



SPACE STATION IMAGES TRACE BIRD MIGRATIONS

1
00:00:01,950 --> 00:00:04,110
I FLEW AS A CANADIAN
ASTRONAUT ON THE

2
00:00:04,110 --> 00:00:07,830
MISSION STS 42 SPACE
SHUTTLE DISCOVERY BACK

3
00:00:07,830 --> 00:00:10,260
IN JANUARY OF 1992.

4
00:00:10,860 --> 00:00:13,200
CURRENTLY MY ROLE
AS PRESIDENT OF THE

5
00:00:13,200 --> 00:00:15,540
FOUNDATION THAT BEARS
MY NAME IS TO CONDUCT

6
00:00:15,540 --> 00:00:18,330
SOME RESEARCH INTO THE
MIGRATORY CORRIDOR,

7
00:00:18,330 --> 00:00:21,960
HABITATS AND BEHAVIORS
OF CERTAIN SPECIES

8
00:00:22,020 --> 00:00:23,040
OF MIGRATORY BIRDS.

9
00:00:23,835 --> 00:00:26,745
WE'VE BEEN TRYING TO
UTILIZE PHOTOGRAPHY TO

10
00:00:26,745 --> 00:00:30,735
PUT TOGETHER A COMPELLING
REASON WHY PEOPLE NEED

11
00:00:30,735 --> 00:00:33,675

TO PAY ATTENTION TO
THESE VERY FRAGILE

12

00:00:33,675 --> 00:00:36,255

ORGANISMS AND THEY'RE
FRAGILE ENVIRONMENTS.

13

00:00:36,795 --> 00:00:39,225

WE THINK THAT DOING IT AT
THREE DIFFERENT LEVELS,

14

00:00:39,495 --> 00:00:42,735

THE AERIAL SURFACE AND
SPACE WILL PROVIDE THE

15

00:00:42,735 --> 00:00:43,755

DIFFERENT PERSPECTIVE.

16

00:00:44,550 --> 00:00:46,949

SO IT'S AS IF WE WERE
DOWN AT CARPET LEVEL

17

00:00:46,949 --> 00:00:49,500

WITH A MAGNIFYING GLASS
ON THE SURFACE AND THEN

18

00:00:49,500 --> 00:00:51,360

WE'D GET UP AND WE SEE
THE PATTERNS A LITTLE

19

00:00:51,360 --> 00:00:54,419

BIT DIFFERENTLY, AND THEN
WE GET INTO SPACE AND

20

00:00:54,419 --> 00:00:56,129

SEE THIS WHOLE CORRIDOR.

21

00:00:56,715 --> 00:00:59,865

BUT WE SEE DIFFERENT
PATTERNS THAT WE DIDN'T

22

00:00:59,865 --> 00:01:00,765
EVEN KNOW EXISTED.

23

00:01:00,885 --> 00:01:03,735
SO THE SPACE STATION CAN
PROVIDE US THESE IMAGES.

24

00:01:03,735 --> 00:01:06,495
SO WE CAN ACTUALLY
CONSTRUCT PART

25

00:01:06,525 --> 00:01:07,935
OF THAT FLIGHT.

26

00:01:08,025 --> 00:01:10,605
A PART OF THAT QUARTER
OF ONE OF THESE SPECIES.

27

00:01:12,335 --> 00:01:14,495
GROWING UP AS A, AS
A CANADIAN, UH, DR.

28

00:01:14,495 --> 00:01:16,145
BONDAR WAS ONE
OF MY HEROES.

29

00:01:16,145 --> 00:01:18,515
SO SHE WAS THE FIRST
FEMALE ASTRONAUT THAT

30

00:01:18,515 --> 00:01:19,775
WE HAD THAT IN CANADA.

31

00:01:20,075 --> 00:01:22,455
AND, UH, I ALWAYS KIND
OF LOOKED UP TO HER AS

32

00:01:22,565 --> 00:01:24,585

SHE WAS ALSO A SCIENTIST
AND A PHYSICIAN.

33

00:01:24,765 --> 00:01:26,235
AND THERE SHE WAS
OFFERING ME THE CHANCE

34

00:01:26,235 --> 00:01:28,395
TO PARTICIPATE IN THIS
BEAUTIFUL PROJECT.

35

00:01:28,455 --> 00:01:30,645
AND I LOVE BECAUSE
IT'S FIT WITH MY, MY

36

00:01:30,675 --> 00:01:33,735
HOPES OF A SHARING FROM
SPACE STATION MY LOVE

37

00:01:33,735 --> 00:01:34,875
OF THE ENVIRONMENT.

38

00:01:36,075 --> 00:01:38,175
ONE OF THE CHALLENGES
OF TAKING PHOTOS OF

39

00:01:38,175 --> 00:01:40,095
THE EARTH FROM SPACE
STATION IS THAT WE'RE

40

00:01:40,095 --> 00:01:40,995
GROWING PRETTY FAST.

41

00:01:41,235 --> 00:01:42,585
YOU KNOW, WE'RE GOING
AROUND THE WORLD AND

42

00:01:42,585 --> 00:01:44,775
ABOUT AN HOUR AND A
HALF FLYING AT THE

43

00:01:44,775 --> 00:01:46,155
FIVE MILES A SECOND.

44

00:01:46,365 --> 00:01:48,025
AND AS YOU GET TO
THE CUPOLA, GET YOUR

45

00:01:48,045 --> 00:01:50,354
CAMERA READY, YOU'RE
LOOKING AT PREVIOUS

46

00:01:50,354 --> 00:01:52,845
IMAGES, SATELLITE
IMAGERY, TRYING TO WRAP

47

00:01:52,845 --> 00:01:55,274
YOUR MIND AROUND WHAT
YOU'RE TRYING TO SEE.

48

00:01:55,574 --> 00:01:57,554
AND THEN YOU'LL LOOK
FORWARD TOWARDS,

49

00:01:57,824 --> 00:01:59,014
YOU KNOW, THE LIMB
OF THE EARTH AS THE

50

00:01:59,024 --> 00:02:01,244
EARTH IS THE SCENE IS
COMING TOWARDS YOU.

51

00:02:01,335 --> 00:02:04,125
IT'S COMING PRETTY FAST
AND YOU GOT TO IDENTIFY

52

00:02:04,125 --> 00:02:05,955
IT FROM THE HORIZON
AS IT APPROACHES.

53

00:02:05,955 --> 00:02:08,565

CAUSE YOU DON'T, YOU HAVE
MAYBE JUST A FEW SECONDS

54

00:02:08,565 --> 00:02:11,549

AS YOU'RE FLYING OVER
THAT LOCATION AND THEN

55

00:02:11,549 --> 00:02:13,110

IT KIND OF YOU LOOK BACK
AND MAYBE YOU HAVE A FEW

56

00:02:13,110 --> 00:02:14,760

MORE CHANCES AS YOU'RE
FLYING AWAY FROM IT,

57

00:02:14,760 --> 00:02:17,190

BUT THAT'S IT, THE WHOLE
THING LASTS, YOU KNOW,

58

00:02:17,220 --> 00:02:18,420

WAY LESS THAN A MINUTE.

59

00:02:18,540 --> 00:02:20,520

UH, BUT UH, KIND OF
CHASING THE RIGHT

60

00:02:20,520 --> 00:02:22,530

FRAME IS A BIT OF
AN ART BECAUSE YOU

61

00:02:22,530 --> 00:02:23,610

ONLY HAVE ONE CHANCE.

62

00:02:25,130 --> 00:02:28,850

TO DATE WE HAVE AT
LEAST I'D SAY SOMEWHERE

63

00:02:28,850 --> 00:02:33,500

BETWEEN 24, 25,000 IMAGES
PROVIDED TO US FROM NASA.

64

00:02:34,170 --> 00:02:36,090
THIS WAS ONE OF THE
LARGER IMAGERY PROJECTS

65

00:02:36,090 --> 00:02:37,170
THAT WE'VE WORKED ON.

66

00:02:37,540 --> 00:02:40,560
TYPICALLY WE WORK WITH
RESEARCHERS OR SCIENTISTS

67

00:02:40,560 --> 00:02:42,780
THAT ARE LOOKING
AT A FEW DIFFERENT

68

00:02:42,780 --> 00:02:45,060
LOCATIONS ON EARTH,
MAYBE NO MORE THAN 10.

69

00:02:45,329 --> 00:02:47,160
AND THIS ENDED UP BEING
ABOUT 50 DIFFERENT

70

00:02:47,160 --> 00:02:50,579
LOCATIONS ON EARTH THAT
WE WANTED BOTH NADIR

71

00:02:50,579 --> 00:02:52,230
LOOKING SHOTS, WHICH
IS A STRAIGHT DOWN

72

00:02:52,230 --> 00:02:54,659
LIVING SHOT AS WELL
AS EARTH LIMB SHOTS.

73

00:02:54,959 --> 00:02:57,120
WE WORKED WITH VARIOUS

CREW MEMBERS OVER THE

74

00:02:57,120 --> 00:03:00,255
YEARS TO TAKE A LOT OF
THESE PHOTOS, BUT WE

75

00:03:00,255 --> 00:03:02,475
ALSO REACHED BACK INTO
OUR DATABASE OF OVER

76

00:03:02,475 --> 00:03:04,485
4 MILLION ASTRONAUT
PHOTOS JUST TO SEE

77

00:03:04,485 --> 00:03:05,475
WHAT ALREADY EXISTED.

78

00:03:06,195 --> 00:03:09,015
WE GET EXCITED WHEN
EXTERNAL GROUPS SEEK

79

00:03:09,015 --> 00:03:11,355
OUT THESE TYPES OF
IMAGERY PROJECTS WITH

80

00:03:11,355 --> 00:03:14,215
US, ESPECIALLY SCIENTIFIC
AND RESEARCH GROUPS.

81

00:03:16,045 --> 00:03:18,935
SPACE EXPLORATION REALLY
OFFERS US AN AMAZING

82

00:03:18,935 --> 00:03:20,405
PERSPECTIVE ON OUR HOME.

83

00:03:20,704 --> 00:03:23,225
AND I THINK THIS PROJECT
IS A, IS A BEAUTIFUL

84

00:03:23,225 --> 00:03:25,595

EXAMPLE OF HOW WE
CAN KIND OF SCRATCH

85

00:03:25,595 --> 00:03:27,995

OUR HEADS, TAKE A
FEW STEPS BACK, LOOK

86

00:03:28,025 --> 00:03:29,015

AT THE BIG PICTURE.

87

00:03:29,340 --> 00:03:32,170

IT'S ABOUT TAKING THAT
CREATIVITY THAT WE'RE

88

00:03:32,190 --> 00:03:35,040

OFFERED IN SPACE,
COMBINING THAT WITH

89

00:03:35,130 --> 00:03:38,730

AERIAL SHOTS OF GETTING
CLOSER AND CLOSER TO

90

00:03:38,730 --> 00:03:41,310

WHEN THEY PUT THEIR FEET
ON THE GROUND, TO ME IS

91

00:03:41,310 --> 00:03:45,060

AN EXTRAORDINARY WAY OF
TRYING TO BRING TOGETHER

92

00:03:45,090 --> 00:03:48,780

THIS EMOTIONAL STORY OF
THE IMPORTANCE OF HABITAT

93

00:03:49,049 --> 00:03:52,170

PROTECTIONS SO THAT THESE
BEAUTIFUL, MAGNIFICENT

94

00:03:52,170 --> 00:03:55,500
CREATURES THAT FLY THE
WAY WE DO IN SPACE CAN