SPACEPORT NEWS

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16 Balloons Test Winds At Canaveral

Wind data recorded high over Canaveral last Thursday is being studied this week at MSFC's Aeroballistics Division, and the results may play a key role in the design of future space vehicles.

Sixteen aluminized, reflective balloons were released at the Cape during a 12-hour period, and were tracked by radar to an altitude of 46,000 feet.

Purpose of the intensive wind study was to find indications of small-scale wind variation during high wind conditions.

Taiani Supervises

Angelo Taiani, Special Projects Officer in NASA's Test Support Office, supervised release of the balloons.

"Frankly," he said, "we don't know what we'll find out about the wind patterns over the Cape. Previous wind measurements have been made several days apart and during relatively low wind speed conditions."

Taiani already has been taking measurements of the wind patterns using balloons, but the balloons are released only three times a week, and a single balloon is involved.

"These measurements already have proved their worth many times over," he said. "For instance gust design criteria for the Saturn vehicle have been changed, based primarily on the measurements we've made here."

John Withington of the Cape weather station said the balloon launches were for the most part, successful. Only two of the balloons burst before reaching the desired altitude.

The balloons were made of aluminized mylar, a thin high-tensil strength plastic.

GOING UP is this one of 16 aluminized, reflective weather balloons launched here last Thursday to study winds over Canaveral. Pan American Meteorological Technician Glen Law prepares to let 'er go.

GIANT NASA HORN TO PRODUCE RUMBLE

Residents in and around Gainesville, Mississippi, are due for some earthquake-like rumbles, generated by a giant horn.

Mounted atop a 40-foot tower, the horn has a 12 by 12 foot nozzle.

It was designed and built at the Marshall Space Flight Center to simulate rocket-firing rumbles.

The horn was used at MSFC for two years before moving to Mississippi to "sound out" Advanced Saturn stages.

It is part of the Advanced Atmospheric Sounding Station, set up to investigate atmospheric conditions and the propagation of sound to assure that when test firings begin in late 1964 or early 1965, the sound will not prove an inconvenience to nearby residents.

AMBITIOUS '63 SCHEDULE INCLUDES 30+ LAUNCHES

NASA will launch its most ambitious schedule ever at Canaveral this year.

As many as 35 vehicles may be ignited here during the year for an increase of about 50 per cent over the past 12 months, when a record 22 NASA launches took place.

Among these will be Mercury-Atlas-9, which is to send Astronaut Gordon Cooper on a full day mission in the Spring.

The final test of Saturn's Block I configuration will also come in the Spring, and two tests of the advanced Block II version are due later in the year.

Centaur is scheduled for test flights in mid-1963.

More than one third of all launches are scheduled for the first three months of the year, about five are slated for the second quarter, nine or 10 for the third quarter and four during the final three months.

Again, Delta will be the workhorse booster. It's been tapped to loft at least nine scientific payloads into space, including two Tiros spacecraft, a RELAY satellite, another Orbiting Solar Observatory (OSO), two syncoms, a second Telstar and an atmospheric structural satellite.

Satellite Studies

The Tiros satellites will continue to study cloud cover and earth heat balance as well as measure radiation.

RELAY spacecraft will test the feasibility of relatively low-altitude active repeaters with one-way transmission.

The OSO will study the sun's electromagnetic radiation.

Syncom, a communications satellite, is to establish in space a lightweight active relay with two-way transmission from synchronous (24-hour) orbit.

Back up payloads will be ready for both the OSO and Syncom tests if problems are encountered.

The atmospheric structural satellite, S-6A, will study the composition, density, pressure

(See AMBITIOUS, Page 7)

Scientists Meet At Cape To Map Plans

Senior Council Members of the Office of Space Sciences are meeting here today and tomorrow in planning sessions that include conferences on lunar and planetary goals, bio-sciences and the future roles of Explorer spacecraft and Orbiting Solar Observatories.

Dr. Homer E. Newell, Director of NASA's Office of Space Sciences, is among directors and representatives from several centers across the country.

LOC Director Dr. Kurt H. Debus is host for the meet.

Following a full schedule today, members will get together tonight for a Dutch-treat dinner party at Ramon's restaurant in Cocoa Beach. They will resume conferences tomorrow.

Members began arriving yesterday and were given briefings on LOC operations and Cape tours of NASA facilities.

This is the first time LOC has hosted the quarterly meeting.

Other officials from the Office of Space Sciences headquarters here for the conference are Dr. John F. Clark, Associate Director and Chief Scientist; Edgar M. Cortright, Deputy Director OSS; John D. Nicolaides, Program

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SPOTLIGHT

DON'T LOOK BACK

Customarily, a New Year begins with resolutions—most of them good, some of them facetious, almost all of them broken before the New Year becomes just another year.

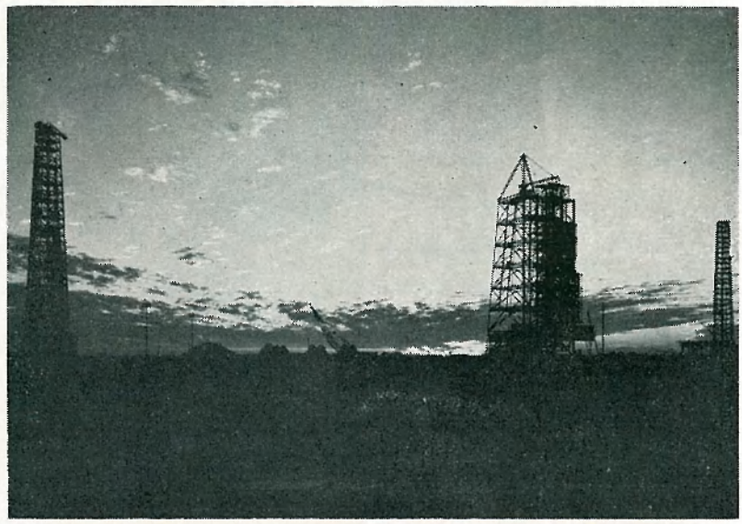
And so it is within NASA, but with one big, all-encompassing difference. We can't afford to break our resolutions simply because the United States looks to us not to.

The resolutions which we are expected to live with in 1963 were not made for one year alone; they were made for a decade and by the President who set as this country's national goal a lunar landing.

The New Year, 1963, marks two down, eight to go, toward achieving that national goal in the 60's. We had a big year in 1962 and an even bigger year facing us in 1963.

Satchel Page, the ageless wonder of the baseball world, once said, "Don't ever look back; somebody might be catchin' up to you."

So in 1963, we have to keep running—without looking back. That's the resolution we must not break . . .



THE DAWN of a new year has broken at Canaveral - a year pledged to accomplishing ever-challenging goals that will speed up America's ascension of the steep and slippery stairway to space. NASA-AMR personnel have a direct role in attaining these goals; a rale faithfully fulfilled in years past. In 1963 the pace will quicken and the workload will increase, but the goals will be even more rewarding. To meet them will take the combined talents and concerted efforts of us all. News Photo by Russ Hopkins

Mariner Orbits Sun; Data Being Studied

A radio command from Goldstone Tracking Station in California which travelled 36 million miles to Mariner II on its flight past Venus on December 14 set a new distance record for successful transmission of a command through space.

Six and a half minutes after it sent out the signal, Goldstone Station received verification that the spacecraft had received and acted upon the radio command. The command started scanning action by two radiometers aboard the craft and also sent it into its "Venus Encounter mode" in which it shifted from sending mixed science and engineering telemetry into a mode in which it sent all science telemetry.

Prior to the Goldstone action, the timing system on board the spacecraft had twice tried to turn on the radiometers, and twice had failed.

Mariner II will orbit the sun every 345.9 days, according to Jet Propulsion Laboratory scientists. The spacecraft made its closest approach to the sun last Thursday, coming within 65 million miles. It will swing back "close" to earth next September when it will pass within 25 million miles of its launch site. Its speed in space is more than 80,000 mph.

"I have a big mouth. I said I was a rocket expert, and that I could fully assemble a rocket in four weeks, and that's where I messed up. They said prove it, so I've got to prove it. So would you send a rocket kit or something like that. I'll pay you fully for it."

Larry R.
Ruidoso, N. M.

Amazing Laser Light Beam Under Study At Marshall

Scientists at the Marshall Space Flight Center are experimenting with a light beam which has been used to punch holes in steel and drill holes in diamonds. But these are only two of the more spectacular uses for this thing known as "laser."

Marshall scientists are exploring laser technology from the standpoint of its possible application in various MSFC projects.

Communications is one example. Laser is potentially the "ultra" as a carrier in the transmission of intelligence. Theoretically, one laser could transmit more information than 25,000 television stations operating simultaneously!

Radar? With laser as the heart, a "radar" would be fantastically more accurate than the best radar in use today.

How about microwelding? How do we drill holes too small for metal bits? Micromachining of difficult or refractory materials is another big "how" today. Laser offers the answers.

Laser gets its name from the action which takes place. It is **Light Amplification** by **Stimulated Emission** of **Radition.**

Light as we know it is entirely different from the "light" created by the laser technique. When matter is heated, it gives off energy in the form of light, such as the glow of the filament in a light bulb. But this light is random, going in all directions, is at many different frequencies and "is not coherent."

The laser employs "coherent" light. This does not mean "stick together" but means more nearly "in phase" or of the same frequency and directions.

The laser harnesses the energy of orbiting electrons, gets them to release their power in phase instead of at random, and generates a coherent beam of light. This does for light what the radio does for radio-frequency signals.

Marshall scientists are more interested right now in such things as the optical tracking of vehicles or satellites, guidance and communications.

Tracking would be extremely accurate using laser. This is because the laser is capable of much higher frequencies than radio frequencies — and much narrower beams — and the higher the frequency and narrower the beam the greater the accuracy.

SPACEPORT NEWS

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NASA Awards Study Grant For Meteors

NASA has awarded a $240,000 grant to the Smithsonian Astrophysical Observatory for a network of 16 stations to photograph bright meteors.

The program, called the "Prairie Network," will establish stations in seven midwestern states, and concentrate on photographing bright meteors and recovering meteorites soon after they fall.

Prompt recovery will permit other scientists to study the chemical and organic structure of the meteorites and the effects of radiation on them.

The stations, located about 150 miles apart, will each be equipped with four automatic cameras.

Films will be processed and examined at the network's field headquarters in Lincoln, Neb.

Dusk To Dawn

Photos will be taken every clear night from dusk to dawn, and only bright meteors will be recorded.

These are larger and may survive atmospheric consumption and fall to earth.

From photographs of the meteors taken by two or more stations, an accurate prediction can be made of a meteorite's point of impact, as well as its orbital path in space before it struck earth.

Smithsonian recovery teams will search areas of impact to locate meteorites for study and analysis.

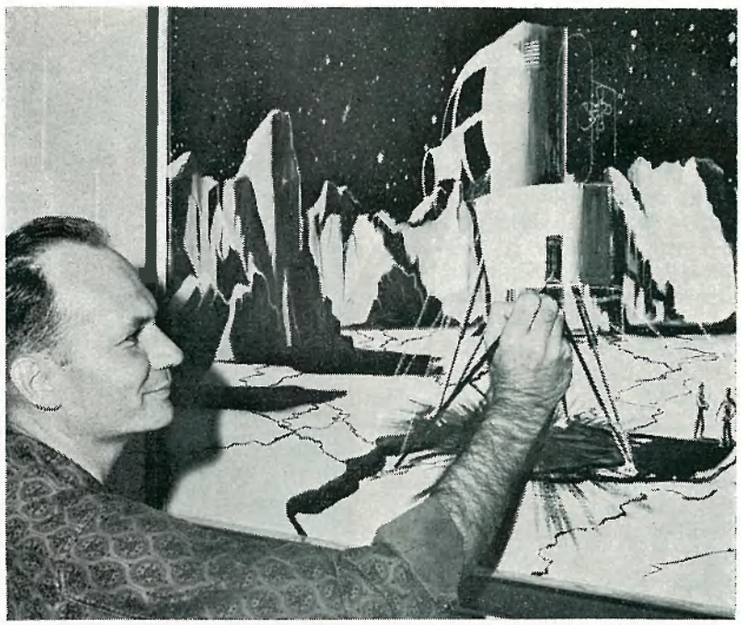
Also, the photos will yield valuable information on meteor luminosities, velocities and orbits.

Blanket Coverage

The four cameras at each site will be pointed north, east, south and west to effectively cover the sky, horizon to horizon.

Each station will operate automatically.

A photo-electric sensor will seek out Polaris, the North Star. If the sky is clouded or weather conditions are adverse for photography, the station will close.



CHRYSLER ARTIST Gordon Ritchie updates his painting of the astronauts landing on the moon in their lunar excursion module (LEM). Ritchie painted the four by eight foot canvas last spring, but LEM design changes made it necessary for the brush-up work. The oil painting is in the lobby of the E and L building.

Fla., FSU Among Colleges To Receive Research Grants

NASA has announced the selection of 88 colleges and universities, including the University of Florida and Florida State University, to receive graduate training grants for the academic year 1963-64.

The grants will go to predoctoral trainees who have chosen a graduate study research program that is space-oriented.

About 800 graduate students are expected to participate in the program.

Purpose of the grants is to meet the nation's future needs for highly trained scientists and engineers, to help achieve the long-range objectives of the space program.

The institutions were selected not only because they have doctoral programs in space related science and engineering, but also because of their willingness to undertake a strengthening of their programs in these areas.

Candidates for graduate degrees will be selected by the universities, and will enter the program by September.

The number of student-participants at each university will vary from two to 15.

Each graduate student chosen will receive $2,400 for 12 months of training. There is also an additional allowance for dependents of up to $1,000 per year.

Recipients are assured three years of graduate study, providing they maintain a satisfactory record.

The project started last year as one phase of a broad NASA program involving participation by the nation's colleges and universities in research and development in space.

A Tidy Time In Space

According to Mariner II's interplanetary reports, home makers will have an easy time keeping house in space.

The record-setting spacecraft reported there were 10,000 times as many small dust particles near the earth as there are in outer space.

Many scientists believe the earth's cosmic dust might be secondary particles cast off from the moon.

More precise data from the Mariner mission, still being analyzed, may either substantiate or repudiate this theory.

SUB-CONTRACTS LET FOR SATURN S-IV-B

Douglas Aircraft Company has awarded the first subcontracts for development on the Saturn S-IV-B rocket, destined to provide the Apollo spacecraft with its final thrust to the moon sometime later this decade.

The two contracts, totaling $4.6 million, were for the development of attitude control engines for the S-IV-B upper stage.

Douglas awarded Tapco (Cleveland, Ohio), a division of Thompson Ramo Wooldridge, Inc., a $1,300,000 contract for development of the 150-pound thrust engines designed to stabilize the Saturn S-IV-B, controlling pitch, yaw and roll during flight.

A $3.36 million contract went to the Marquardt Corporation to provide rocket engines for positioning propellants in the S-IV-B.

Nuclear Hazard Study Set For '63 At MSFC

The Marshall Space Flight Center has awarded a $188,318 contracts for an operational nuclear hazard study to be made during 1963.

Lockheed Missiles and Space Co. of Sunnyvale, Calif., will make the study and establish a technique for assessing the overall hazard potential of an operational nuclear vehicle system.

The first of three study phases is to be completed by March 15. This phase is to study the influence of the impact delay time on hazard magnitude at impact in case of flight failure.

Phase II, to be completed by June 22, will study the effect of vehicle trajectory on flight hazards. This will include orbital and sub-orbital start mode trajectories, mainly sub-orbital.

The last phase will be completed by December 31. It will produce an integrated hazards evaluation technique.

The contract calls for specific examples to illustrate the study. The Saturn C-5/NERVA has been designated as the exemplary vehicle.

Moving Target

The moon comes as close to earth as 221,463 miles and revolves as far as 253,710 miles.

Profile: Charles L. Buckley

SECURITY CHIEF FACES WIDE RANGE OF DUTIES

In the tense hours before one of the missile launches, a jangling telephone roused NASA Security Chief Charles Buckley out of his bed and the terse message it delivered moved him to quick action.

A communication with ominous meaning had been delivered to Cape headquarters. Purporting to be the result of an eleventh-hour decision to clear a guilt-ridden conscience it described in very believable and applicable terms the overdrilling of vital missile parts so that they would function during launch but cause destruction of the missile during critical acceleration to orbit speed.

The parts had escaped detection by inspection, the message said, and had moved through a series of vendors, sub-assemblies and installations - and one was in the vehicle to be launched only hours away!

Checks with engineering and procurement revealed that the parts had indeed been manufactured by the company named and were scheduled to be installed in that series of missiles.

But there, perhaps anticlimactically, it ended. Further quick but careful checks showed beyond doubt that the parts in question were not in that particular missile and the mission was successful. Subsequent investigation revealed that the originator of the message had developed mental illness and that all parts delivered by his former employer had met all requirements.

Psycho Factor

"All security officers contend with this problem," Buckley explained. "What we call the 'psycho factor' is obvious in most of them, but some are amazingly knowledgeable — and every single one must be checked out."

It is in the nature of security activities that they receive very little publicity. This is undoubtedly a considerable loss to the interested reading public - if Buckley's experiences are a fair sample.

They have ranged from personal involvement in the disarming of a mal-func- the disarming of a mal-functioning A-Bomb, through his single-handed capture of three escaped felons, to reponsibility for the security of Queen Frederika of Greece on a tour of AEC facilities.

"A charming and handsome woman," he recalls.

As a rugged, heavy-shouldered youngster of 17, Buckley entered the Navy six months before Pearl Harbor and of his four and one-half years service he spent 43 months in the South Pacific.

He acquired his interest in security and police work in the Philippines where he had been assigned to shore patrol duties. This type of work suited his need for an active life and after discharge he spent two years as a State Trooper with the Massachusetts State Police.

As the third man to be hired for the Atomic Energy Commission Security Service at Los Alamos, N.M. in 1947, Buckley helped to establish the largest civilian protective force in the Federal Government. This included the establishment of the AEC Security Service Academy. Later

Charles L. Buckley, Jr.

he was in charge of the security for transporting and handling of source and special atomic and hydrogen bomb material from the West Coast to Eniwetok, as well as assisting in establishment of the security program in the Pacific proving grounds for Operations "Ivy", "Castle", "Redwing" and "Hardtack".

The adventure with the A-Bomb that failed occurred at the Nevada Test Site and Buckley's duty included going to the test tower with the scientists who disarmed it. The three convicts were captured on a train transporting nuclear materials and guarded by Buckley's security group. Later he attended State Department, AEC and CIA counter - espionage schools and special courses in advanced police sciences at the University of California.

He joined NASA in 1960 and as Chief of NASA Security here has had responsibility for security for all NASA missions at AMR. Other duties have included security for down-range pick-up of the first three astronauts, escorting two of them to the White House when they visited the President.

A prized momento is a personal letter from President Kennedy commending Buckley for the part security played in making his recent Cape tour rewarding and incident-free.

He and his wife Grete, and daughters, Colleen 5; Maureen 3; and Karen, 6 weeks; live in Satellite Beach. The children are understandably space and missile conscious. When the then four-year-old Colleen saw for the first time the mist-shrouded towers of the skyline of New York last year on a trip, she stared for a moment and then called out, "Look at all those missiles, Daddy!"

There is nothing of the hard-nosed cop about Buckley that his action-filled background might suggest. Soft-spoken and almost courtly in mien, his easy Irish smile and his manner toward the people in his office have earned him unusual affection and respect.

'A Great Guy'

"He's a great guy to work for," an assistant said, "but he's all business when it comes to anything that has to do with the security of NASA space programs!"

Buckley considers himself fortunate to be able to draw on the abilities of the people in his office. "Here's where the really rough work gets done," he said.

When one considers the loss to the West caused by the actions of the Fuchs, Martins, Mitchells and Rosenbergs of this world, there is a decided reassurance in Buckley's skilled and steady approach to a field he sees as vitally important.

SMILING SECURITY MAN Charles L. Buckley, Jr., center, rear, Chief of NASA Security at the Cape, watches as John Glenn's family is introduced to President Kennedy by the Astronaut, second from left. Vice-President Johnson and NASA Director James E. Webb look on. Scene was at Cape's Skid Strip after the return of John Glenn from Grand Turk Island following his orbital flight, and before group flew to Washington in the President's plane.

SIGNING UP on the Project Mercury Social Club's giant Christmas card are G. Merritt Preston, left, Manager of MSC-AMR operations, and John Yardley, McDonnell Cape Base Manager. MSC collected $388 for the Salvation Army from money that otherwise would have gone for employee interchange of cards.

NASA-AMR Forces Join, Raise More Than $1000

Dozens of Brevard families who might otherwise have had a bleak Christmas, were provided with food-filled baskets — thanks to the generosity of NASA - AMR employees.

More than $1,000 was collected and turned over to Captain Vern Hall of the Salvation Army in Cocoa for distribution to those in need.

"NASA's help was greatly appreciated," Hall said. "Many of our members were sick with flu this year and we didn't collect as much as normal on our own. But this extra money certainly helped."

Most of the money bought Christmas baskets, but part also is being used in a continuing program of assistance to needy families.

LOC employees raised $578 in a drive designed to collect money that otherwise would have gone for employee exchange of Christmas cards.

Tom McGuire of Transportation, who handled the money, said contributions were still coming in after Christmas.

The Project Mercury Social Club collected $388 in an abbreviated, but brisk drive.

The NASA Womens Social Club added another $50. swelling the total to $1,016.

Success In Space Boosted Prestige

America's soaring success in the space effort was a significant factor in the support the U.S. received in the Cuban crisis, President Kennedy believes.

NASA Administrator James E. Webb related the President's opinion during a luncheon meeting in Kansas City.

In a recent conversation he had with Mr. Kennedy, Webb said he related his thoughts that the achievements of the Mercury program had improved the image of this country throughout the world.

"I agree with you completely," Webb quoted the President as saying.

Ranger Revisions Underway, '63 Launches Rescheduled

Unmanned Ranger lunar landings have been postponed for several months.

NASA scientists will subject the 730-pound spacecraft to an exhaustive testing program, intended to improve reliability.

Ranger VI, originally scheduled for an early 1963 launching, has been pulled off the firing line for the tests.

Improvements resulting from the testing program will be incorporated in Rangers VII through IX.

Next launch is slated for the last half of '63.

The action to review Ranger was a result of recommendations by a board of inquiry, following the failure of Ranger V.

The board's intensive one-month study found that certain improvements could be made in Ranger spacecraft design, construction, system test and checkout. Such improvements will lead to increased flight reliability.

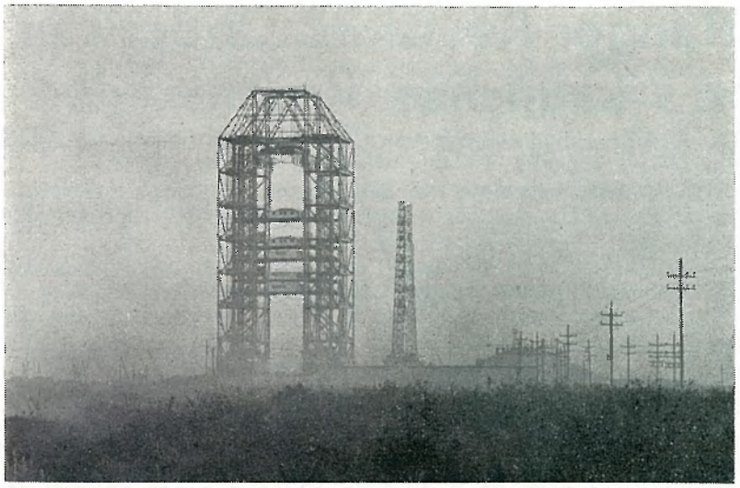
Dr. Homer Newell, Director of NASA's Office of Space Sciences, said the successful Mariner II flight past Venus demonstrates the basic soundness of the Ranger spacecraft design concept.

NASA To Begin Study Of Supersonic Jets

The age of commercial supersonic jets may be a step nearer as a result of study at NASA's Flight Research Center, Edwards AFB, Calif.

The Center has announced receipt of a Navy A-5A Vigilante jet aircraft for use in support of its studies of the projected supersonic transport.

The Vigilante, capable of sustained supersonic flight, will be used to study problems that may be encountered in the terminal area of air traffic control operations with transport aircraft of supersonic speeds.



Veiled Visibility

BOGGED IN SOGGY FOG? WORST OVER

If you've been cursing the traffic-snarling fog that's enveloped the area in recent weeks, take heart; the worst is over.

According to local recordings, December is the foggiest month.

Surprisingly, the soggy substance blankets the Canaveral area an average of only 1.2 per cent of the time in December, and just .3 per cent year-round.

It just seems to be more harrassing, particularly during the early morning rush hours.

Fog is simply an earth-hugging cloud. There are several varieties, and their common cause is cool air, which has a low point of saturation.

When this point is reached, excess moisture - minute droplets of water - is squeezed out in the form of fog.

It is generally considered foggy when visibility is less than one mile.

January's fog percentage is .9 per cent, and this will decrease monthly until May when it disappears altogether.

Although many auto accidents are blamed on the grounded clouds, most traffic experts will tell you it's mental fog that does most harm.

Nova Scotia Nimbus Satellite Station Announced By United States And Canada

The Governments of the United States and Canada announced today a cooperative venture to build a data acquisition station for the NIMBUS meterological satellite system at Ingomish, Nova Scotia, during 1963.

The agreement involves NASA , the U. S. Department of Commerce, Weather Bureau and the Canadian Department of Transport.

The command and data acquisition station for the NIMBUS system, now under development by NASA and the Weather Bureau, is expected to be completed in 1964. It will supplement the station being completed at Fairbanks, Alaska.

NIMBUS satellites will record meteorological data, including TV pictures, on tape recorders contained in the spacecraft and this information will be relayed back to earth on command.

The NIMBUS program will be the successor to the current TIROS weather satellite program which has been highly successful since the first TIROS was launched in 1960.

Weather data from TIROS spacecraft have been distributed throughout the world for more than 2 1/2 years by the U. S. Weather Bureau.

One of the differences between NIMBUS and TIROS is the fact that NIMBUS will circle the earth in a near polar orbit "seeing" the whole world every 24 hours. TIROS sees only about 20 percent of the earth daily.

Within a few years it is expected that there will be at least one NIMBUS in orbit at all times

Shiloh Falls To Feds Again In New Land Acquisition

For the second time in 101 years, Shiloh has succumbed to Federal forces.

One of the Civil War's bloodiest battles was fought at Shiloh, Tennessee, on April 6-7, 1862, and resulted in an important Federal victory.

This time, Shiloh is on the Brevard - Volusia county line and is in the 14,800 additional acres of property to be acquired by NASA for expansion of the Manned Lunar Landing Program.

Purchase of the land will be completed by November 1, and will bring total acreage allotted to the space exploration program to 140,753.

Approximately 700 property owners are affected and land appraisers are now on the job.

The new area will extend from the vicinity of Haulover Canal on Merritt Island, northward along the ocean for about 10 miles to a point just east of Oak Hill, then southwesterly across Mosquito Lagoon to a point just south of the intersection of US 1 and State Road A1A to the east bank of the Indian River and southerly to the present NASA acquisition area.

The land will extend to a point about 10 miles south of New Smyrna Beach and about 25 miles south of Daytona Beach.

Including the 14 miles of coastline in the original Cape area and the two expansion areas, the government will own some 40 miles of ocean-front property.

Of the total acreage, 137,-105 acres are located in Brevard and the remainder in Volusia.

The town of Allenhurst will also be taken over in the new acquisition.

Passion For Fashion

Fashion - conscious Italians chose Astronaut John Glenn's orbital description of the reddish band seen at the extremity of the atmosphere, to create a new color for their spring line of apparel.

Called "The Glenn Limit," it's a blended plum background with shadings to cardinal purple.

Other major colors in the collection are bottom - of - the - sea green, rainbow gray, teak brown and vitalized black.

FIGURES AND FIGURES — Vivacious Ann Hauswald, working toward a degree in math at the University of South Florida in Tampa is a participant in the co-operative work-study program established between the university and Launch Operations Center. She alternates a semester of study at the university with a semester of work as a student trainee in Statistics in the Program Coordination and Planning Branch here. She is the only girl in the group of 16 students in the program. Others are students in mechanical engineering, electrical engineering and statistics.

Space Films Ready For Public Use

LOC's Public Information Office has available several films on the launch of the astronauts and other operations at the Cape.

The 16 mm films are available on a free loan basis. There is no charge but users must pay modest return transportation and insurance charges.

The films may be requested from:
NASA Launch Operations Center
Public Information Office
Cocoa Beach, Florida

Among the films are:

"Sigma 7" — 1962 — 28 minutes, sound, color. Prelaunch and launching of Astronaut Walter M. Schirra on his six-orbit Project Mercury space flight on October 3, 1962.

"Aurora 7" — 1962 — 22 minutes, sound, color. Depicts the day of Astronaut Scott Carpenter — when he orbited the earth three times.

"The Mastery of Space" — 1962 — 58 minutes, sound, color. Traces the development of Project Mercury, U. S. man-in-space program, and documents the flight of Freedom Seven as well as the orbital flight of Friendship Seven on February 20, 1962. Project Gemini, Apollo and the Saturn booster are also briefly discussed.

"Friendship Seven" — 1962 — 58 minutes, sound, color. Depicts the launch day of Astronaut John Glenn—when he orbited the earth three times. Limited to the documentation of Project Mercury, with a close look at the several international tracking stations.

"Saturn Super Rocket" — 15 minutes, sound, color. A story of the first Saturn firing.

"Reach for Space" — 33 minutes, color, sound. Flight evaluation of Project Mercury.

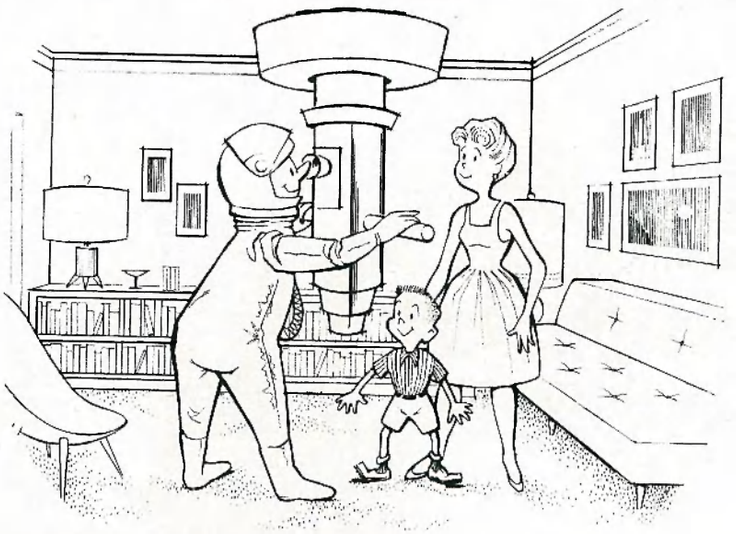
"Telstar" — 28 minutes, sound, color. Covers spacecraft preparation, launching and tracking of the first U.S. active communication satellite, built by American Telephone and Telegraph and launched by NASA.

"Time and Space" — 1959 — 27 minutes, sound, color. Describes the construction and launching of Juno II, Pioneer IV space probe.

"Project Mercury, Congressional Report" — 1960 — 33 minutes, sound, color, technical and limited general audience.

"Project Mercury Report No. 2" — 1960 — 30 1/2 minutes, sound color; photographic report; shows the progress of Project Mercury to the Summer of 1960.

"Saturn-Giant Thrust into Space" — 1961 — 10 minutes, sound, color. This film shows the work and plans of the NASA concerning the Saturn booster.



Wall-To-Wall Brick

"HERE COME THE SCHIRRAS, DEAR"

A Houston homebuilder, Frank Marsters, had his problems recently, constructing houses for four Project Mercury astronauts.

The spacemen, in searching residential areas surrounding the Manned Spacecraft Center, wanted privacy above all.

Marsters and the astronauts settled on homes with windowless fronts, adding enclosed gardens to make up for the missing out-of-doors views.

John Glenn, Scott Carpenter, Wally Schirra and Gus Grissom all moved within two blocks of each other, to a subdivision called Timber Cove.

Gordon Cooper, now training for his MA-9 mission in the Spring, chose a house across Taylor Lake, five miles west of Timber Cove.

Deke Slayton decided to build on a heavily-wooded bayou about five miles west of Galveston Bay.

Alan Shepard moved into an apartment in the Rice University district.

The nine new astronauts also are in the process of obtaining dwelling places in the Houston area.

The windowless fronts probably will serve their purpose and assure privacy for the astronauts.

But they have one major drawback.

Unless they devise an arrangement similar to artist Loren Fisher's concept, above, they will have no way to detect peddlers.

SCIENTISTS

(Continued from Page 1)

Review and Resources Management Officer; J. Allen Crocker, Program Review Officer; Dr. Orr E. Reynolds, Director, Bio-Science Programs; Dr. Thomas Small, Director, Grants and Loans and Research Contracts; Dr. John E. Naugle, Director, Geophysics and Astronomy Programs; Oran W. Nicks, Director, Lunar and Planetary Programs; and Dr. Richard B. Morrison, Director Launch Vehicle and Propulsion Programs.

Also attending are Dr. W. H. Pickering, Director of Jet Propulsion Laboratories; Dr. Abe Silverstein, Director of Lewis Research Center; Dr. Harry J. Goett, Director of Goddard Space Flight Center, Dr. Floyd L. Thompson, Director of Langley Research Center; and John F. Parsons, Associate Director of Ames Research Center.

AMBITIOUS '63

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and temperature of earth's upper atmosphere.

Atlas-Agena B will be the means of orbiting the revamped Ranger payloads later in the year, and an Eccentric Orbiting Geophysical Observatory and its backup if necessary.

Ranger spacecraft, now undergoing modification, will take high resolution photos of the moon's surface, land a survivable instrument pack on the moon and study lunar environment.

The Orbiting Geophysical Observatory (OGO) will study encompassing radiation belts, ionosphere phenomena and magnetic fields.

Thor, Scout, Atlas

A Thor Agena booster will loft Echo II into space; Scout will be used for S-66A and S-48A.

An Atlas-D booster will be used to launch Project Fire experiments to accumulate and analyze reentry environment data at hyperbolic velocities.

At least three NASA launches are scheduled for the Pacific Missile Range in 1963.

Echo II is a 135-foot balloon passive communication experiment utilizing a rigidized sphere in a polar orbit.

AVT-3 is a passive communications experiment utilizing a rigidized sphere in a polar orbit.

S-66A, a polar ionosphere beacon, will study ionosphere behavior and electron content as well as analyze conditions that disrupt communications.

S-48A, a fixed frequency topside sounder, will study electron density, estimate cosmic noise level and study the ionosphere from above by measuring electron distribution.

Heritage of Kitty Hawk

Walt Bonney, NASA's first Director of the Office of Public Information, has recorded the history of aviation from Kitty Hawk to the beginning of World War I in a recently-released book.

A FAREWELL dinner for Ann Greever, LO-FNS, center, was held recently by several of her co-workers. Ann, who will attend the University of Florida, received a white blouse as a departing gift. Shown clockwise are Nihla Dunham, Mildred Chretien, Estelle Coleman, Ann Greever, Annie Taylor, Mary Fagan, Antoinette Reveals and Mary Thornton. Ann's father, is Worthington Hildreth of LO-P&C-C.

Rollins–PAFB Night College Lists Courses

Registration for evening college courses at Rollins College's Patrick Air Force Branch will be held from January 7 to January 16.

Courses will be conducted after normal work hours and will be available to NASA employees.

Students may earn a bachelor's degree through the program by completing 128 semester hours, or complete majors in the humanities, general social studies, business, math and science and preparation for teaching. Credits may be transferred from accredited colleges for courses completed with a "C" or better.

Rollins is accredited by regional associations and courses will be taught by present faculty members.

Employees must be graduates of approved secondary schools or hold a high school equivalency. To apply for advanced standing credits, a student must furnish the registrar with official transcripts from all colleges attended.

Tuition fees are payable at the time of registration and are $10 for application fee and $15 tuition per semester hour. If a student withdraws from a course before the second regular class meeting, he may receive a refund of the tuition fees, but not thereafter.

Course planning and advice is available at Rollins College Office, Room 221, Building 543, Patrick Air Force Base. Telephone UL 7-7627.

Supervisors' Program Slated For January

A 20-hour program for supervisors, to be conducted over a two-week period, will begin this month.

Topics will include management fundamentals, manpower resources management, aspects of human and industrial relations and topics on functional staff support.

MCC Expansion Planned

Bid opening for a 7,200-foot extension to Canaveral's Mercury Control Center is scheduled for tomorrow.

The expansion, necessary for support of Gemini and Apollo programs, will cost about $300,000 and is expected to be completed by June 15.

NASA NEWCOMERS

NASA-AMR added eleven new employees during the last two weeks:

Personnel: Ruth Jordon and Sandra Corbin.

Procurement and Contracts: Rex Allred, Fay Burd and Gloria Jones.

Support Services: Mary B. Silbert.

Financial Management Office: Grace Hughes.

Facilities: David Tharp.

Community Development: U. Wright Kerns.

Audio Visual: Chuck Alsworth.

Technical Information: Bob Senecal.

NASA Wives Meet

NASA wives held their first club meeting of the year yesterday at the Patrick AFB Officers Club.

Mrs. A. J. Pickett and Mrs. R. E. Moser served as cohostesses for the bridge luncheon.

Inventors Awarded

Dr. Hugh L. Dryden, NASA Deputy Administrator, has presented six cash awards totaling $12,000 to 14 NASA employees for inventions, most of which are used in manned space flights.

Personnel Assignments Announced By Barney

Several LOC employees are assuming new assignments for 1963.

Walter F. Barney, Chief, Program Coordination and Management Office, has announced the following personnel assignments:

C. A. Guthrie has been named Acting Chief, Management Analysis Branch, with permanent assignment as Chief, Automatic Data Processing Section.

J. M. Burke has been appointed Acting Chief Automatic Data Processing Section, Management Analysis Branch with full-time assignment as Deputy Chief, Automatic Data Processing Section.

W. E. Pearson, relieved of the additional assignment as Chief, Program Coordination and Management Office, remains full-time as Chief, Scheduling Branch.

Bertram Greenglass is Chief, Program Coordination and Management Branch.

SPACE ALMANAC

A CHRONOLOGY OF EVENTS IN SPACE EXPLORATION AND RESEARCH.

Three Years Ago

Jan. 7, 1960—In his State-of-the-Union Message, President Eisenhower requested a revision of the National Areonautics and Space Act of 1958, to abolish the National Aeronautics and Space Council and Civilian-Military Liaison Committee.

One Year Ago

Jan. 3, 1962—NASA announced that its two-man spacecraft would be named "Gemini," after the third constellation of the zodiac. Some 50 percent larger than the Mercury spacecraft, it was to be launched into orbit with a Titan 2 booster.

Jan. 3, 1962—The Mercury capsule was installed atop an Atlas launch vehicle for the MA-6 manned orbital flight.

Jan. 5, 1962—NASA released drawings of the three-man Apollo spacecraft to be used in its lunar landing development program.