NIGHT-SCAPE RESOURCES OF COASTAL NC

NORTH CAROLINA LAND OF WATER (NC LOW)

ww.nclandofwater.org

A TIME FOR SCIENCE (ATFS)

www.atimeforscience.org

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FUNDED BY
NC SEA GRANT
NC SPACE GRANT

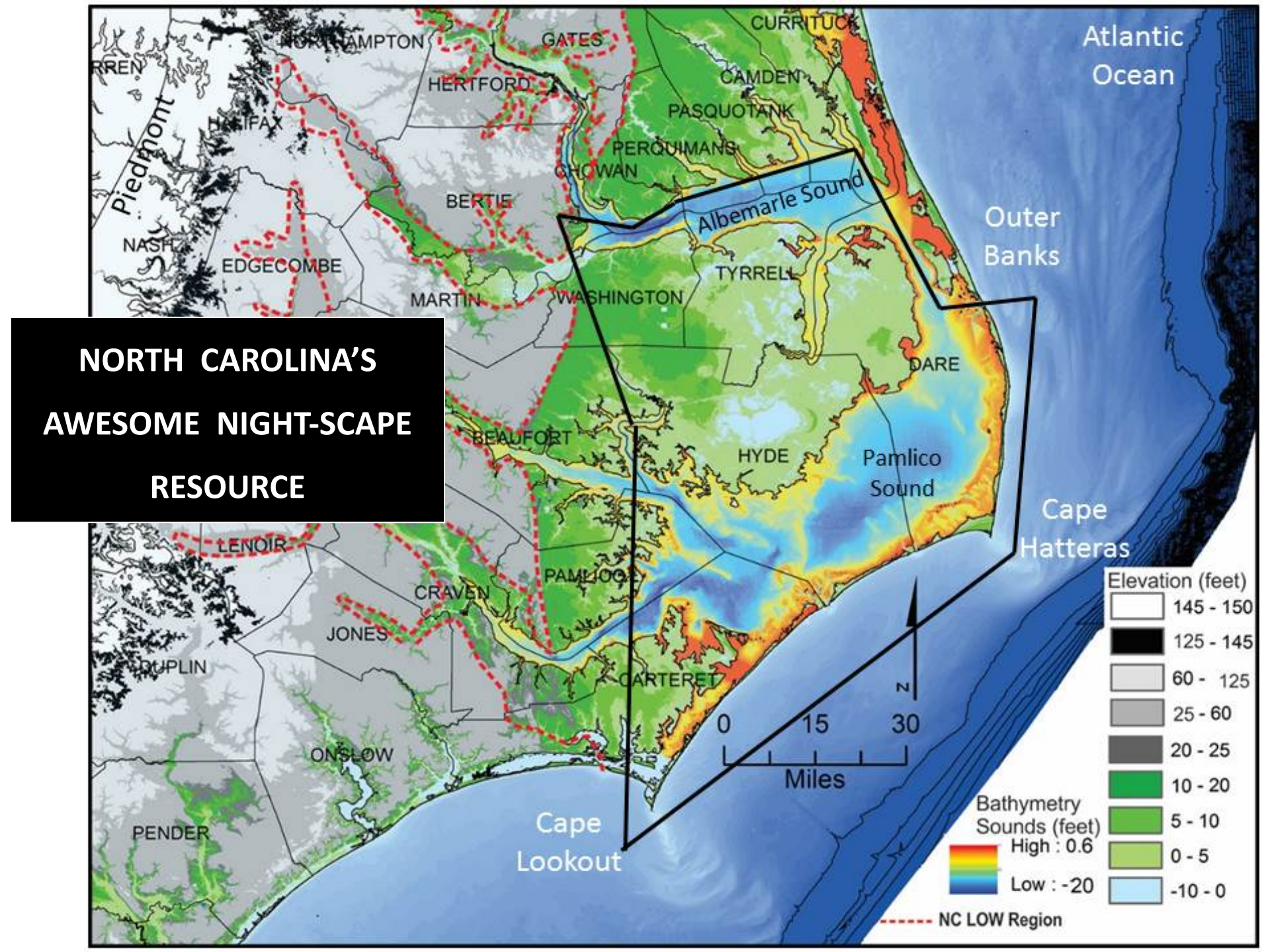
NORTH CAROLINA'S NIGHT-SCAPE RESOURCE: LARGEST PUBLIC DARK SKY ON THE ATLANTIC COAST FROM BOSTON TO MIAMI

OUTER ALBEMARLE PENINSULA (OAP)
>500,000 ACRES (>780 mi2)

ESTUARINE BUFFER ZONE
(ALBEMARLE, CROATAN, & PAMLICO SOUNDS)
> 1.8 MILL ACRES (>2,800 mi2)

CENTRAL OUTER BANKS
(OREGON INLET TO CAPE LOOKOUT & CEDAR ISLAND)
> 100,000 ACRES (> 150 mi2)

TOTAL = ~2.4 MILL ACRES OF PUBLIC DARK SKY (3,730 mi2)

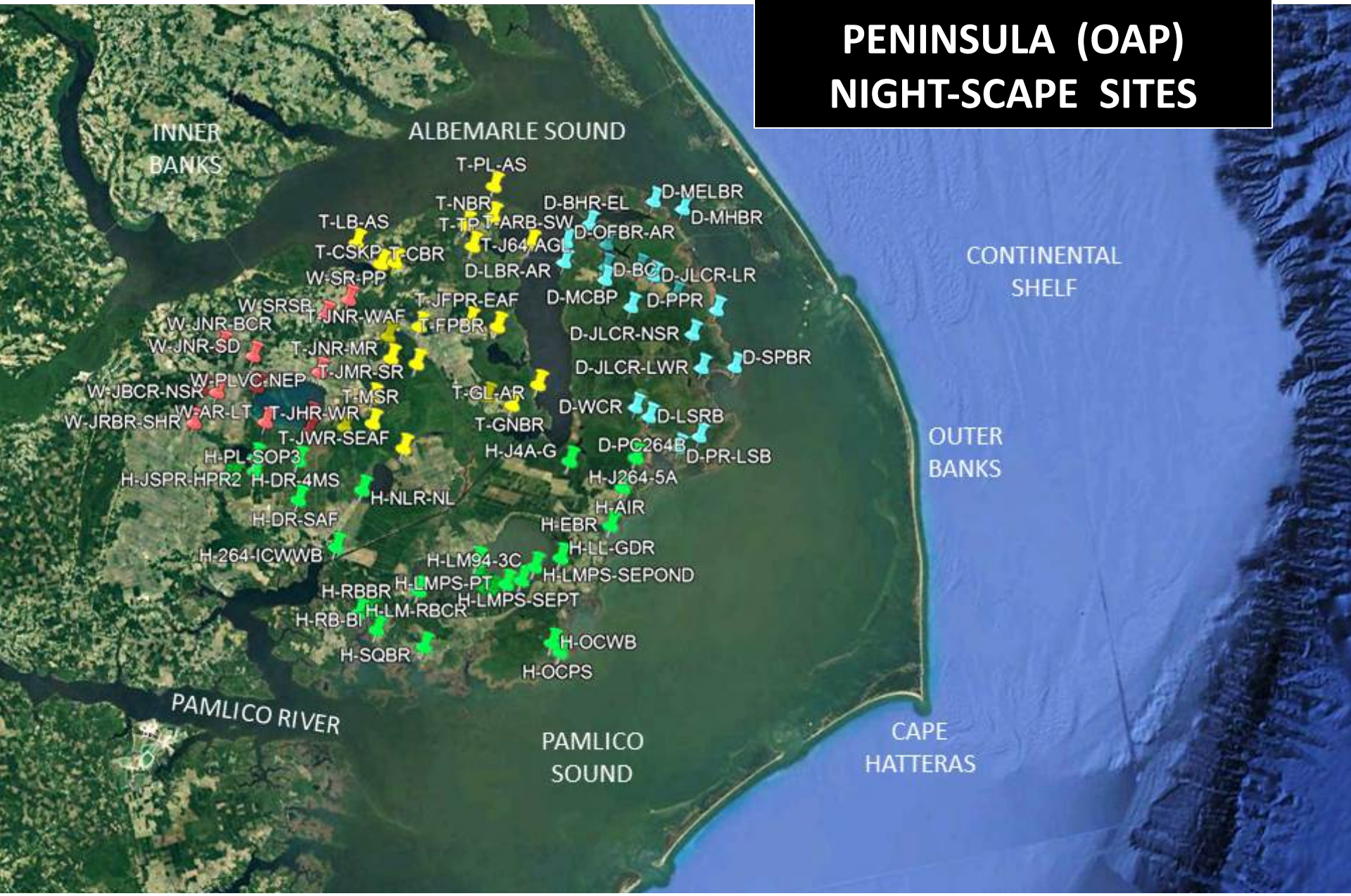

NORTH CAROLINA'S
AWESOME NIGHT-SCAPE
RESOURCE
Atlantic
Ocean
Outer
Banks
Albemarle Sound
Pamlico
Sound
Cape
Hatteras
Cape
Lookout
Piedmont
NORTHAMPTON
GATES
CURRITUCK
HERTFORD
CAMDEN
PASQUOTANK
PERQUIMANS
CHOWAN
HALIFAX
BERTIE
NASH
EDGECOMBE
MARTIN
WASHINGTON
TYRRELL
DARE
BEAUFORT
HYDE
LENOIR
CRAVEN
PAMLICO
JONES
DUPLIN
CARTERET
ONSLOW
PENDER
N
0
15
30
Miles
Elevation (feet)
145 - 150
125 - 145
60 - 125
25 - 60
20 - 25
10 - 20
5 - 10
0 - 5
-10 - 0
Bathymetry
Sounds (feet)
High : 0.6
Low : -20
NC LOW Region

4 NIGHT-SCAPE SURVEY TEAMS SURVEYED 81 SITES IN OAP ON NEW & FULL MOONS FROM JULY 2018 THROUGH MAY 2019

245 VISITS TO 81 SITES IN 4 COASTAL COUNTIES

MAINLAND DARE CO.	94 VISITS TO 21 SITES
MAINLAND HYDE CO.	66 VISITS TO 27 SITES
TYRRELL CO.	53 VISITS TO 21 SITES
WASHINGTON CO.	32 VISITS TO 12 SITES

OUTER ALBEMARLE PENINSULA (OAP) NIGHT-SCAPE SITES



TWO COMPONENTS OF NIGHT-SCAPE CONDITIONS

1. NIGHT SKY
2. NOCTURNAL ENVIRONMENT

DARK SKY QUALITY

AMBIENT SOUND

METEORLOGICAL CONDITIONS

SURROUNDING ECOSYSTEMS

HORIZON

SOURCES OF LIGHT & SOUND POLLUTION

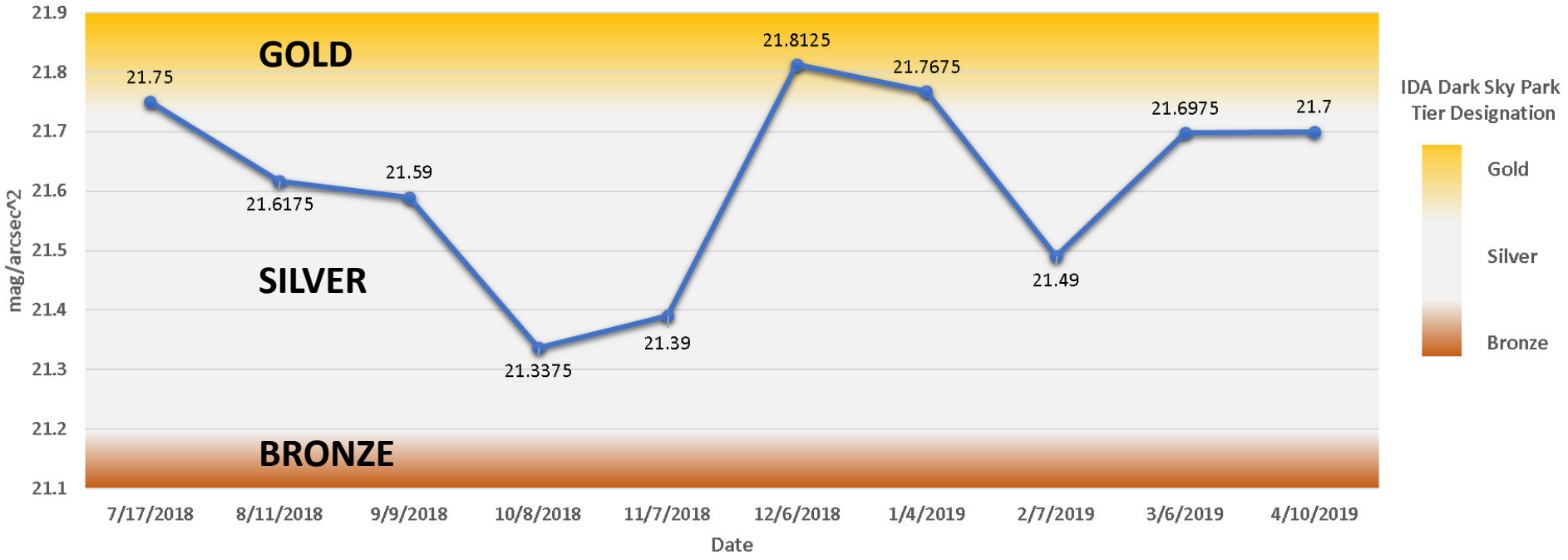
VISITATION CAPABILITIES (ACCESS, PARKING, FACILITIES, ETC)

GRADED EACH SITE FOR HIGH, MODERATE, & LOW QUALITY OF NIGHT-SCAPE:

BASED ON EITHER NIGHT SKY, NOCTURNAL ENVIRONMENT, OR BOTH

(A, B, C, OR X FOR DATA SITE ONLY)

AVE. NIGHT SKY QUALITY READINGS DURING NEW MOON SURVEYS



INTERNATIONAL DARK SKY ASSOC (IDA) DESIGNATIONS FOR NIGHT SKY QUALITY:

<u>GOLD</u> >21.75 = NATURAL NIGHT SKY

<u>SILVER</u> 21.74 TO 21.00 = MINOR LIGHT POLLUTION, STILL EXEMPLARY NIGHT SKY

<u>BRONZE</u> 20.99 TO 20.00 = SLIGHTLY DEGRADED, BUT STILL GOOD NIGHT-SKY

OAP FALLS COMFORTABLY WITHIN A SILVER RATING WITH

FREQUENT GOLD RATED DARK SKIES

FIRST STAR PARTY:

IN LINE FOR THE PLANETARIUM PROGRAM & LEARNING ABOUT OUR SOLAR SYSTEM

SECOND STAR PARTY: LEARNING ABOUT OUR NIGHT SKY

THE MOON

PHOTO BY NASA

FROM THE LUNAR

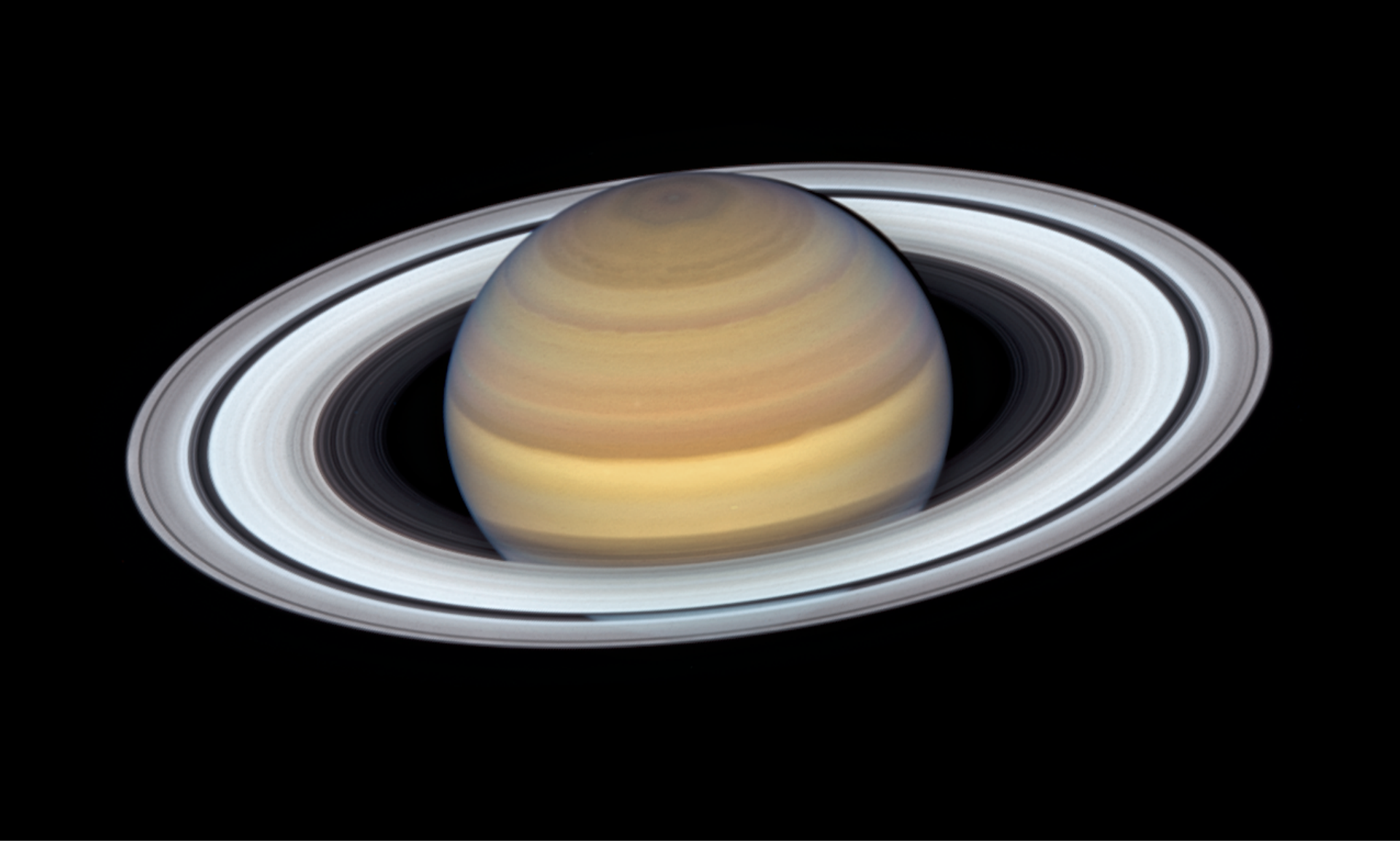
RECONNAISSANCE

ORBITER 10-7-2018

FULL MOON ECLIPSE: FEB 20, 2019, BROOK VALLEY, GREENVILLE, NC.

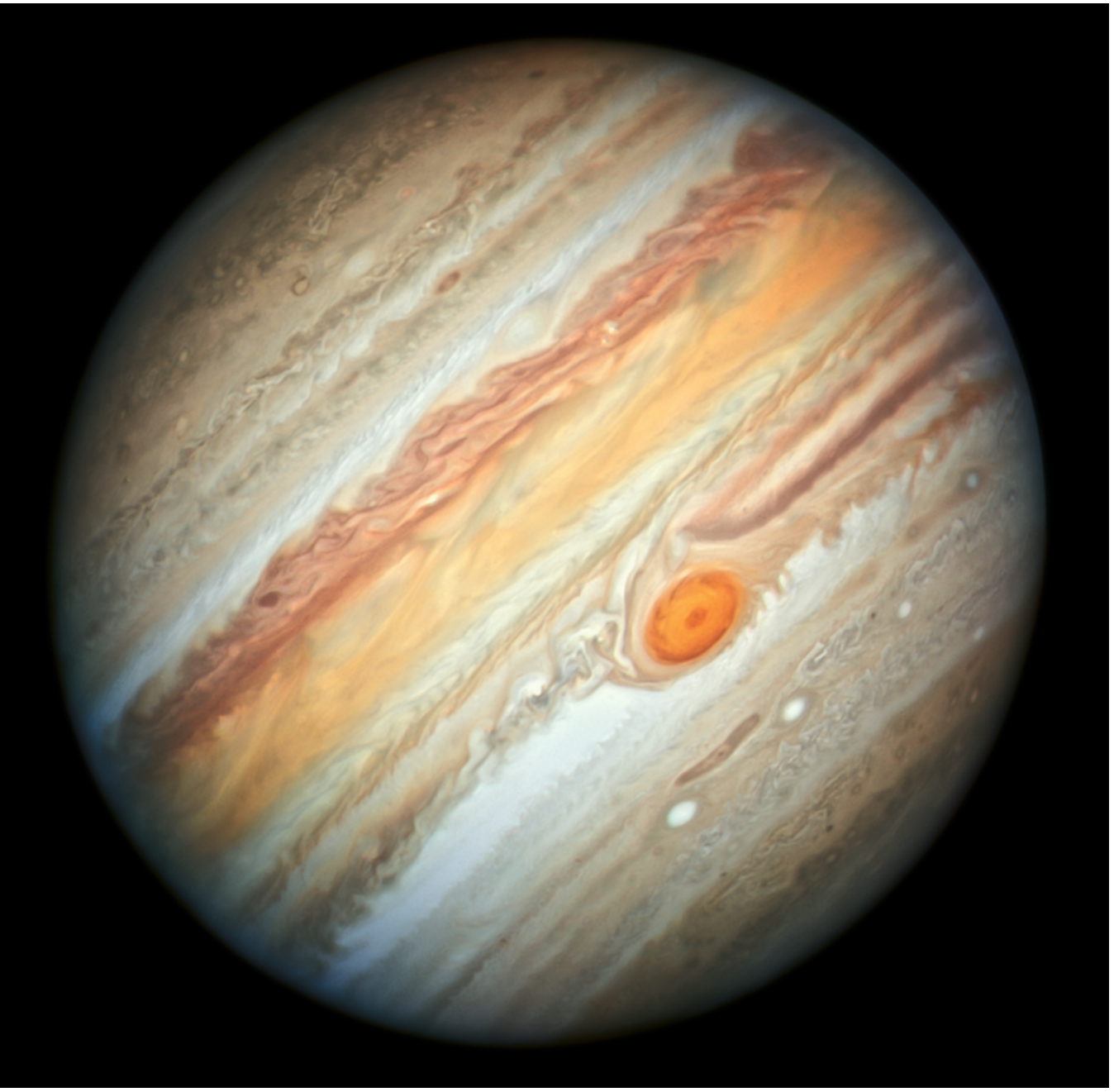
FROM FULL ECLIPSE AT 12:26 AM (LEFT TO RIGHT) AT 12:50 AM.

PHOTO BY GEMPERLINE



PLANET SATURN

HUBBLE SPACE TELESCOPE VIEW ON 6-20-2019 REVEALS RING STRUCTURE & TURBULENT ATMOSPHERE (IMAGE IS FROM NASA)



PLANET JUPITER

HUBBLE SPACE TELESCOPE VIEW ON 6-27-2019 REVEALS THE GIANT PLANET'S GREAT RED SPOT & INTENSE CLOUDS SWIRLING IN TURBULENT ATMOSPHERE

(IMAGE IS FROM NASA)

THE MILKY WAY

by Brunnier 6-8-05

CONSTELLATION ORION--THE HUNTER. BRIGHTEST STAR IS BETELGEUSE, A RED SUPERGIANT STAR & 2nd BRIGHTEST STAR IS RIGEL, A BLUE-WHITE SUPERGIANT (PIXABAY, 11-12-2017)

INTERNATIONAL SPACE STATION FLYING OVER EARTH

(PHOTO BY NASA 10-2018)

AWESOME ECO-SYSTEM DIVERSITY & ASSOCIATED NIGHT-SCAPE FAUNA-FLORA

CHORUS OF FROGS ON HOT SUMMER NIGHTS

MYSTERIOUS SPLASHES & NOISES HIDDEN WITHIN SURROUNDING WATER BODIES

CACOPHONY OF TUNDRA SWANS ON A COLD WINTER NIGHT

SPECTACULAR CLOUD SHOWS OCCUR AS PART OF THE NIGHT-SKY AS WELL

STORMS PARADE ACROSS THE OAP WITH TURMOIL, RAIN, & LIGHTNING

LET THE SHOW BEGIN: MAGIC DRAMA OF SUNSET OVER ALBEMARLE SOUND

THE FINALLY AS THE NIGHT SKY SETTLES IN

ENCORE: THE RISING FULL MOON