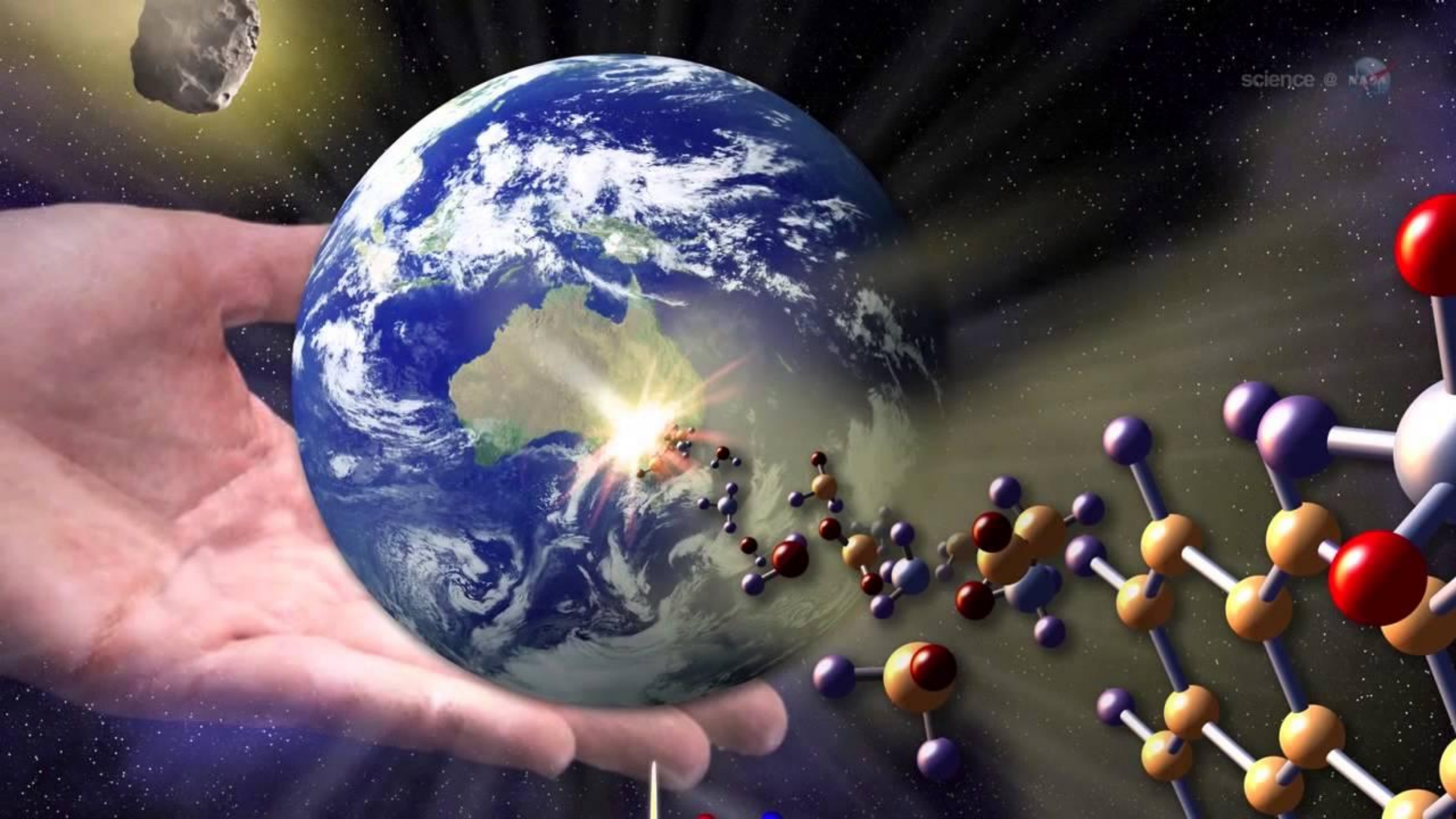
science @ NASA

1
00:00:12,140 --> 00:00:07,909
big asteroid flyby presented by science

2
00:00:13,970 --> 00:00:12,150
at NASA here we go again another

3
00:00:16,910 --> 00:00:13,980
asteroid is paying a visit to the

4
00:00:20,599 --> 00:00:16,920
earth-moon system asteroids have been a

5
00:00:22,550 --> 00:00:20,609
hot topic since februari 15 2013 when

6
00:00:26,390 --> 00:00:22,560
one small asteroid exploded over Russia

7
00:00:28,040 --> 00:00:26,400
and another bigger one 2012 da14 made a

8
00:00:31,460 --> 00:00:28,050
record-setting close approach to earth

9
00:00:34,549 --> 00:00:31,470
on the same day this time the visitor is

10
00:00:37,930 --> 00:00:34,559
1998 qe2 a potentially hazardous

11
00:00:40,069 --> 00:00:37,940
asteroid 2.7 kilometers in diameter

12
00:00:42,319 --> 00:00:40,079
astronomers are preparing to study the

13
00:00:45,650 --> 00:00:42,329

space rock as it harmlessly passes by on

14
00:00:47,180 --> 00:00:45,660
May 31st this is a big asteroid that's

15
00:00:49,490 --> 00:00:47,190
going to be one of the best radar

16
00:00:50,630 --> 00:00:49,500
imaging targets of the year says Lance

17
00:00:53,810 --> 00:00:50,640
Benner of NASA's Jet Propulsion

18
00:00:55,810 --> 00:00:53,820
Laboratory as my old friend radar

19
00:00:58,279 --> 00:00:55,820
astronomer Steve Austro used to say

20
00:01:00,170 --> 00:00:58,289
spaceship earth is making a flyby of the

21
00:01:02,389 --> 00:01:00,180
asteroid so we're going to exploit the

22
00:01:05,210 --> 00:01:02,399
capabilities of the radars to understand

23
00:01:08,390 --> 00:01:05,220
as much as possible at closest approach

24
00:01:10,670 --> 00:01:08,400
on May 31st the asteroid will be 5.8

25
00:01:13,250 --> 00:01:10,680
million kilometers from Earth about 15

26
00:01:15,560 --> 00:01:13,260
times farther than the moon at that

27
00:01:17,420 --> 00:01:15,570
range both the Goldstone and Arecibo

28
00:01:21,890 --> 00:01:17,430
radars should be able to make detailed

29
00:01:23,600 --> 00:01:21,900
images of 1998 qe2 s as Benner the radar

30
00:01:25,609 --> 00:01:23,610
maps should rival the images of other

31
00:01:28,609 --> 00:01:25,619
asteroids obtained by spacecraft during

32
00:01:30,880 --> 00:01:28,619
flyby missions one thing that intrigues

33
00:01:33,080 --> 00:01:30,890
Benner is the asteroids dark complexion

34
00:01:36,499 --> 00:01:33,090
according to measurements by the Spitzer

35
00:01:38,149 --> 00:01:36,509
Space Telescope 1998 qe2 reflects only

36
00:01:41,240 --> 00:01:38,159
six percent of the sunlight that falls

37
00:01:43,370 --> 00:01:41,250
on it which makes it blacker than coal

38
00:01:46,580 --> 00:01:43,380

consequently it could have a composition

39
00:01:48,620 --> 00:01:46,590
similar to that of 101 955 venue the

40
00:01:52,610 --> 00:01:48,630
target of NASA's osiris-rex mission he

41
00:01:54,680 --> 00:01:52,620
says following launch in 2016 the

42
00:01:57,320 --> 00:01:54,690
osiris-rex spacecraft will travel to

43
00:01:59,540 --> 00:01:57,330
near-earth asteroid Bennu study it from

44
00:02:02,480 --> 00:01:59,550
orbit and ultimately bring back a sample

45
00:02:04,730 --> 00:02:02,490
for laboratory study on earth near-earth

46
00:02:07,490 --> 00:02:04,740
asteroid Bennu interests researchers for

47
00:02:09,770 --> 00:02:07,500
two reasons first it is a carbon-rich

48
00:02:11,930 --> 00:02:09,780
asteroid that could Harbor amino acids

49
00:02:14,600 --> 00:02:11,940
and other organic molecules essential to

50
00:02:16,490 --> 00:02:14,610
primitive life second it's the kind of

51
00:02:19,130 --> 00:02:16,500
asteroid that NASA ultimately might want

52
00:02:21,199 --> 00:02:19,140
to nudge indeed the osiris-rex mission

53
00:02:24,229 --> 00:02:21,209
is considered to be a vital part of

54
00:02:26,630 --> 00:02:24,239
NASA's plans to find study capture and

55
00:02:30,560 --> 00:02:26,640
relocate an asteroid for exploration by

56
00:02:32,240 --> 00:02:30,570
astronauts perhaps 1998 qe2 will give

57
00:02:35,300 --> 00:02:32,250
researchers a sneak preview of this

58
00:02:38,060 --> 00:02:35,310
fascinating space rock although the

59
00:02:40,670 --> 00:02:38,070
closest approach is on May 31st the best

60
00:02:42,920 --> 00:02:40,680
time to observe 1998 qe2 will be during

61
00:02:46,310 --> 00:02:42,930
the first week of june when the asteroid

62
00:02:47,960 --> 00:02:46,320
enters northern skies at that time the

63
00:02:50,390 --> 00:02:47,970

asteroid will turn its sunlit side

64
00:02:53,720 --> 00:02:50,400
toward Earth making it an easy target

65
00:02:55,640 --> 00:02:53,730
for large backyard telescopes at maximum

66
00:02:57,830 --> 00:02:55,650
brightness on june third and fourth it

67
00:03:01,310 --> 00:02:57,840
is expected to be as bright as an 11th

68
00:03:02,960 --> 00:03:01,320
magnitude star while amateur astronomers

69
00:03:05,810 --> 00:03:02,970
watch the space rock glide through the

70
00:03:07,550 --> 00:03:05,820
constellations Libra and Ophiuchus NASA

71
00:03:09,370 --> 00:03:07,560
radars will be pinging the space rock

72
00:03:12,319 --> 00:03:09,380
with powerful bursts of radio energy

73
00:03:15,170 --> 00:03:12,329
revealing an alien landscape that no one

74
00:03:16,600 --> 00:03:15,180
has ever seen before for more big