
science @ NASA

1
00:00:10,430 --> 00:00:06,950
record-setting asteroid flyby presented

2
00:00:13,759 --> 00:00:10,440
by science at NASA talk about a close

3
00:00:15,680 --> 00:00:13,769
shave on februari 15th an asteroid about

4
00:00:18,830 --> 00:00:15,690
half the size of a football field will

5
00:00:20,980 --> 00:00:18,840
fly pastor only seventeen thousand two

6
00:00:24,019 --> 00:00:20,990
hundred miles above our planet's surface

7
00:00:28,460 --> 00:00:24,029
there's no danger of a collision but the

8
00:00:30,980 --> 00:00:28,470
space rock designated 2012 da14 has

9
00:00:33,110 --> 00:00:30,990
NASA's attention this is a

10
00:00:35,569 --> 00:00:33,120
record-setting close approach says Don

11
00:00:38,810 --> 00:00:35,579
Yeomans of NASA's near-earth object

12
00:00:41,630 --> 00:00:38,820
observation program at JPL since regular

13
00:00:43,819 --> 00:00:41,640

sky surveys began in the 1990s we've

14
00:00:46,610 --> 00:00:43,829
never seen an object this big get so

15
00:00:48,619 --> 00:00:46,620
close to Earth Earth's neighborhood is

16
00:00:51,439 --> 00:00:48,629
littered with asteroids of all shapes

17
00:00:53,720 --> 00:00:51,449
and sizes ranging from fragments the

18
00:00:56,510 --> 00:00:53,730
size of beach balls to mountainous rocks

19
00:00:58,510 --> 00:00:56,520
many kilometers wide many of these

20
00:01:01,400 --> 00:00:58,520
objects hail from the asteroid belt

21
00:01:04,039 --> 00:01:01,410
while others may be corpses of long-dead

22
00:01:06,980 --> 00:01:04,049
burnt out comments NASA's near-earth

23
00:01:09,109 --> 00:01:06,990
object observation program helps find

24
00:01:13,190 --> 00:01:09,119
and keep track of them especially the

25
00:01:15,740 --> 00:01:13,200
ones that come close to our planet 2012

26
00:01:18,920 --> 00:01:15,750
da14 is a fairly typical near-earth

27
00:01:22,700 --> 00:01:18,930
asteroid it measures some 50 meters wide

28
00:01:24,950 --> 00:01:22,710
neither very large nor very small and is

29
00:01:28,130 --> 00:01:24,960
probably made of stone as opposed to ice

30
00:01:31,730 --> 00:01:28,140
or metal Yeomans estimates that an

31
00:01:35,719 --> 00:01:31,740
asteroid like 2012 da14 flies past earth

32
00:01:37,580 --> 00:01:35,729
on average every 40 years yet actually

33
00:01:40,910 --> 00:01:37,590
strikes our planet only every 1,200

34
00:01:43,670 --> 00:01:40,920
years or so the impact of a 50 meter

35
00:01:46,370 --> 00:01:43,680
asteroid is not cataclysmic unless you

36
00:01:48,440 --> 00:01:46,380
happen to be near it yeomans points out

37
00:01:51,170 --> 00:01:48,450
that a similar-sized object formed the

38
00:01:54,350 --> 00:01:51,180

mile wide meteor crater in Arizona when

39
00:01:56,690 --> 00:01:54,360
it struck about 50,000 years ago that

40
00:01:59,030 --> 00:01:56,700
asteroid was made of iron he says which

41
00:02:02,060 --> 00:01:59,040
made it an especially potent impactor

42
00:02:06,080 --> 00:02:02,070
the area was devastated for over 50

43
00:02:09,889 --> 00:02:06,090
miles around also in 1908 something

44
00:02:12,440 --> 00:02:09,899
about the size of 2012 da14 exploded in

45
00:02:13,820 --> 00:02:12,450
the atmosphere above Siberia leveling

46
00:02:16,790 --> 00:02:13,830
hundreds of square miles

47
00:02:18,980 --> 00:02:16,800
of forest researchers are still studying

48
00:02:23,330 --> 00:02:18,990
the Tunguska event for clues to the

49
00:02:26,330 --> 00:02:23,340
impacting object 2012 da14 will

50
00:02:28,670 --> 00:02:26,340
definitely not hit earth emphasizes

51
00:02:31,240 --> 00:02:28,680
Yeomans the orbit of the asteroid is

52
00:02:34,340 --> 00:02:31,250
known well enough to rule out an impact

53
00:02:37,040 --> 00:02:34,350
even so it will come interestingly close

54
00:02:39,230 --> 00:02:37,050
NASA radar will be monitoring the space

55
00:02:42,470 --> 00:02:39,240
rock as it approaches earth closer than

56
00:02:44,270 --> 00:02:42,480
many man-made satellites Yeomans says

57
00:02:46,790 --> 00:02:44,280
the asteroid will thread the gap between

58
00:02:49,250 --> 00:02:46,800
low-earth orbit where the International

59
00:02:51,560 --> 00:02:49,260
Space Station and many Earth observation

60
00:02:54,050 --> 00:02:51,570
satellites are located and the higher

61
00:02:55,510 --> 00:02:54,060
belt of geosynchronous satellites which

62
00:02:58,850 --> 00:02:55,520
provide weather data and

63
00:03:01,100 --> 00:02:58,860

telecommunications the odds of an impact

64
00:03:04,370 --> 00:03:01,110
with a satellite or extremely remote he

65
00:03:07,340 --> 00:03:04,380
says almost nothing orbits where da14

66
00:03:09,500 --> 00:03:07,350
will pass the earth NASA's Goldstone

67
00:03:13,760 --> 00:03:09,510
radar in the Mojave Desert is scheduled

68
00:03:17,060 --> 00:03:13,770
to ping 2012 da14 almost every day from

69
00:03:19,130 --> 00:03:17,070
february's 16th through 20th the echoes

70
00:03:21,560 --> 00:03:19,140
will not only pinpoint the orbit of the

71
00:03:23,900 --> 00:03:21,570
asteroid allowing researchers to better

72
00:03:26,300 --> 00:03:23,910
predict future encounters but also

73
00:03:30,620 --> 00:03:26,310
reveal physical characteristics such as

74
00:03:33,080 --> 00:03:30,630
size spin and reflectivity a key outcome

75
00:03:35,449 --> 00:03:33,090
of the observing campaign will be a 3d

76
00:03:38,270 --> 00:03:35,459
radar map showing the space rock from

77
00:03:40,759 --> 00:03:38,280
all sides during the hours around

78
00:03:42,800 --> 00:03:40,769
closest approach the asteroid will

79
00:03:45,920 --> 00:03:42,810
brighten until it resembles a star of

80
00:03:48,590 --> 00:03:45,930
8th magnitude theoretically that's an

81
00:03:51,800 --> 00:03:48,600
easy target for backyard telescopes the

82
00:03:53,840 --> 00:03:51,810
problem points out Yeomans is speed the

83
00:03:57,170 --> 00:03:53,850
asteroid will be racing across the sky

84
00:03:59,180 --> 00:03:57,180
moving almost a full degree or twice the

85
00:04:02,900 --> 00:03:59,190
width of the full moon every minute

86
00:04:04,910 --> 00:04:02,910
that's going to be hard to track only

87
00:04:08,600 --> 00:04:04,920
the most experienced amateur astronomers

88
00:04:10,670 --> 00:04:08,610

are likely to succeed those who do might

89
00:04:13,580 --> 00:04:10,680
experience a tiny chill when they look

90
00:04:16,759 --> 00:04:13,590
at their images that really was a close

91
00:04:19,430 --> 00:04:16,769
shave for more news about near-earth