

Join cosmic rays and see the world

- Fort Churchill, Manitoba, Canada
 - Skyhook



Polar bears at garbage dump, Ft. Churchill



© Splash

1/19/21

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Join cosmic rays and see the world

- Fort Churchill, Manitoba, Canada
 - Skyhook
- Tucumán, Argentina
 - Money exchange
 - Recovery



Cape Santocci

Used hydrogen

Prof. Santocci was a smoker.
He would put his cigarette to
rest on the gas cylinders.

Australian speaking

Faster (sounds like fasta)

Spanish hearing

Basta: Enough, stop it



Tucumán, Argentina

- Payload (about 6 ft tall and very thin -1.5 ft diameter) came down in very desert area (no rain for year and half) with thick thorny plants.
- Search plane landed. Crew found young girl who said she would take them to the payload. She crawled through and under leafless thorny bushes. The search crew followed. She found the payload after about 30 minutes. They gave her a \$5 reward.
- The newspaper from the nearby town had a front page story about how a cash of armaments had been parachuted into the region to supply rebels in the area and how a little girl had been given an enormous bribe to keep it quiet.

Join cosmic rays and see the world

- Fort Churchill, Manitoba, Canada
 - Skyhook
- Tucumán, Argentina
 - Recovery
 - Money exchange
- Queensland, Australia
 - Townsfolk
 - Hydrogen
 - Leave taking





Gondola
6 ft tall,
about 1½ ft
in diameter.



Recovery of the
payload was often an
adventure in itself.

Argument with Professor about launching with hydrogen.

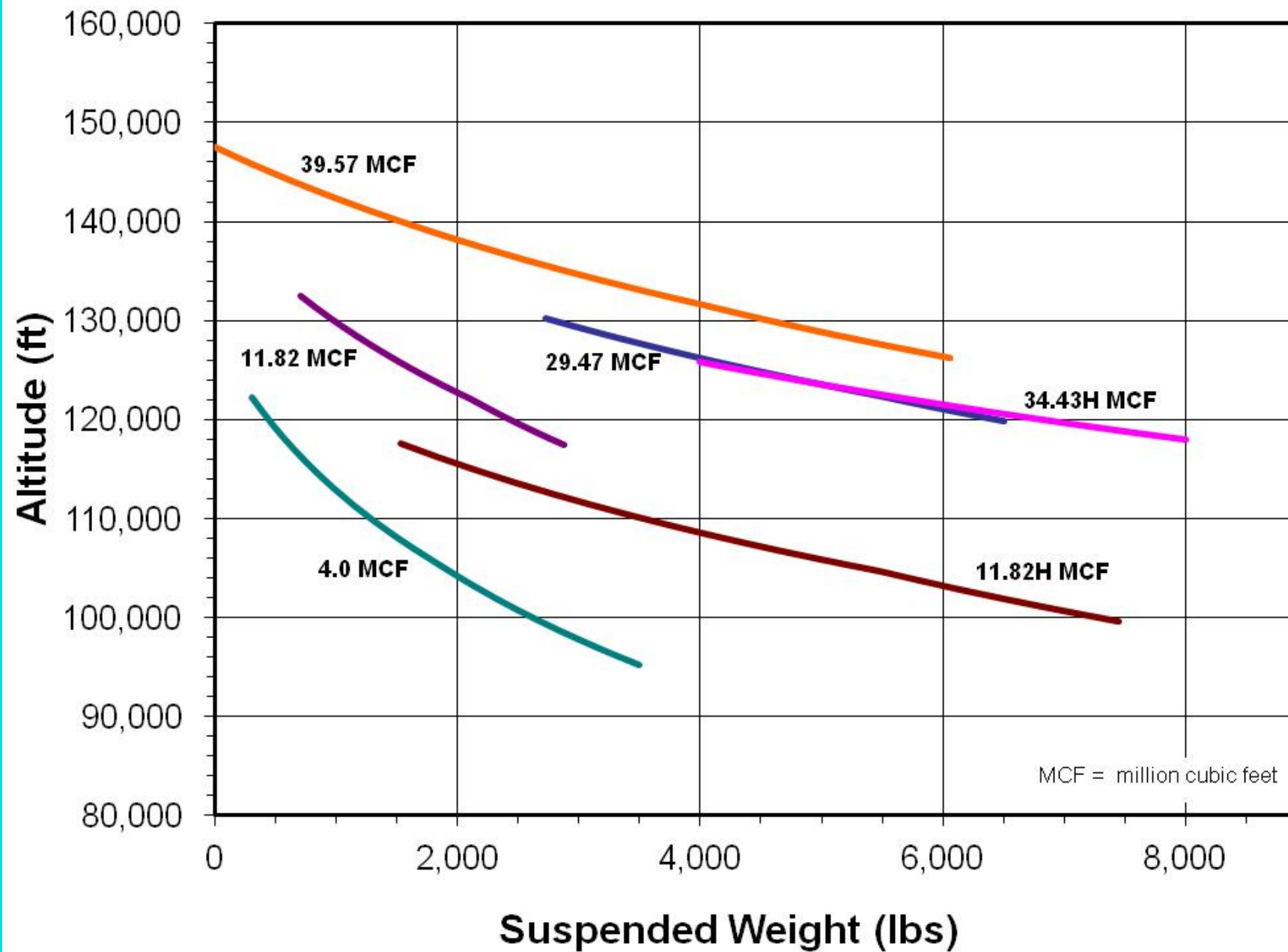
Go home to pregnant wife, write dissertation
and get a job.

National Research Council Resident Associate
appointment at NASA,
Goddard Space Flight Center. Greenbelt, MD.
Just north of District of Columbia

Requirements: new capabilities at NASA

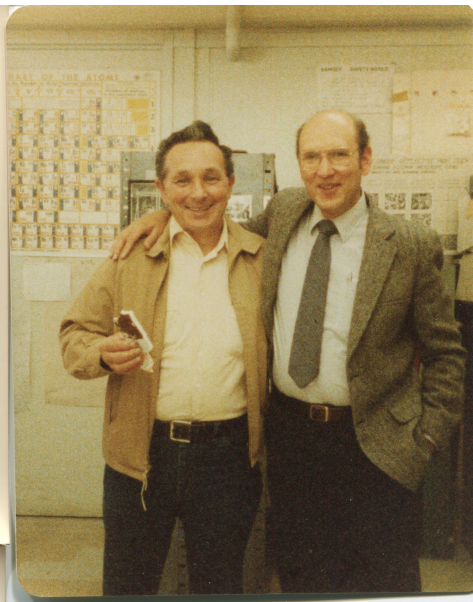
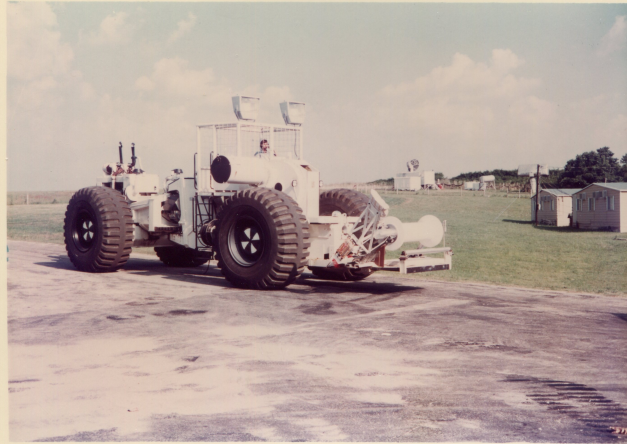
- Large area detectors due to the ever-decreasing intensity as energy increased.
- “As long as possible” balloon flights.
 - 12-36 hours
- Weight was constrained (3000 lbs – 8000 lbs)
 - This changed over time as balloon technology improved
 - Balloons failed and had to be redesigned

Capabilities



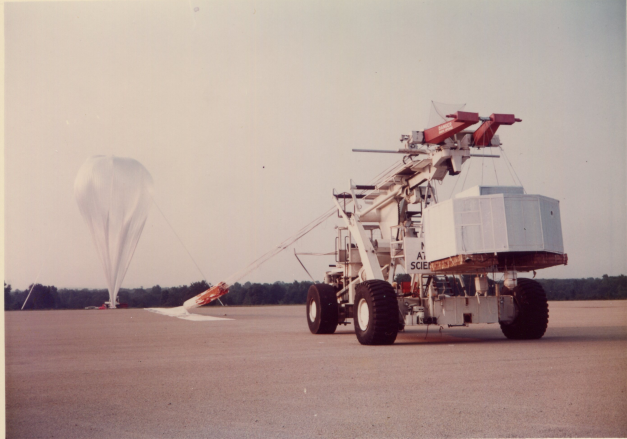
At NASA we had access to much larger stratospheric 20-30,000,000 ft³ balloons





My best technician

- WWII vet; Italian campaign
- Always willing to work
- Farm in N. Carolina
 - Barn story
- Dedicated to me and our science

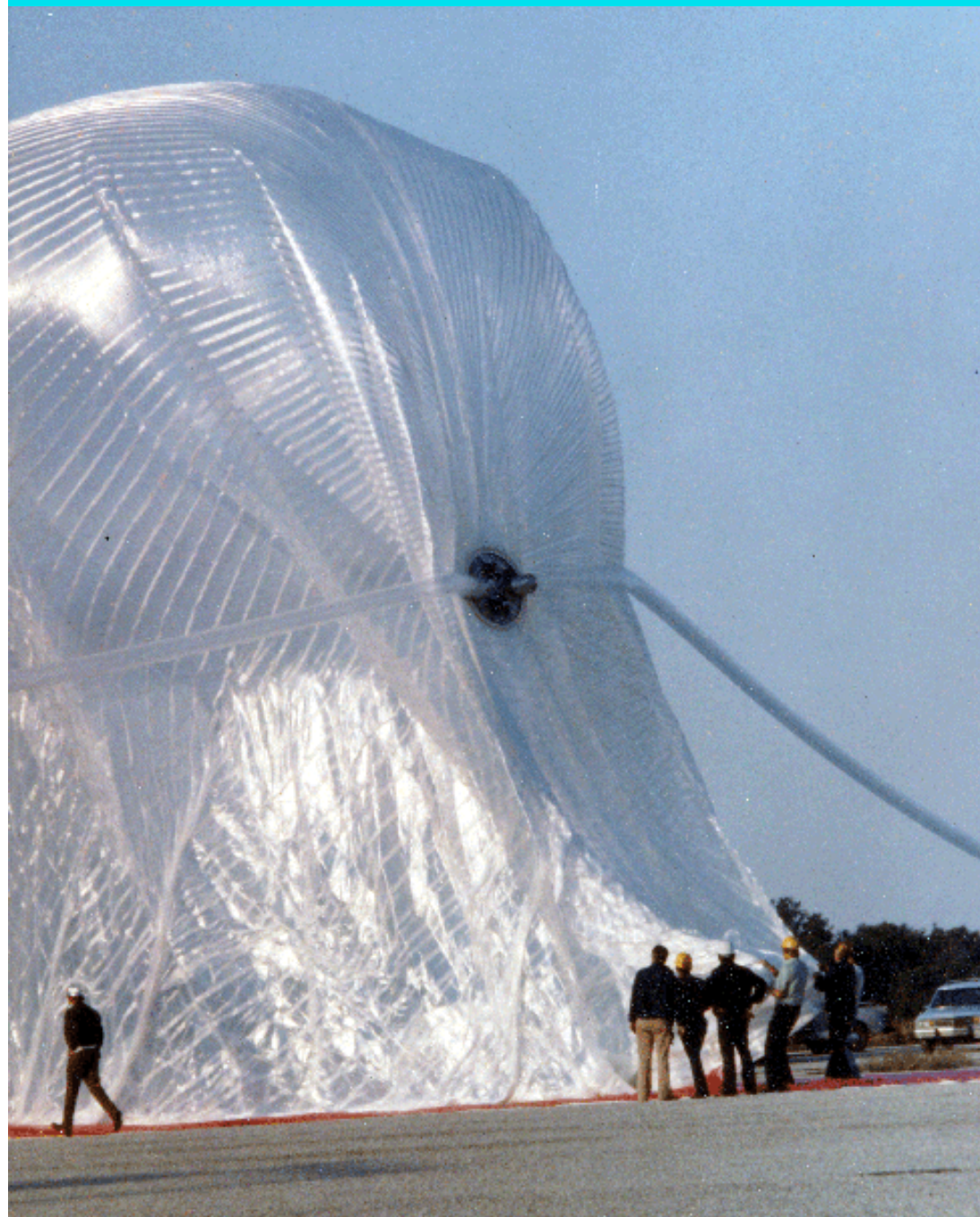


On left: top top bottom

- The spool truck
- Payload without gondola
- Balloon in a box



From my photo collection



1/19/21



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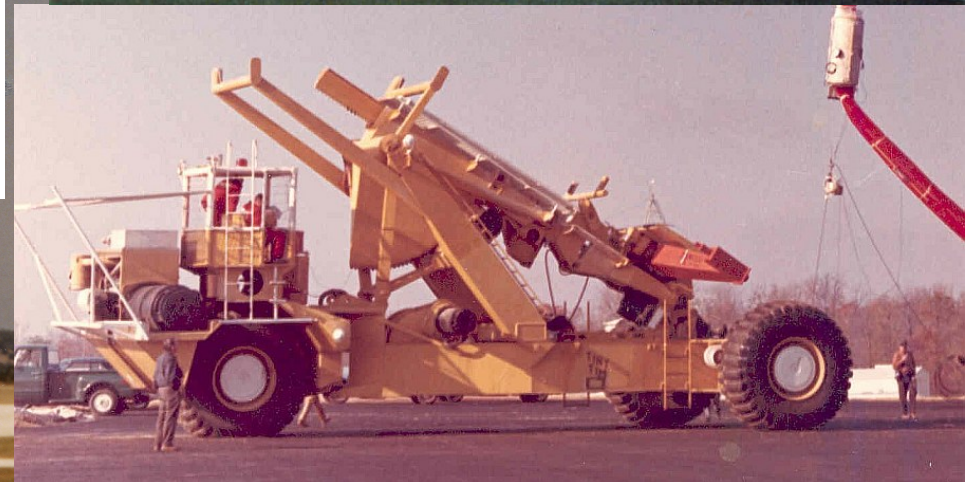
Tiny Tim

~600 ft

Ascent rate
1000 ft/min

Float altitude
~120,000 ft

Only 3-5% of
the atmosphere
is above this
altitude.



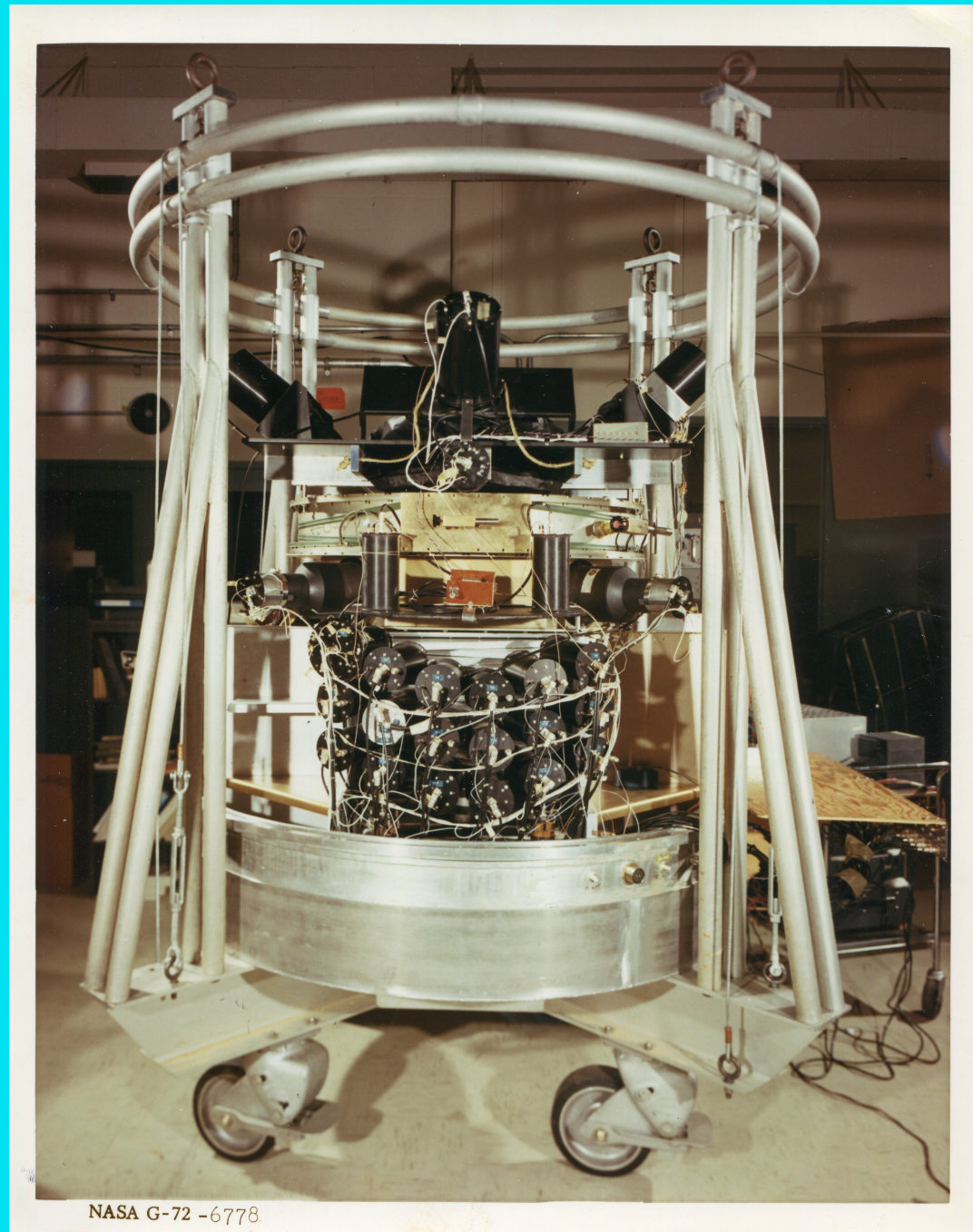


Balloon launched.
Just before payload release.
Payload is hanging from
Tiny Tim's jaws.

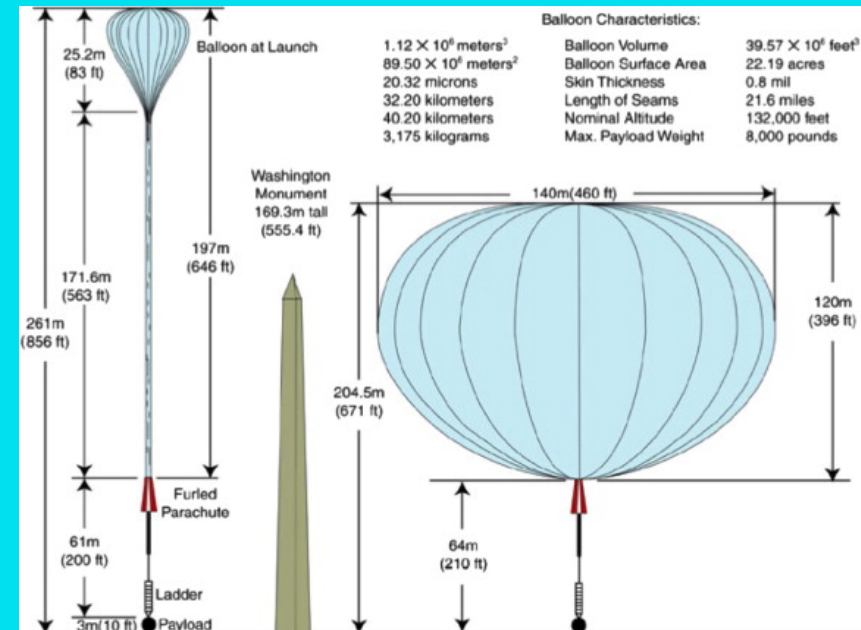
By 1972, our
payloads had
grown
somewhat.

And they would
keep on growing!

1/19/21



NASA G-72 -6778



Source of Balloon Launch videos

<https://www.nasa.gov/scientificballoons/videogallery>

Sunrise and Super Tiger videos



At GSFC we were a lot more
ambitious than I was as a graduate
student.



Big News Story Goes

Up, Up, Up And Away

It squirmed down from the heavens about 3 a.m. Friday over Highway 70, 13 miles southwest of Orangeburg as three T&D staffers watched in amazement and disbelief. It was odd-shaped and in trouble.

THE CRAFT appeared to be without a pilot as it headed for earth at a modest but determined pace in the pre-dawn sky. Not a sound was heard until the plastic-like tail began ripping the tree tops.

The woods and nearby fields came alive with mild explosions resembling a fusillade of pistol shots. Nobody moved until the shooting was over.

It was an eerie spectacle. A weird phenomenon — and it was about to land.

A **STORY** was in the making. People from outer space were invading Orangeburg County!

As two of the staffers rushed to a corner of the field to witness the landing, disappointment replaced the expectancy in the air. The flight wasn't over.

Almost as if it had been a planned hedge-hopping, but with a bit of embarrassment, the giant weather balloon regained its composure, pulled in its dangling cords and swiftly climbed back into the moonlit sky.

THREE STUNNED earth men watched the big data bag disappear over a sleeping Orangeburg and drove back to the T&D office without the story that might have been.

Nov. 14, 1970

Big News Didn't Get Away Entirely, Yet

The "weather balloon" spotted Friday morning by three Times and Democrat staffers has turned out to be much more than expected.

According to an Air Force spokesman, the balloon was carrying over 5,000 pounds of intricate equipment to collect data on cosmic radiation. Most of the instruments were found Saturday near Norway and the Air Force plans to recover them Sunday.

It was launched at Holloman AFB, N.M., at 8:30 EST p.m. Wednesday. The balloon, which continued on its merry way after dumping its gondola of equipment, was last reported about 700 miles from Bermuda.

The Times and Democrat hopes to carry pictures and a complete story of today's recovery in Monday's edition.

Nov 15, 1970



1052 transportation Company (Lt-Med Truck)
South Carolina National Guard
Orangeburg, South Carolina

Mr. Laws:

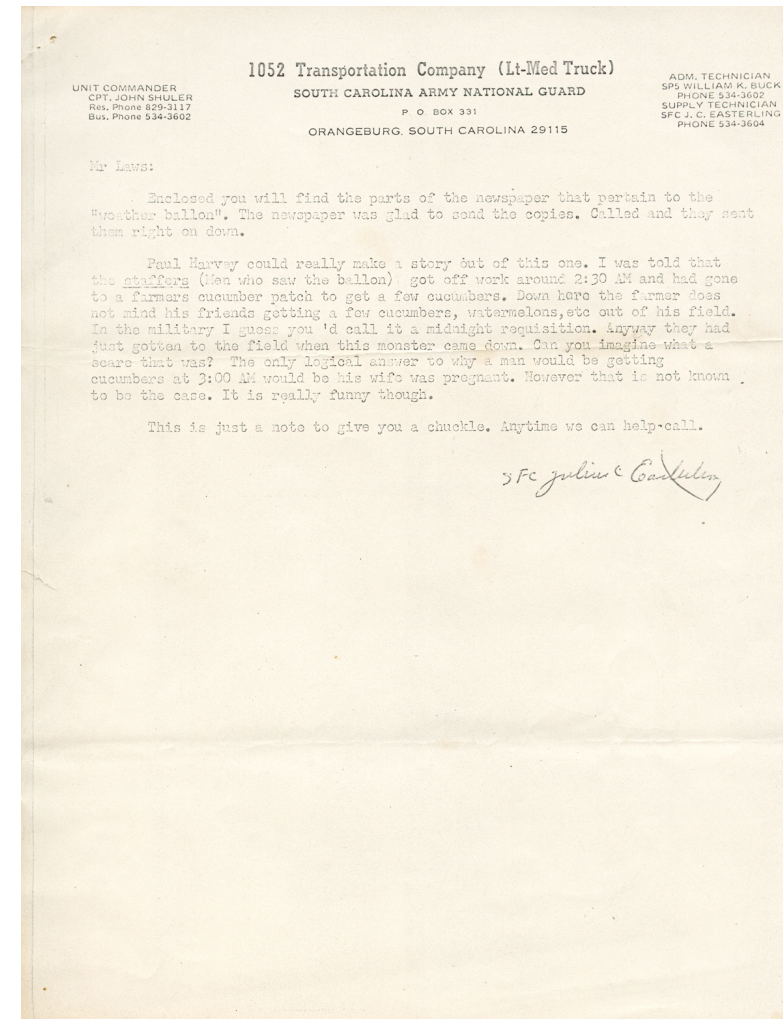
Enclosed you will find the parts of the newspaper that pertain to the “weather ballon”. The newspaper was glad to send the copies. Called and they sent then right on down.

Paul Harvey could really make a story of this one. I was told that the staffers (Men who saw the ballon) got off work around 2:30 AM and had gone to a farmers cucumber patch to get a few cucumbers. Down here the farmers does not mind his friends getting a few cucumbers, watermelons, etc. out of his field. In the military I guess you’d call it a midnight requisition. Anyway they had just gotten to the field when this monster came down. Can you imagine what a scare that was? The only logical answer to why a man would be getting cucumbers at 3:00 AM would be his wife was pregnant. However that is not known to be the case. It is really funny though.

This is just a note to give you a chuckle. Anytime we can help, call.

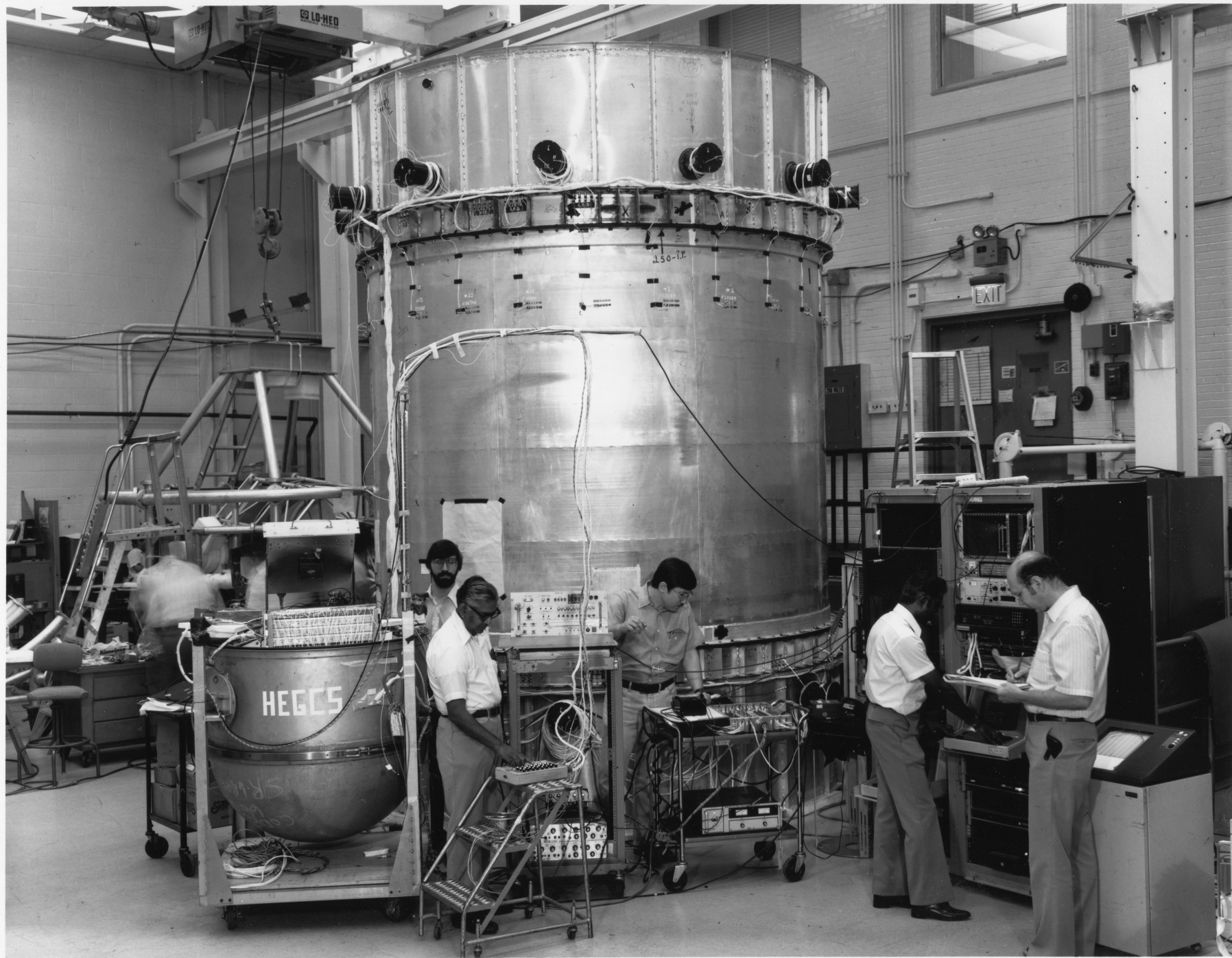
SFC Julius Easterling
South Carolina National Guard

1/19/21



The “staffers” said nothing to anyone until the payload was found a day or two later. Then this story came out but not in the newspaper!

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Weeks lives

campus claimed the life of
old youth after his motor-
truck a median, skidded
0 feet and struck a light
e youth was taken to
rt Medical Center where he
t 4 a.m. His name is being
pending notification of his

5:45 p.m. Friday evening,
motorcycle accident on
ines Road left a 26-year-
veport man seriously in-

T. Moses of 4302 N. Market
616, was seriously injured
motorcycle was struck by
olet Camaro driven by
Nelson, 63, of 1604 David
oad. Nelson was reportedly
into his driveway when the
e ran into his car.

was taken to LSU Hospital
was listed in stable con-

tions were issued in the ac-

ondale, follow

- would garner the neces-
thirds vote to come away
prize.

ion leaders were to cast
representing 14.5 million
-file unionists. About 9
otes would put the winning
e over the top.

andidate got two-thirds of
through two balloting, the
oard would declare that no
been endorsed.

EA is not affiliated with the

gusta, Maine, Sens. Glenn
lobbed verbal grenades at
Democratic presidential
all in Maine — while Mon-
ed the event would solidify
ling as the party frontrun-

planned to join four other
es today before 2,000 del-
pected to cast most of their
ing ballots for Mondale.
s not participating.

Cranston of California and
of South Carolina, jockey-
a third-place finish today,
e on the ballot. Former Sen.
McGovern of South Dakota,
mer, also was seeking votes
not on the ballot.

some competitors en-
d speculation that Glenn
ace second despite his low

Look what just dropped in ...



Photo by J. Frank McAneny

Residents of the Grawood area check out an unexpected visitor which dropped from the sky into the trees near their house Friday night. The payload of a research balloon launched in Palestine, Texas, bore an instrument box and a large smiling jack-o'-lantern face on the 5,000-pound object's orange plastic covering.

It came from the sky

Experimental apparatus lands south of Shreveport

An experimental NASA ap-
paratus, decorated with a jack-o'-
lantern face and weighing nearly

launched the apparatus Thursday,
were called to the scene to recover
an instrument box.

is sent to the area where the equip-
ment is expected to fall.

Eight-year-old Greg Lane said he

This payload flew on
Halloween and dropped
into someone's back
yard shortly after dark.

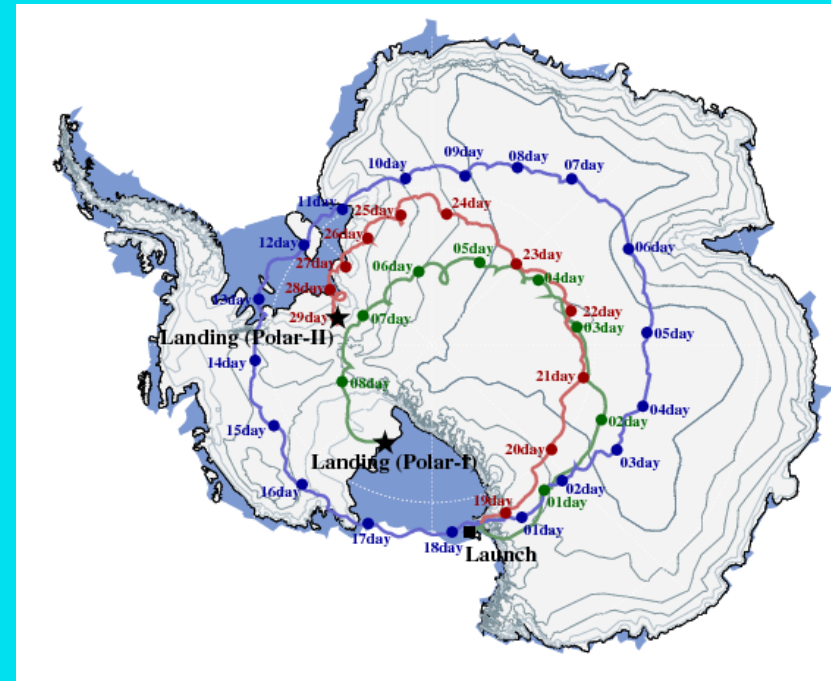
Launch, Williams Field, McMurdo

Antarctic summer

No day-night excursions

polar vortex

constant sunlight for power





Pre-flight layout BESS-polar



The end

