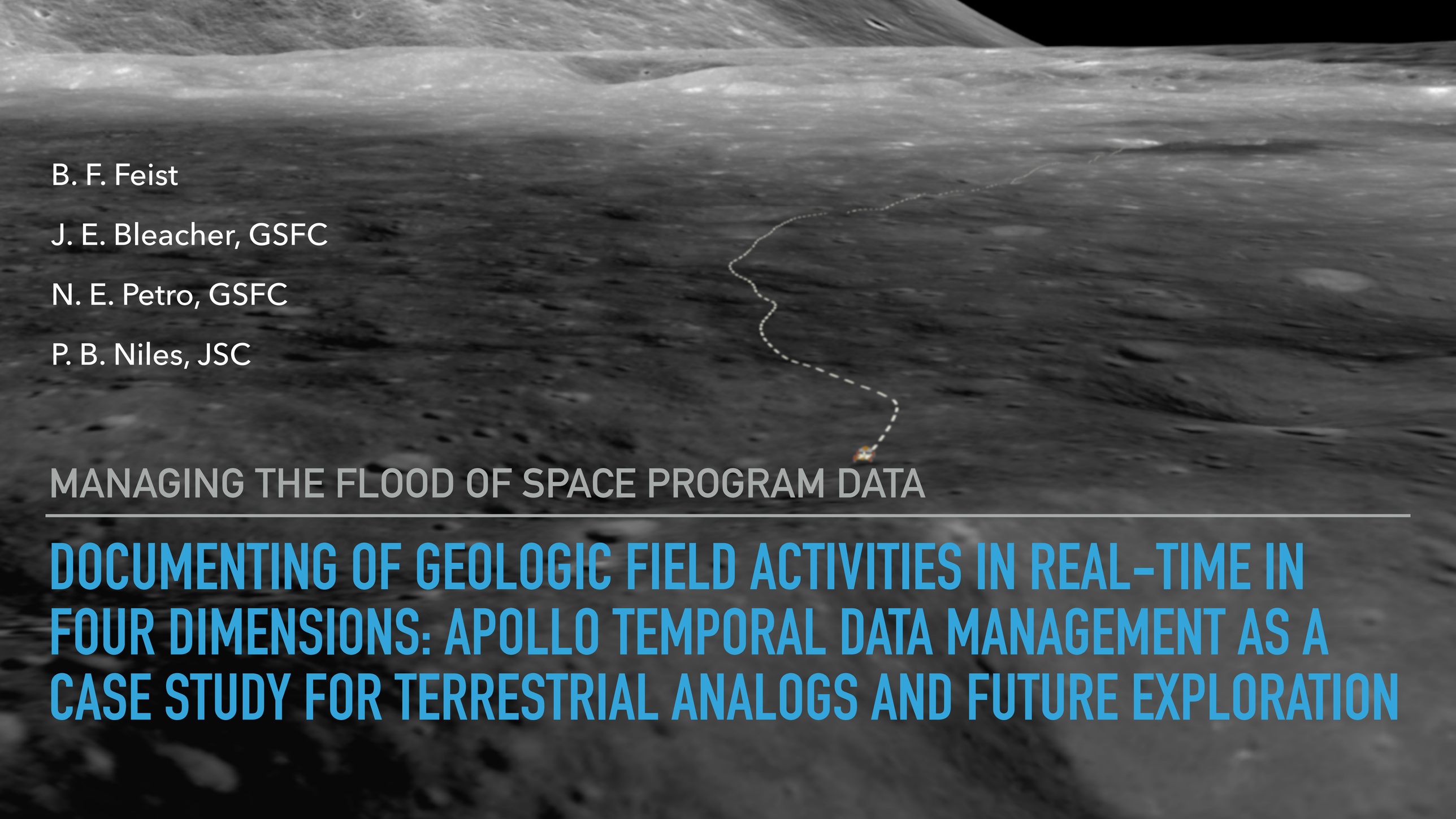


B. F. Feist

J. E. Bleacher, GSFC

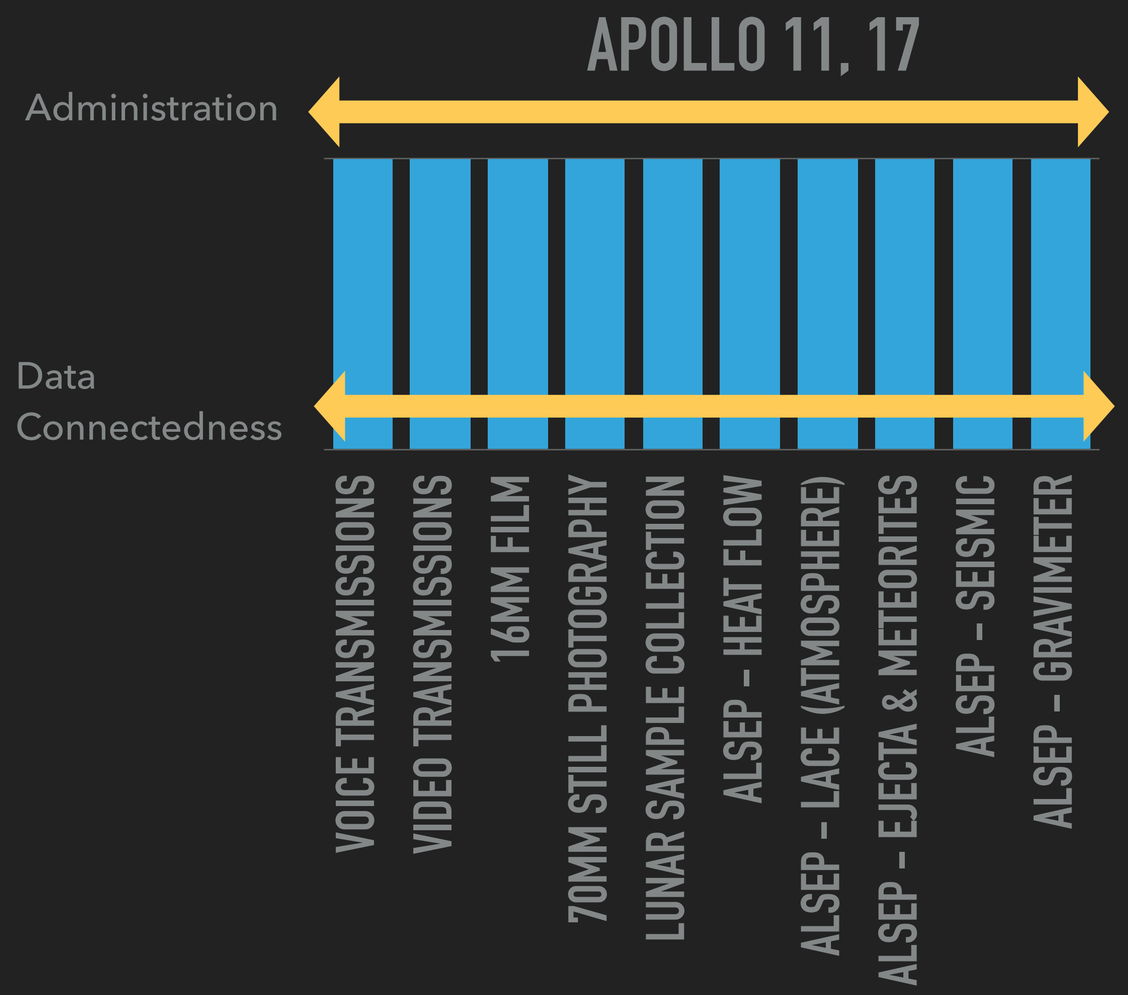
N. E. Petro, GSFC

P. B. Niles, JSC

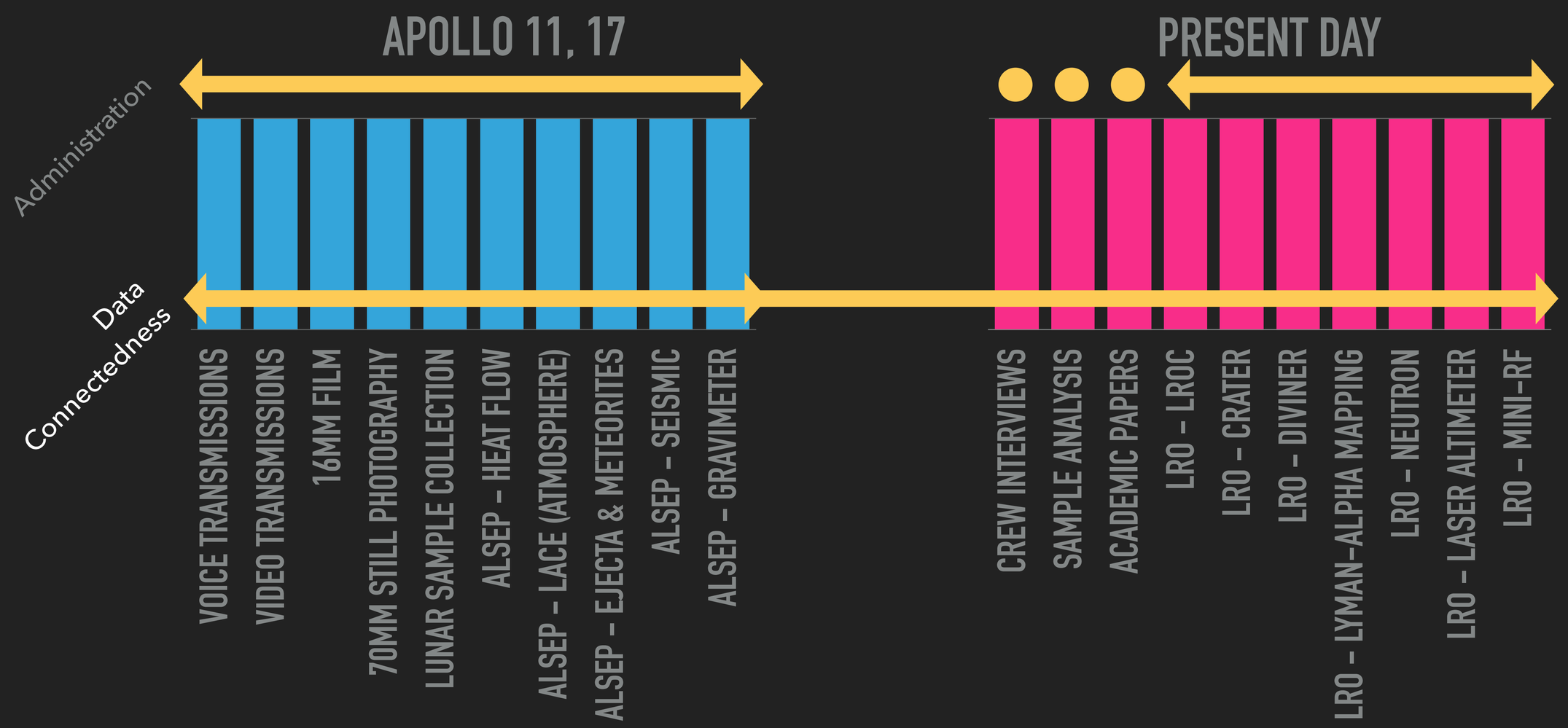
MANAGING THE FLOOD OF SPACE PROGRAM DATA

DOCUMENTING OF GEOLOGIC FIELD ACTIVITIES IN REAL-TIME IN FOUR DIMENSIONS: APOLLO TEMPORAL DATA MANAGEMENT AS A CASE STUDY FOR TERRESTRIAL ANALOGS AND FUTURE EXPLORATION

SILOED DATA

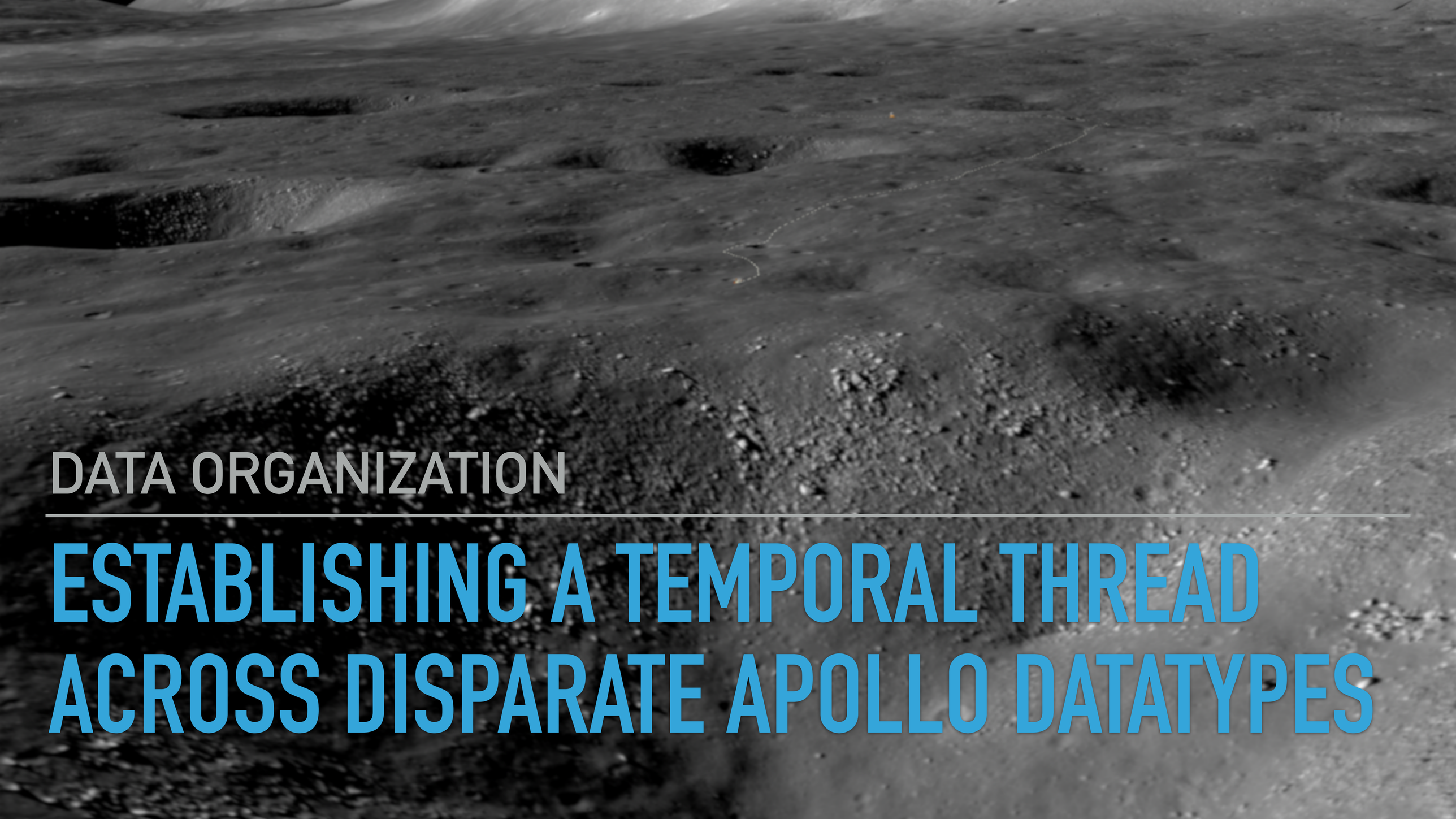

APOLLO 11, 17
Administration
Data
Connectedness
VOICE TRANSMISSIONS
VIDEO TRANSMISSIONS
16MM FILM
70MM STILL PHOTOGRAPHY
LUNAR SAMPLE COLLECTION
ALSEP – HEAT FLOW
ALSEP – LACE (ATMOSPHERE)
ALSEP – EJECTA & METEORITES
ALSEP – SEISMIC
ALSEP – GRAVIMETER

SILOED DATA


APOLLO 11, 17
PRESENT DAY
Administration
Data Connectedness
VOICE TRANSMISSIONS
VIDEO TRANSMISSIONS
16MM FILM
70MM STILL PHOTOGRAPHY
LUNAR SAMPLE COLLECTION
ALSEP - HEAT FLOW
ALSEP - LACE (ATMOSPHERE)
ALSEP - EJECTA & METEORITES
ALSEP - SEISMIC
ALSEP - GRAVIMETER
CREW INTERVIEWS
SAMPLE ANALYSIS
ACADEMIC PAPERS
LRO - LROC
LRO - CRATER
LRO - DIVINER
LRO - LYMAN-ALPHA MAPPING
LRO - NEUTRON
LRO - LASER ALTIMETER
LRO - MINI-RF

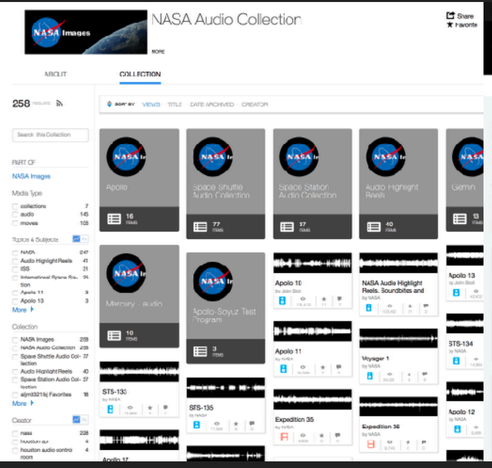
INTERCONNECTING APOLLO DATA

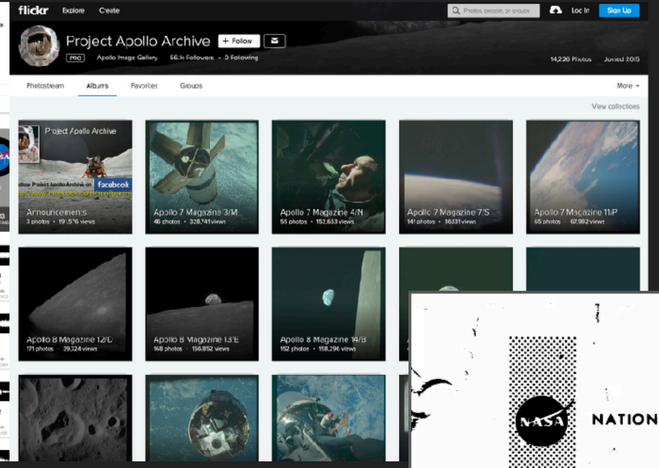
1. Establish a temporal thread across each Apollo mission's disparate datatypes
2. Create an intuitive software interface



DATA ORGANIZATION

ESTABLISHING A TEMPORAL THREAD ACROSS DISPARATE APOLLO DATATYPES





APOLLO 11, 17

VOICE TRANSMISSIONS
VIDEO TRANSMISSIONS
16MM FILM
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ALSEP - SEISMIC
ALSEP - GRAVIMETER

MSC-07629

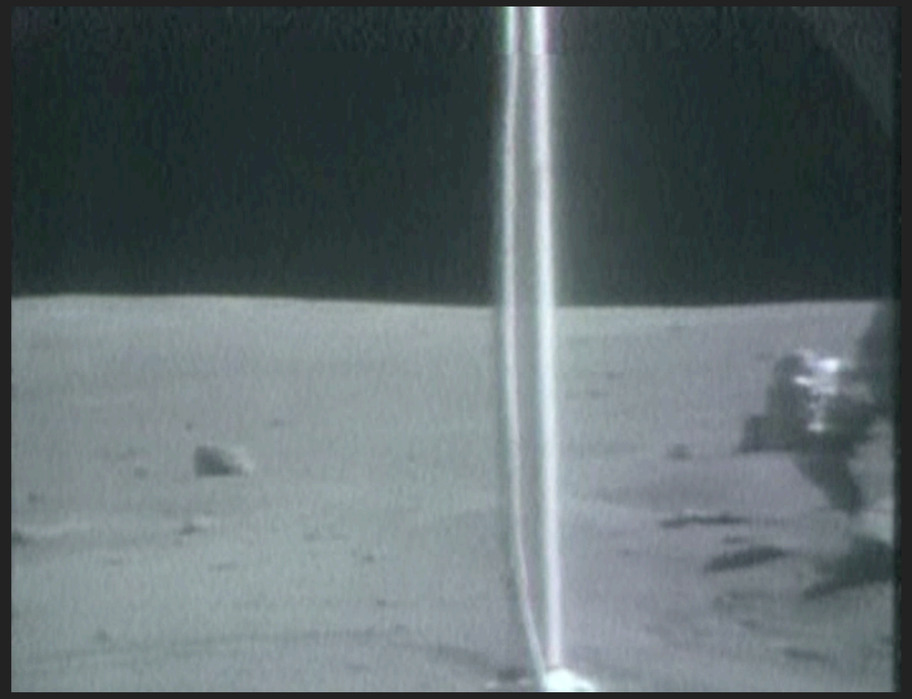
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

APOLLO 17

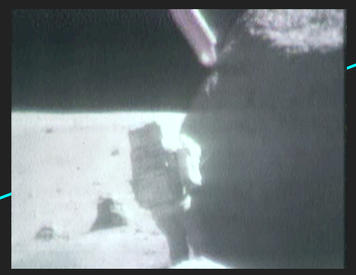
TECHNICAL AIR-TO-GROUND VOICE TRANSCRIPTION

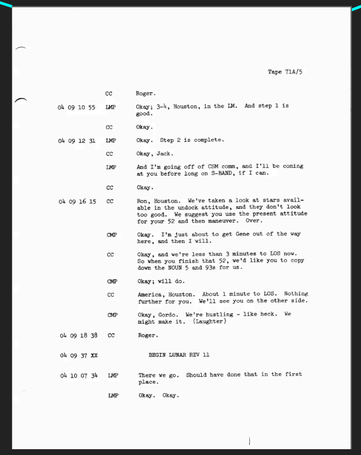
Prepared by
Test Division
Apollo Spacecraft Program Office

MANNED SPACECRAFT CENTER
HOUSTON, TEXAS
December 1972



DATA ORGANIZATION





Tape T1A/5

	CC	Roger.
04 09 10 55	LMP	Okay; 3-4, Houston, in the LM. And step 1 is good.
	CC	Okay.
04 09 12 31	LMP	Okay. Step 2 is complete.
	CC	Okay, Jack.
	LMP	And I'm going off of CSM comm, and I'll be coming at you before long on S-BAND, if I can.
	CC	Okay.
04 09 16 15	CC	Roger, Houston. We've taken a look at stars available in the undock attitude, and they don't look too good. We suggest you use the present attitude for your 52 and then maneuver. Over.
	CMP	Okay. I'm just about to get Gene out of the way here, and then I will.
	CC	Okay, and we're less than 3 minutes to LOS now. So when you finish that 52, we'd like you to copy down the ROUB 5 and 93s for us.
	CMP	Okay; will do.
	CC	America, Houston. About 1 minute to LOS. Nothing further for you. We'll see you on the other side.
	CMP	Okay, Gordo. We're hustling - like heck. We might make it. [laughter]
04 09 18 38	CC	Roger.
04 09 37 XX		BEGIN LUNAR REV 11
04 10 07 34	LMP	There we go. Should have done that in the first place.
	LMP	Okay. Okay.

APOLLO 11, 17

VOICE TRANSMISSIONS
VIDEO TRANSMISSIONS
16MM FILM
70MM STILL PHOTOGRAPHY
LUNAR SAMPLE COLLECTION
ALSEP – HEAT FLOW
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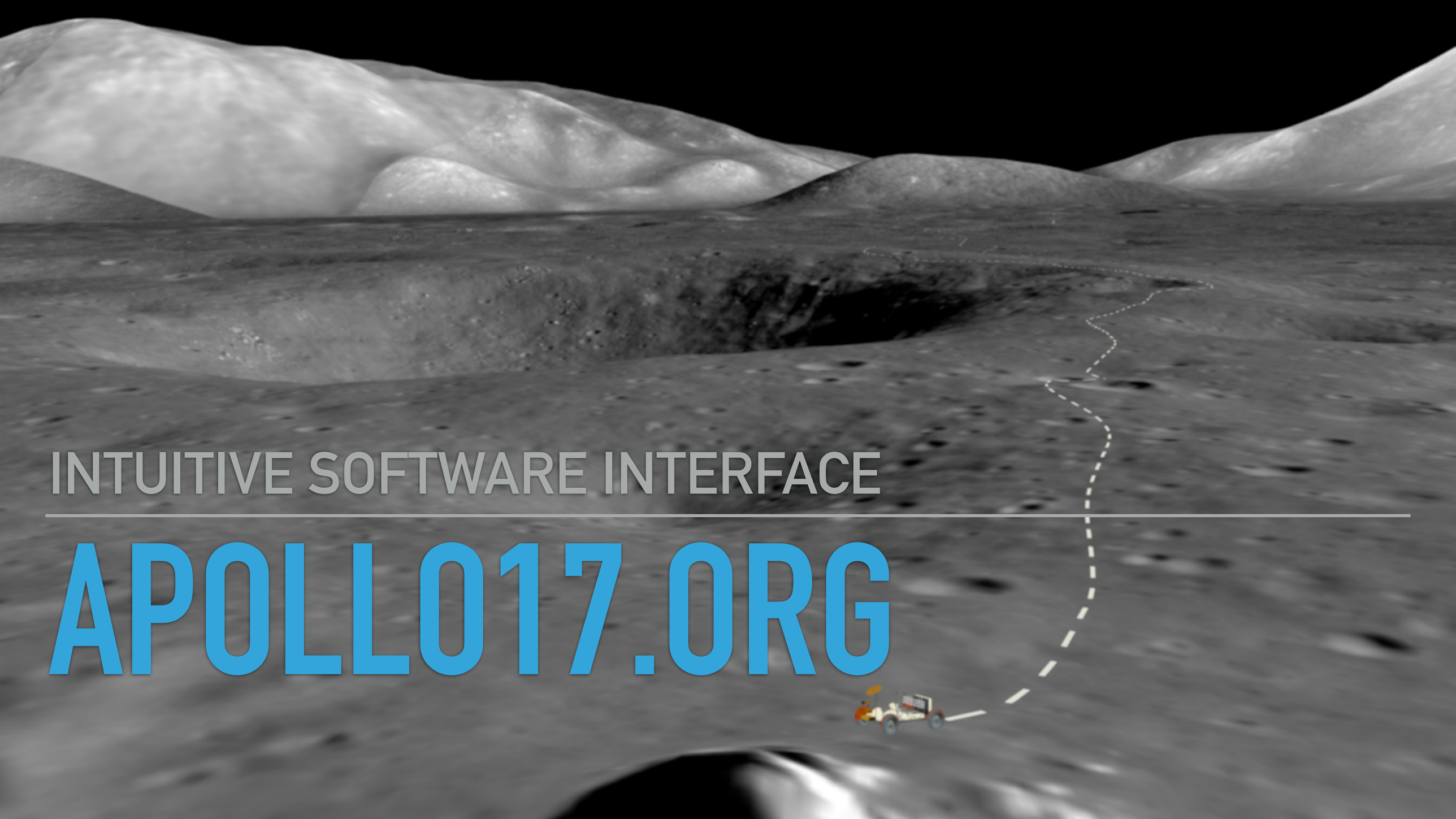

INTUITIVE SOFTWARE INTERFACE
APOLLO17.ORG

The Last Mission to the Moon

Apollo 17

Real-Time Mission Experience

Mon Dec 11 1972 | 8:16:39 PM

Mission Elapsed Time: 118:23:39

TRANSCRIPT | GUIDED TOUR | COMMENTARY

118:23:37 **Cernan** There you go. Wait a minute.

118:23:40 **Schmitt** It's all right I got you reaching for the flag.

118:23:43 **Cernan** How's that?

118:23:47 **Schmitt** That's very good, Gene. Let me get it in stereo.

118:23:51 **Cernan** Houston - -

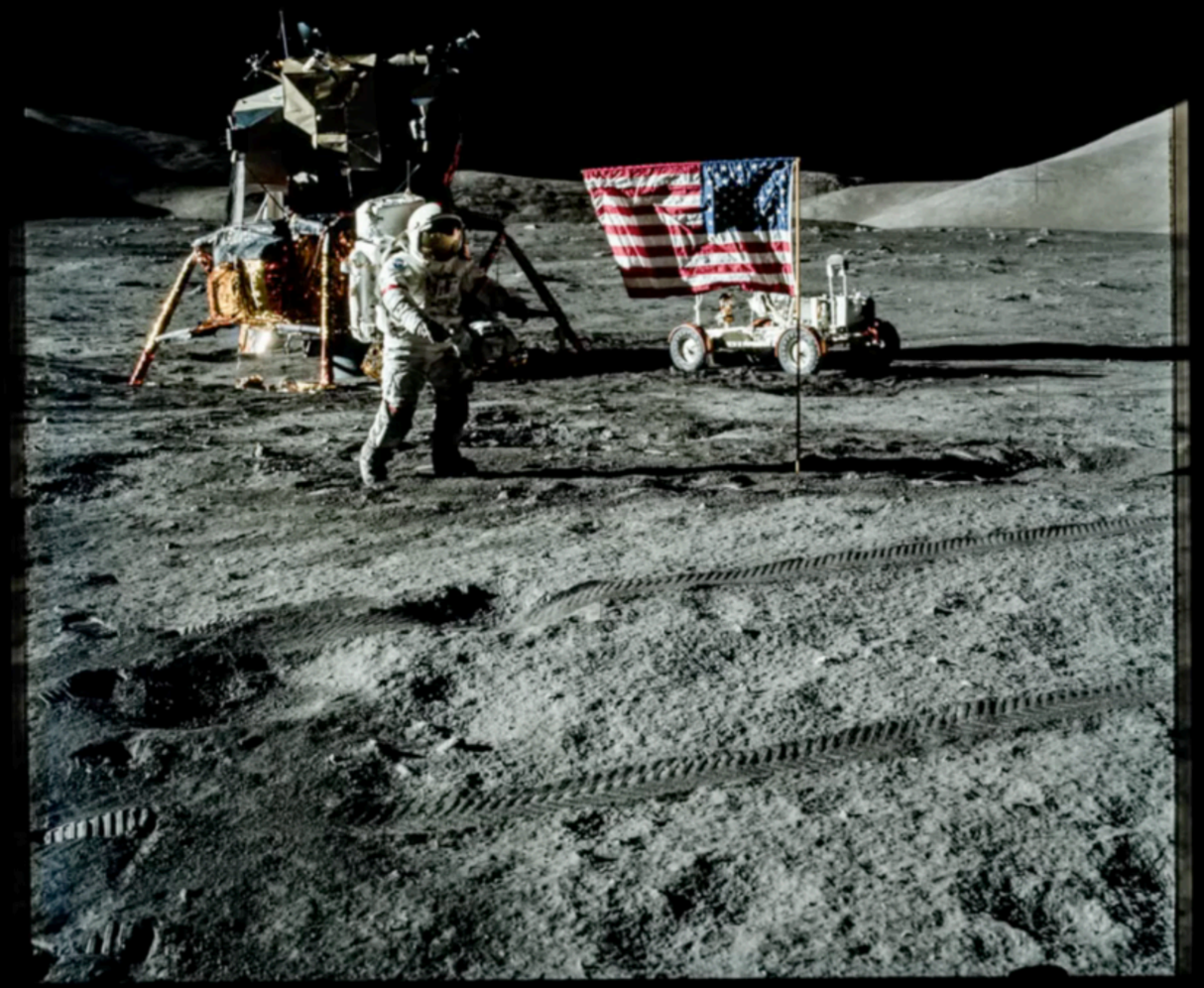
118:23:53 **Schmitt** That's beautiful.

118:23:55 **Cernan** This has got to be one of the most proud moments of my life. I guarantee you. Let you get a close in one and we'll trade cameras.

118:24:07 **Schmitt** Houston, I don't know how many of you are aware of this, but this - this flag has flown in the MOCR since Apollo 11. And we very proudly deploy it on the Moon, to stay for as long as it can, in honor of all those people who have worked so hard to put us here and to put every other crew here and to make the country, United States and mankind, something different than it was.

118:24:52 **Mission Control** Roger, 17 - And presuming to speak on behalf of some of those who work in the MOCR, we thank you very much.

118:25:05 **Cernan** Back right where you were. Step to the right. Right there.



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Strike averted: Inside workers, city reach tentative deal

Highway 427 expansion going ahead with 'HOT' lanes

Toronto students take part in FIRST Robotics competition

School board's twitter account mocks no snow day complaints

Inside look at the T.O. Sketch Comedy Festival

Boy with rare bone disease named Easter Seals ambassador

Online videos, photos let you 'relive' final Apollo mission

NEWSGO

CTV Toronto: Apollo 17 archives

A Toronto man has launched an in-depth and interactive archive of the Apollo 17 mission. Scott Lightfoot finds

Scott Lightfo
Published Th

Hundreds
archived c

Ben Feist
final missi

The 12-da
completed

YAHOO! NEWS

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Apollo 17 mission archived online thanks to Toronto man

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CIENCIA

Revive la misión Apolo 17 en tiempo real – 43 años después

POR @WICHO — 8 DE DICIEMBRE DE 2015

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Thursday, March 3, 2016

Plane Talking with Ben Sandilands

BEN SANDI
AVIATION REP
TALKING BLOG

@PlaneTa

ABOUT THIS

A reporter since November 30, 1
Sandilands looks at what really
sky: public administration of air

Follow the last moon men on their incredible journey

BEN SANDILANDS | DEC 06, 2015 2:18PM | EMAIL | PRINT

15

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KICKS FROM SCIENCE

Astronauts oversleep, too: follow Apollo 17 live!*

December 10, 2015 kicksfromscience

December 6 marked the 43rd anniversary of the launch of Apollo 17, the last mission that landed men on the Moon.

To mark the occasion, developer Ben Feist has created a site that using actual recordings and visuals from the entire mission, lets you live Apollo 17 in real time, second by second as it played out in 1972, and it's a real treat.

At Apollo17.org, you get to experience all the minutiae of space travel, including equipment meter reads, the details of onboard experiments, you even hear what crewmembers Eugene "Gene" Cernan, Ronald Evans and Jack Schmitt had for breakfast. The stream is strangely gripping – it's easy to get roped into all the fluid dynamics in microgravity experiment action.

The Last Mission to the Moon

A real-time journey through the Apollo 17 mission.

Over 300 hours of audio | Over 22 hours of video | Over 4,200 photos

Every moment relived as it occurred in 1972.

Join at 1minute to launch

Join in-progress

Fullscreen

با پروژه «آپولو 17» سفر به ماه را تجربه کنید

هواضا | علم و دانش

نوشته فروغ بیداری • پنج شنبه، ۱۲ فروردین

http://dgto.ir/1a7

44 سال پیش آخرین سفر انسان به کره ماه صورت پذیرفت؛ آپولو 17 ششمین سفر از ماموریت های آپولو و آخرین سفر انسان به کره ماه بود که در سال 1972 میلادی از مرکز فضایی کندی در فلوریدا صورت پذیرفت. این سفینه پس از 12 روز به همراه بخشی از خاک سطح ماه به زمین بازگشت.

اکنون پس از 4 دهه، با پیشرفت های فراوان علم و فناوری تصور می شود که انسان

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阿波罗17号月球之旅-Apollo 17 in Real-time

756 °C 1条评论

←点击评分，有趣指数： 5.00星

强烈推荐的科普网站，网站用真实的视频、音频、图片全方位展示了阿波罗17号月球之旅，设计合理的版面可以让你快速融入其中，俨然一部科幻大片！

传送门 http://apollo17.org/

方法

悲剧的是，网站的视频、音频资料来自油管，所以，国内用户得不到最佳体验，请自行FAN墙！

进入网站后，右侧有两个按钮，T-MINUS 1M是将时间线定位到火箭发射前1分钟，NOW是对应当前时间，这两个按钮作用是一样的，都可以进入观看页面，只不过时间点不一样。。。

进入播放页面后，网页上端有三个时间线，从上到下可以理解为天、小时、分钟，左下角是视频、音频里所有的对话内容的文字资料，右侧是对应当时的图片资料！

ASTROMATERIALS RESEARCH AND EXPLORATION SCIENCE
JOHNSON SPACE CENTER

The Last Mission to the Moon

Apollo 17

Real-Time Mission Experience

Wed Dec 13 1972 | 1:12:56 AM

Mission Elapsed Time: 147:19:56

TRANSCRIPT | GUIDED TOUR | COMMENTARY

-00:01:00 **Public Affairs** MARK. T-minus 1 minute and counting. Now in the final minute of the countdown. At T-minus 45 seconds Gene Cernan will make the final guidance alignment - this is the -

-00:00:44 **Public Affairs** MARK. T-minus 45 and Gene Cernan made that final guidance alignment. That's the last action taken by the crew aboard the space vehicle. Now approaching the half minute mark. T-minus 33, T-minus 30 seconds and continuing on now - continuing on at T-minus 26 seconds ...

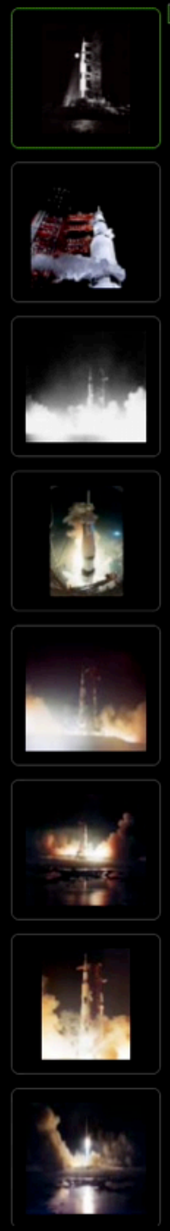
-00:00:30 **Mission Control** 30 to go.

-00:00:29 **Cernan** Okay, Robert. We're ready and we're GO up here.

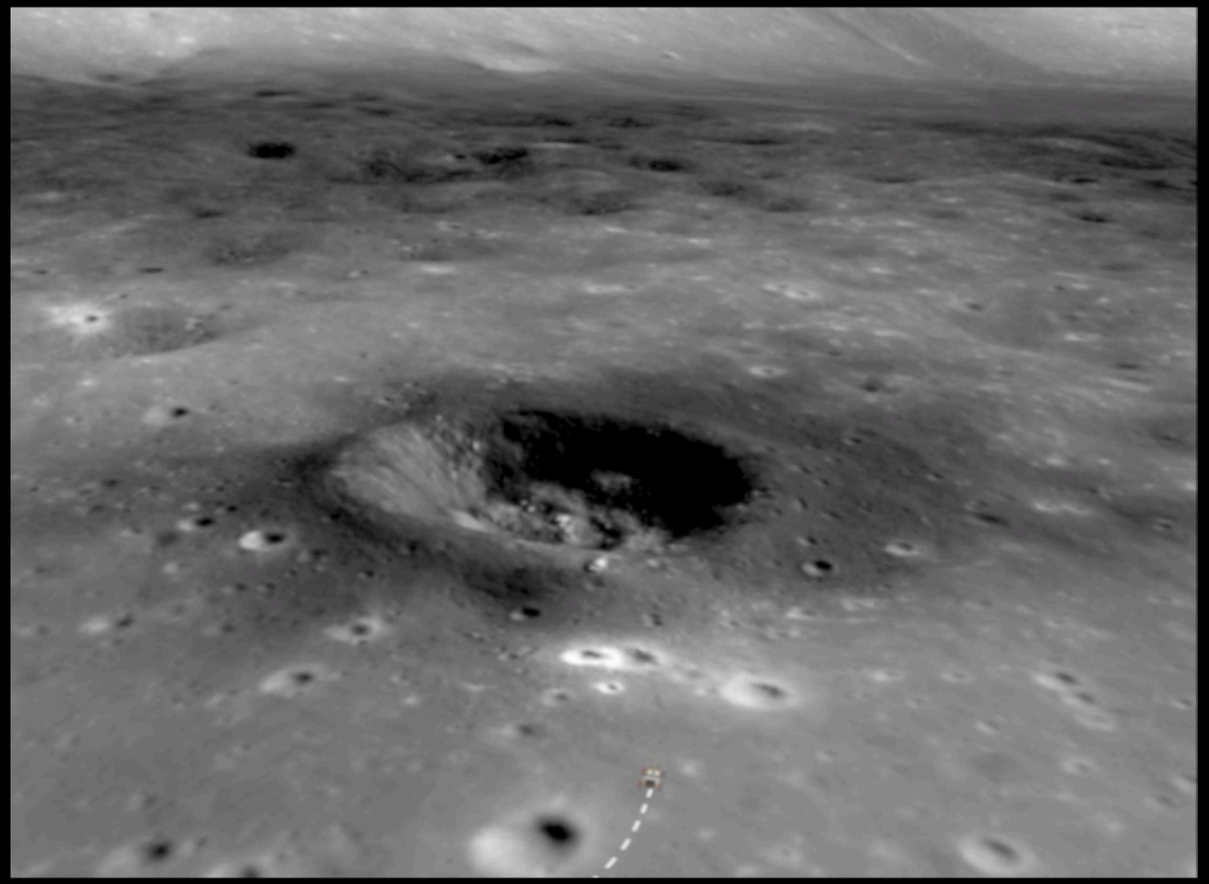
-00:00:25 **Public Affairs** MARK. T-minus 25. We'll get a final guidance release at the T-minus 17 second mark. T-minus 17, final guidance release. We'll expect engine ignition at 8.9 seconds ...

-00:00:21 **Mission Control** Minus 20.

-00:00:10 **Public Affairs** 10 ... 9 ... 8 ... 7 ... ignition sequence started - all engines are started - we have ignition 2, 1, zero - we have a liftoff.

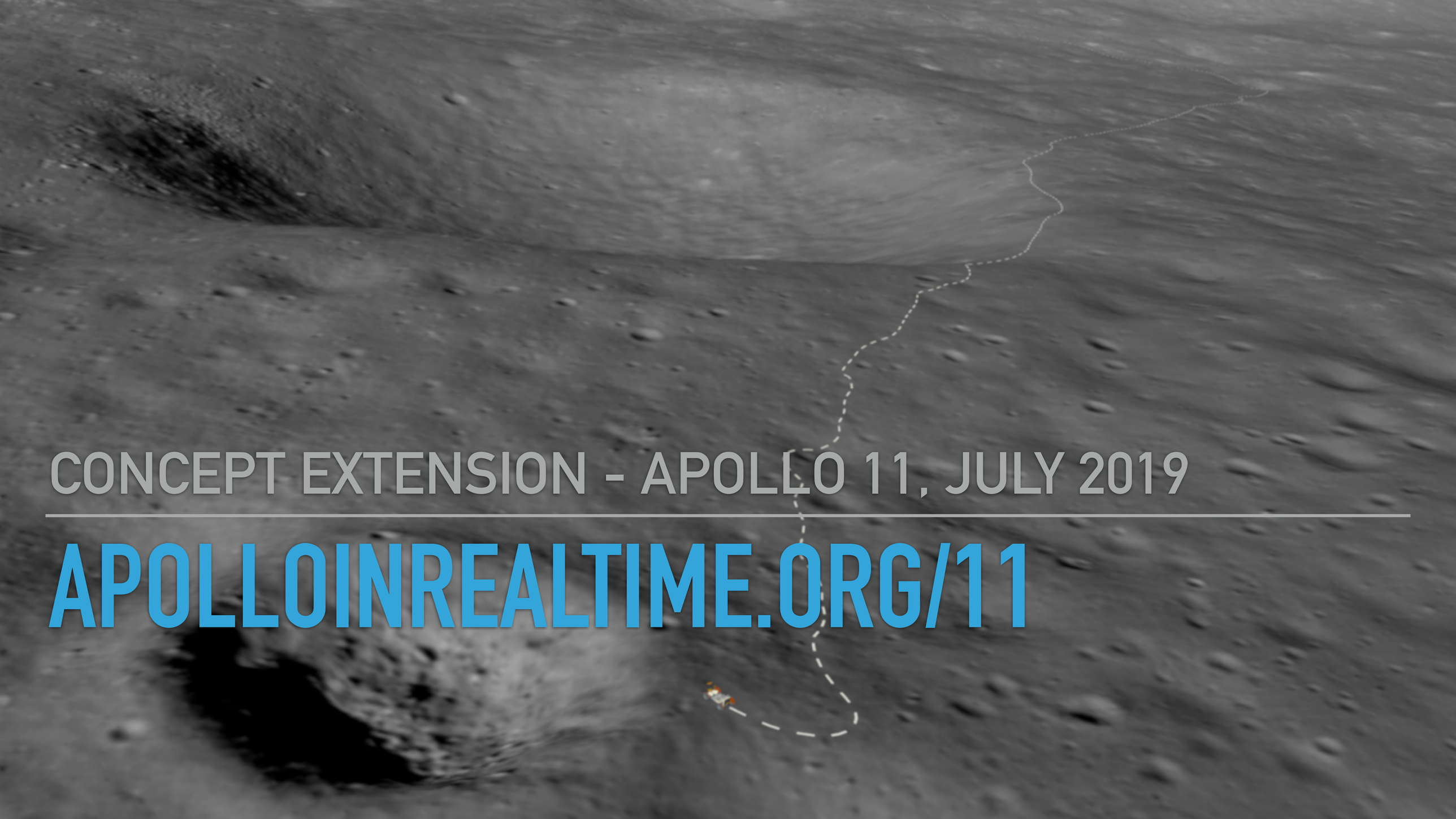


POST-MISSION DATA SOURCES



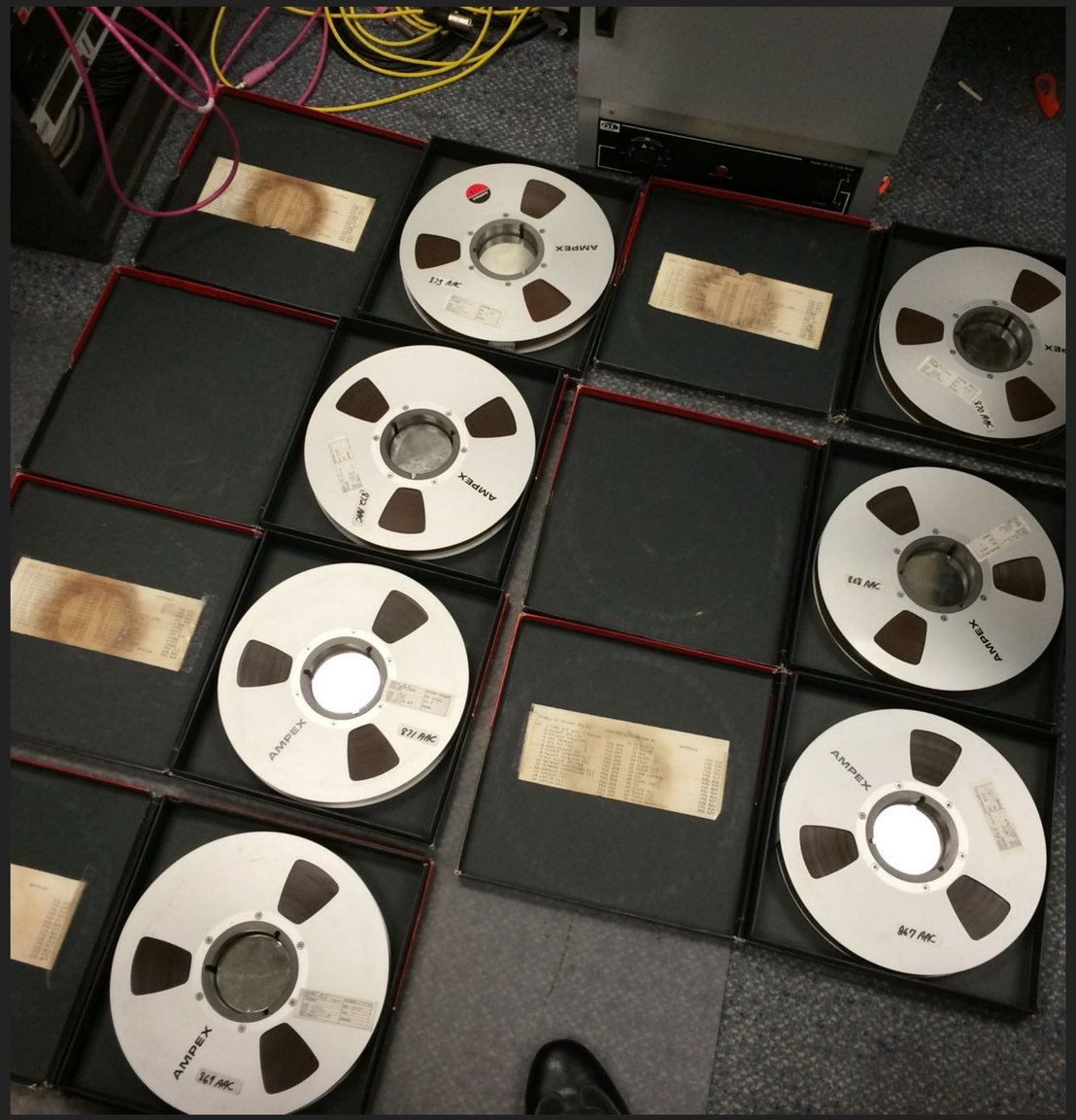
CURATION | Lunar

astrophysics data system


CONCEPT EXTENSION - APOLLO 11, JULY 2019
APOLLOINREALTIME.ORG/11

APOLLO 30-TRACK TAPES

- Recorded within the MOCR throughout each mission
- 60 tracks of concurrent audio (two 30 track recorders)
- Apollo 11 ~11,000 hours of audio

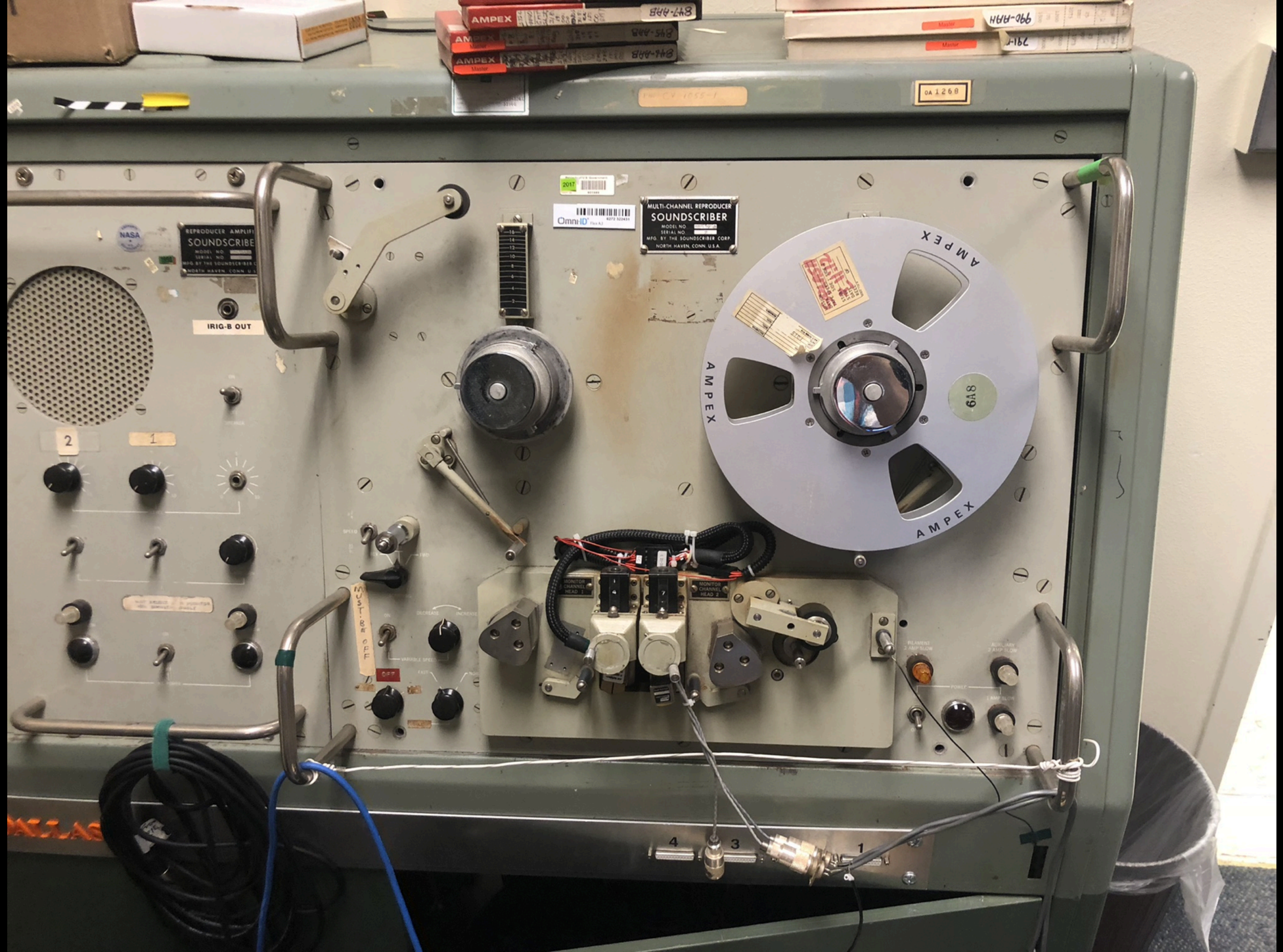


POLLO 11 AS-506 3RD FL HISTORICAL RECORDER #1 06-09-69

H	1	TIME GMT IRIG B FORMAT		CH	16	INCO	POS 009
	2	FLIGHT OPS DIR	POS 608		17	EECOM	POS 638
	3	MISSION DIRECTOR	POS 001		18	GNC	POS 010
	4	DOD MANAGER	POS 007		19	RETRO	POS 020
	5	OPS AND PRO	POS 004		20	FIDO	POS 017
	6	ASST FLIGHT DIR	P6S 003		21	GUIDO [L]	POS 018
	7	FLIGHT DIRECTOR [L]	POS 609		22	GUIDO [R]	POS 019
	8	FLIGHT DIRECTOR [R]	POS 002		23	LOAD CONTROL	POS 825
	9	FLT PLANS OFFICER	POS 005		24	RTC	POS 824
	10	NETWORK CONTROLLER [L]	POS 602		25	CCATS CMD	POS 823
	11	NETWORK CONTROLLER [R]	POS 008		26	TIC	POS 827
	12	SURGEON [L]	POS 016		27	CCATS TM	POS 826
	13	SURGEON [R]	POS 015		28	TRACK [L]	POS 836
	14	CAPCOM [L]	POS 639		29	TRACK [R]	POS 837
	15	CAPCOM [R]	POS 014		30	VOICE ANNOTATION	

APOLLO 11 AS-506 3RD FL HISTORICAL RECORDER #2 06-09-69

CH	1	TIME GMT IRIG B FORMAT		CH	16	SPAN	POS 056
	2	NASA RECOVERY COORD	POS 082		17	BOOSTER [L]	POS 013
	3	ASST NASA RECOVERY COORD	POS 083		18	BOOSTER [C]	POS 640
	4	RECOVERY STATUS	POS 084		19	BOOSTER [R]	POS 012
	5	RECOVERY EVALUATOR	POS 641		20	3 FLIGHT DIRECTOR LOOP	I-301
	6	DOD COORD	POS 076		21	3 AFD CONF LOOP	L-091
	7	DOD PRIMARY OP	POS 077		22	3 GOSS 2 LOOP	I-277
	8	DOD MANAGER [RCVY]	POS 074		23	ALSEP EAO 2	POS 613
	9	DOD EXEC	POS 075		24	3 MOCR DYN LOOP	I-062
	10	DOD ASST FOR COMM-1	POS 078		25	3 GOSS CONF LOOP	I-275
	11	DOD PIO	POS 079		26	3 GOSS 4 LOOP	I-300
	12	COMM TECH [3RD FL]	POS 206		27	LM GNC ENGINEER	POS 011
	13	COMM CONTROLLER [3RD FL]	POS 205		28	LM EECOM ENGINEER	POS 604
	14	SPACE ENVIRONMENT	POS 090		29	EXPMT ACTIVITIES OFFICER	POS 603
	15	COMPUTER SUPPORT	POS 176		30	VOICE ANNOTATION	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SOUNDSCRIBER
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SERIAL NO.
MFG. BY THE SOUNDSCRIBER CORP.
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1

APOLLO 11 IN REAL TIME

A real-time journey through the first landing on the Moon

This website consists entirely of original historical mission material

T-MINUS 1M

Join at 1 minute to launch

NOW

Join in-progress

Mon Jul 21 1969
1:22:12 PM
(49 years, 11 months ago)

Fullscreen
(recommended)

Included real-time elements:

- All mission control film footage
- All TV transmissions and onboard film footage
- 2,000 photographs
- 11,000 hours of Mission Control audio
- 240 hours of space-to-ground audio
- All onboard recorder audio
- 15,000 searchable utterances
- Post-mission commentary
- Astromaterials sample data

Instructions / Credits

The First Landing on the Moon

Apollo 11

Real-Time Mission Experience

Wed Jul 16 1969 | 09:31:02 AM

Mission Elapsed Time: -00:00:58

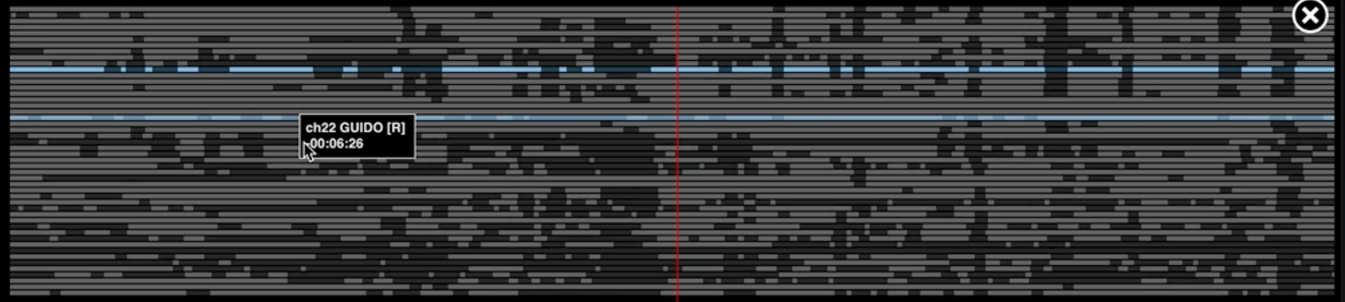
TRANSCRIPT | MISSION MILESTONES | COMMENTARY

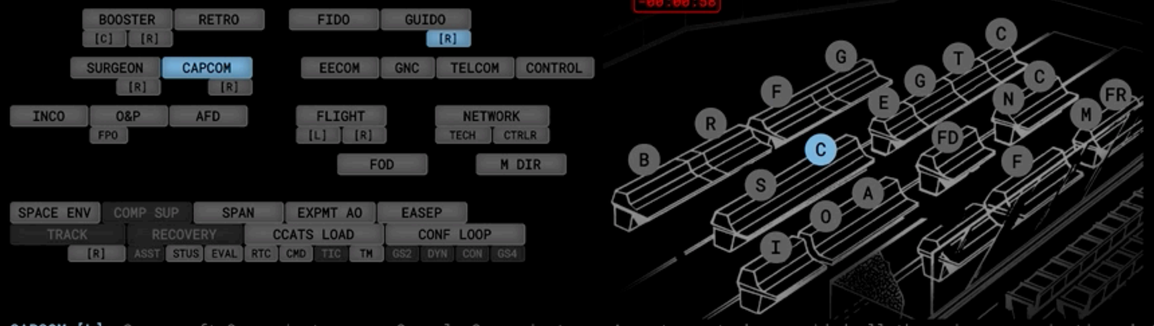
-00:01:01	Public Affairs	T-minus 60 seconds and counting. We have passed T-minus 60. 55 seconds and counting. Neil Armstrong just reported back, "It's been a real smooth countdown." We have passed the 50-second mark. Our transfer is complete. We're on internal power with the launch vehicle at this time.
-00:00:42	Public Affairs	40 seconds away from the Apollo 11 liftoff. All the second stage tanks now pressurized. 35 seconds and counting. We are still go with Apollo 11.
-00:00:31	Public Affairs	30 seconds and counting. Astronauts report, "It feels good." T-minus 25 seconds. 20 seconds and counting. T-minus 15 seconds, guidance is internal, 12, 11, 10, 9, ignition sequence start, 6, 5, 4, 3, 2, 1, zero.
000:00:00	Public Affairs	All engines running.
000:00:01	Public Affairs	LIFTOFF. We have a liftoff, 32 minutes past the hour.
000:00:03	Armstrong	Roger. Clock.
000:00:06	Public Affairs	Liftoff on Apollo 11.
000:00:11	Public Affairs	Tower cleared!
000:00:13	Armstrong	Roger. We got a roll program.
000:00:15	Mission Control	Roger. Roll.

Mission Control Channels

FOD, MSN DIR, FLIGHT, FLIGHT-L, FLIGHT-R, CAPCOM, CAPCOM-R, BOOSTER, BOOSTER-C, BOOSTER-R, RETRO, FIDO, GUIDO, GUIDO-R, SURGEON, SURGEON-R, EECOM, GNC, TELCOM, CONTROL, INCO, OPS & PRO, FPO, ASST FD, NETWORK, COMM TECH, COMM CTRL, TRACK, TRACK-R, RECOVERY, RCVY ASST, RCVY STUS, CONF LOOP, GOSS 2, EASEP, MOCR DYN, GOSS CONF, GOSS 4, CCATS LD, CCATS RTC, CCATS CMD, CCATS TIC, CCATS TM, EXPMT AO, EVAL, SPACE ENV, COMP SUP, SPAN

PHOTOGRAPHY | MISSION CONTROL AUDIO | ASTROMATERIAL SAMPLES





CAPCOM [L]: Spacecraft Communicator – or Capsule Communicator - An astronaut who provided all the voice communications between the ground and the spacecraft. (left seat)

The First Landing on the Moon

Apollo 11

Real-Time Mission Experience

Sun Jul 20 1969 | 10:59:30 PM

Mission Elapsed Time: 109:27:30

TRANSCRIPT | MISSION MILESTONES | COMMENTARY

109:27:29 **Aldrin** Okay. It's taut now.

109:27:40 **Public Affairs** Unofficial time on the first step - 109:24:20.

109:27:53 **Aldrin** Okay. I think you're pulling the wrong one.

109:27:56 **Armstrong** I'm just - Okay. I'm ready to pull it down now. There was still a little bit left in the -

109:28:02 **Aldrin** Okay. Don't hold it quite so tight.

109:28:04 **Armstrong** Okay.

109:28:17 **Armstrong** Looking up at the LM, I'm standing directly in tne shadow now looking up at Buzz in the windows. And I can see everything quite clearly. The light is sufficiently bright backlighted into the front of the LM, that everything is very clearly visible.

109:28:57 **Aldrin** Okay. I'm going to be changing the -

109:28:59 **Armstrong** Okay.

109:30:23 **Public Affairs** The surgeon says that -

109:30:24 **Armstrong** The camera is installed on the RCU bracket - -

109:30:30 **Public Affairs** The Surgeon says the crew is doing well. Data is good, crew is doing well.

109:30:35 **Armstrong** - and I'm storing the LEC on the secondary strut.

109:30:54 **Armstrong** I'll step out and take some of my first pictures here.

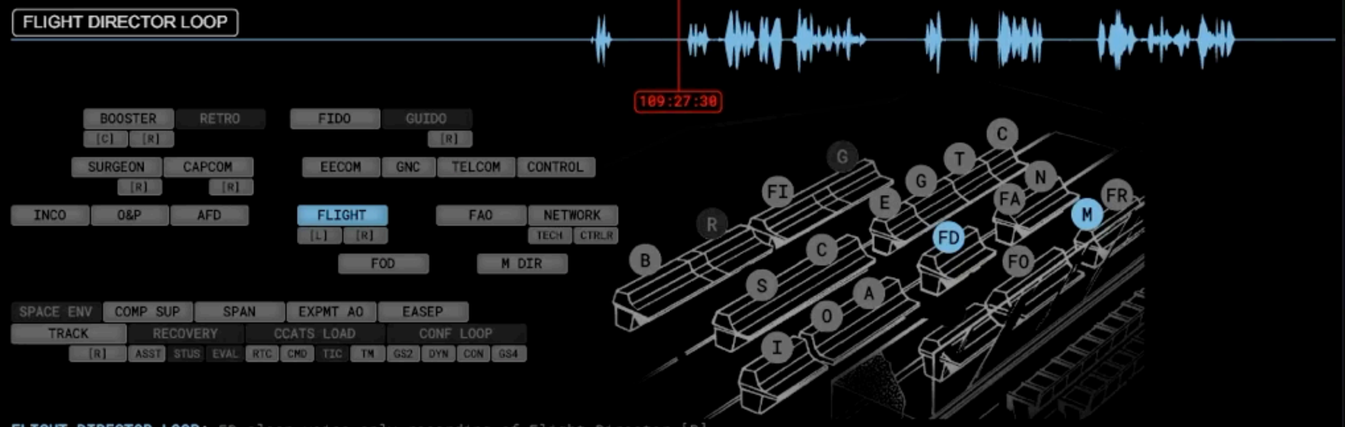
109:31:07 **Mission** Roger. Neil, we're reading you loud and clear. We see you getting

Mission Control Channels

FOD, MSN DIR, FLIGHT, FLIGHT-L, FLIGHT-R, CAPCOM, CAPCOM-R, BOOSTER, BOOSTER-C, BOOSTER-R, RETRO, FIDO, GUIDO, GUIDO-R, SURGEON, SURGEON-R, EECOM, GNC, TELCOM, CONTROL, INCO, OPS & PRO, FAO, ASST FD, NETWORK, COMM TECH, COMM CTRL, TRACK, TRACK-R, RECOVERY, RCVY ASST, RCVY STUS, CONF LOOP, GOSS 2, EASEP, MOCR DYN, GOSS CONF, GOSS 4, CCATS LD, CCATS RTC, CCATS CMD, CCATS TIC, CCATS TM, EXPMT AO, EVAL, SPACE ENV, COMP SUP, SPAN

PHOTOGRAPHY | MISSION CONTROL AUDIO | ASTROMATERIAL SAMPLES

FLIGHT DIRECTOR LOOP



FLIGHT DIRECTOR LOOP: FD clean voice-only recording of Flight Director [R]

UIS Observatory
@UISObservatory

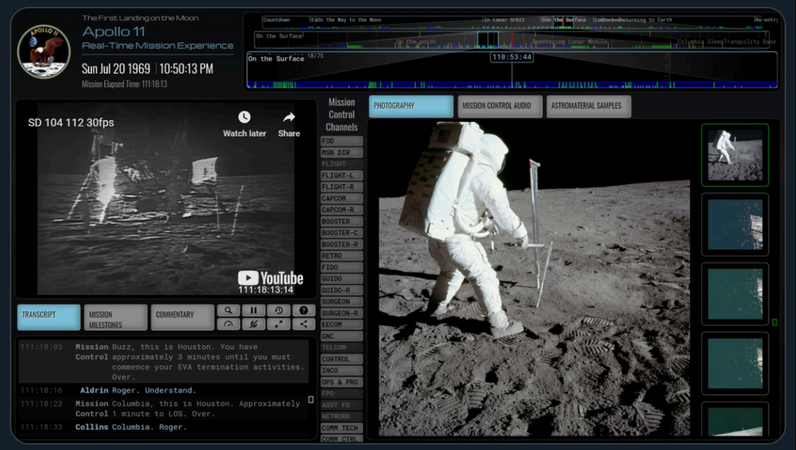
If you haven't discovered it yet, you can watch the Apollo 11 Moon Mission in "real-time" on apollo11inrealtime.org. It is a real treat to watch this with other ppl, so we are going to be communally viewing the best parts in a special event at the SPI Kidzeum on July 20

Apollo 11 in Real-time
A real-time interactive journey through the Apollo 11 mission. Relive every moment as it occurred in 1969.
apolloinrealtime.org

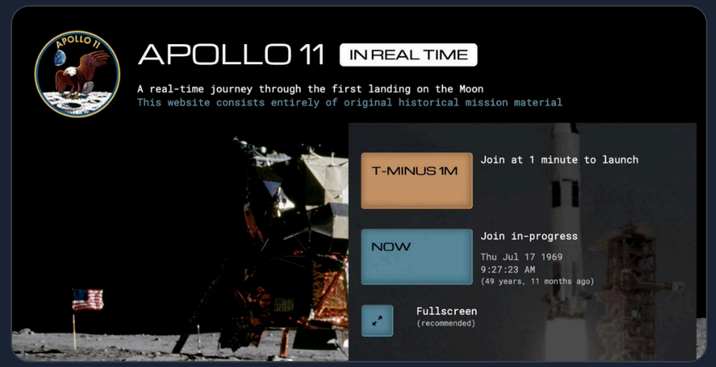
3:11 PM · Jun 29, 2019 · Twitter for iPad

Brandon M. Mercer
@bmmercer

#Apollo50 I've judged digital entries from @nytimes @TexasTribune @CNN and more, but this is the absolute best digital interactive I've seen in my entire life. Dozens of channels of audio. 11,000 hours of video. Curated to EASILY watch. apolloinrealtime.org/11/ by @BenFeist



Planetary Society @exploreplanets · Jun 28
This is spectacular: apolloinrealtime.org/11/



73 195

Michael Collins @AstroMCollins · Jun 25
Brings back so many memories, don't know which part to focus on.

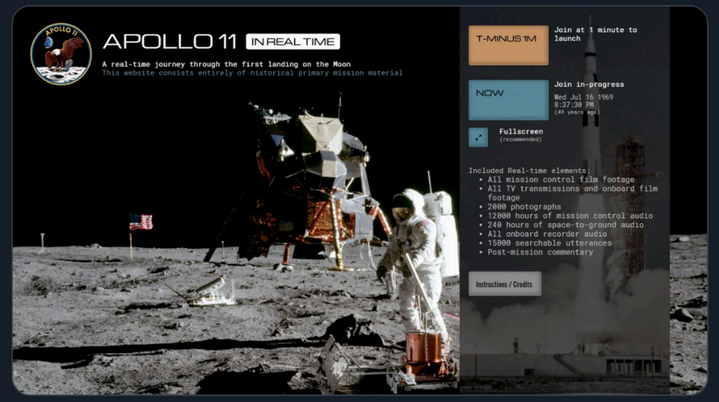
Experience #Apollo11 in real-time: apolloinrealtime.org/11 @BenFeist @NASA

28 253 1K

Uriah
@Uriahhhhhhh
Follow

こないだもツイートしたけど、アポロ11号の記録をリアルタイムで見られるサイト。（50年前の）まさにこの時間、アームストロング船長たちが月面に降りて月の石を拾って

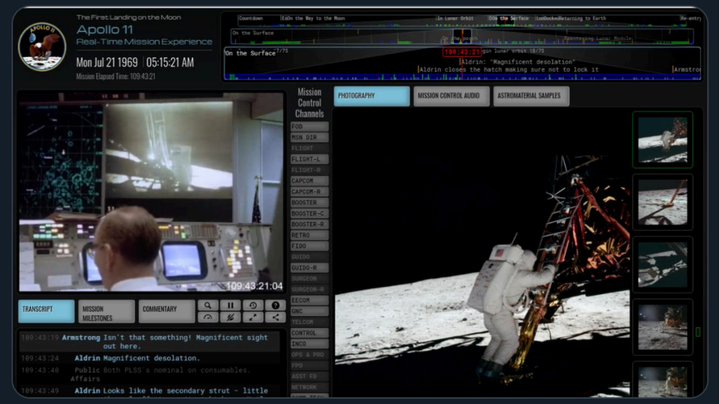
P.-F. Mouriaux @PFMouriaux · Jul 2
Un site fan-tas-tique, qui retrace la mission #Apollo11 en temps réel, avec une compilation incroyable de photographies, enregistrements audio et films d'époque : apolloinrealtime.org/11/
Et toujours en kiosques, notre numéro hors-série « L'homme est sur la Lune ! »
@apollo_50th



You and 2 others

15 40

US Embassy Madrid @USembassyMadrid · Jun 28
Revive minuto a minuto la primera llegada del ser humano a la Luna con esta web que reproduce con material original desde el lanzamiento, el paseo lunar y el regreso a la Tierra, con grabaciones, vídeos e imágenes de NASA.
ow.ly/FUjC50uOQlf #Apollo50th #NASA



7 21

Sharkman
@Sharkman1963

Follow

Want to fall into an endless time suck in which you will marvel, wonder, and stand in awe?

Apollo 11 in Real-time

A real-time interactive journey through the Apollo 11 mission. Relive every moment as it occurred in 1969.

apolloinrealtime.org

Sir Patrick Moore
PLANETARIUM
Apollo 11
Mon Jul 21 1969 03:39:46 AM
Mission Status
Mission Day: 6/9
Mission Phase:
On the surface
Crew Status:
Collins: In Command Module
Armstrong, Aldrin: In Lunar Module on the lunar surface
Command Module:
In lunar orbit. Orbit: 17/31
Distance from Earth:
207,559 nautical miles (384,399.2 km) average
109:07:46:08
Mission Control Channels
PHOTOGRAPHY
MISSION CONTROL AUDIO
ASTROMATERIAL SAMPLES
TRANSCRIPT
MISSION MILESTONES
COMMENTARY
Aldrin No. I'd better get up first.
Aldrin Okay. The valves in AUTO.
Armstrong Okay.
Aldrin Might want to fill it up to FORWARD.

SYDNEY CRICKET GROUND
Apollo 11
Mon Jul 21 1969 01:05:02 PM
109:33:02:10

H15
F15

RISE4

REMOTE IN SITU AND SYNCHROTRON STUDIES FOR SCIENCE AND EXPLORATION

SOLAR SYSTEM EXPLORATION RESEARCH VIRTUAL INSTITUTE

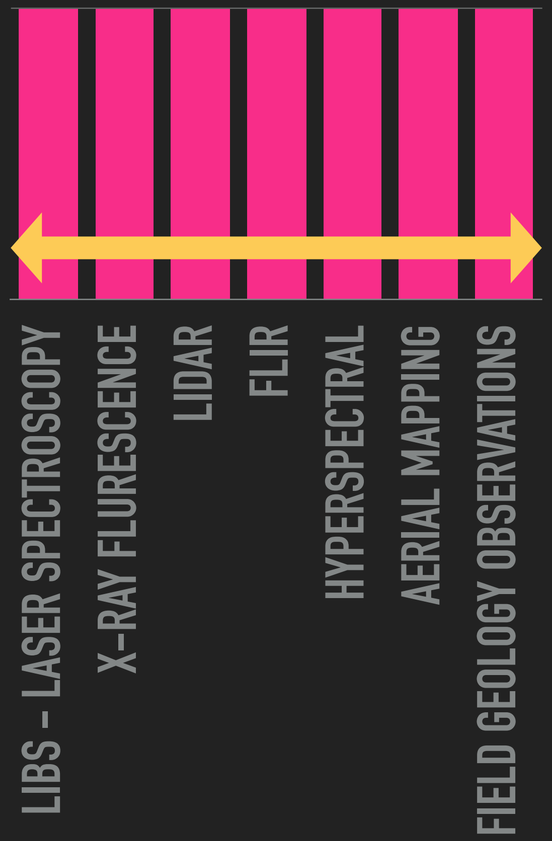
SSERVI

APPLICATION TO NEW OPERATIONS

TRAINING, ANALOGS, AND FUTURE MISSIONS

CAMELBAK
NASA

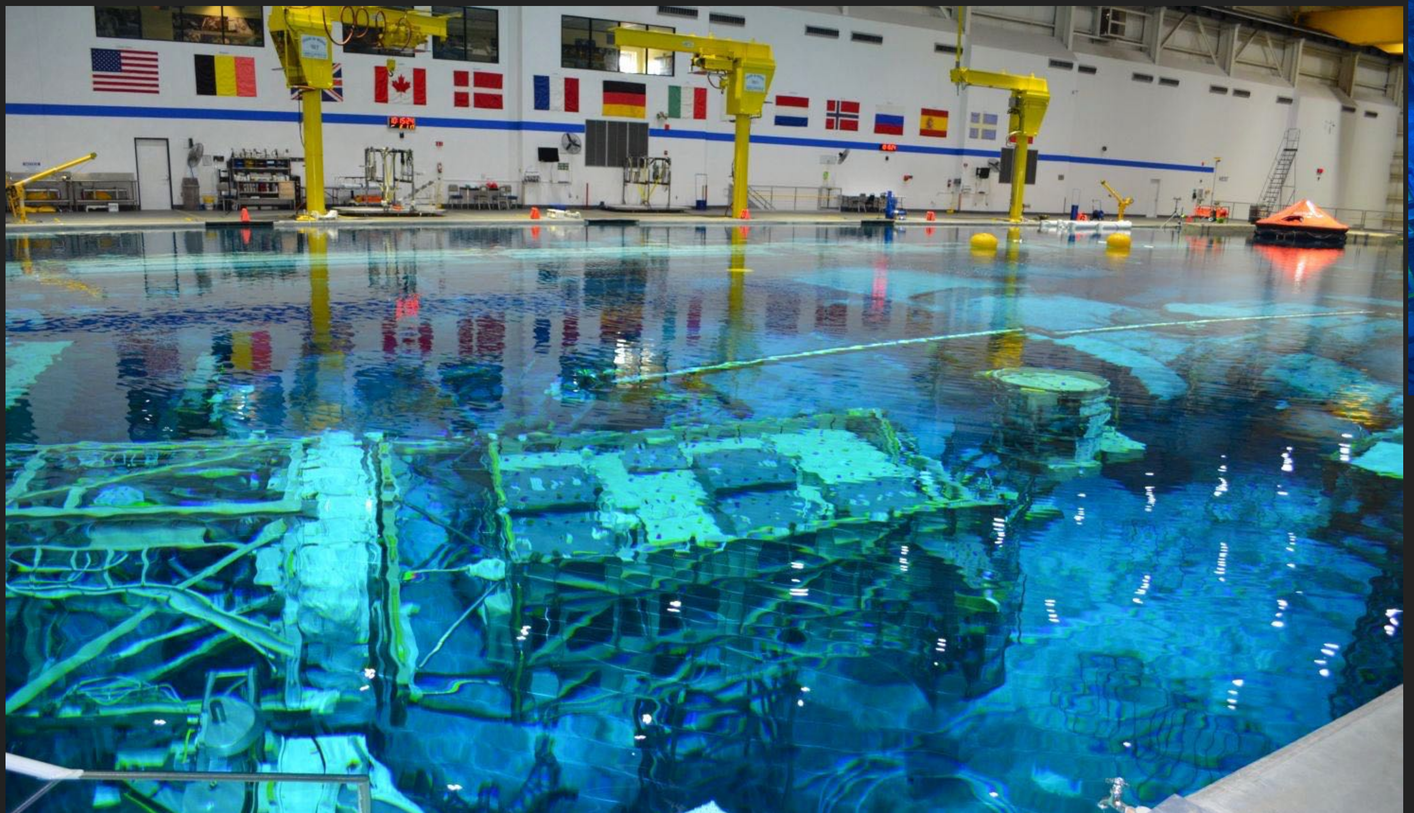
USING CHRONOLOGY TO ORGANIZE LARGE VOLUMES OF REAL-TIME DATA



Liz
Butch
6
11:39:06:02
Liz
Butch
EVA Still Camera
Drone
Jun 5 2017
17:39:06 UTC
CESIUM
bing
© Analytical Graphics Inc., © CGIAR-CSI, Produced using Copernicus data and information funded by the European Union - EU-DEM layers - © 2017 Microsoft Corporation - © 2017 DigitalGlobe - ©CNES (2017) Distribution Airbus DS
Jun 5 2017 17:00:00 UTC
Jun 5 2017 17:10:00 UTC
Jun 5 2017 17:20:00 UTC
Jun 5 2017 17:30:00 UTC
Jun 5 2017 17:40:00 UTC
Jun 5 2017 17:50:00 UTC
Jun 5 2017 18:00:00 UTC
Jun 5 2017 18:10:00 UTC
Jun 5 2017 18:20:00 UTC

NEUTRAL BUOYANCY LAB

- Real-time displays of analog runs
- Video, Audio, Suit telemetry

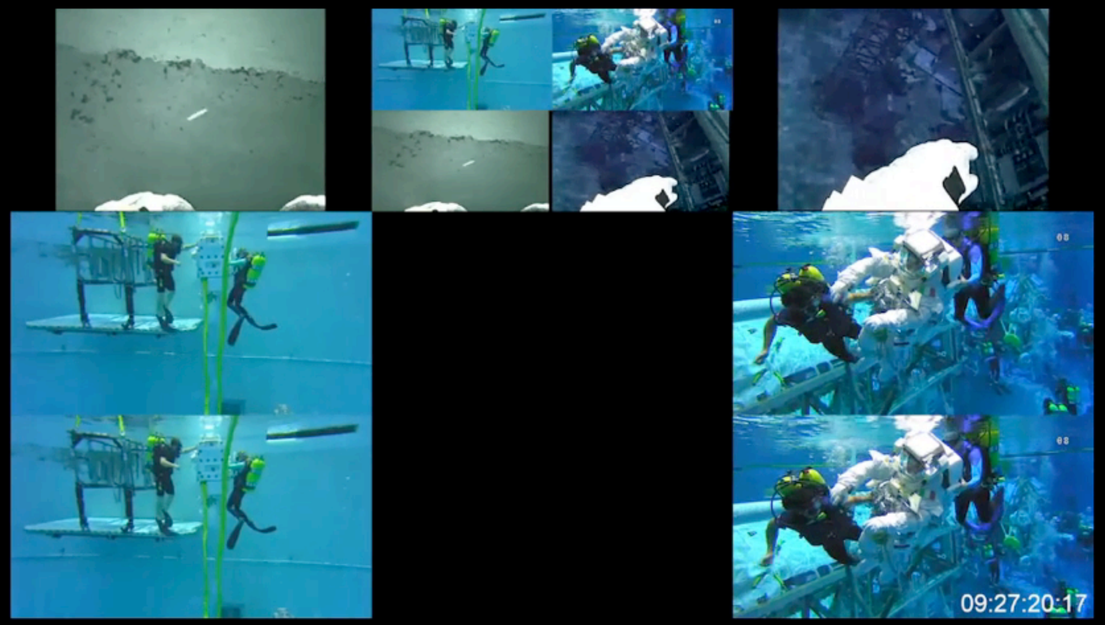


NBL Run Visualizer Prototype

Mission Time: 2018/07/11 09:27:19 CDT | GMT: 192/14:27:19

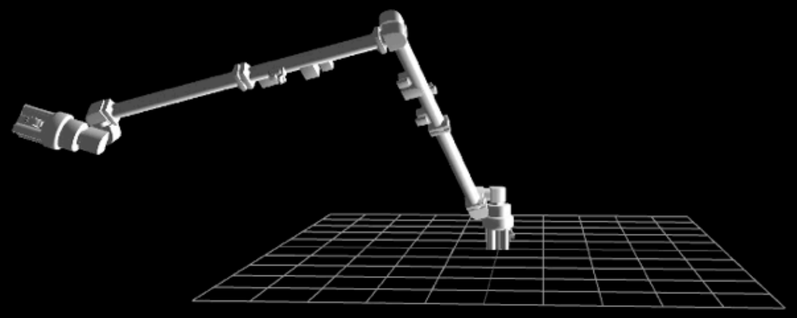
v0.4
Ben Feist

Play Pause



Front Back Left Right Top Bottom

Mousedown+ to move / rotate / zoom

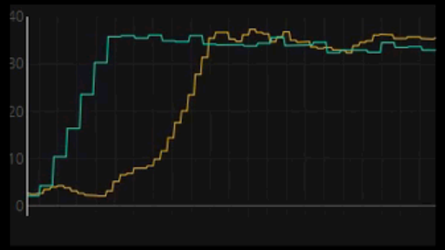


09:27:19

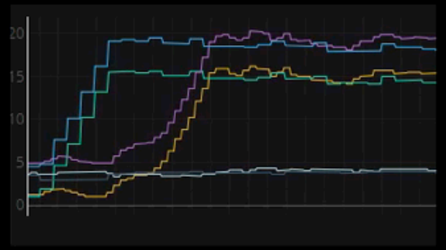
Control Input
SR: 0
SP: 0
SY: 0
EP: 0
WP: 0
WY: 0
WR: 0

Joint Angles
SR: 12.03003
SP: -38.71031
SY: -21.29149
EP: -88.95077
WP: -64.96212
WY: 35.31557
WR: 31.22863

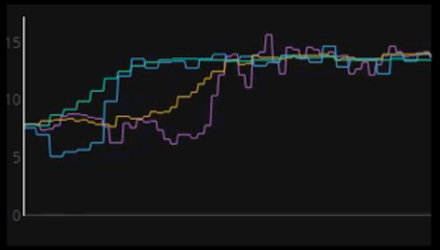
Depth (feet)



Pressure (psi)

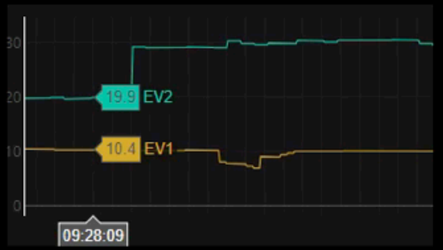


Airflow (SCFM)



Airflow (ACFM)

Cooling Water (gpm)

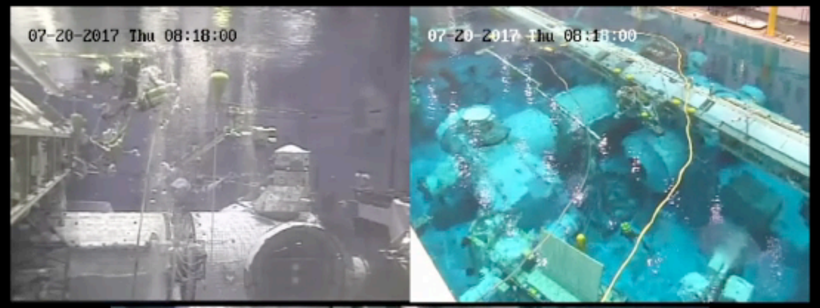


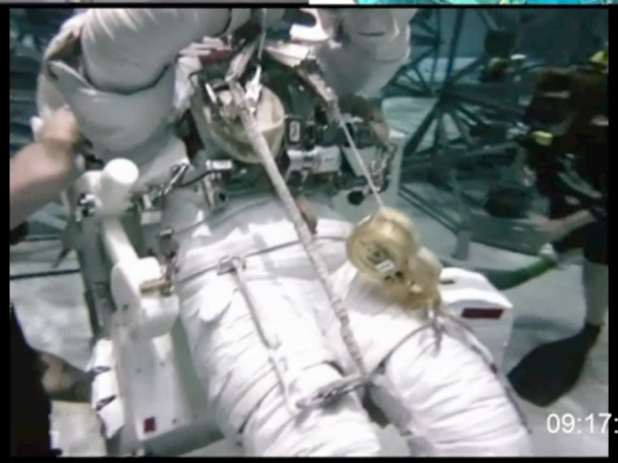
Depth (feet)

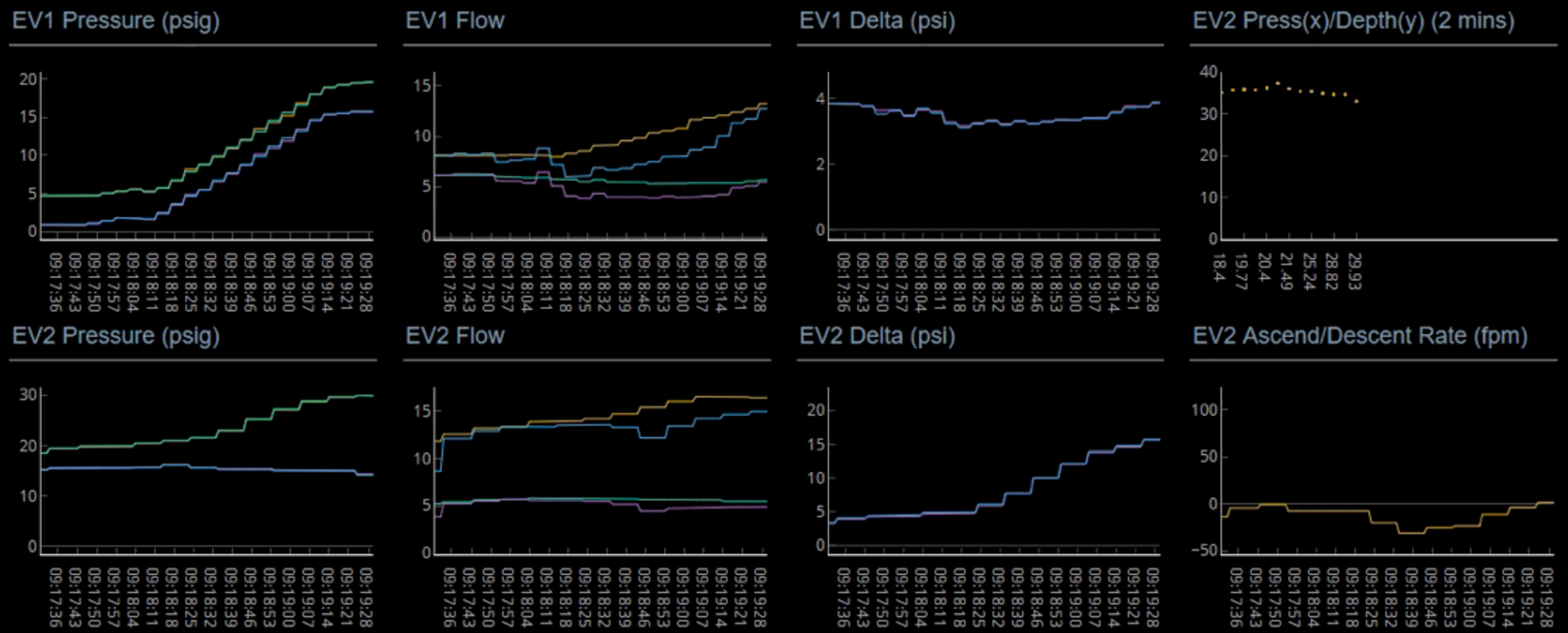
NBL Visualizer - Overpress Run

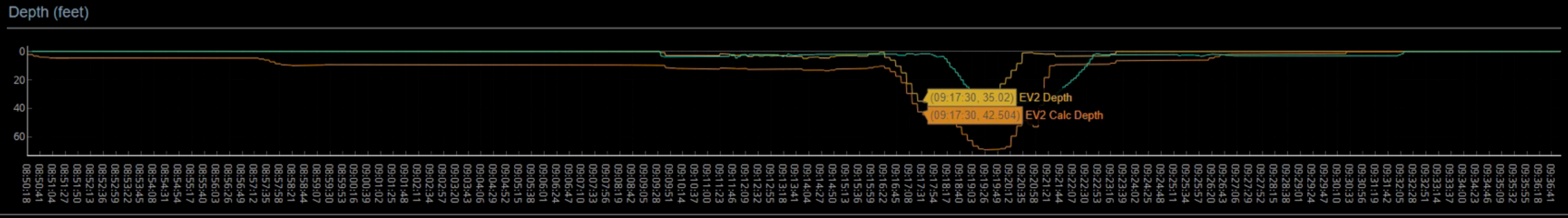
Mission Time: 2017/07/29 09:17:30 CDT | GMT: 210/14:17:30

v0.5
Ben Feist





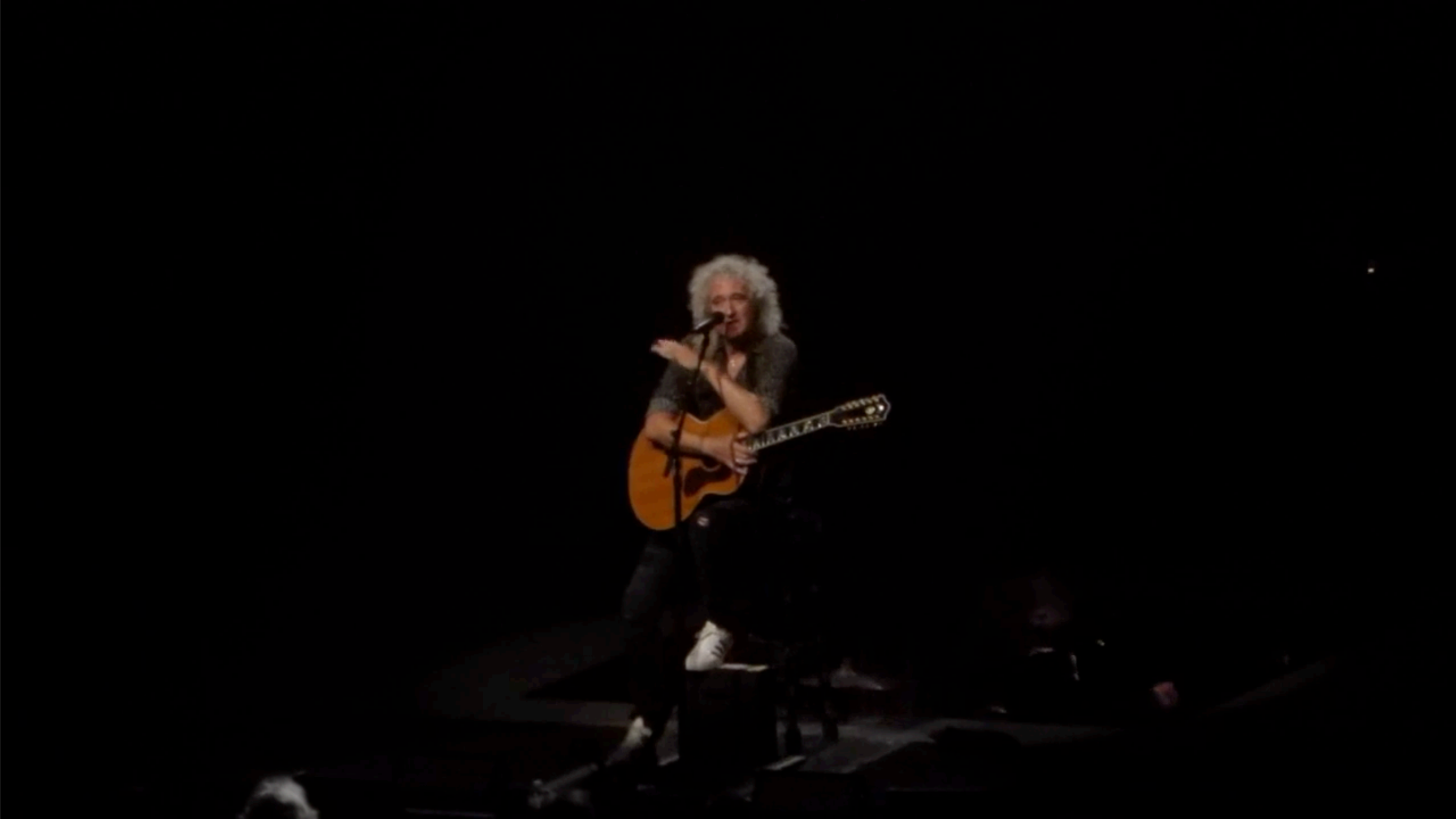


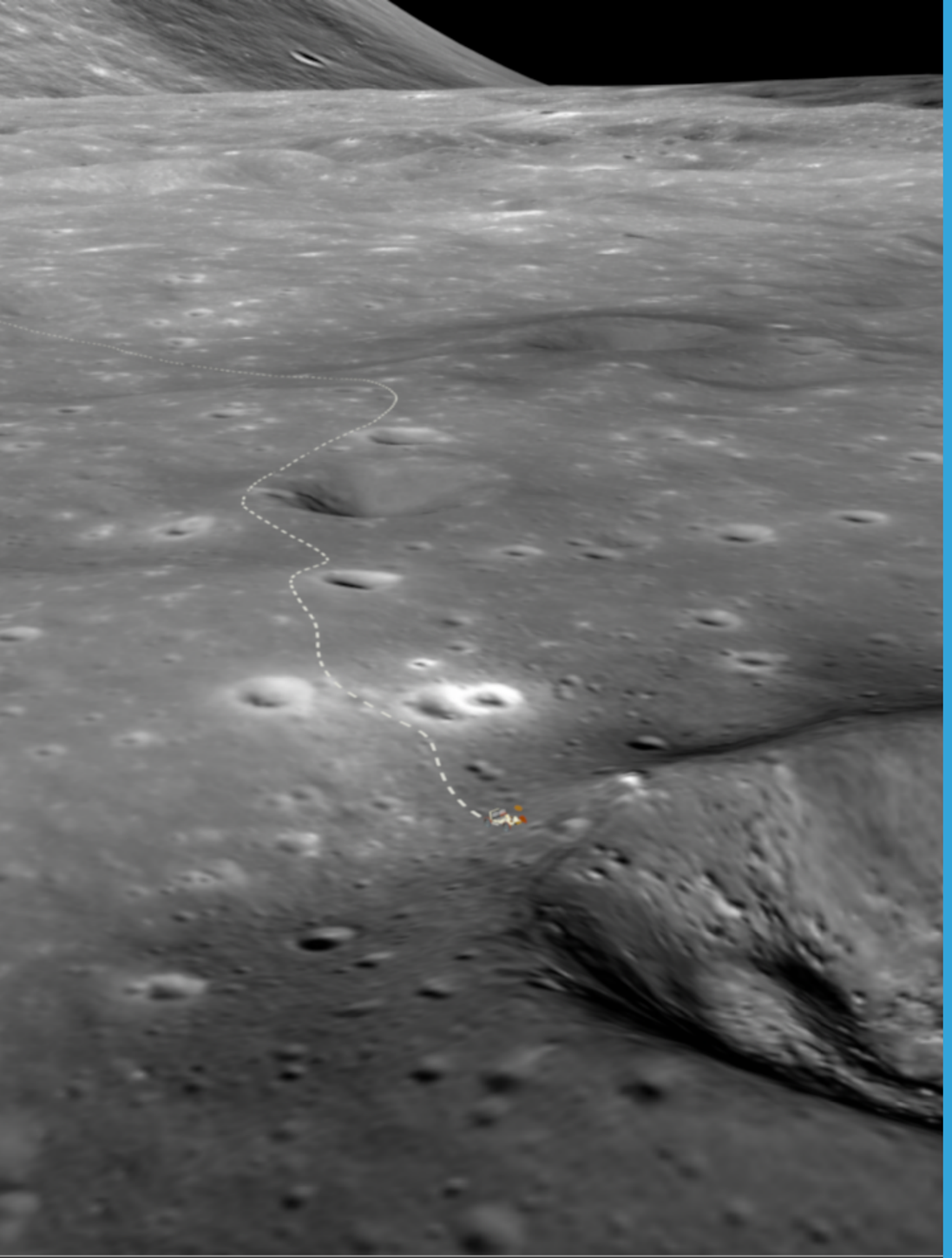


CONNECTING WITH HUMANITY ON FUTURE MISSIONS

ARTEMIS

Apollo 11 in Real Ti
https://apolloinrealtime.org/11/
The First Landing on the Moon
Apollo 11
Real-Time Mission Experience
Fri Jul 18 1969 06:04:18 PM
On the Way to the Moon
Mission Control Channels
CAPCOM [R]
056:32:18:18
TRANSCRIPT
MISSION MILESTONES
COMMENTARY
Aldrin Inside the helmet visors are the EVA gloves with the blue tips. I'll not take those out now.
Mission Control Roger, Buzz. That's a great shot now that we're getting of the helmet, the EVA visor, and also the - the EVA gloves in the background.
Aldrin Okay. You did say this was going out now, didn't you?
Mission Control Standby. I think so.
Mission Control 11, you got a pretty big audience. It's live in the U.S. It's going live to Japan, Western Europe, and





THANK YOU

apollo17.org
apolloinrealtime.org

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benjamin.f.feist@nasa.gov