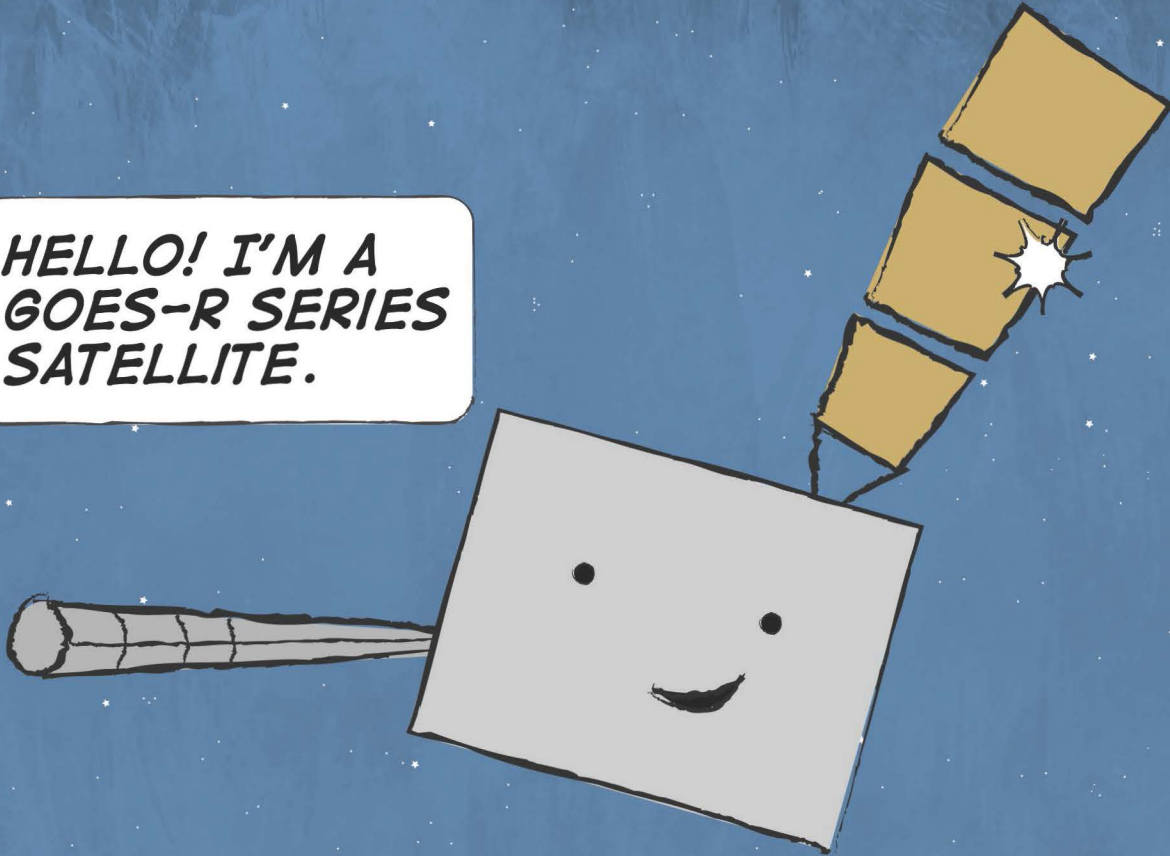
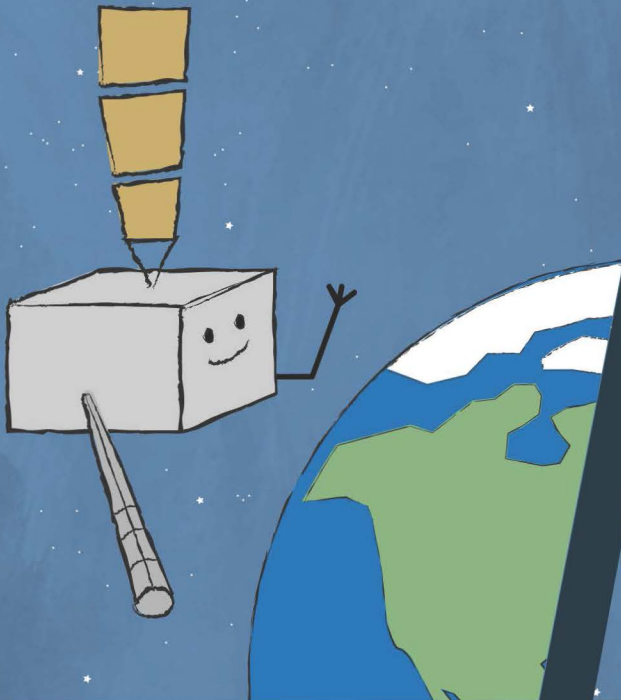


*MEET THE
GEOSTATIONARY OPERATIONAL
ENVIRONMENTAL SATELLITES - R SERIES*

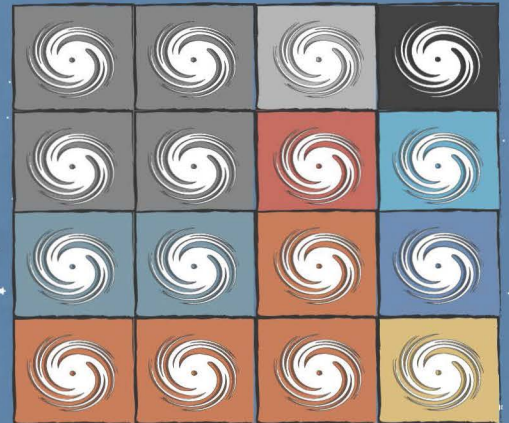
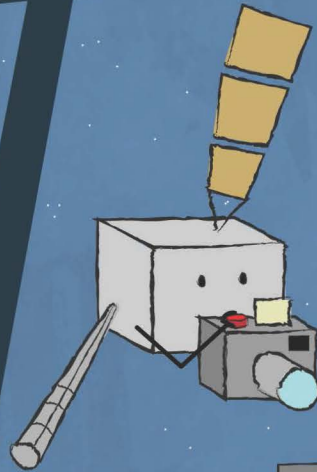
**HELLO! I'M A
GOES-R SERIES
SATELLITE.**




**I'M A HIGH-TECH SATELLITE
ORBITING 22,000 MILES
ABOVE EARTH.**

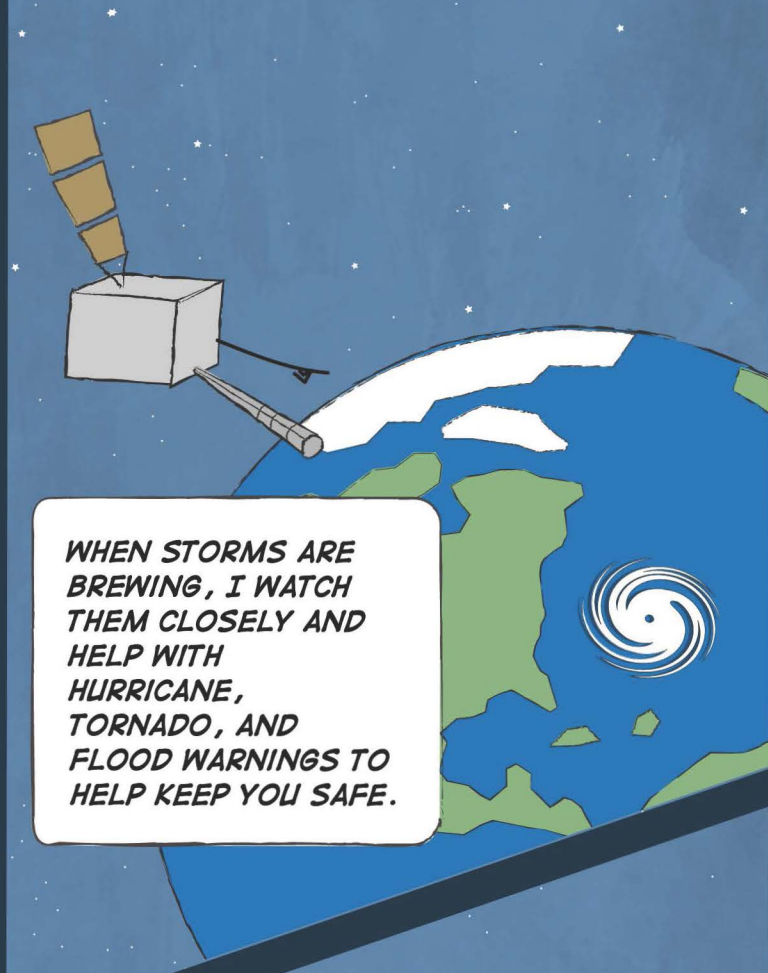


**I CAN SEE A LOT
OF COOL STUFF
FROM UP HERE,
AND I TAKE
PICTURES OF IT
WITH MY SPIFFY
CAMERA THAT HAS
16 DIFFERENT
SETTINGS.**

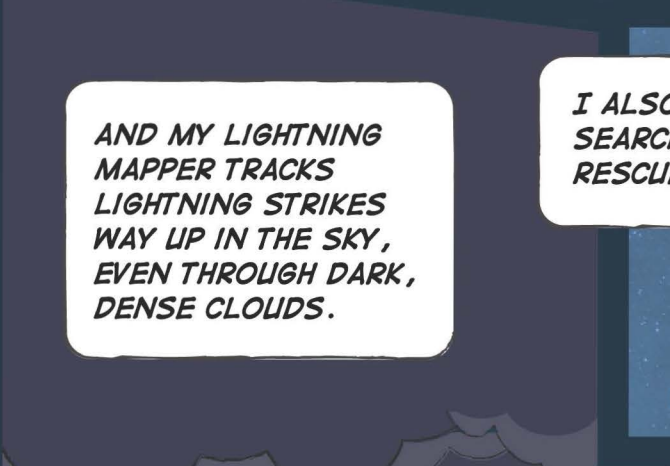




I HAVE SUCH GOOD EYESIGHT, I CAN SEE CLOUDS, SNOW, SMOKE, SMOG, AND ASH, SO I CAN WARN YOU ABOUT DANGEROUS CONDITIONS AND HELP YOU AVOID THEM.



WHEN STORMS ARE BREWING, I WATCH THEM CLOSELY AND HELP WITH HURRICANE, TORNADO, AND FLOOD WARNINGS TO HELP KEEP YOU SAFE.



AND MY LIGHTNING MAPPER TRACKS LIGHTNING STRIKES WAY UP IN THE SKY, EVEN THROUGH DARK, DENSE CLOUDS.

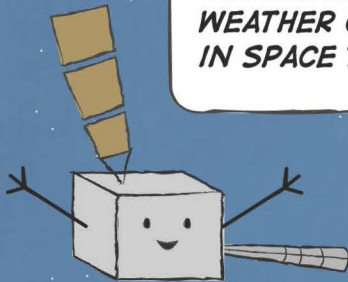


I ALSO HELP WITH SEARCH AND RESCUE MISSIONS.

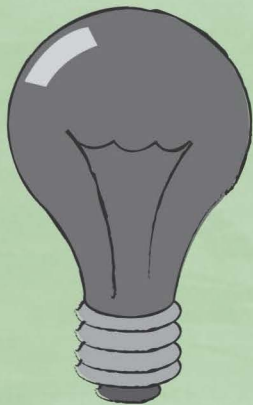
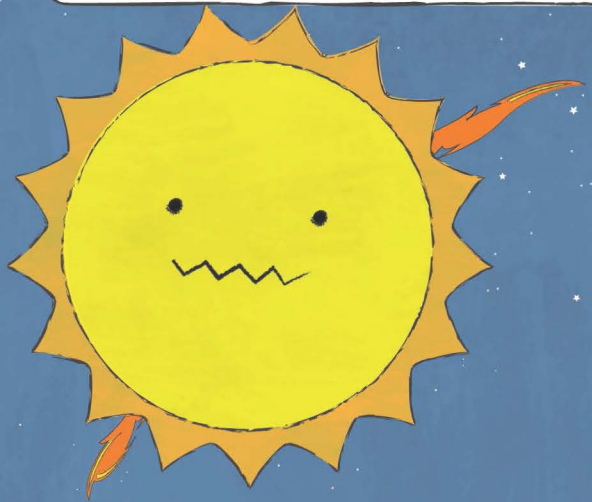


I LISTEN FOR DISTRESS SIGNALS FROM EMERGENCY BEACONS AND TELL SEARCH AND RESCUE TEAMS JUST WHERE TO FIND PEOPLE WHO NEED HELP.

BUT EVEN WHEN I'M KEEPING A CLOSE EYE ON THE EARTH, I'M MONITORING WEATHER OUT HERE IN SPACE TOO.



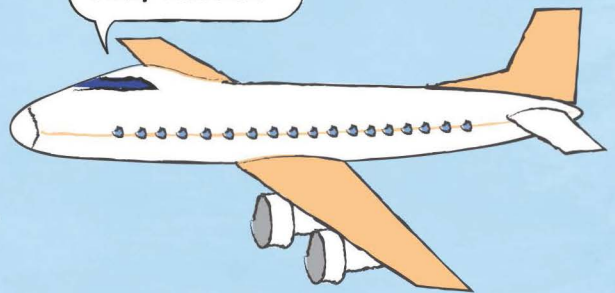
I WATCH THE SUN FOR BIG BURSTS OF ENERGY, WHICH SEND WAVES OF RADIATION TOWARD EARTH THAT CAN...



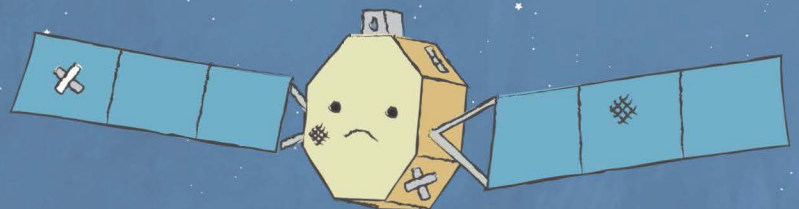
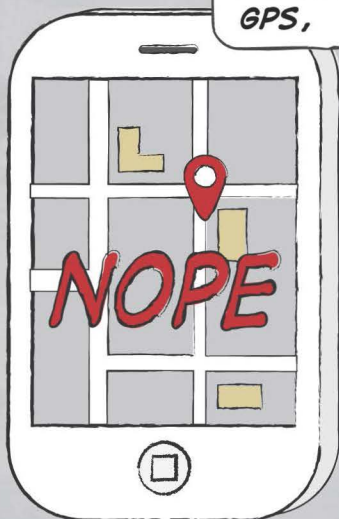
AFFECT POWER GRIDS,

BLOCK COMMUNICATION WITH PLANES,

UM, HELLO?



CAUSE ERRORS IN GPS,

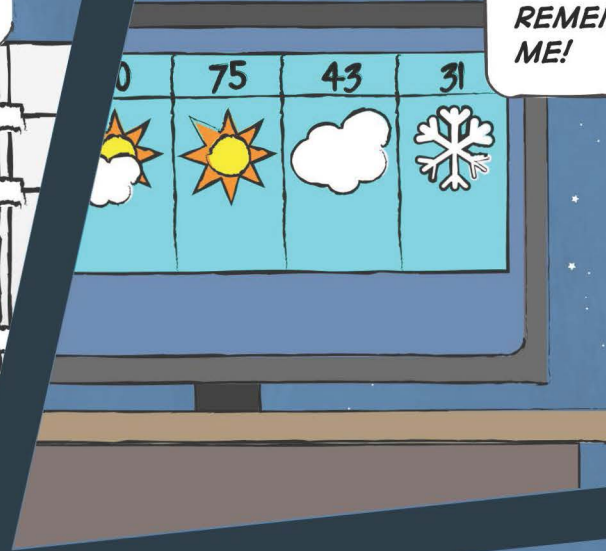


AND DAMAGE SATELLITES.

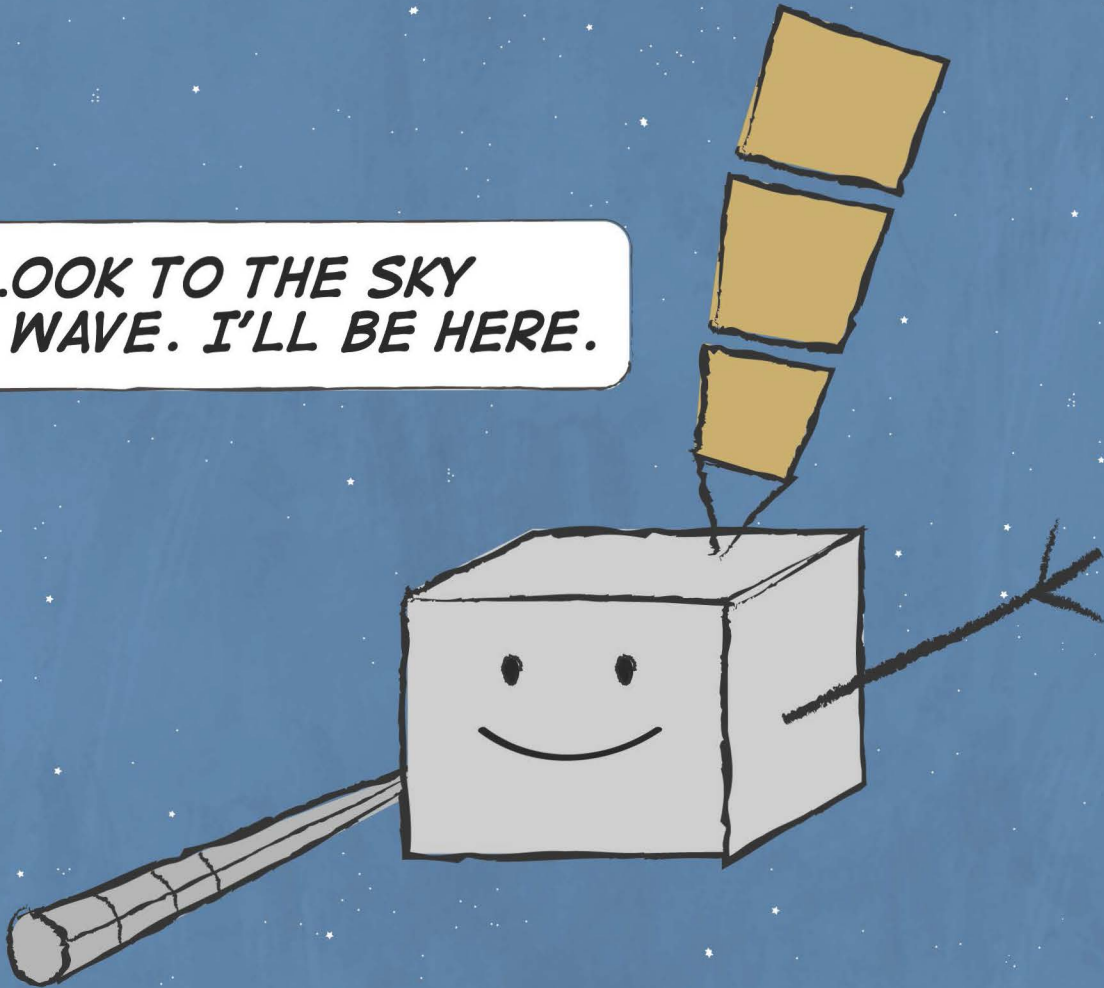
SPACE WEATHER IS ALSO VERY DANGEROUS FOR ASTRONAUTS WORKING OUTSIDE THE INTERNATIONAL SPACE STATION. I WARN THEM SO THEY CAN GET INSIDE WHERE THEY'LL BE SAFE.



SO THE NEXT TIME YOU WATCH A WEATHER REPORT OR CHECK YOUR PHONE FOR THE FORECAST, REMEMBER THAT'S ME!



SO LOOK TO THE SKY AND WAVE. I'LL BE HERE.

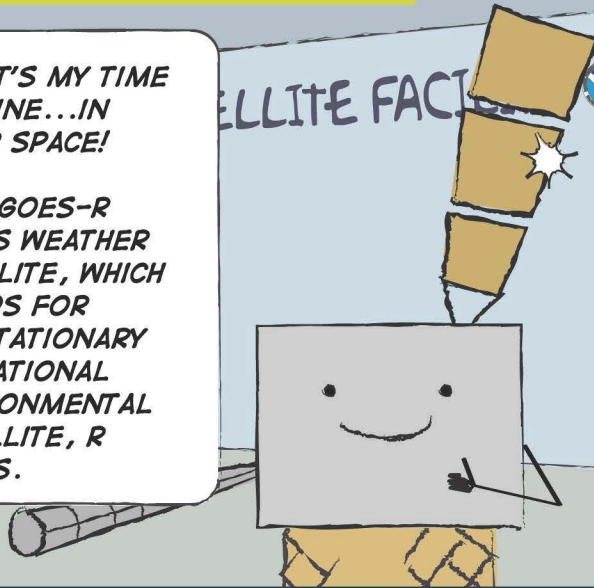


ON EARTH A FEW MONTHS EARLIER...

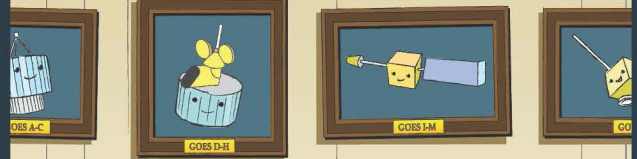
NOW IT'S MY TIME TO SHINE...IN OUTER SPACE!

I'M A GOES-R SERIES WEATHER SATELLITE, WHICH STANDS FOR **G**EOSTATIONARY **O**PERATIONAL **E**NVIRONMENTAL **S**ATELLITE, **R** SERIES.

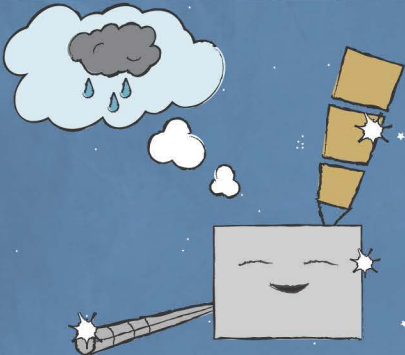
ELLITE FACI



THE "R" STANDS FOR MY ORDER IN THE SERIES OF WEATHER SATELLITES.



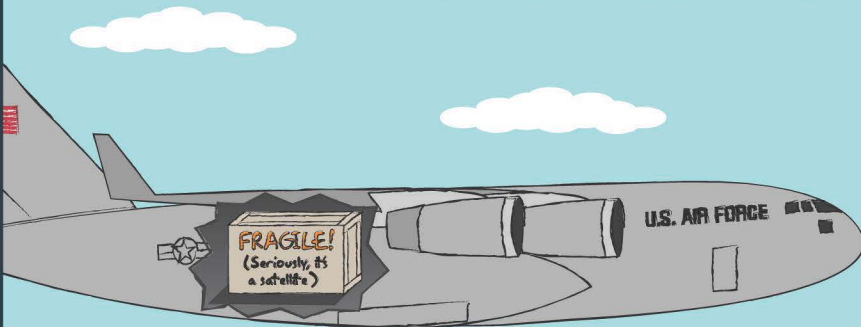
LIKE MY OLDER SIBLINGS BEFORE ME I DO A LOT FOR WATCHING WEATHER, BUT I'M PRETTY SPECIAL BECAUSE I HAVE A LOT OF NEW GADGETS.



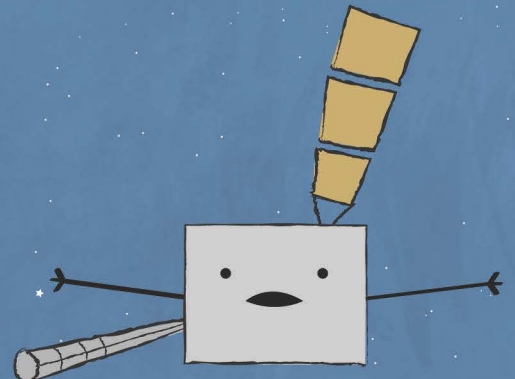
I'M ORIGINALLY FROM COLORADO, BUT MY JOURNEY TO SPACE HAD A FEW STOPS ALONG THE WAY.

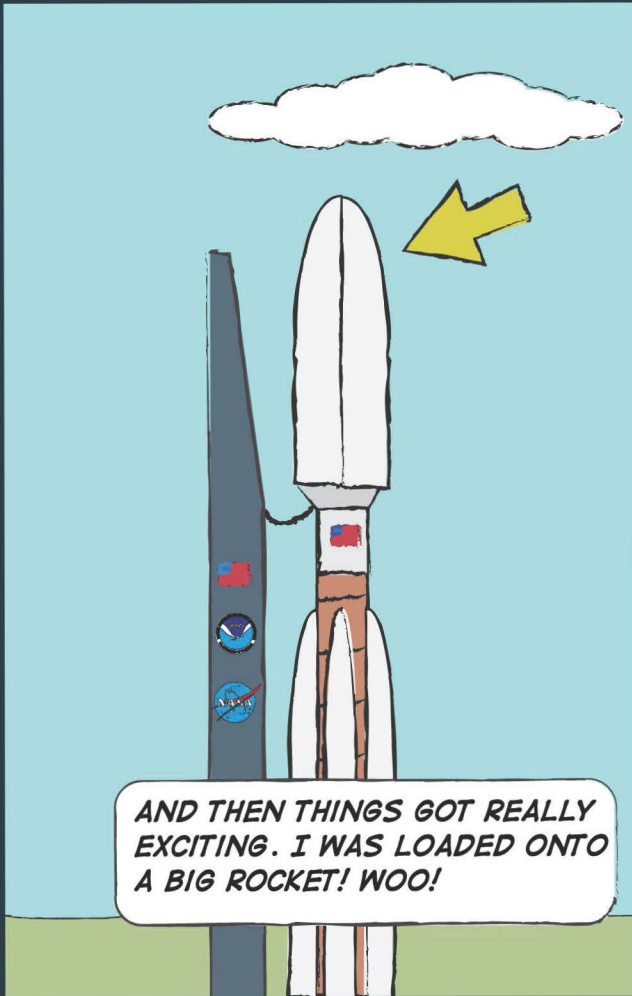


I WAS SHIPPED IN A VERY SPECIAL SATELLITE SHIPPING CONTAINER TO KENNEDY SPACE CENTER.



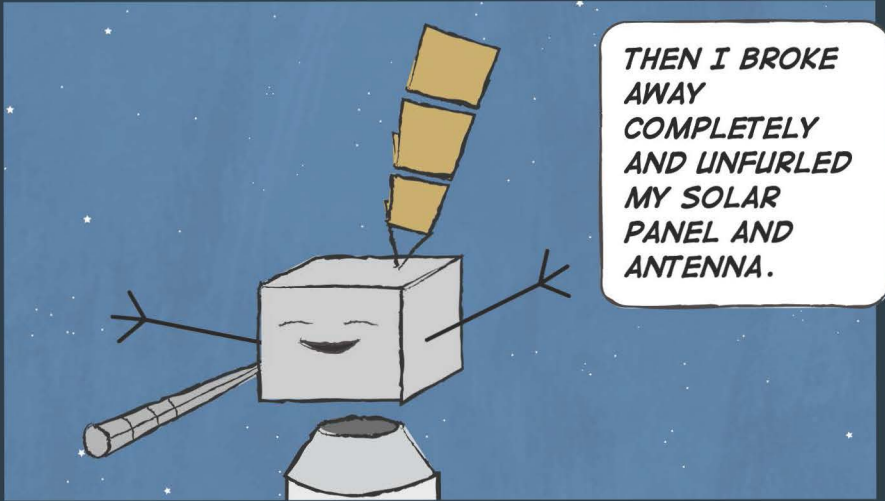
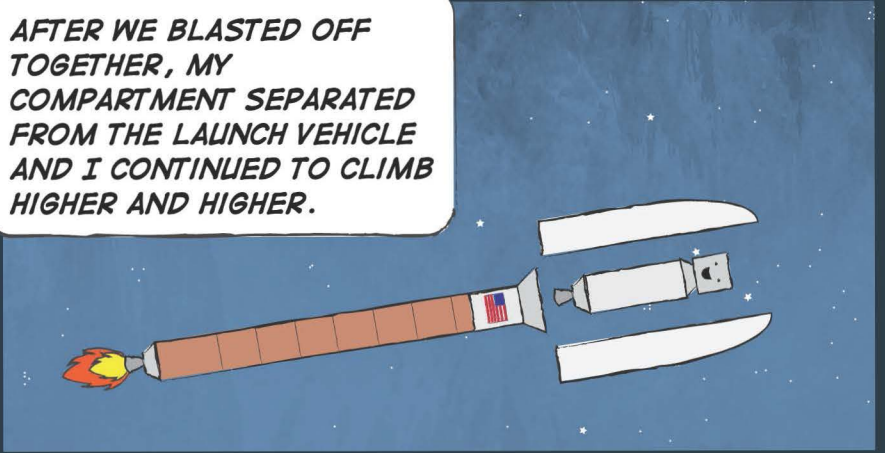
MOVING AROUND WAS NOT EASY. I'M OVER 18 FEET WIDE AND WEIGH SIX THOUSAND POUNDS.



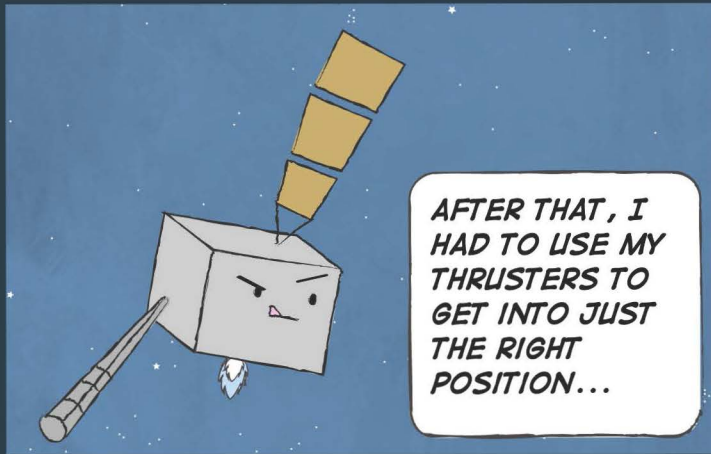


AND THEN THINGS GOT REALLY EXCITING. I WAS LOADED ONTO A BIG ROCKET! WOO!

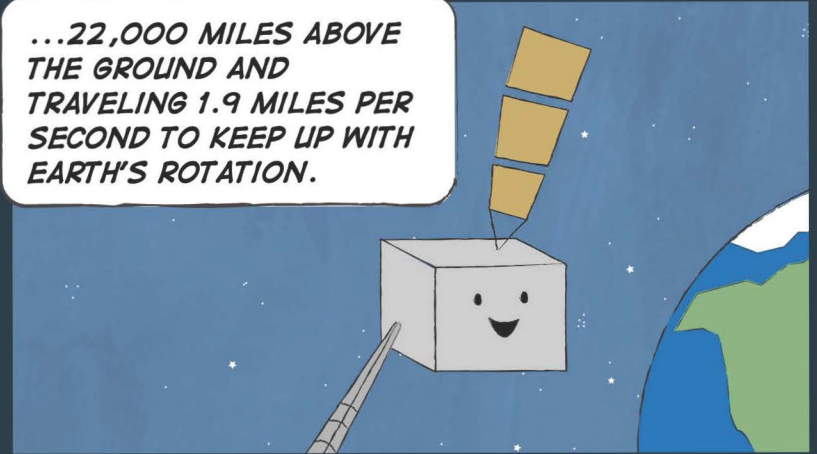
AFTER WE BLASTED OFF TOGETHER, MY COMPARTMENT SEPARATED FROM THE LAUNCH VEHICLE AND I CONTINUED TO CLIMB HIGHER AND HIGHER.



THEN I BROKE AWAY COMPLETELY AND UNFURLED MY SOLAR PANEL AND ANTENNA.



AFTER THAT, I HAD TO USE MY THRUSTERS TO GET INTO JUST THE RIGHT POSITION...



...22,000 MILES ABOVE THE GROUND AND TRAVELING 1.9 MILES PER SECOND TO KEEP UP WITH EARTH'S ROTATION.

AND THEN I OFFICIALLY STARTED MY JOB ALONG WITH MY SISTER SATELLITES, WHERE I TAKE ADVANCED PICTURES FOR MORE ACCURATE WEATHER FORECASTS, MAP LIGHTNING IN REAL TIME, AND IMPROVE THE MONITORING OF THE SUN'S ACTIVITY.



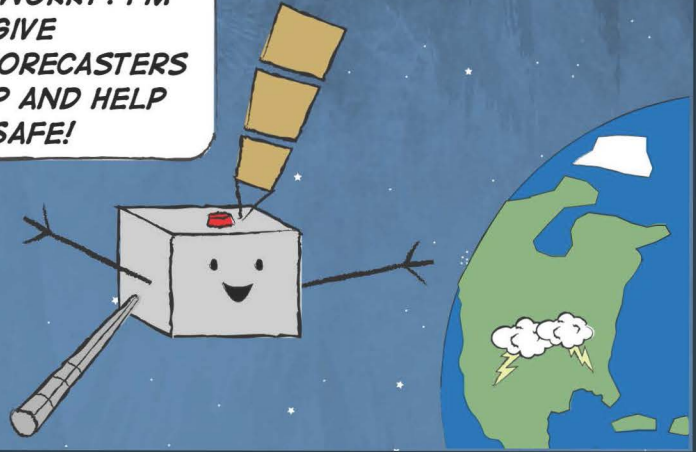
IT'S SO AWESOME!

ON THE SATELLITE'S FIRST DAY AT WORK...

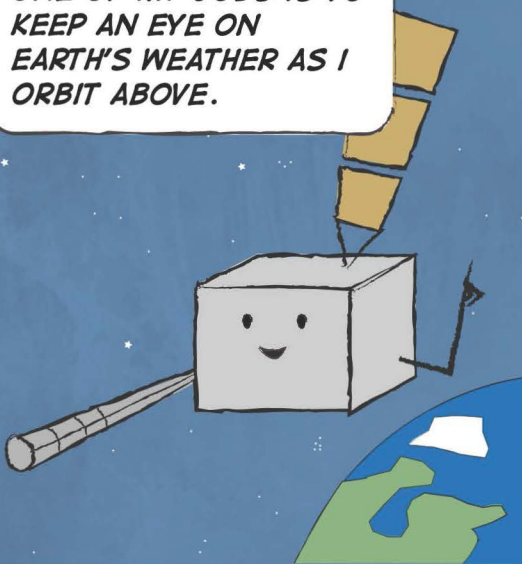
WHOA! THINGS ARE LOOKING PRETTY BAD DOWN THERE.



BUT DON'T WORRY. I'M GOING TO GIVE WEATHER FORECASTERS A HEADS UP AND HELP YOU STAY SAFE!



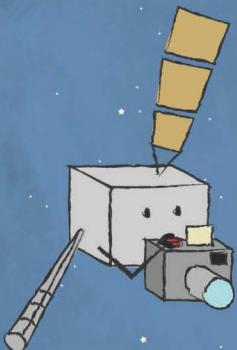
ONE OF MY JOBS IS TO KEEP AN EYE ON EARTH'S WEATHER AS I ORBIT ABOVE.



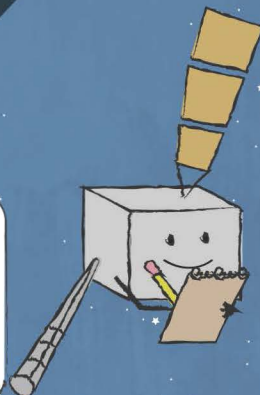
BUT I'M 22,000 MILES ABOVE EARTH! HOW DOES YOUR LOCAL WEATHER FORECASTER KNOW WHAT I SEE ALL THE WAY UP HERE?



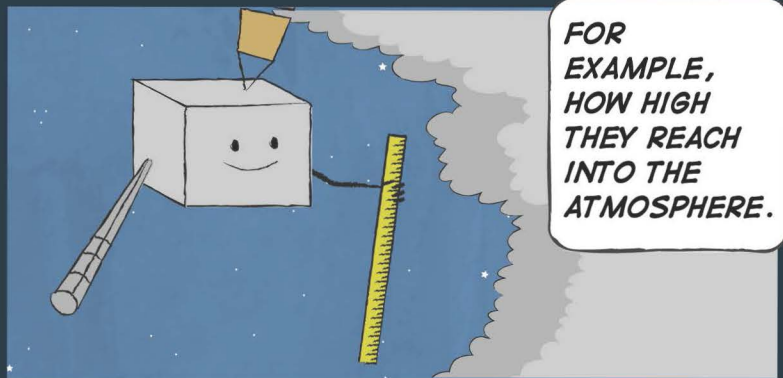
FIRST I HAVE TO FIGURE OUT WHAT'S GOING ON. I POINT MY SPECIAL CAMERA AT THE EARTH AND TAKE PICTURES OF THE CLOUDS I SEE BELOW.



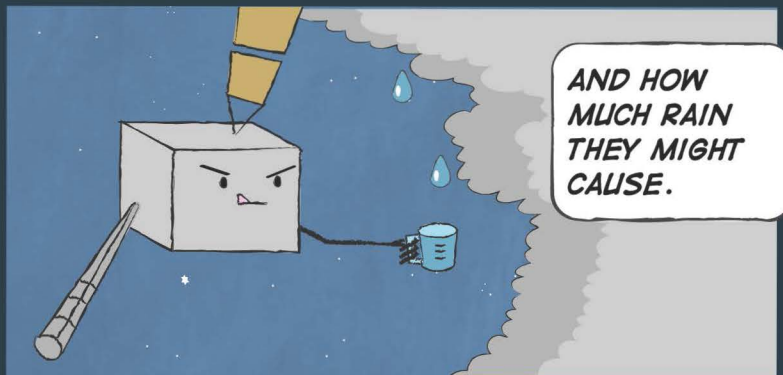
MY PICTURES SHOW WHERE THE CLOUDS ARE, BUT I ALSO TAKE LOTS OF OTHER NOTES ABOUT THE CLOUDS.



FOR EXAMPLE, HOW HIGH THEY REACH INTO THE ATMOSPHERE.



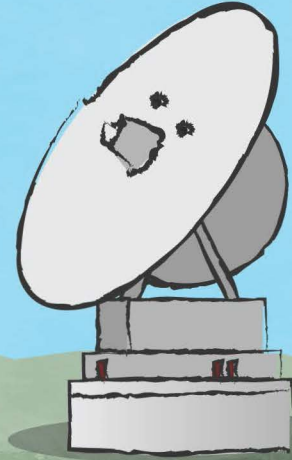
AND HOW MUCH RAIN THEY MIGHT CAUSE.



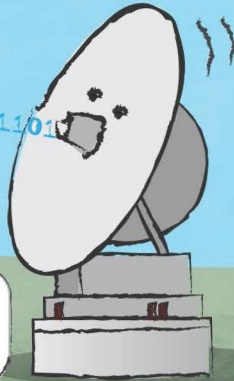
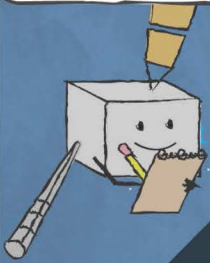
BUT I CAN'T KEEP ALL THIS INFORMATION TO MYSELF — I HAVE TO SHARE IT WITH WEATHER FORECASTERS DOWN ON EARTH!



A BIG ANTENNA IS WAITING FOR MY CALL.

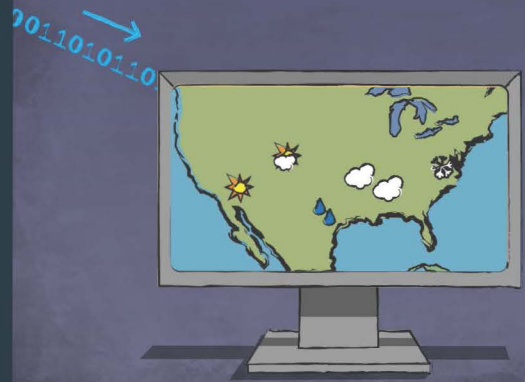


SINCE I'M A SATELLITE, I SEND MY PICTURES AND NOTES IN A COMPUTER LANGUAGE OF ONES AND ZEROS.



LUCKILY, THE ANTENNA SPEAKS MY LANGUAGE.

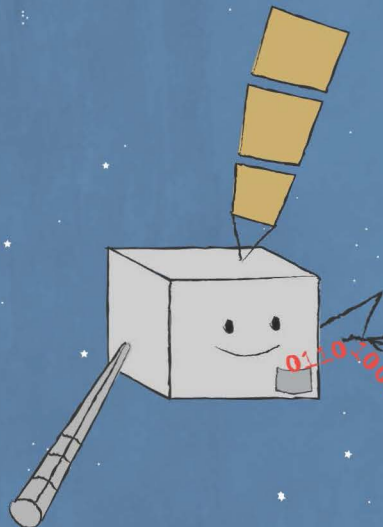
COMPUTERS CONNECTED TO THE ANTENNA ORGANIZE MY NOTES AND AND COMBINE ALL OF THE PICTURES AND CLOUD INFORMATION AND TRANSLATE THEM INTO WEATHER MAPS.



THEY SEND A VERSION OF THE MAPS BACK UP TO ME.



I'LL HOLD ONTO THESE FOR LATER.



ANOTHER COPY OF THE MAPS IS SPLIT INTO SMALLER PIECES. THIS HELPS THE MAPS MOVE FASTER FROM ONE PLACE TO ANOTHER.

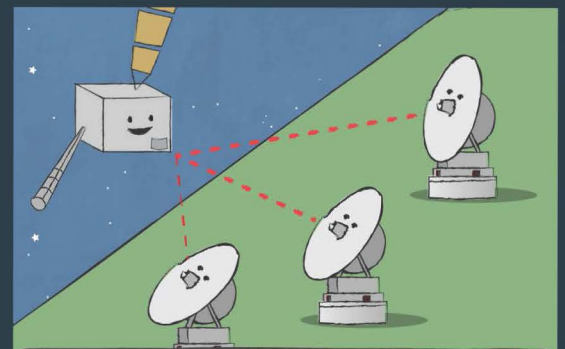
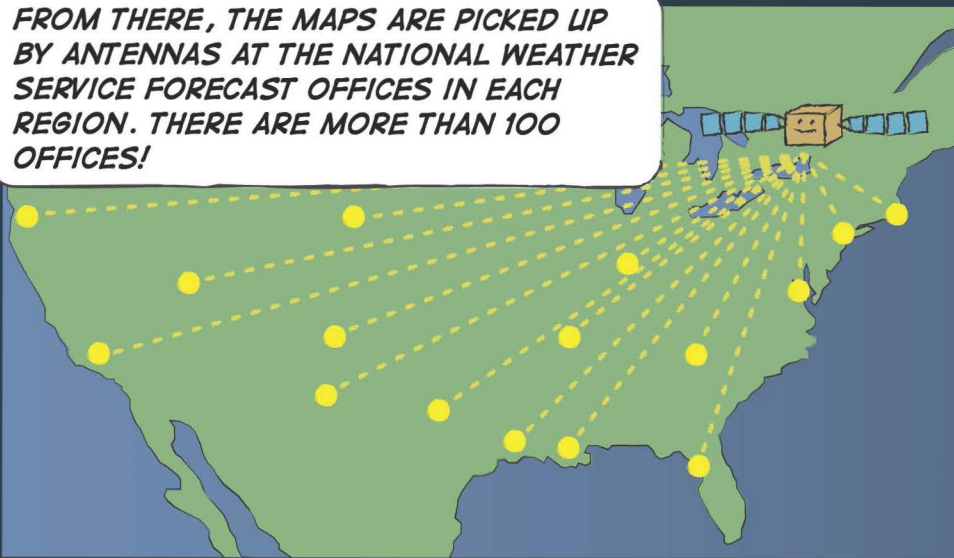


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THE MAP PIECES ARE THEN SENT FOR PROCESSING BEFORE BEING SENT BACK UP IN THE SKY TO A COMMUNICATIONS SATELLITE.

FROM THERE, THE MAPS ARE PICKED UP BY ANTENNAS AT THE NATIONAL WEATHER SERVICE FORECAST OFFICES IN EACH REGION. THERE ARE MORE THAN 100 OFFICES!

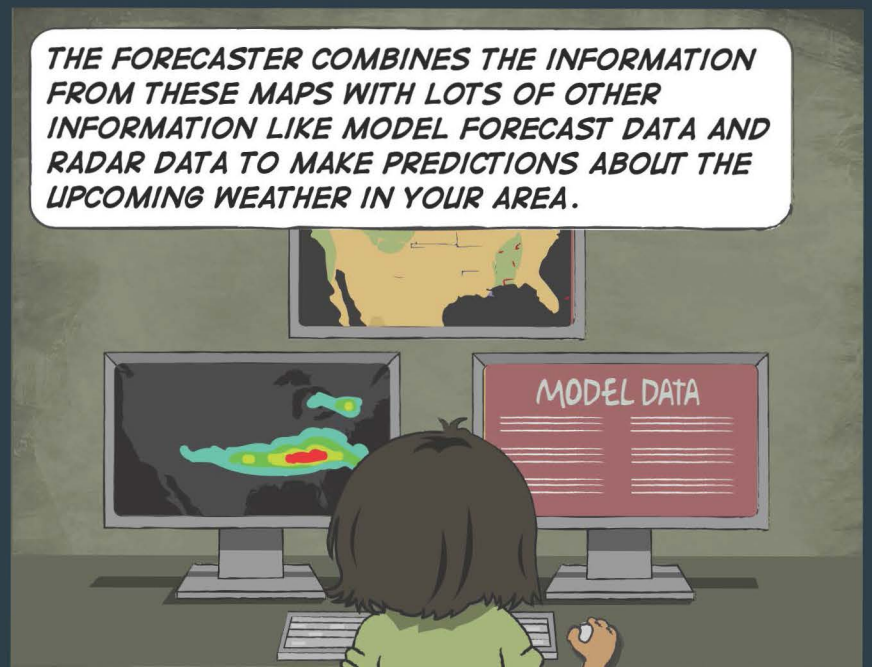


I ALSO TAKE THE MAPS THAT I RECEIVED AND SEND THEM OUT TO COMPANIES THAT SPECIALIZE IN MAKING THE MAPS MORE COLORFUL AND BETTER FOR VIEWING ON TVS AND COMPUTERS.

THE FORECASTER COMBINES THE INFORMATION FROM THESE MAPS WITH LOTS OF OTHER INFORMATION LIKE MODEL FORECAST DATA AND RADAR DATA TO MAKE PREDICTIONS ABOUT THE UPCOMING WEATHER IN YOUR AREA.



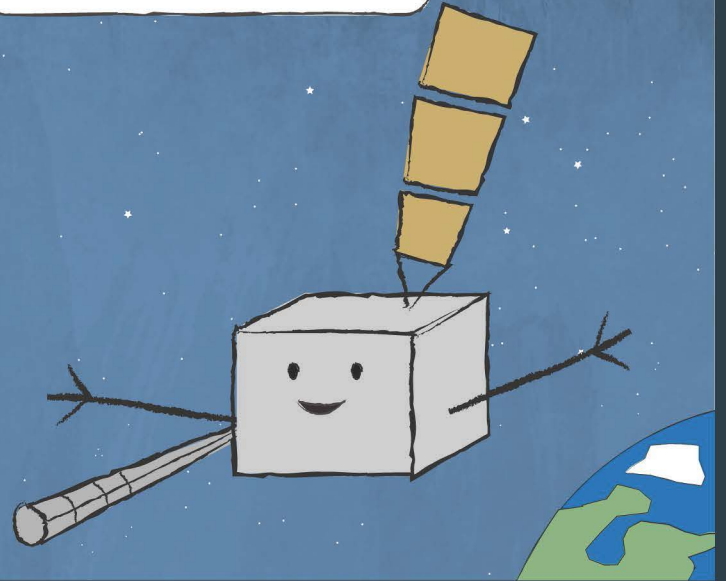
THE COLORFUL MAPS—AND THE MAPS FROM THE FORECAST OFFICES—THEN GO TO YOUR LOCAL WEATHER FORECASTER.



AND THAT'S HOW I
HELP YOU FIND OUT
IF BAD WEATHER IS
GOING TO RUIN YOUR
AFTERNOON PLANS!



YOU'RE WELCOME!



**FOLLOW THE GOES-R SERIES SATELLITES
ON ALL OF THEIR ADVENTURES!**



FOR THE COMPLETE VIDEO SERIES AND MORE, VISIT:
WWW.SCIJINKS.GOV/GOES-R



*FOR MORE INFORMATION, VISIT THE GOES-R SERIES WEBSITE AT
WWW.GOES-R.GOV.*

*FOR INFORMATION FOR STUDENTS, VISIT THE NOAA SCIJINKS WEBSITE AT
SCIJINKS.GOV.*

 *GOES-R SERIES FACEBOOK: WWW.FACEBOOK.COM/GOESRSATELLITE*

 *NOAA SATELLITES FACEBOOK: WWW.FACEBOOK.COM/NOAANESDIS*

 *NOAA SATELLITES TWITTER: WWW.TWITTER.COM/NOAASATELLITES*

 *NOAA SATELLITES YOUTUBE: WWW.YOUTUBE.COM/USER/NOAASATELLITES*

 *NOAA SATELLITES FLICKR: WWW.FLICKR.COM/NOAASATELLITES*

 *SCIJINKS FACEBOOK: WWW.FACEBOOK.COM/SCIJINKS*

 *SCIJINKS TWITTER: WWW.TWITTER.COM/SCIJINKS*

