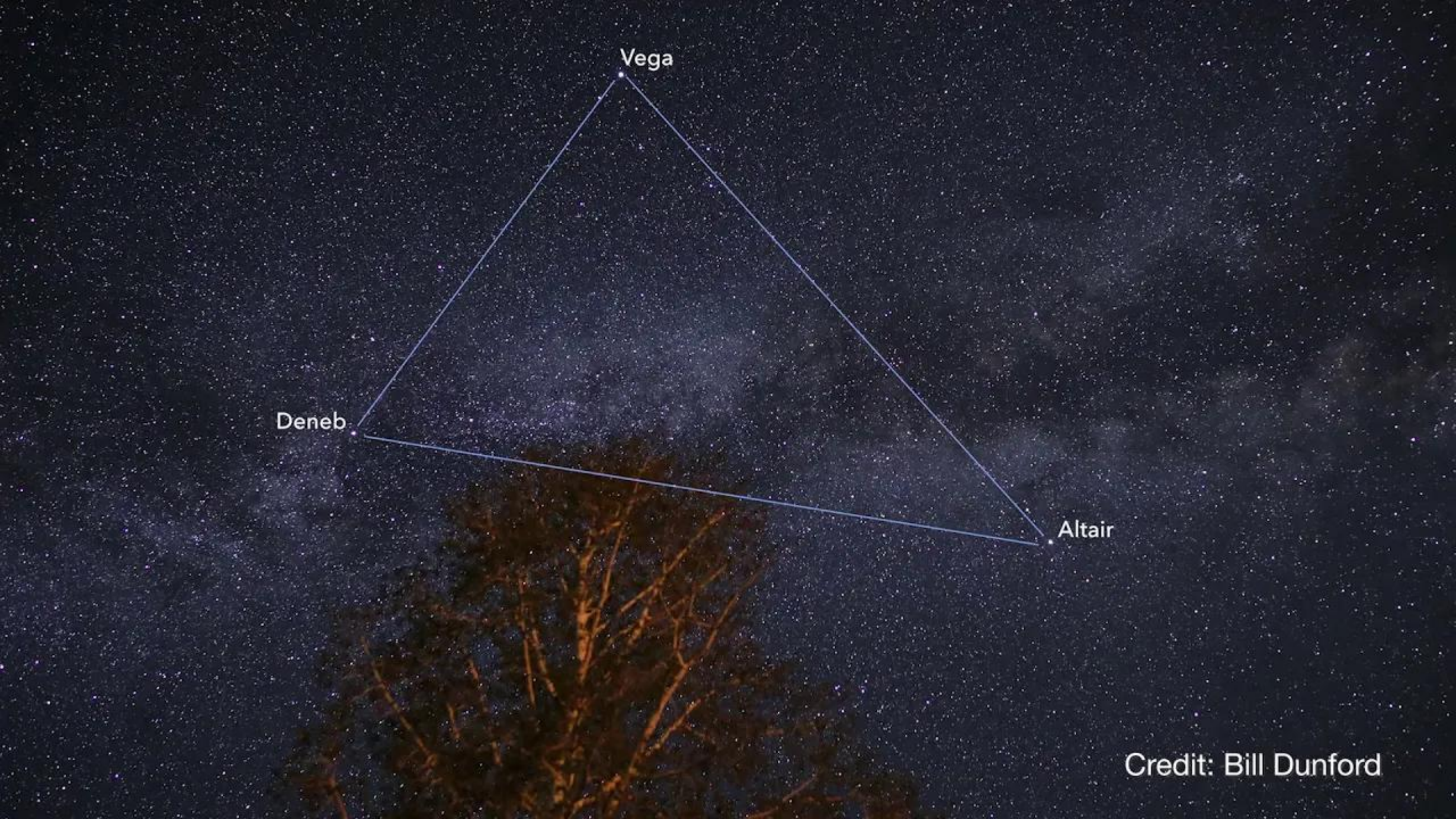
Vega
Deneb
Altair
Credit: Bill Dunford

1
00:00:05,550 --> 00:00:01,939
[Music]

2
00:00:08,330 --> 00:00:05,560
what's up for June the stars of the

3
00:00:10,410 --> 00:00:08,340
summer triangle the June solstice and

4
00:00:13,740 --> 00:00:10,420
checking in with the planets in the

5
00:00:15,540 --> 00:00:13,750
pre-dawn sky one of the easiest sites to

6
00:00:18,210 --> 00:00:15,550
spot this time of year is the summer

7
00:00:20,490 --> 00:00:18,220
triangle like the Big Dipper and the

8
00:00:22,890 --> 00:00:20,500
teapot it's what's called an asterism a

9
00:00:25,440 --> 00:00:22,900
familiar pattern of stars that isn't one

10
00:00:27,390 --> 00:00:25,450
of the 88 official constellations the

11
00:00:30,410 --> 00:00:27,400
summer triangle is made up of the three

12
00:00:32,790 --> 00:00:30,420
very bright stars Vega Altair and Deneb

13
00:00:35,189 --> 00:00:32,800

this means it's visible even in areas

14
00:00:37,020 --> 00:00:35,199
that have a lot of light pollution the

15
00:00:39,149 --> 00:00:37,030
summer triangle is a helpful guide post

16
00:00:41,069 --> 00:00:39,159
to the location of the Milky Way since

17
00:00:43,439 --> 00:00:41,079
part of the galaxy's dense band of stars

18
00:00:46,410 --> 00:00:43,449
stretches between Vega and Altair and

19
00:00:48,479 --> 00:00:46,420
the area between Vega and Deneb is also

20
00:00:50,610 --> 00:00:48,489
special because it's the part of the sky

21
00:00:52,680 --> 00:00:50,620
where NASA's Kepler mission pointed its

22
00:00:55,529 --> 00:00:52,690
telescope and discovered thousands of

23
00:00:57,569 --> 00:00:55,539
exoplanets to find the summer triangle

24
00:01:00,360 --> 00:00:57,579
in June look toward the east in the

25
00:01:02,099 --> 00:01:00,370
couple of hours after sunset by midnight

26
00:01:03,899 --> 00:01:02,109
it'll be relatively high in the sky

27
00:01:06,090 --> 00:01:03,909
climbing upward each night throughout

28
00:01:07,980 --> 00:01:06,100
the summer and by August it'll be

29
00:01:10,319 --> 00:01:07,990
directly overhead if you step outside to

30
00:01:11,700 --> 00:01:10,329
have a look around 9 p.m. so keep an eye

31
00:01:14,999 --> 00:01:11,710
out for the summer triangle throughout

32
00:01:15,690 --> 00:01:15,009
the season the June solstice is on the

33
00:01:17,459 --> 00:01:15,700
20th

34
00:01:19,740 --> 00:01:17,469
meaning summer is here in the northern

35
00:01:22,170 --> 00:01:19,750
hemisphere while winter has come to the

36
00:01:24,179 --> 00:01:22,180
southern hemisphere over the course of

37
00:01:26,910 --> 00:01:24,189
each year the sun's path across the sky

38
00:01:28,679 --> 00:01:26,920

changes a little bit each day depending

39
00:01:30,209 --> 00:01:28,689
on what time of year it is that path is

40
00:01:33,389 --> 00:01:30,219
always getting a little bit higher or

41
00:01:36,029 --> 00:01:33,399
lower in the sky except on the solstices

42
00:01:38,130 --> 00:01:36,039
the solstices are the moments in June

43
00:01:40,319 --> 00:01:38,140
and December when that movement stops

44
00:01:42,389 --> 00:01:40,329
and the sun's path starts heading in the

45
00:01:44,459 --> 00:01:42,399
other direction there's a parent shift

46
00:01:47,219 --> 00:01:44,469
and the seasons themselves are caused by

47
00:01:48,840 --> 00:01:47,229
earth's tilt as it orbits the Sun what's

48
00:01:51,060 --> 00:01:48,850
actually shifting is the angle of your

49
00:01:54,200 --> 00:01:51,070
view toward the Sun depending on how far

50
00:01:56,700 --> 00:01:54,210
north or south of the equator you live

51
00:01:59,639 --> 00:01:56,710
most planets in our solar system have

52
00:02:01,260 --> 00:01:59,649
seasons and solstices too at Mars

53
00:02:03,090 --> 00:02:01,270
instead of every six months the

54
00:02:06,809 --> 00:02:03,100
solstices are just under one earth year

55
00:02:09,570 --> 00:02:06,819
apart and at Saturn the solstices are 15

56
00:02:11,970 --> 00:02:09,580
earth years apart

57
00:02:13,590 --> 00:02:11,980
and speaking of other planets during the

58
00:02:15,630 --> 00:02:13,600
second week of June looked toward the

59
00:02:18,870 --> 00:02:15,640
south in the pre-dawn sky to spot

60
00:02:21,270 --> 00:02:18,880
Jupiter Saturn Mars and an increasingly

61
00:02:23,700 --> 00:02:21,280
slim crescent moon forming a lineup with

62
00:02:26,400 --> 00:02:23,710
the moon ending up just below Mars On

63
00:02:28,590 --> 00:02:26,410

June 13th these planets are now rising

64
00:02:30,270 --> 00:02:28,600
earlier in the night so by Dawn they're

65
00:02:31,790 --> 00:02:30,280
making their way farther across the sky

66
00:02:34,380 --> 00:02:31,800
than they were a couple of months ago

67
00:02:36,690 --> 00:02:34,390
Mars also continues to move farther

68
00:02:38,820 --> 00:02:36,700
apart from Jupiter and Saturn the red

69
00:02:40,380 --> 00:02:38,830
planet was rising together with Saturn

70
00:02:41,430 --> 00:02:40,390
at the start of April but by the

71
00:02:44,040 --> 00:02:41,440
beginning of June

72
00:02:46,260 --> 00:02:44,050
Mars is rising a full three hours later

73
00:02:48,210 --> 00:02:46,270
than the ringed planet this year's

74
00:02:49,920 --> 00:02:48,220
parade of morning planets is a great

75
00:02:52,230 --> 00:02:49,930
example of how your view of the solar

76
00:02:54,210 --> 00:02:52,240
system from your doorstep changes month

77
00:02:55,890 --> 00:02:54,220
to month as both Earth and the other

78
00:02:59,160 --> 00:02:55,900
planets move along in their orbits

79
00:03:03,870 --> 00:02:59,170
around the Sun here are the phases of

80
00:03:05,820 --> 00:03:03,880
the Moon for June you can catch up on

81
00:03:08,480 --> 00:03:05,830
all of NASA's missions to explore the

82
00:03:10,470 --> 00:03:08,490
solar system and beyond at nasa.gov I'm

83
00:03:12,720 --> 00:03:10,480
Preston dykes from NASA's Jet Propulsion