02:00,780

for several reasons uh one is that it

45

00:02:05,569 --> 00:02:03,119

has such incredible detail in there but

46

00:02:08,089 --> 00:02:05,579

also because it holds a Fascination as

47

00:02:10,910 --> 00:02:08,099

being a place where we can actually see

48

00:02:13,610 --> 00:02:10,920

Stellar systems forming before our eyes

49

00:02:15,650 --> 00:02:13,620

it's also famous I think because of its

50

00:02:18,470 --> 00:02:15,660

sheer Beauty I mean there's a lot of Art

51

00:02:20,990 --> 00:02:18,480

in Hubble images a large fraction of the

52

00:02:23,570 --> 00:02:21,000

value of Hubble is not just to give us

53

00:02:25,800 --> 00:02:23,580

the science data that we need but it's