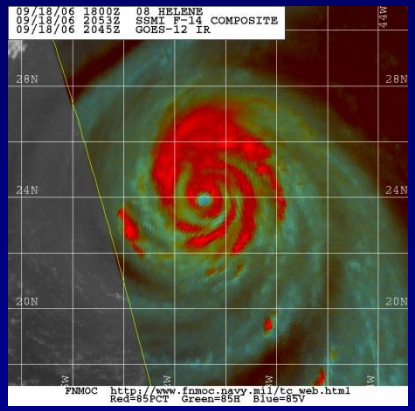
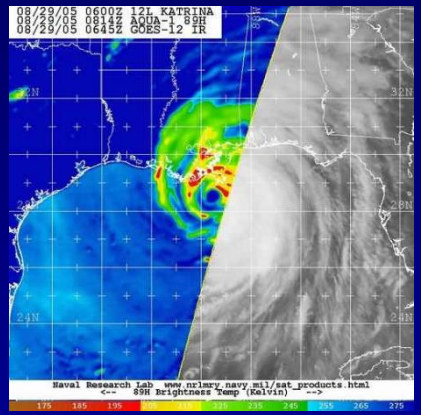
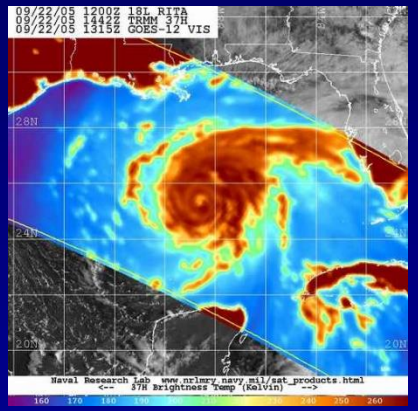
NATIONAL HURRICANE CENTER

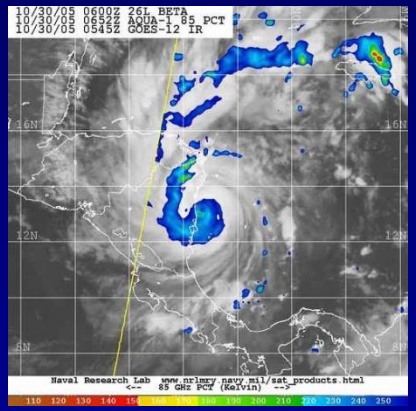
Miami, Florida

Microwave imagery Exercise







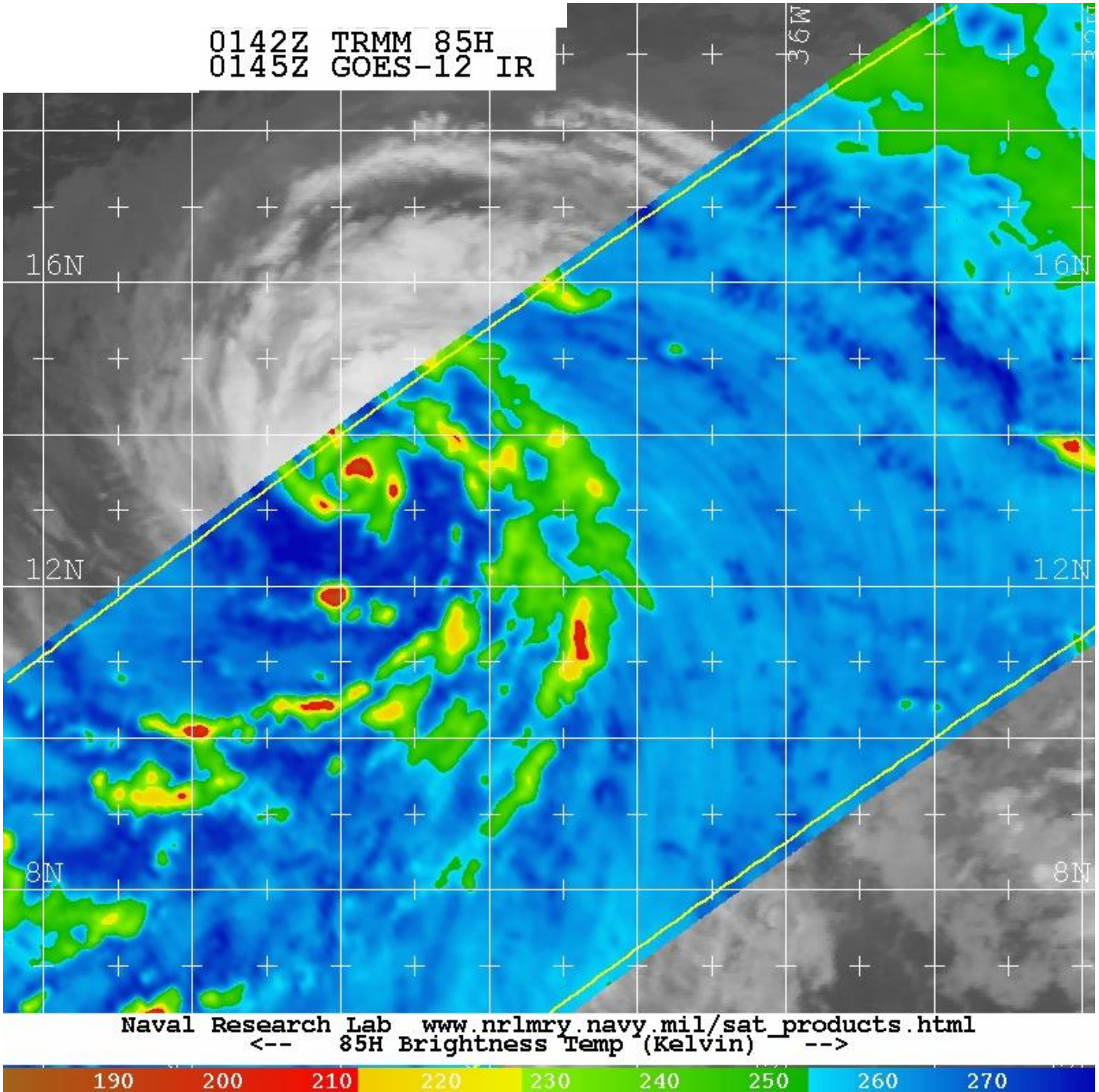


John Cangialosi and Brad Reinhart

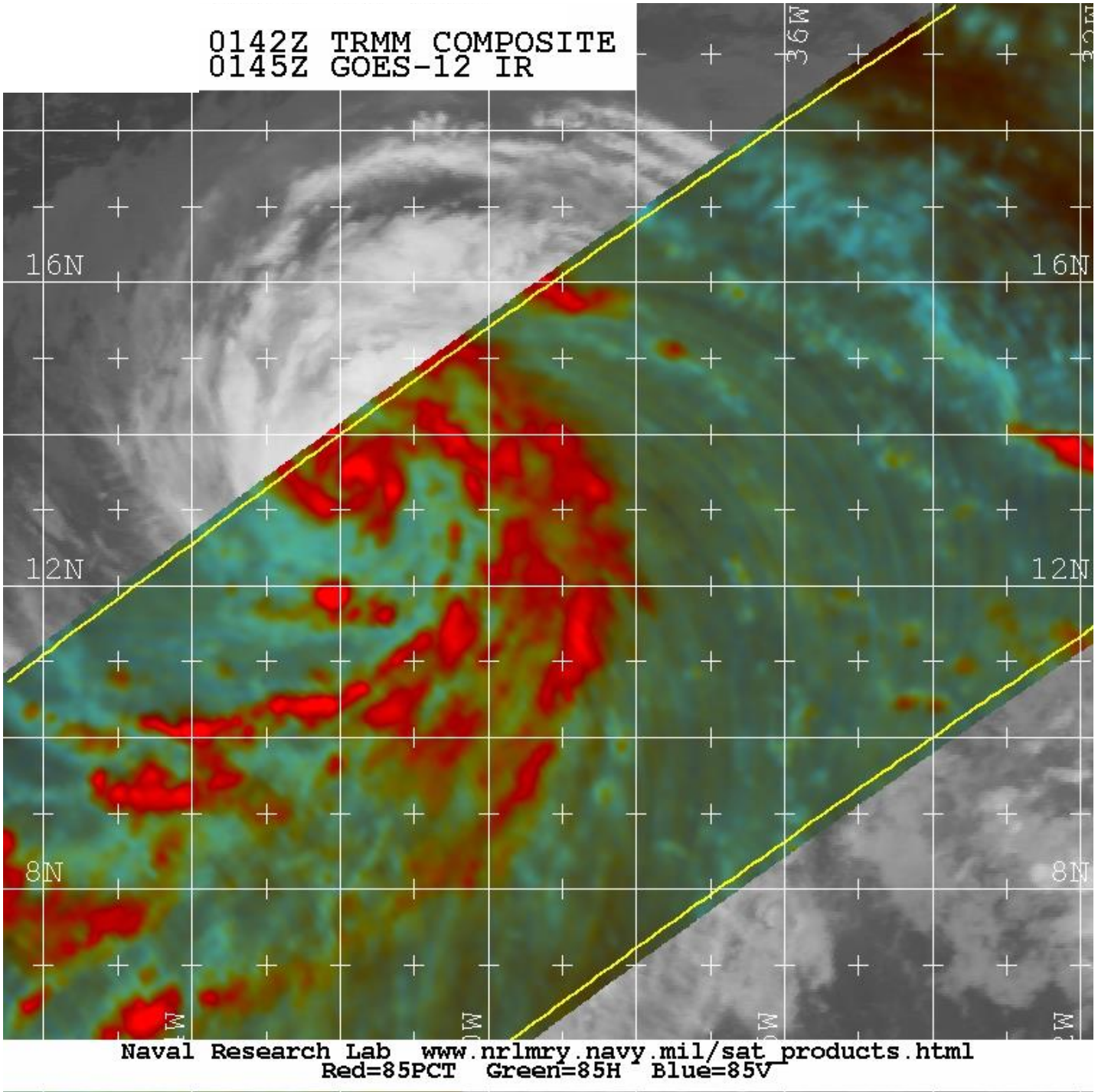
Data assistance Tom Lee & Jeff Hawkins (NRL)

National Hurricane Center, Miami, FL

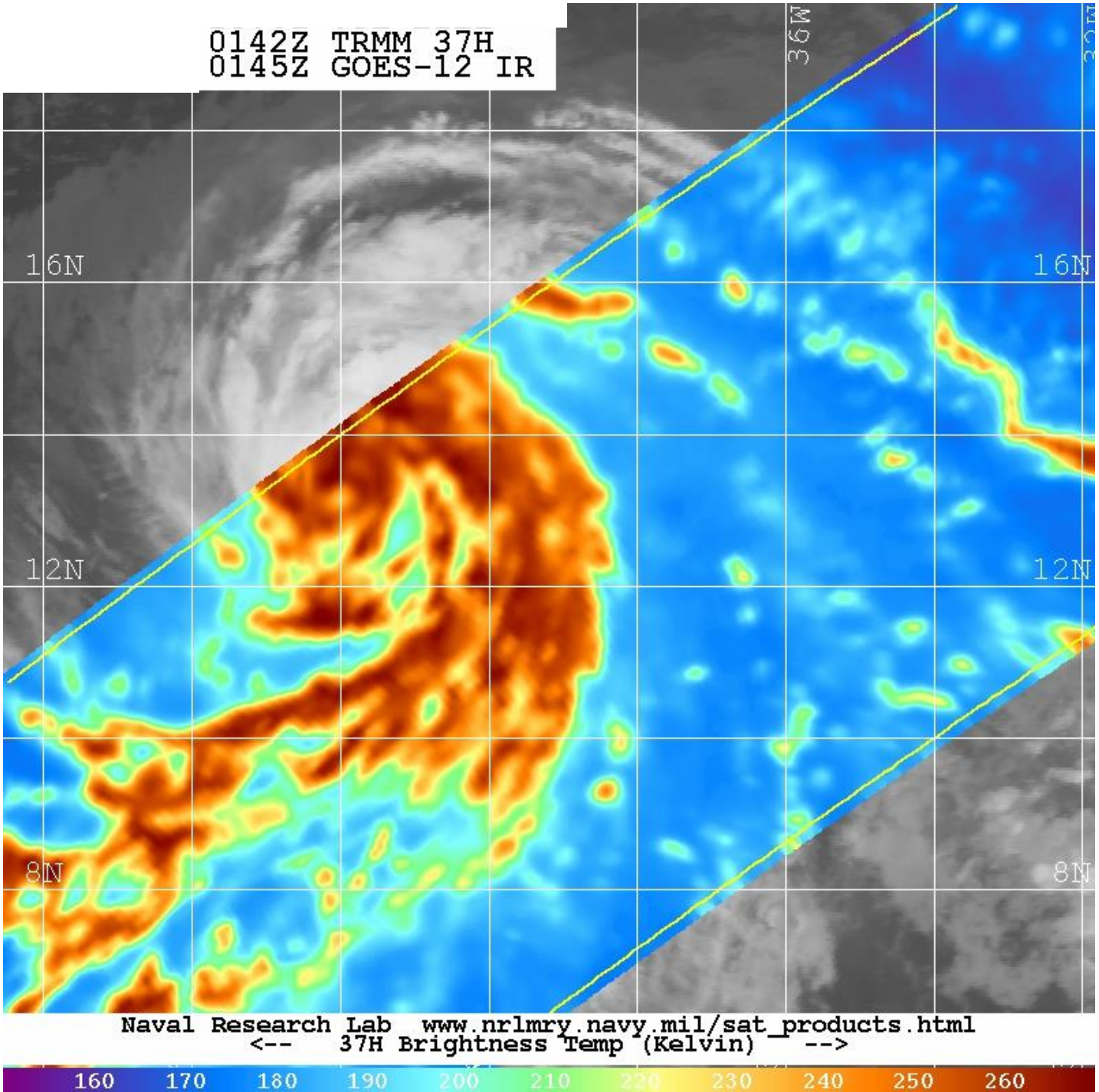
Exercise 1


0142Z TRMM 85H
0145Z GOES-12 IR
36W
16N
16N
12N
12N
8N
8N
Naval Research Lab www.nrlmry.navy.mil/sat_products.html
<-- 85H Brightness Temp (Kelvin) -->
190
200
210
220
230
240
250
260
270

Exercise 1

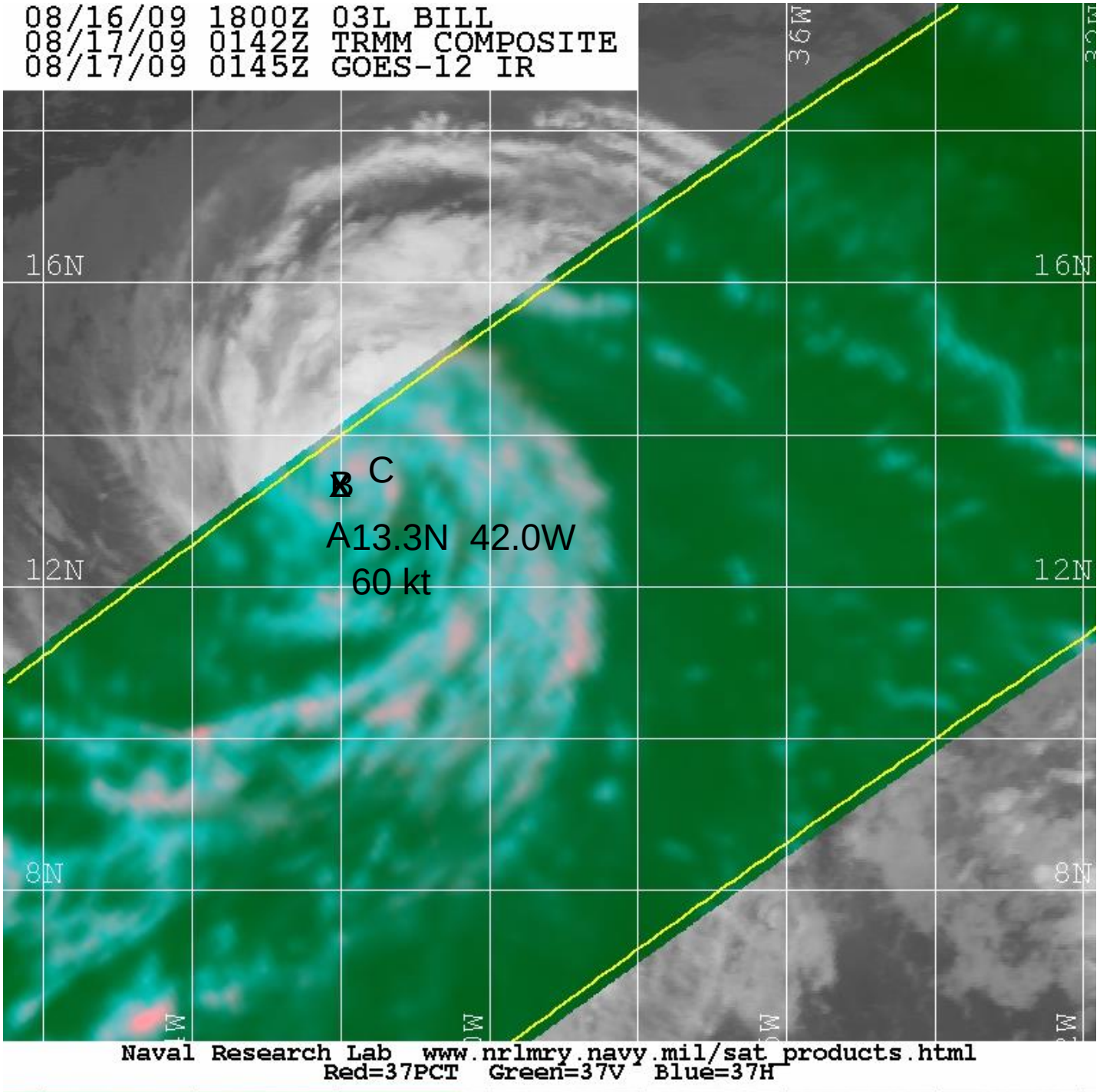

0142Z TRMM COMPOSITE
0145Z GOES-12 IR
16N
12N
8N
Naval Research Lab www.nrlmry.navy.mil/sat_products.html
Red=85PCT Green=85H Blue=85V

Exercise 1

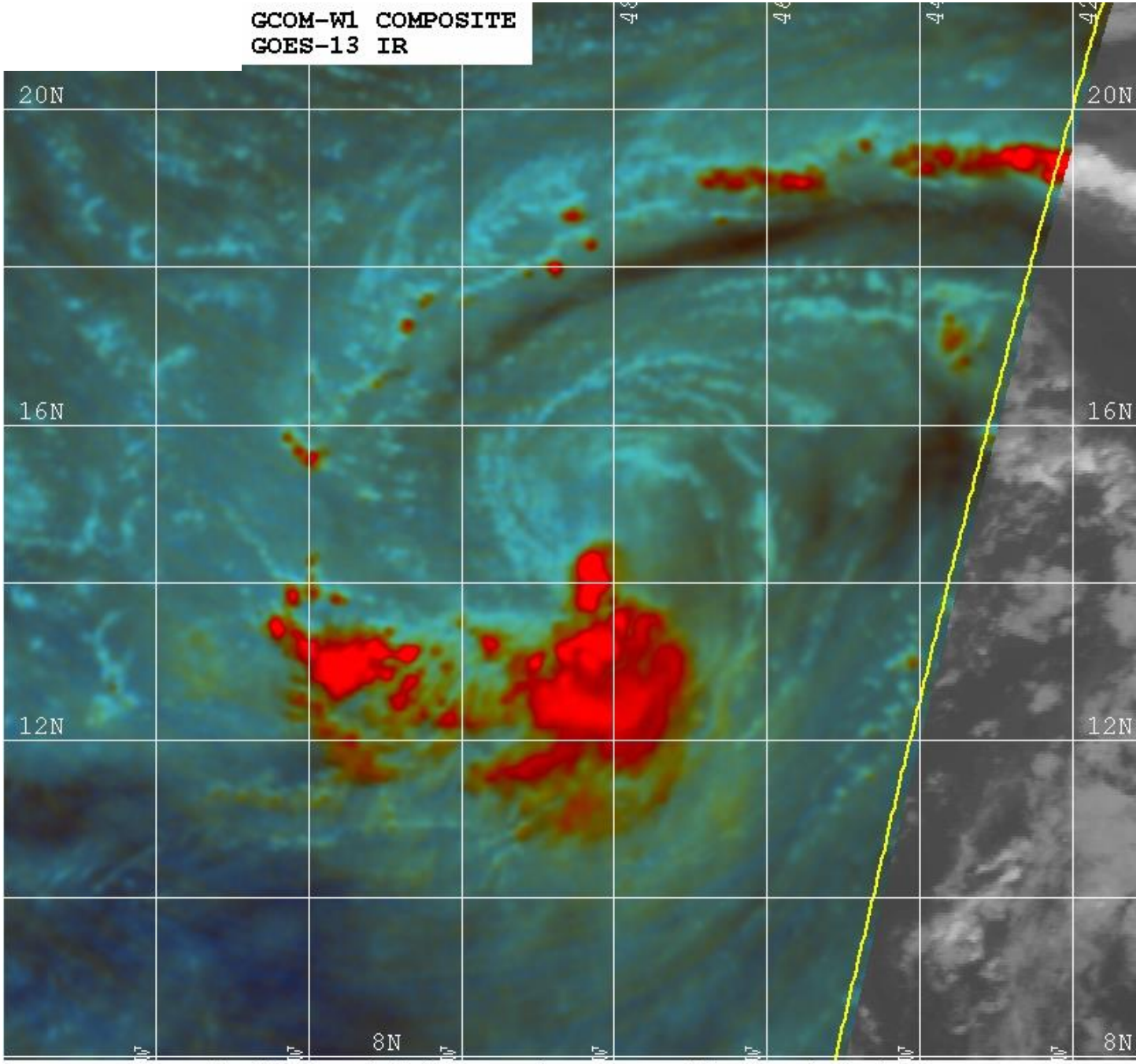

0142Z TRMM 37H
0145Z GOES-12 IR
36W
16N
16N
12N
12N
8N
8N
Naval Research Lab www.nrlmry.navy.mil/sat_products.html
<-- 37H Brightness Temp (Kelvin) -->
160 170 180 190 200 210 220 230 240 250 260

Exercise 1

B

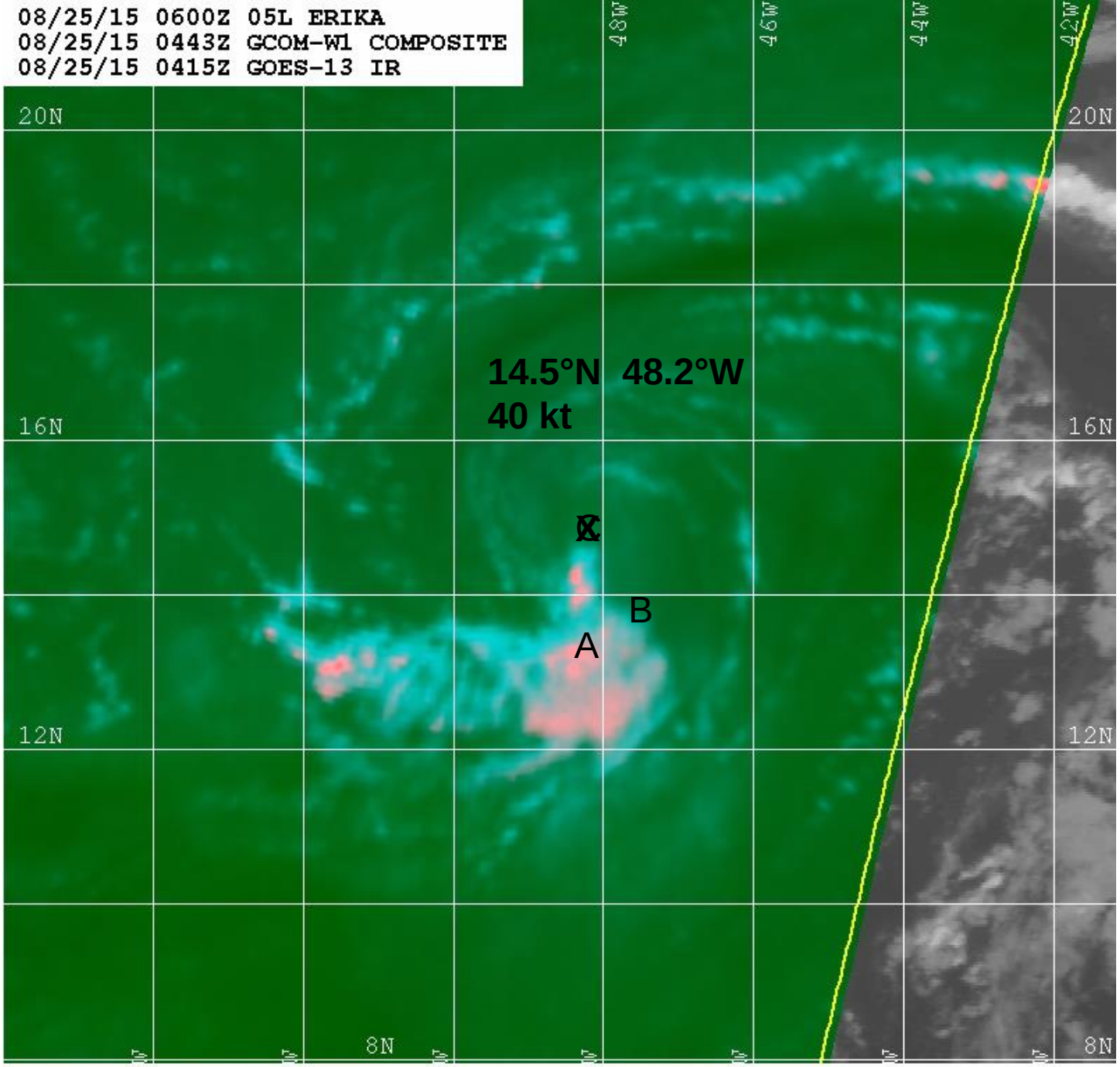

08/16/09 1800Z 03L BILL
08/17/09 0142Z TRMM COMPOSITE
08/17/09 0145Z GOES-12 IR
36W
16N
16N
C
A13.3N 42.0W
60 kt
12N
12N
8N
8N
Naval Research Lab www.nrlmry.navy.mil/sat_products.html
Red=37PCT Green=37V Blue=37H

Exercise 2

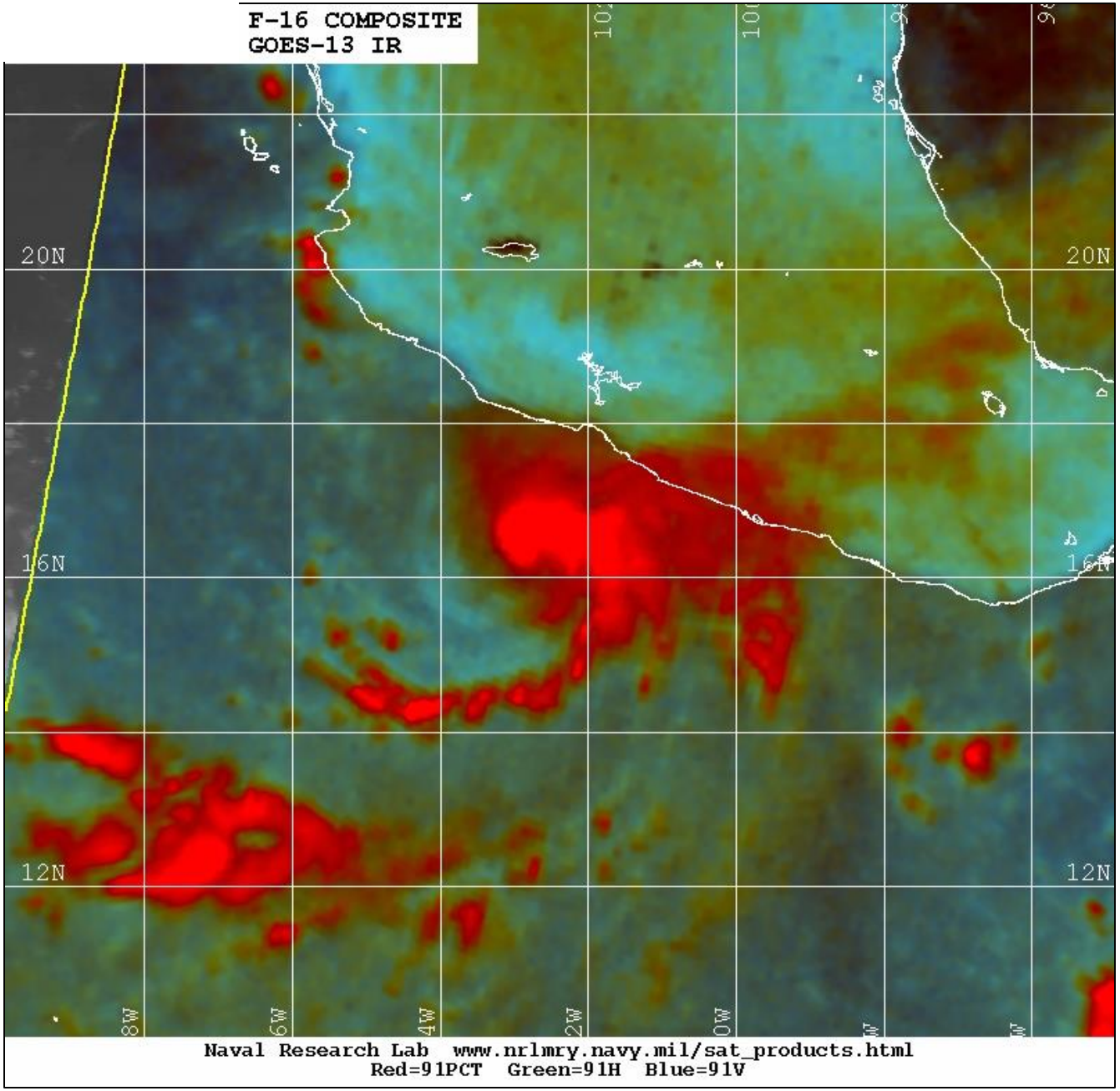

GCOM-W1 COMPOSITE
GOES-13 IR
20N
16N
12N
8N
Naval Research Lab www.nrlmry.navy.mil/sat_products.html
Red=89PCT Green=89H Blue=89V

Exercise 2

C

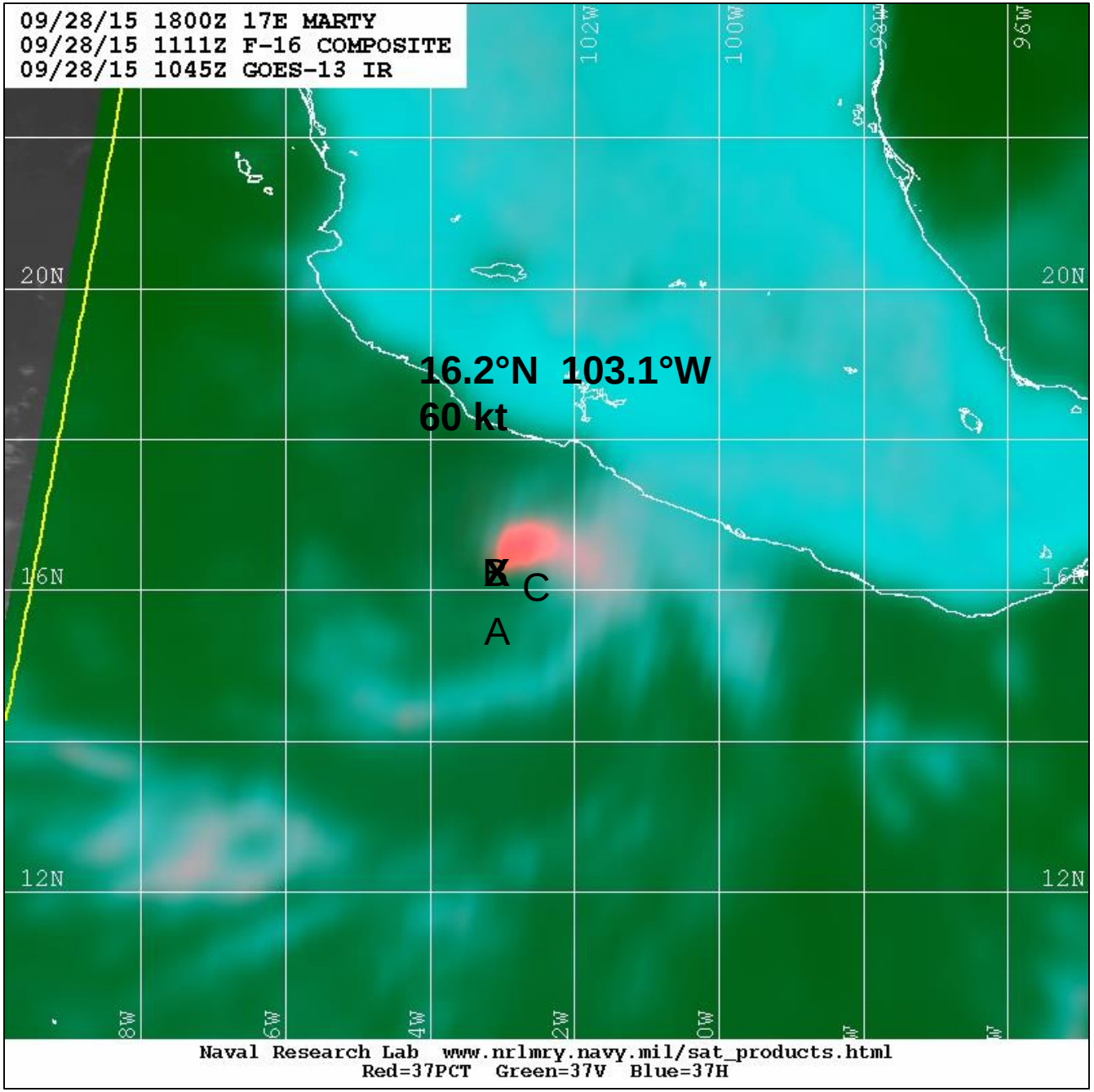

08/25/15 0600Z 05L ERIKA
08/25/15 0443Z GCOM-W1 COMPOSITE
08/25/15 0415Z GOES-13 IR
48W
46W
44W
42W
20N
16N
12N
8N
14.5°N 48.2°W
40 kt
A
B
Naval Research Lab www.nrlmry.navy.mil/sat_products.html
Red=36PCT Green=36V Blue=36H

Exercise 3

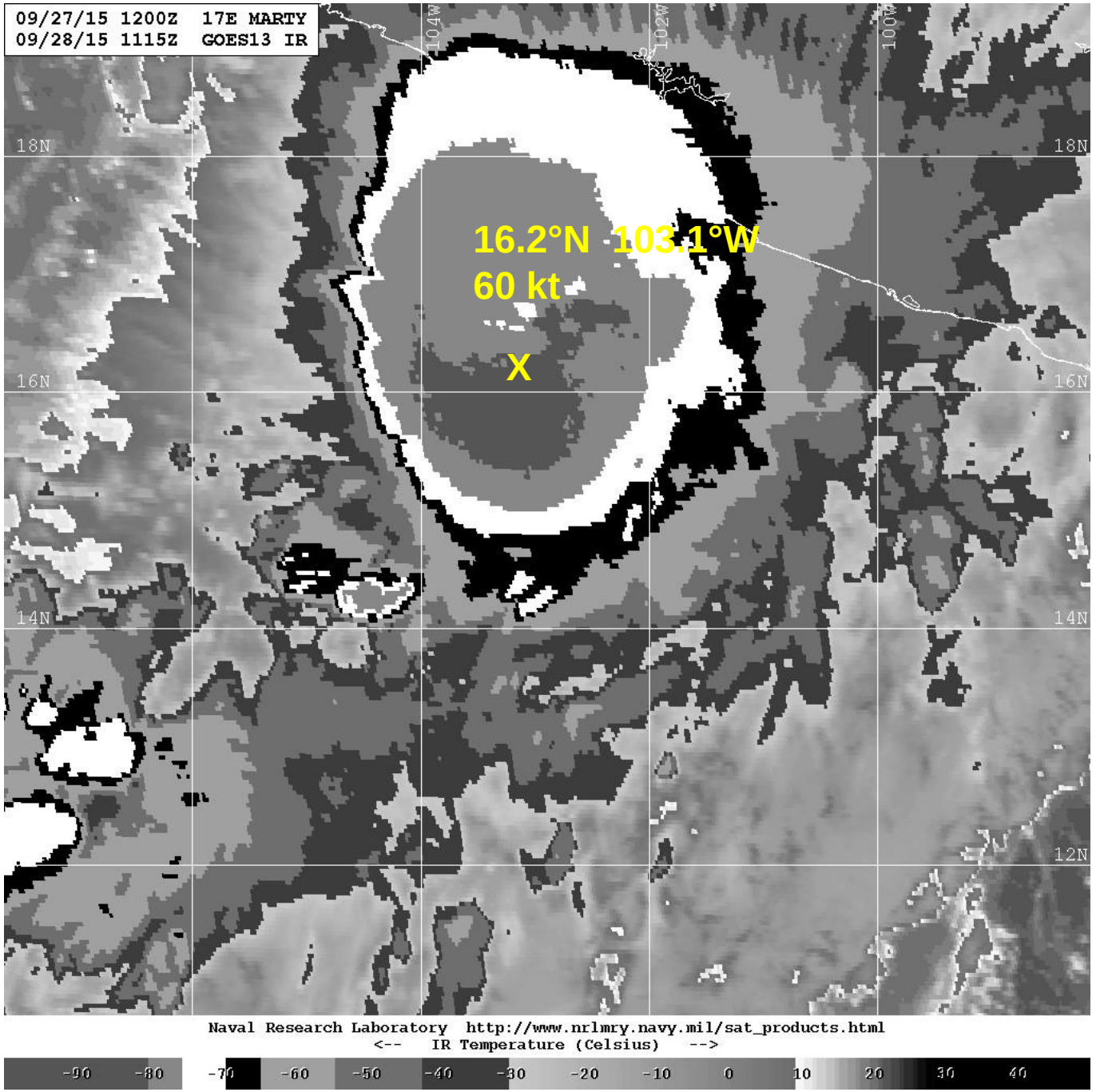

F-16 COMPOSITE
GOES-13 IR
20N
16N
12N
Naval Research Lab www.nrlmry.navy.mil/sat_products.html
Red=91PCT Green=91H Blue=91V

Exercise 3

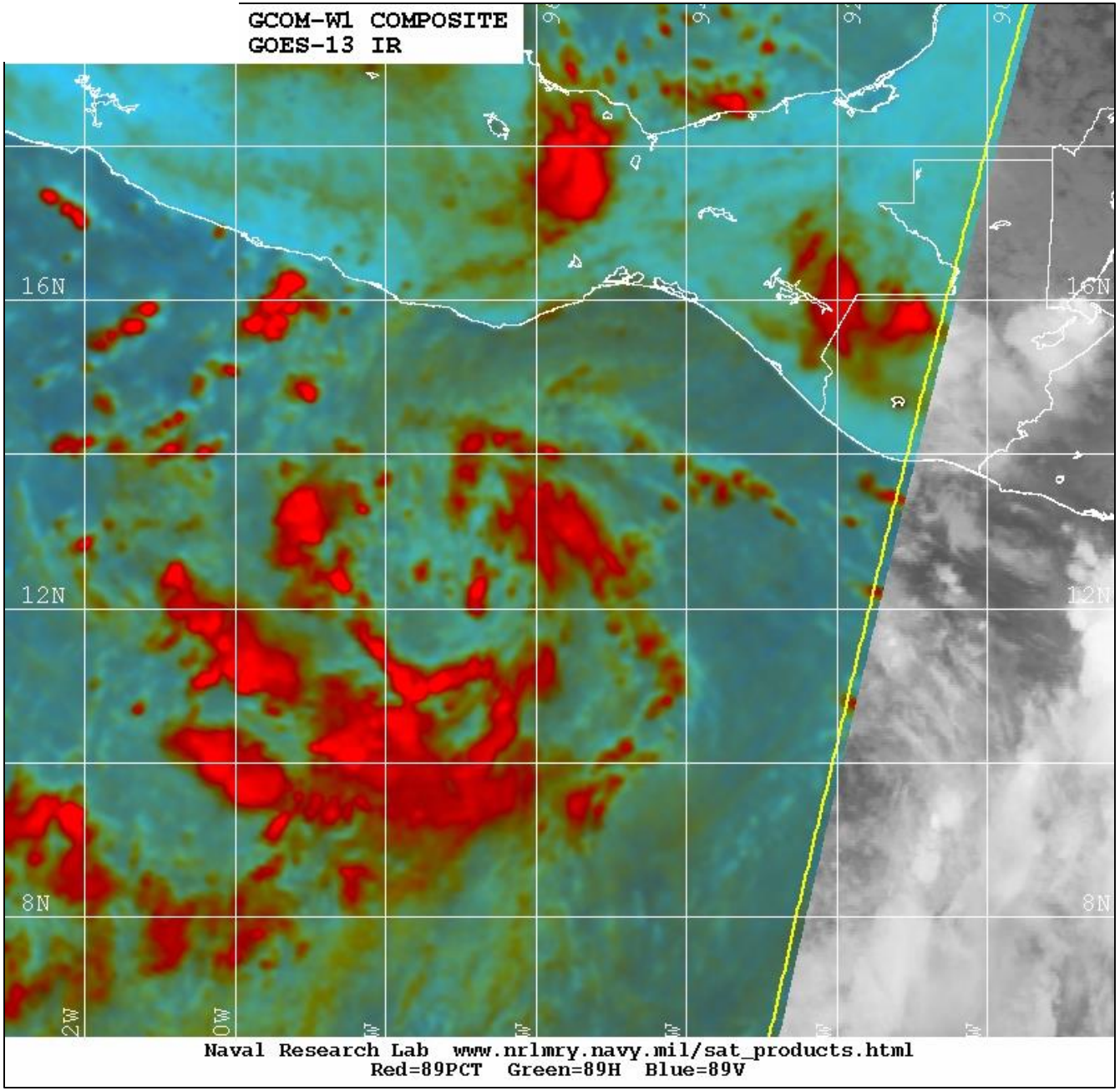
B


09/28/15 1800Z 17E MARTY
09/28/15 1111Z F-16 COMPOSITE
09/28/15 1045Z GOES-13 IR
102W
100W
98W
96W
20N
16N
12N
16.2°N 103.1°W
60 kt
C
A
Naval Research Lab www.nrlmry.navy.mil/sat_products.html
Red=37PCT Green=37V Blue=37H

Exercise 3

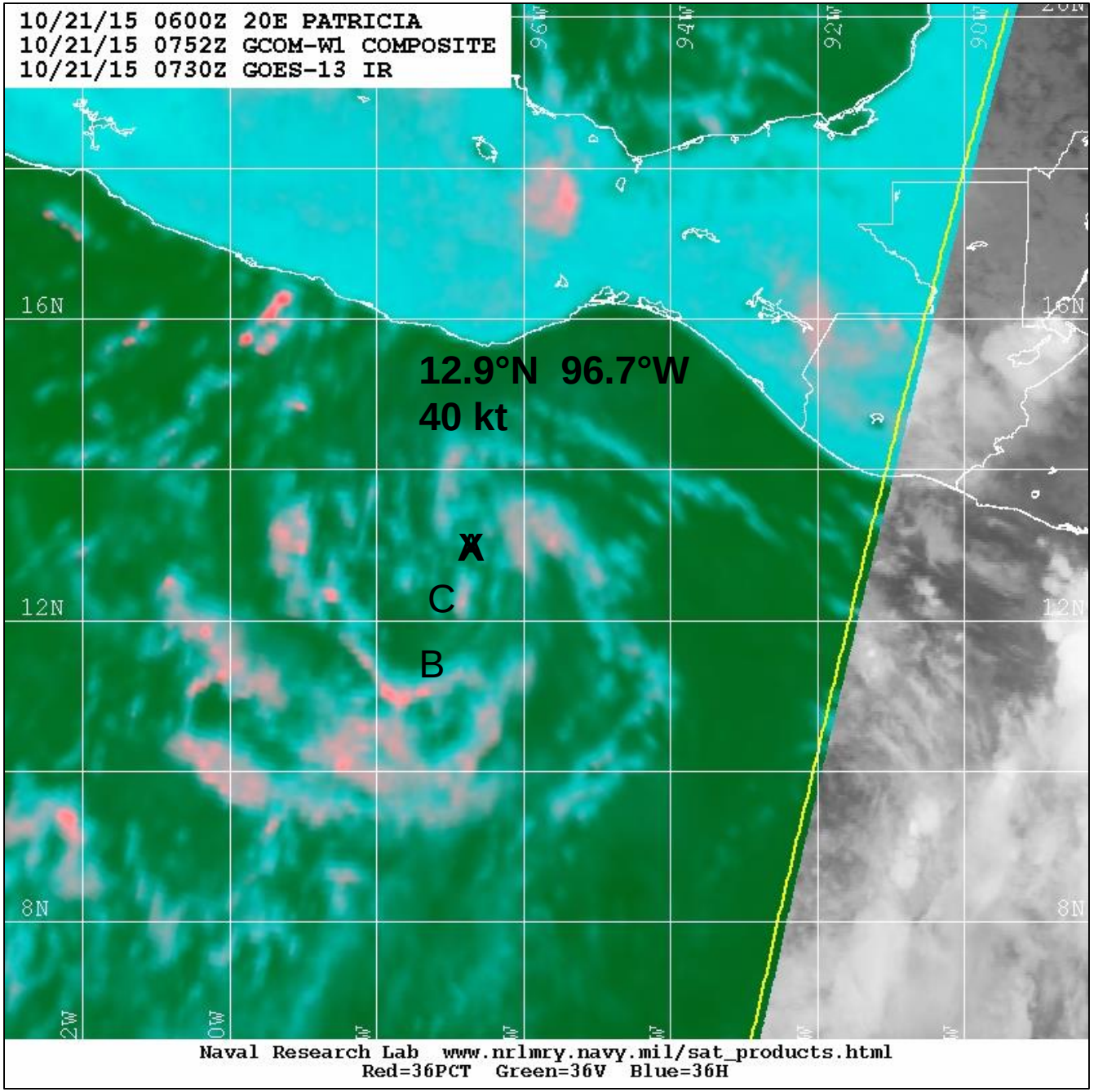

09/27/15 1200Z 17E MARTY
09/28/15 1115Z GOES13 IR
104W
102W
100W
18N
16N
14N
12N
16.2°N 103.1°W
60 kt
X
Naval Research Laboratory http://www.nrlmry.navy.mil/sat_products.html
<-- IR Temperature (Celsius) -->
-90 -80 -70 -60 -50 -40 -30 -20 -10 0 10 20 30 40

Exercise 4

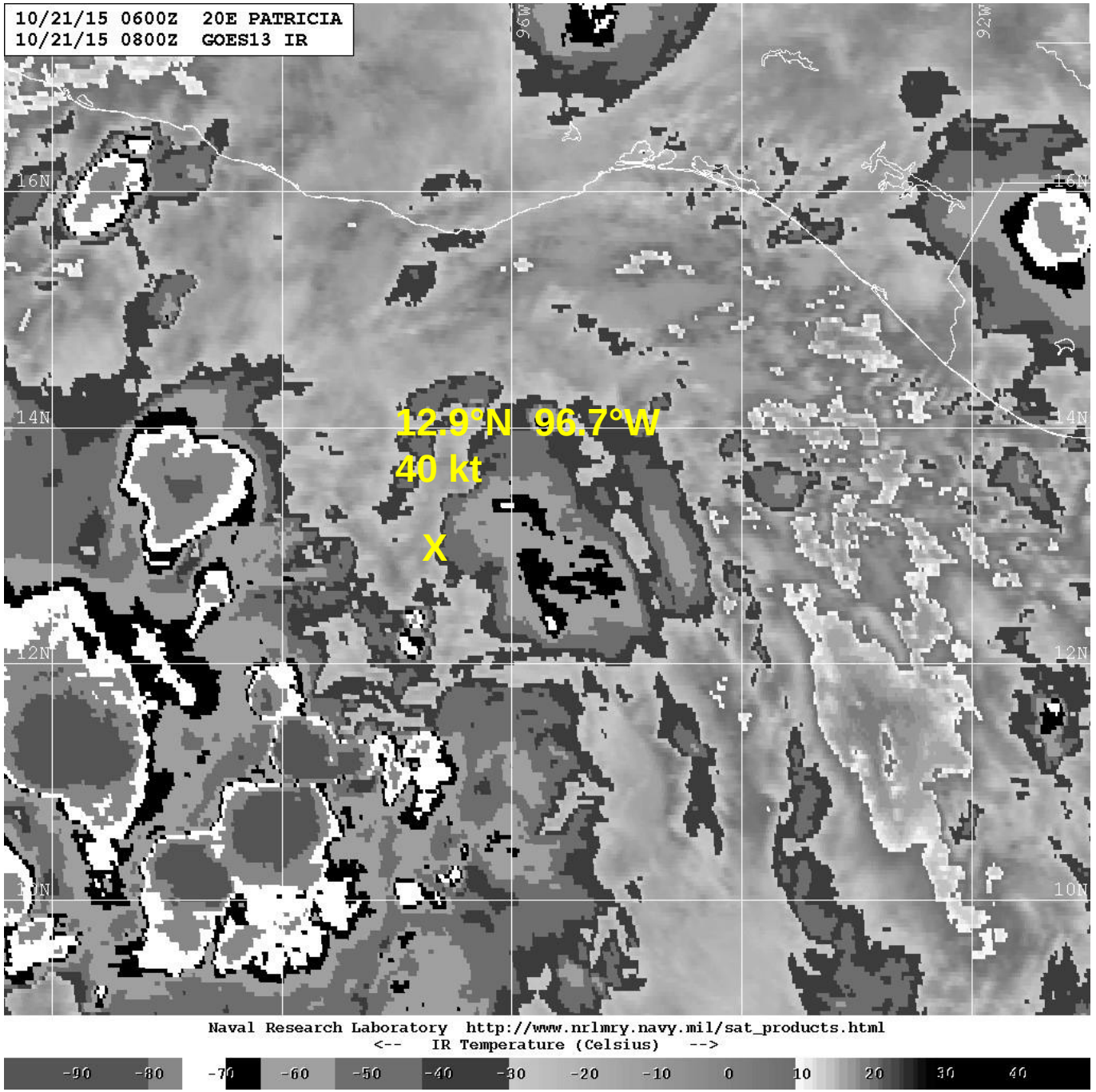

GCOM-W1 COMPOSITE
GOES-13 IR
16N
12N
8N
2W
0W
Naval Research Lab www.nrlmry.navy.mil/sat_products.html
Red=89PCT Green=89H Blue=89V

Exercise 4

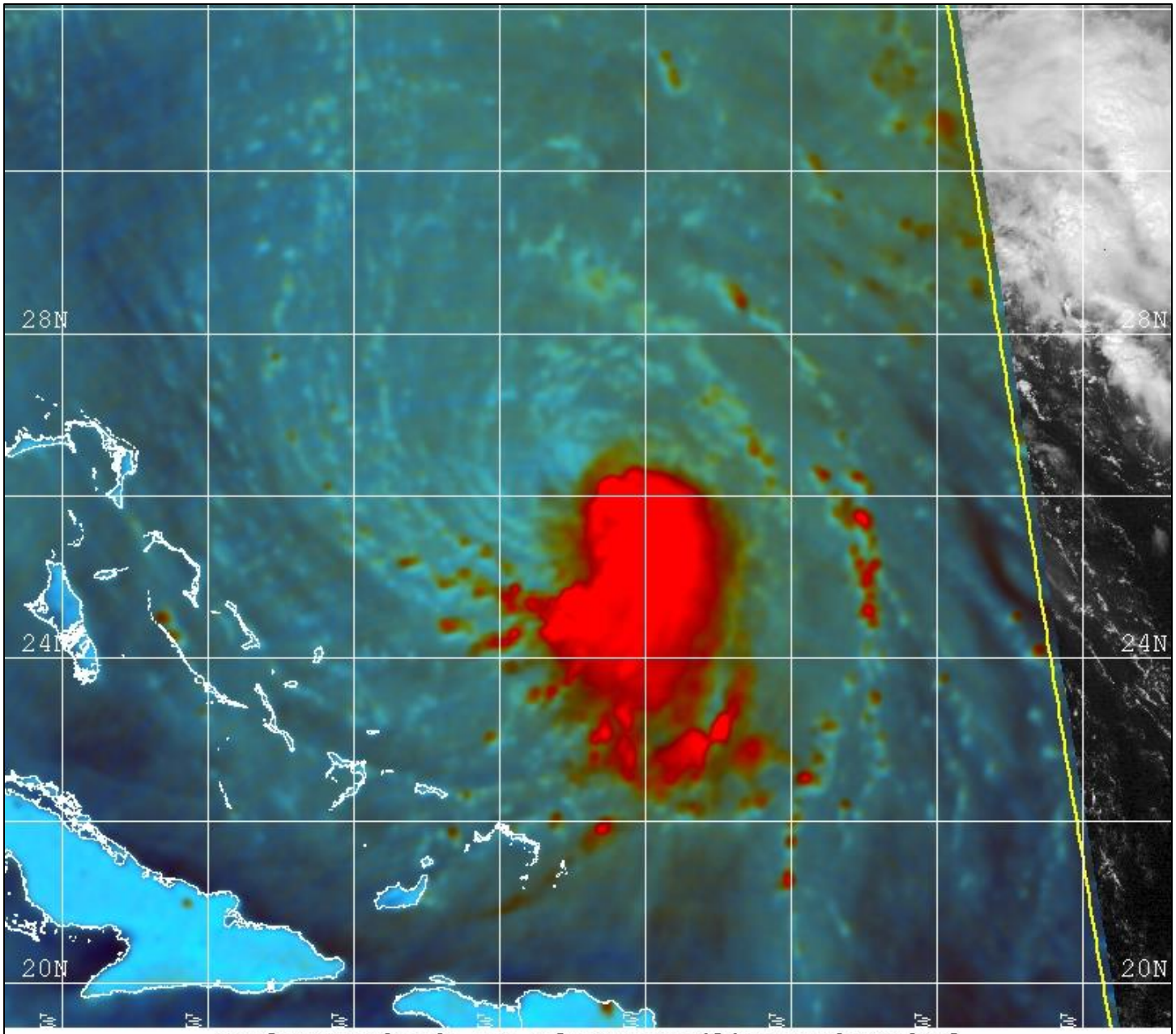
A


10/21/15 0600Z 20E PATRICIA
10/21/15 0752Z GCOM-W1 COMPOSITE
10/21/15 0730Z GOES-13 IR
96W
94W
92W
90W
16N
12N
8N
12.9°N 96.7°W
40 kt
C
B
Naval Research Lab www.nrlmry.navy.mil/sat_products.html
Red=36PCT Green=36V Blue=36H

Exercise 4

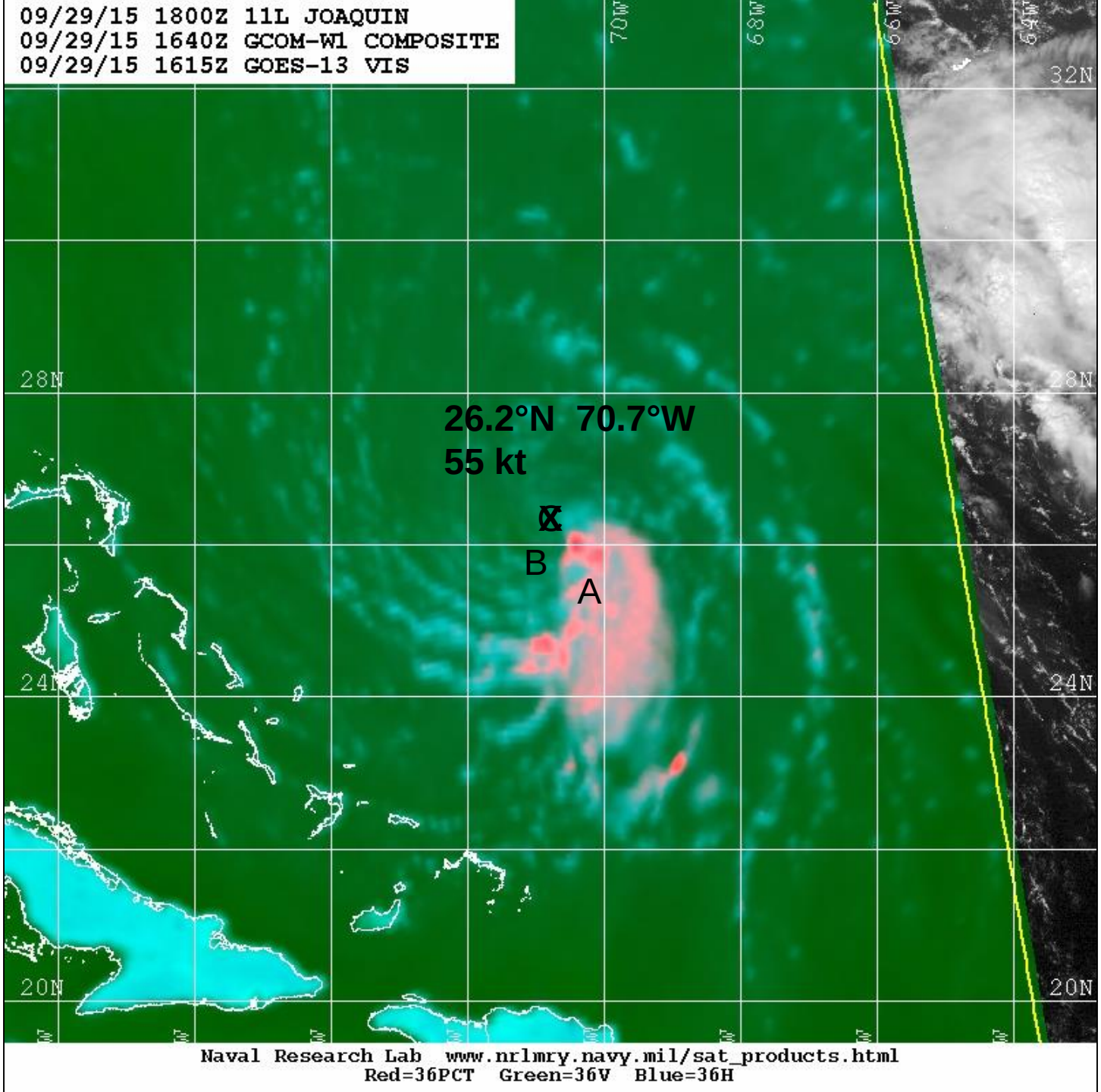

10/21/15 0600Z 20E PATRICIA
10/21/15 0800Z GOES13 IR
96W
92W
16N
14N
12N
10N
12.9°N 96.7°W
40 kt
X
Naval Research Laboratory http://www.nrlmry.navy.mil/sat_products.html
<-- IR Temperature (Celsius) -->
-90 -80 -70 -60 -50 -40 -30 -20 -10 0 10 20 30 40

Exercise 5

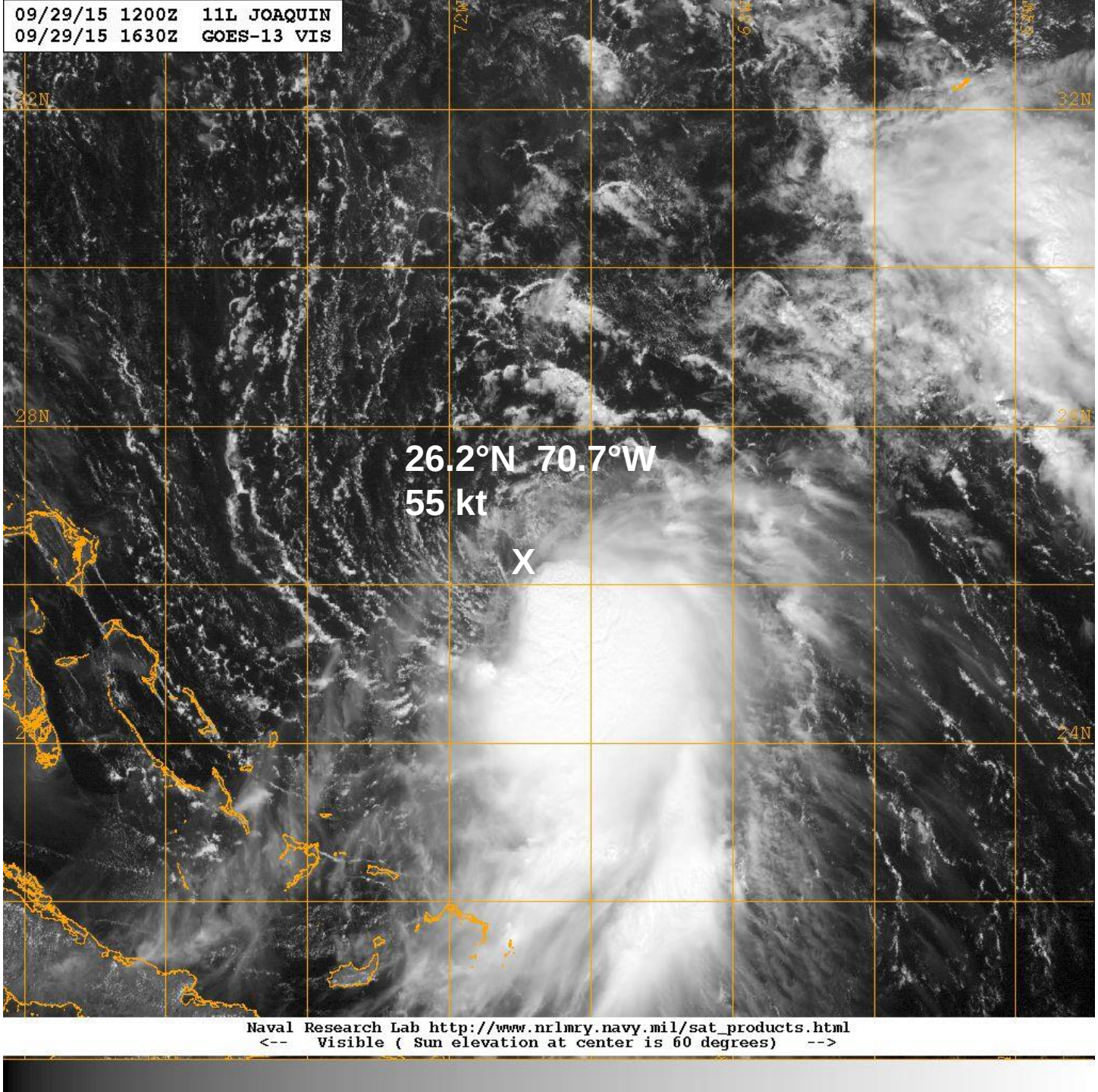

28N
24N
20N
28N
24N
20N
Naval Research Lab www.nrlmry.navy.mil/sat_products.html
Red=89PCT Green=89H Blue=89V

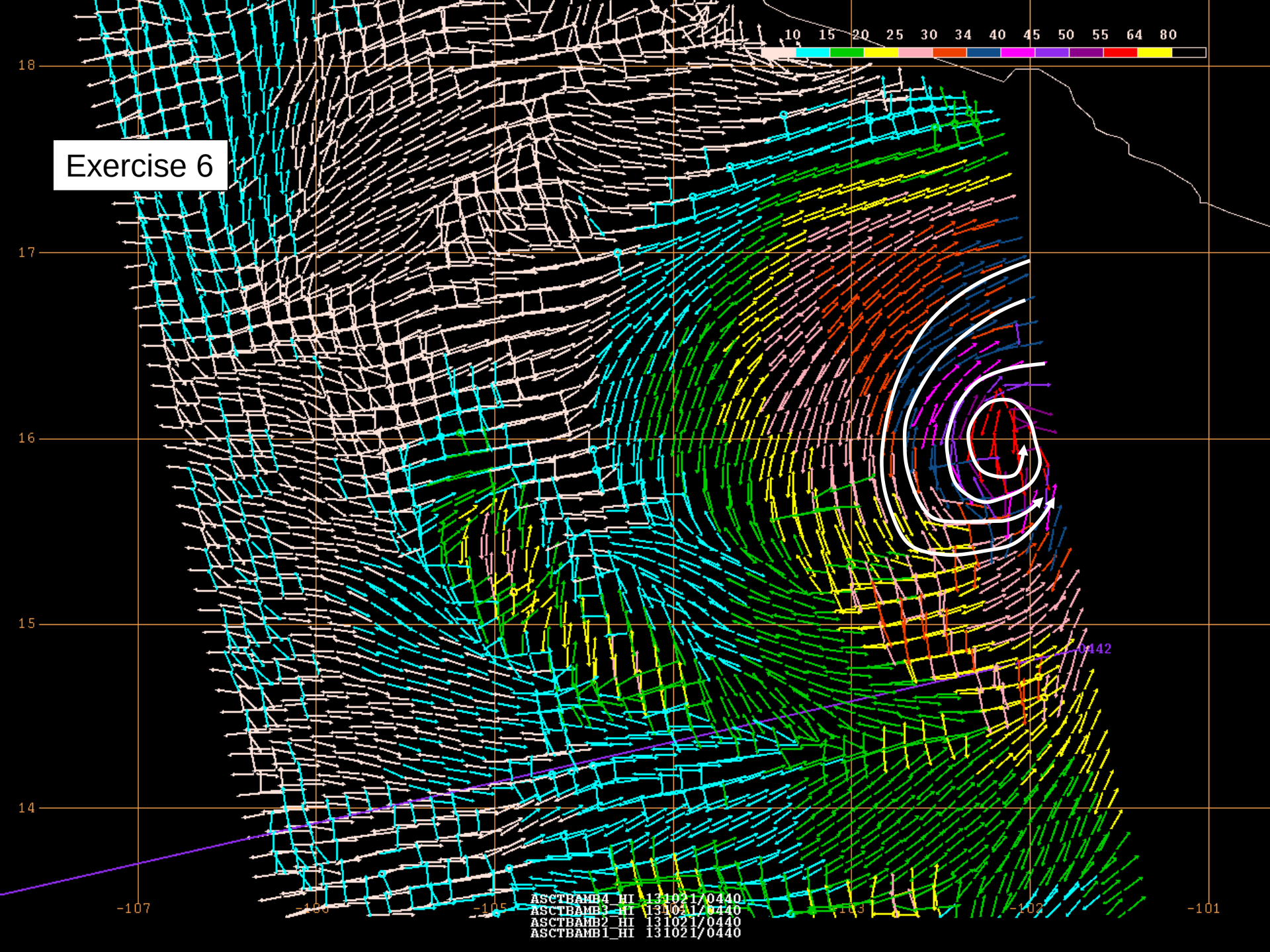
Exercise 5

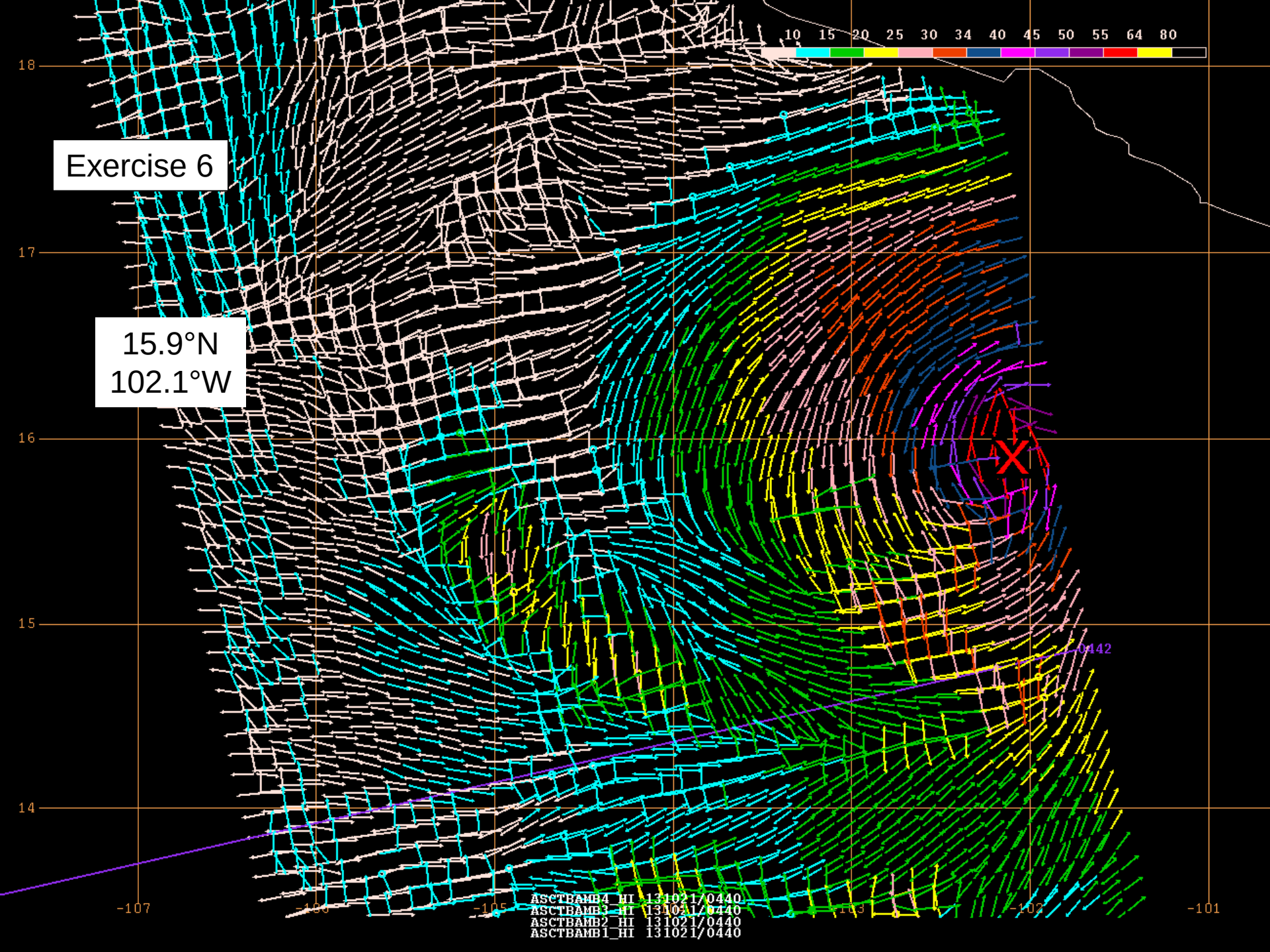
C

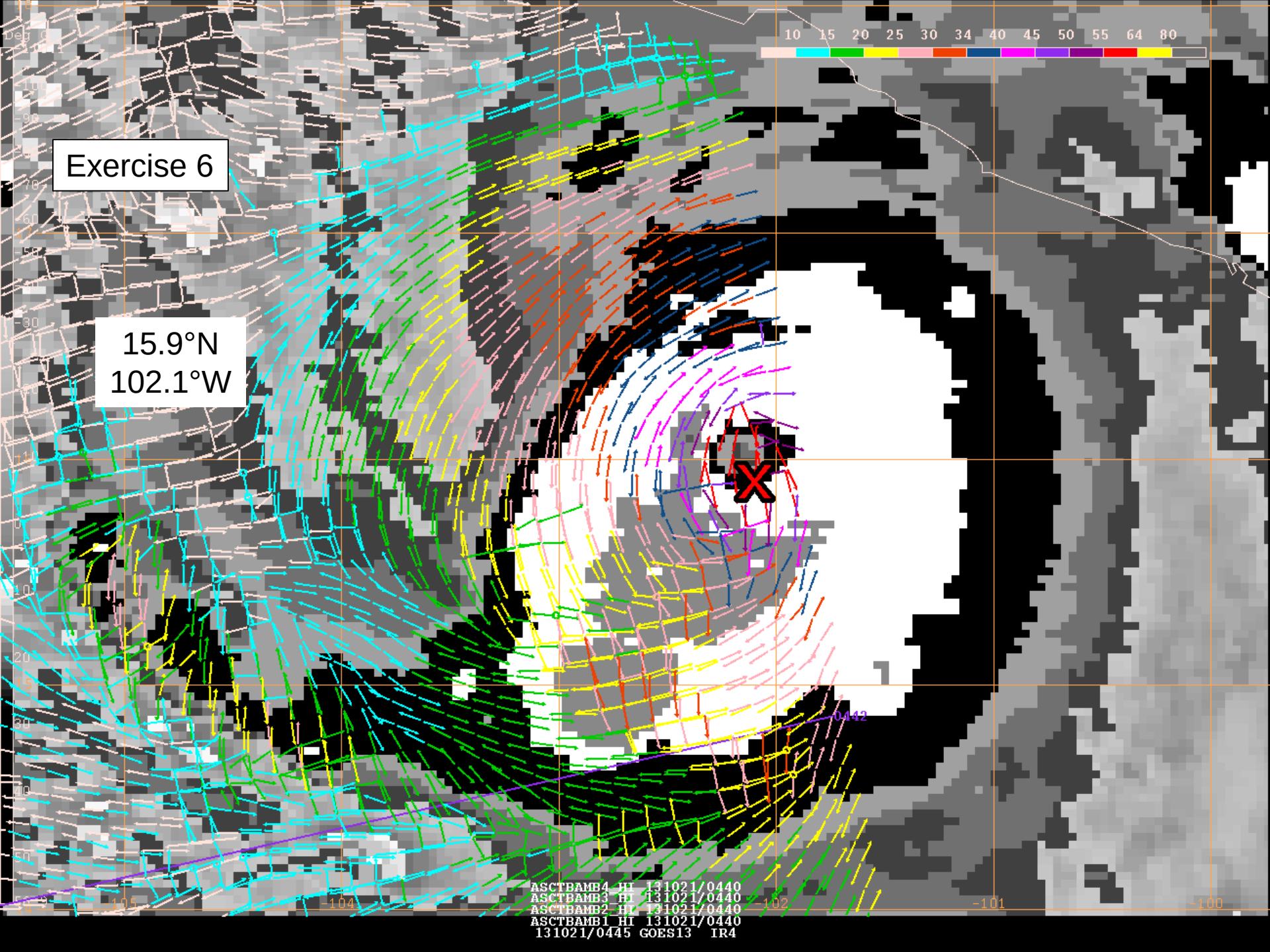

09/29/15 1800Z 11L JOAQUIN
09/29/15 1640Z GCOM-W1 COMPOSITE
09/29/15 1615Z GOES-13 VIS
70W
68W
66W
64W
32N
28N
24N
20N
26.2°N 70.7°W
55 kt
B
A
Naval Research Lab www.nrlmry.navy.mil/sat_products.html
Red=36PCT Green=36V Blue=36H

Exercise 5

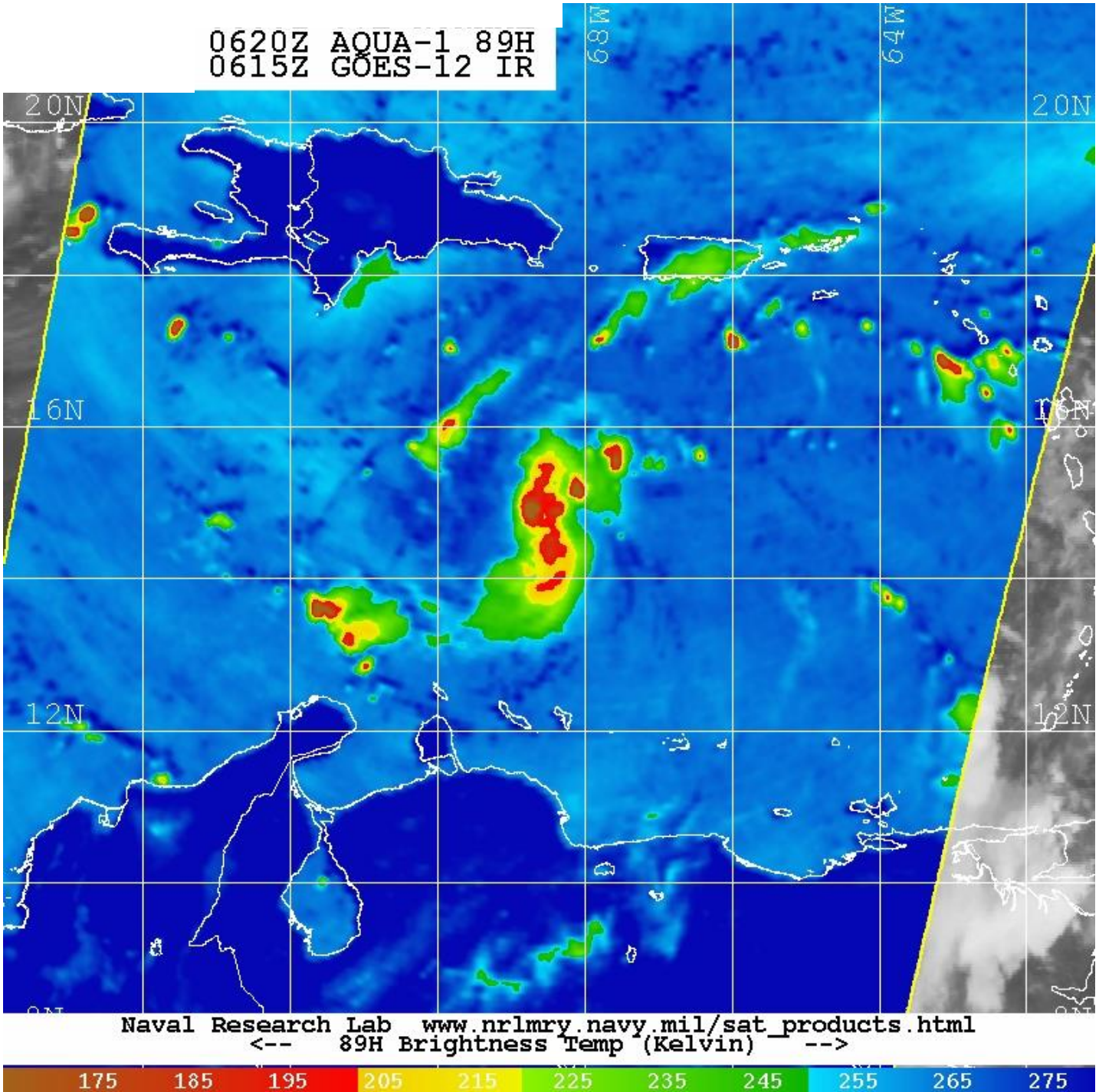

09/29/15 1200Z 11L JOAQUIN
09/29/15 1630Z GOES-13 VIS
32N
28N
24N
26.2°N 70.7°W
55 kt
X
Naval Research Lab http://www.nrlmry.navy.mil/sat_products.html
<-- Visible (Sun elevation at center is 60 degrees) -->


Exercise 6
10 15 20 25 30 34 40 45 50 55 64 80
18
17
16
15
14
-107
-101
0442
ASCTBAMB4_HI 131021/0440
ASCTBAMB3_HI 131021/0440
ASCTBAMB2_HI 131021/0440
ASCTBAMB1_HI 131021/0440

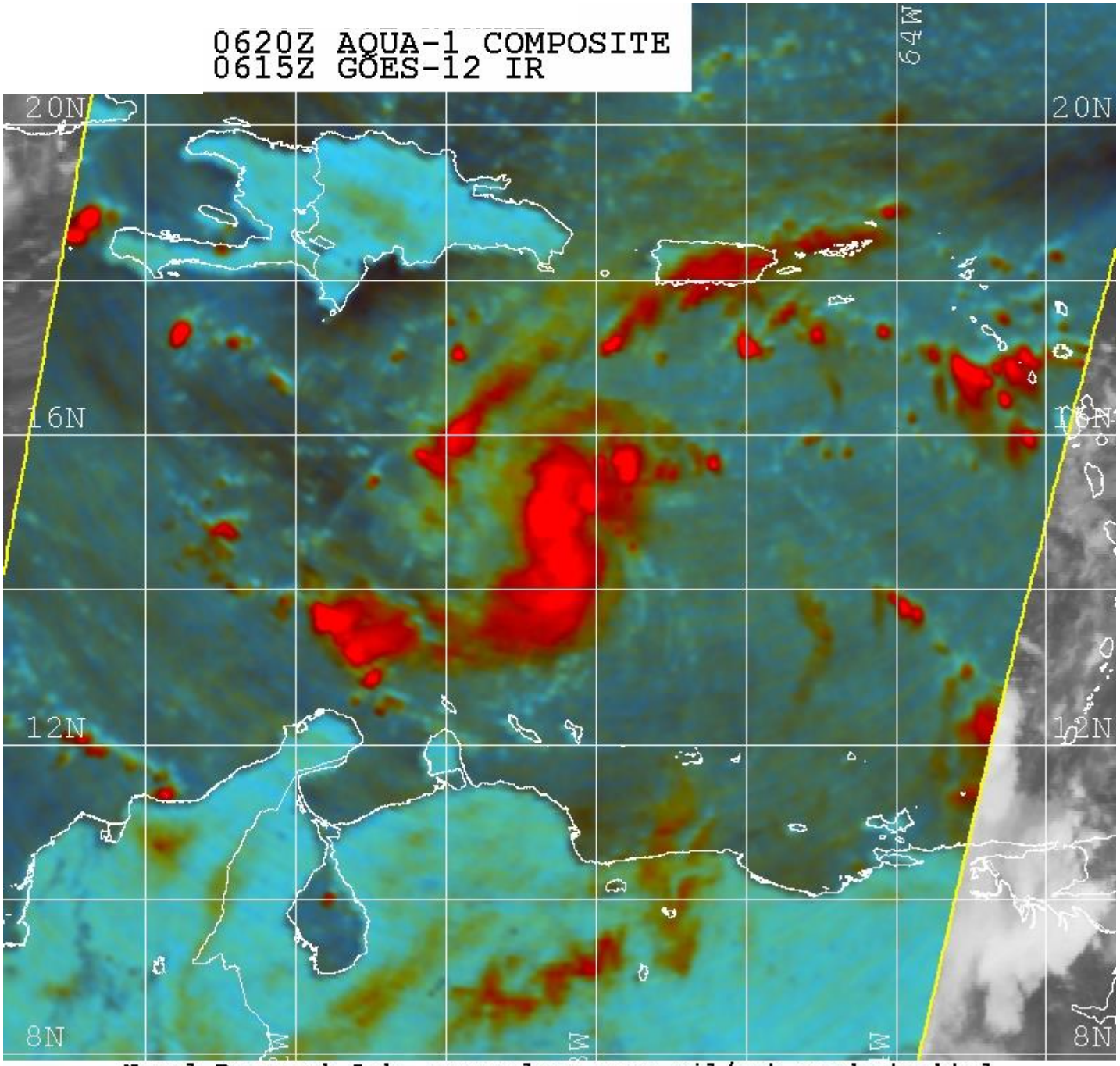

10 15 20 25 30 34 40 45 50 55 64 80
Exercise 6
15.9°N
102.1°W
18
17
16
15
14
-107
-101
0442
ASCTBAMB4_HI 131021/0440
ASCTBAMB3_HI 131021/0440
ASCTBAMB2_HI 131021/0440
ASCTBAMB1_HI 131021/0440


Exercise 6
15.9°N
102.1°W
10 15 20 25 30 34 40 45 50 55 64 80
ASCTBAMB4_HI 131021/0440
ASCTBAMB3_HI 131021/0440
ASCTBAMB2_HI 131021/0440
ASCTBAMB1_HI 131021/0440
131021/0445 GOES13 IR4

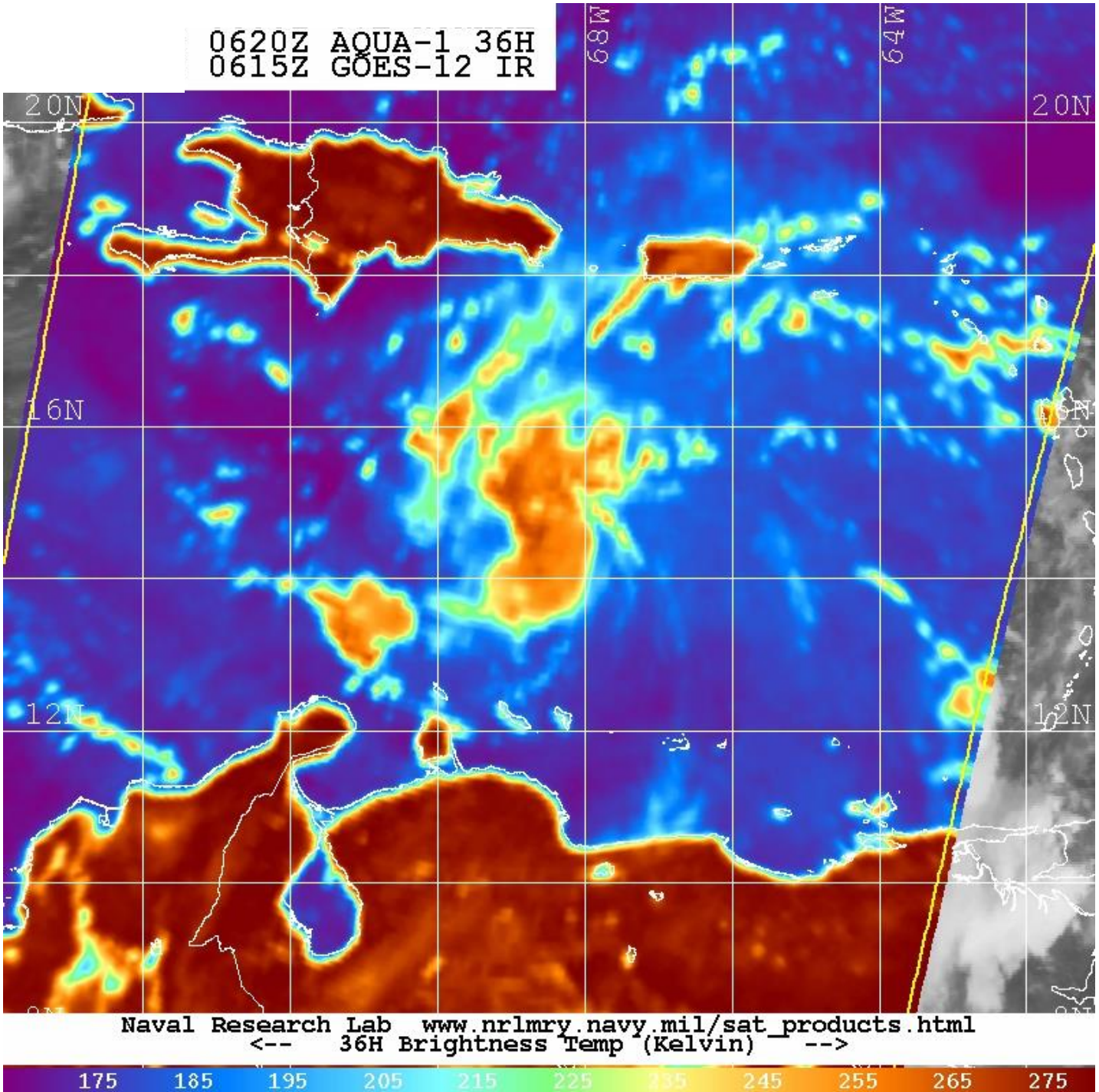
Exercise 7


0620Z AQUA-1 89H
0615Z GOES-12 IR
68W
64W
20N
16N
12N
Naval Research Lab www.nrlmry.navy.mil/sat_products.html
<-- 89H Brightness Temp (Kelvin) -->
175 185 195 205 215 225 235 245 255 265 275

Exercise 7

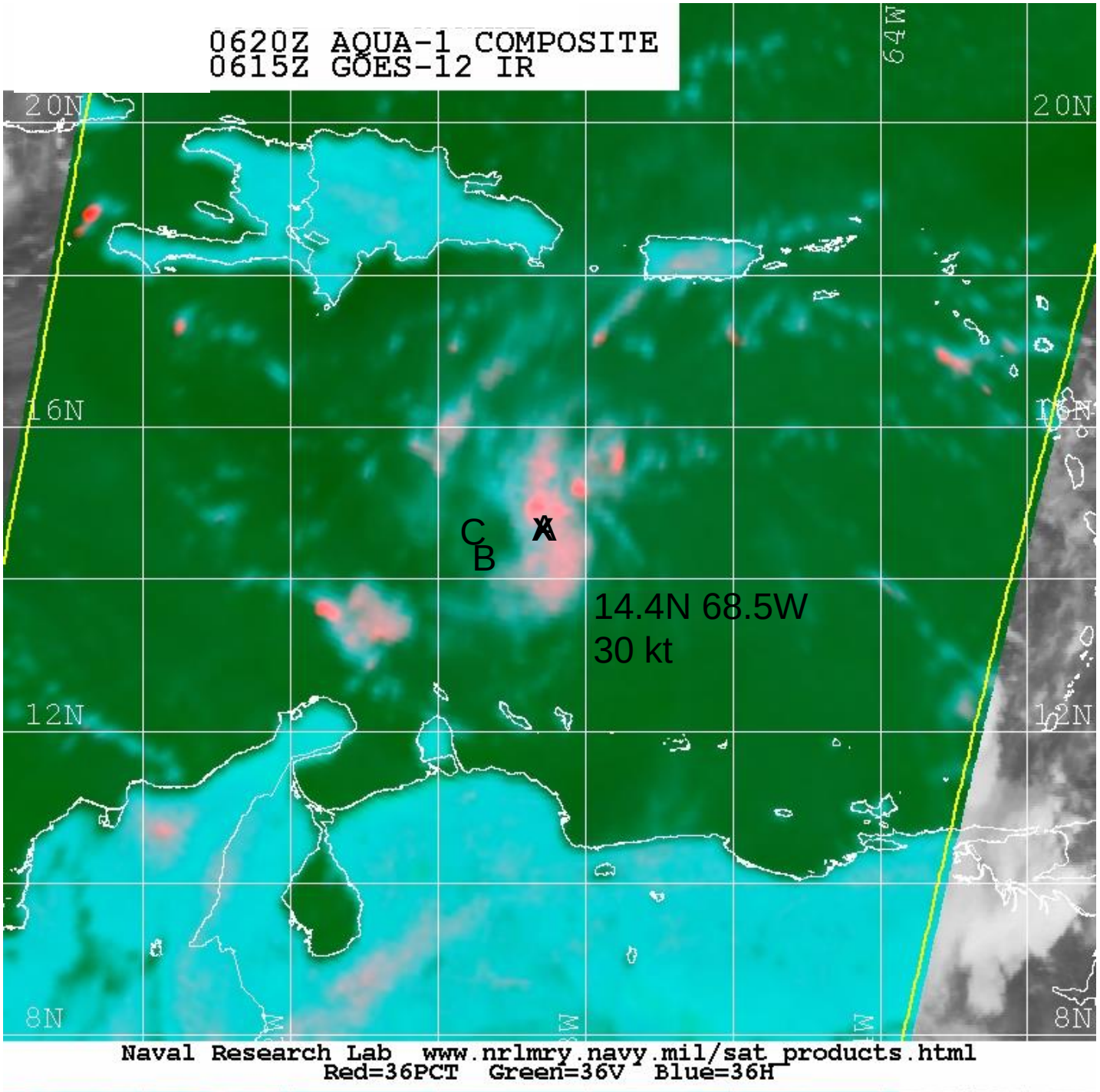

0620Z AQUA-1 COMPOSITE
0615Z GOES-12 IR
20N
16N
12N
8N
64W
Naval Research Lab www.nrlmry.navy.mil/sat_products.html
Red=89PCT Green=89H Blue=89V

Exercise 7

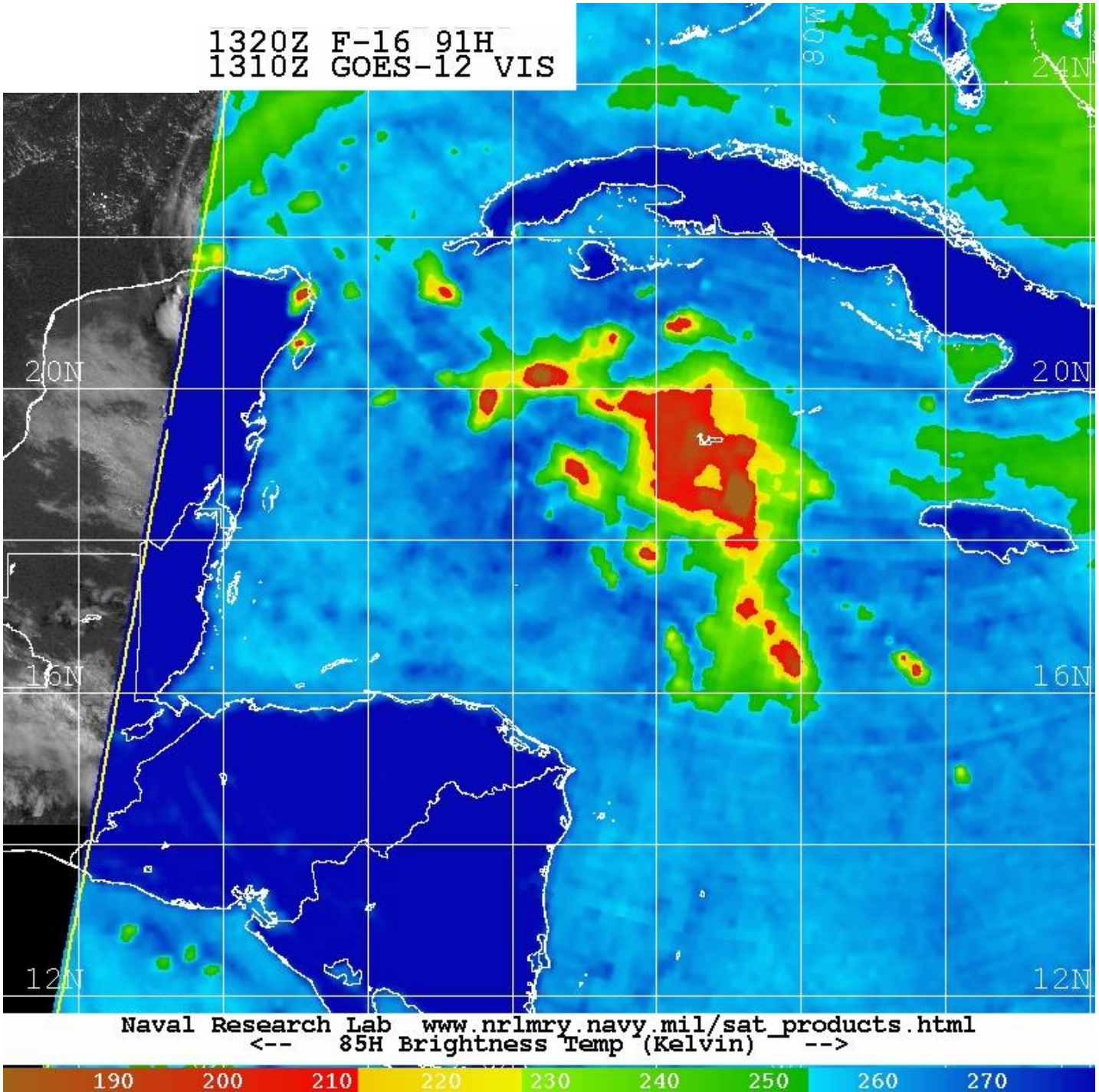

0620Z AQUA-1 36H
0615Z GOES-12 IR
68W
64W
20N
16N
12N
Naval Research Lab www.nrlmry.navy.mil/sat_products.html
<-- 36H Brightness Temp (Kelvin) -->
175 185 195 205 215 225 235 245 255 265 275

Exercise 7

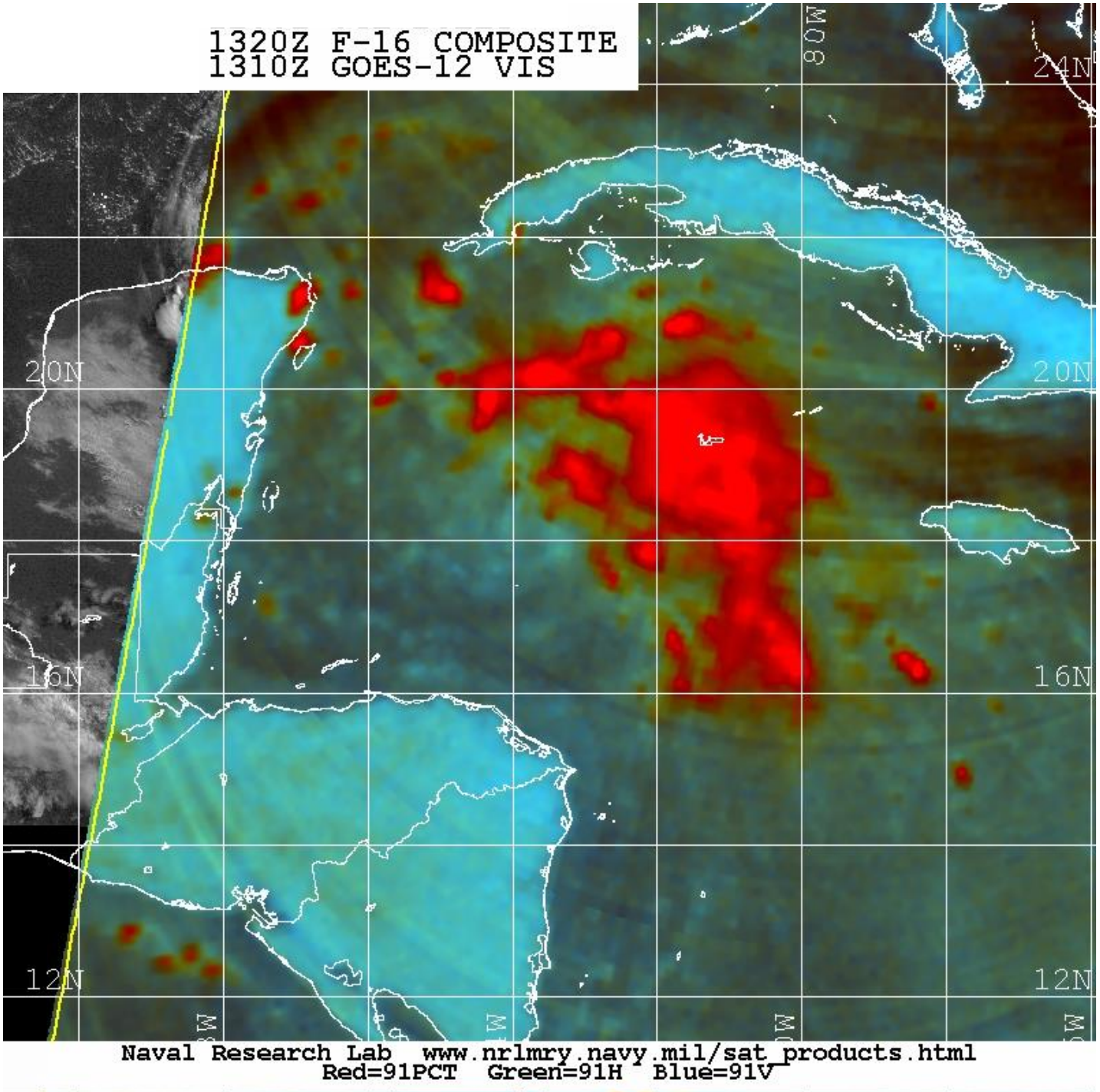
A


0620Z AQUA-1 COMPOSITE
0615Z GOES-12 IR
20N
16N
12N
8N
64W
C
B
A
14.4N 68.5W
30 kt
Naval Research Lab www.nrlmry.navy.mil/sat_products.html
Red=36PCT Green=36V Blue=36H

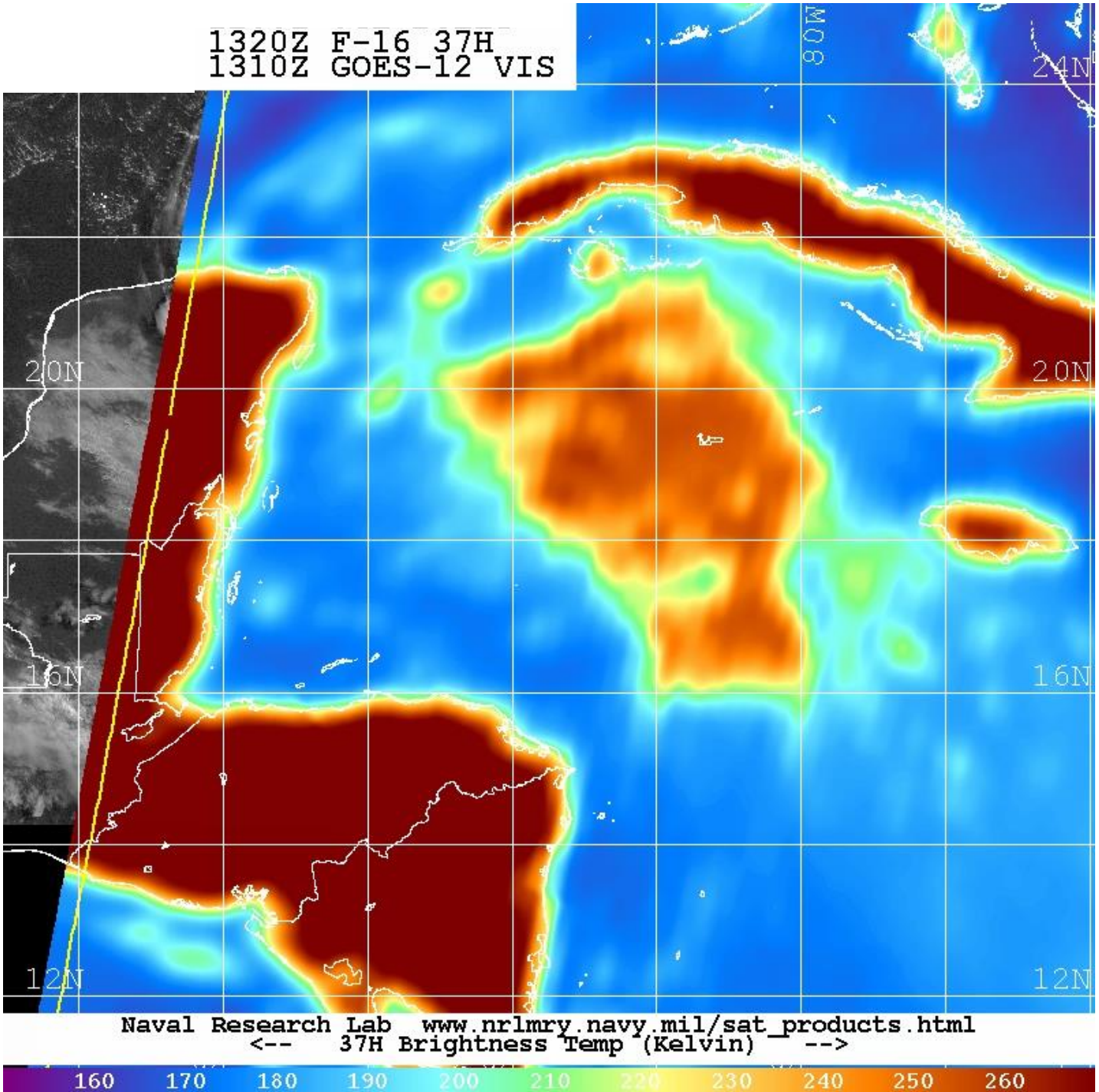
Exercise 8


1320Z F-16 91H
1310Z GOES-12 VIS
20N
16N
12N
Naval Research Lab www.nrlmry.navy.mil/sat_products.html
<-- 85H Brightness Temp (Kelvin) -->
190 200 210 220 230 240 250 260 270

Exercise 8

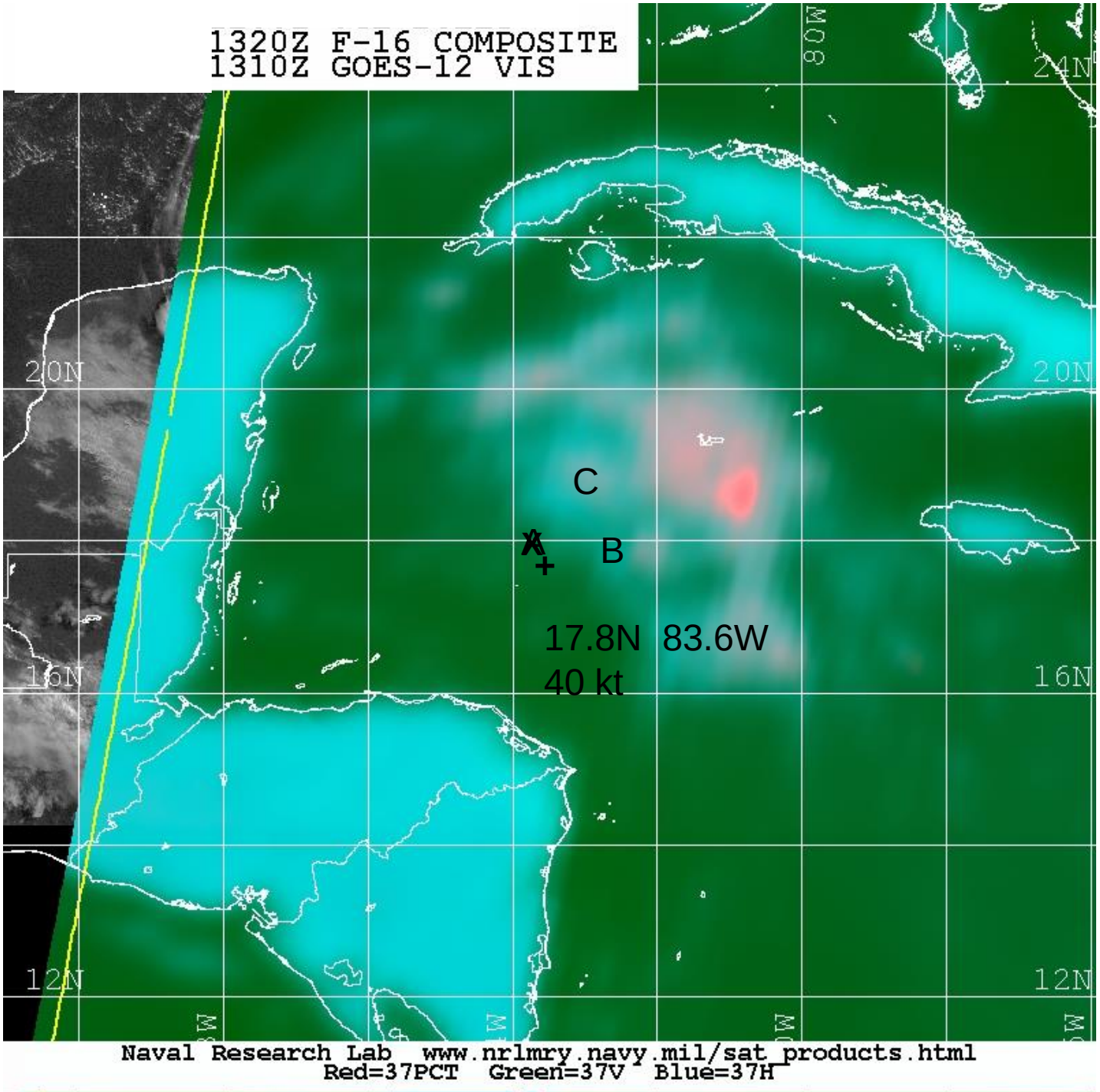

1320Z F-16 COMPOSITE
1310Z GOES-12 VIS
80W
24N
20N
16N
12N
Naval Research Lab www.nrlmry.navy.mil/sat_products.html
Red=91PCT Green=91H Blue=91V

Exercise 8

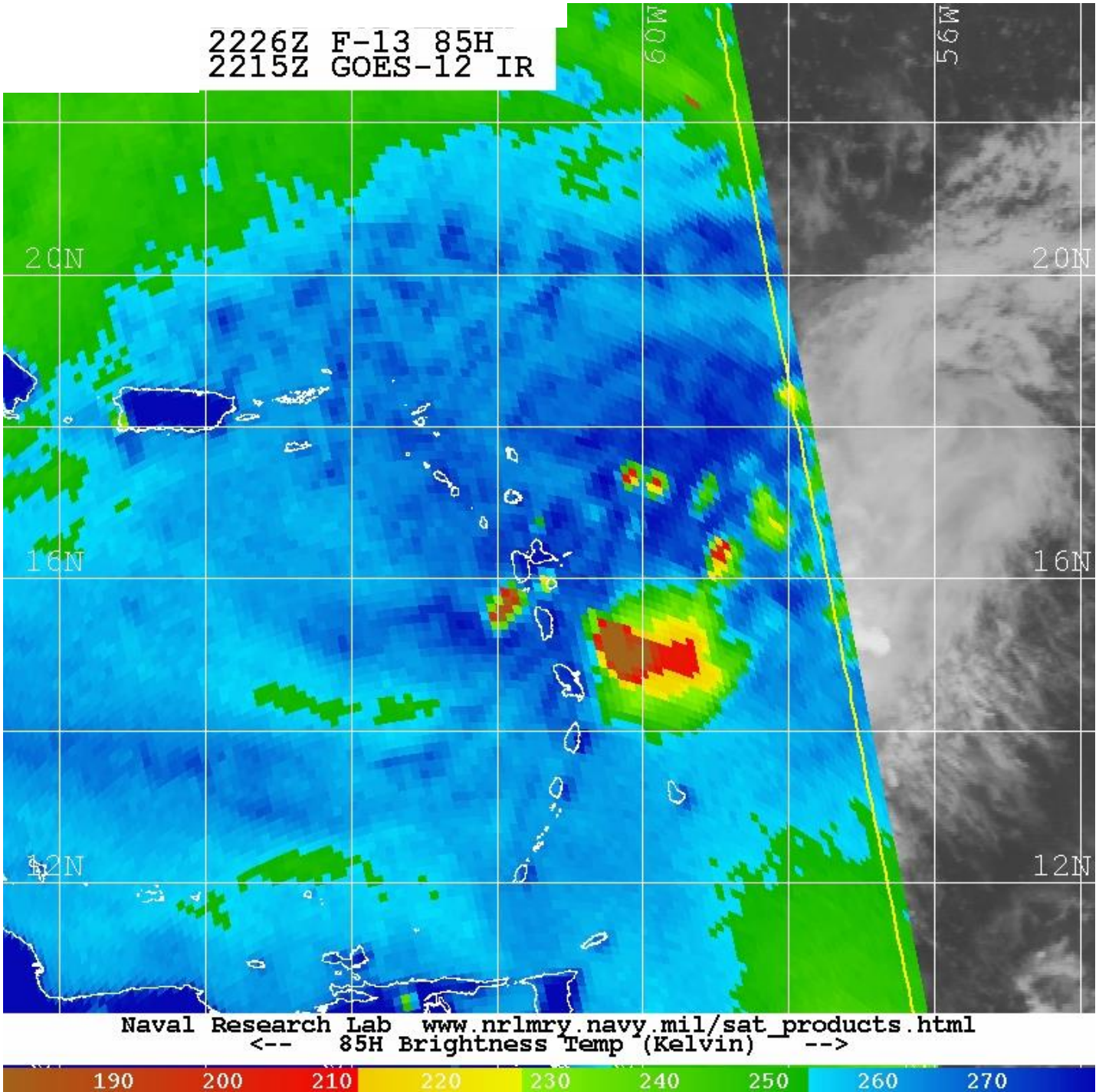

1320Z F-16 37H
1310Z GOES-12 VIS
80W
24N
20N
16N
12N
Naval Research Lab www.nrlmry.navy.mil/sat_products.html
<-- 37H Brightness Temp (Kelvin) -->
160 170 180 190 200 210 220 230 240 250 260

Exercise 8

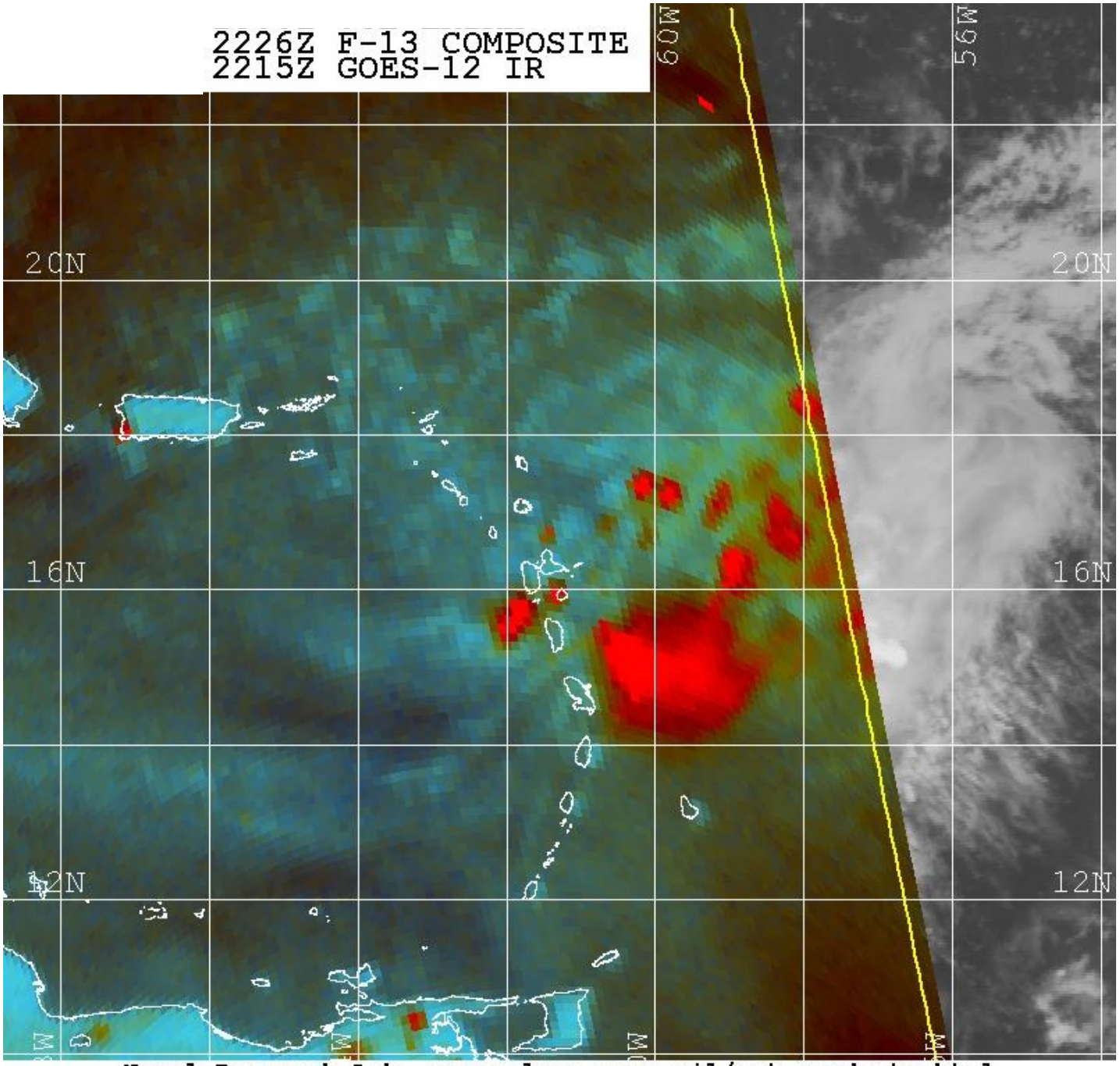
A


1320Z F-16 COMPOSITE
1310Z GOES-12 VIS
80W
24N
20N
16N
12N
C
B
17.8N 83.6W
40 kt
Naval Research Lab www.nrlmry.navy.mil/sat_products.html
Red=37PCT Green=37V Blue=37H

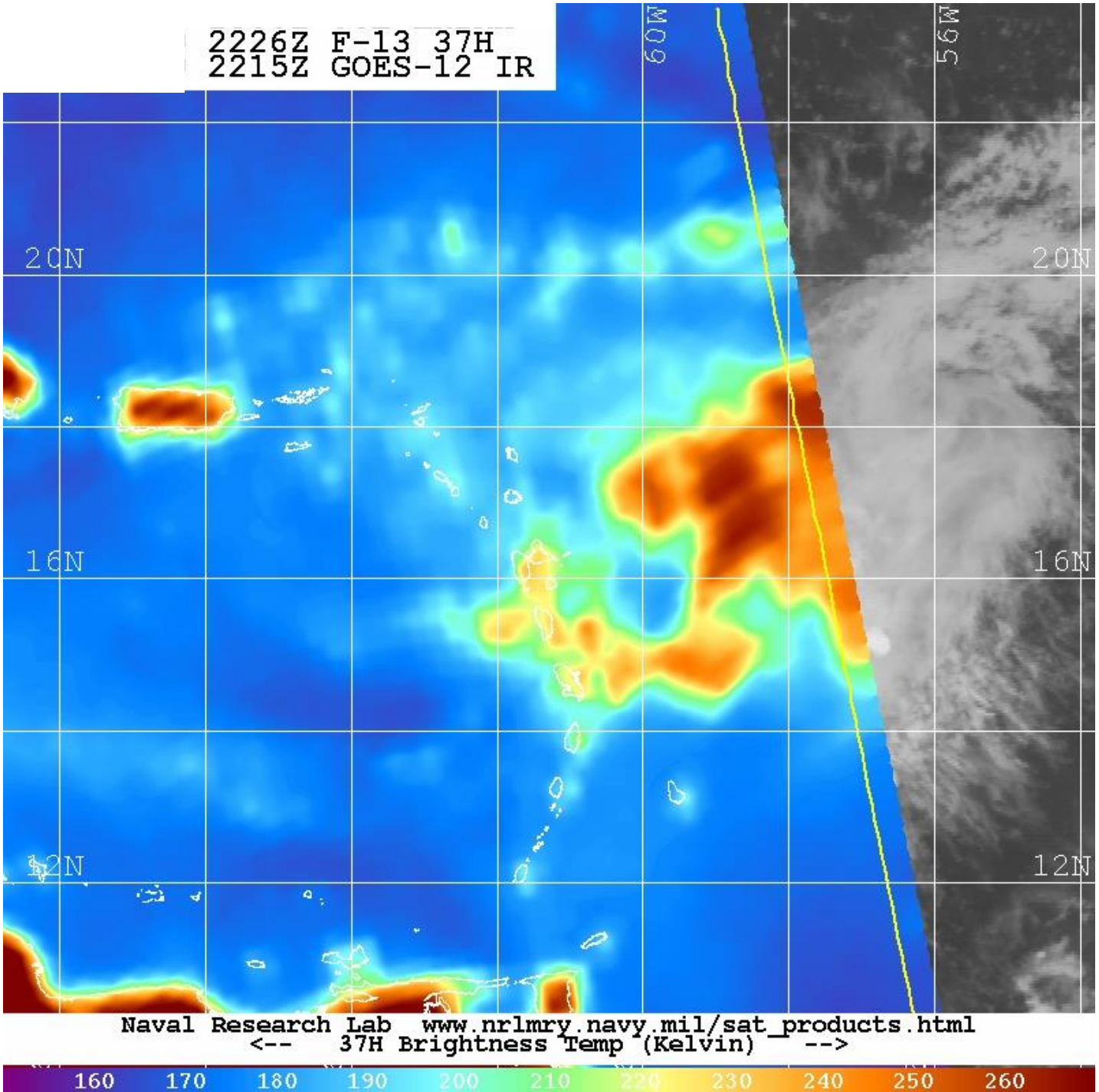
Exercise 9


2226Z F-13 85H
2215Z GOES-12 IR
60W
56W
20N
16N
12N
Naval Research Lab www.nrlmry.navy.mil/sat_products.html
<-- 85H Brightness Temp (Kelvin) -->
190 200 210 220 230 240 250 260 270

Exercise 9

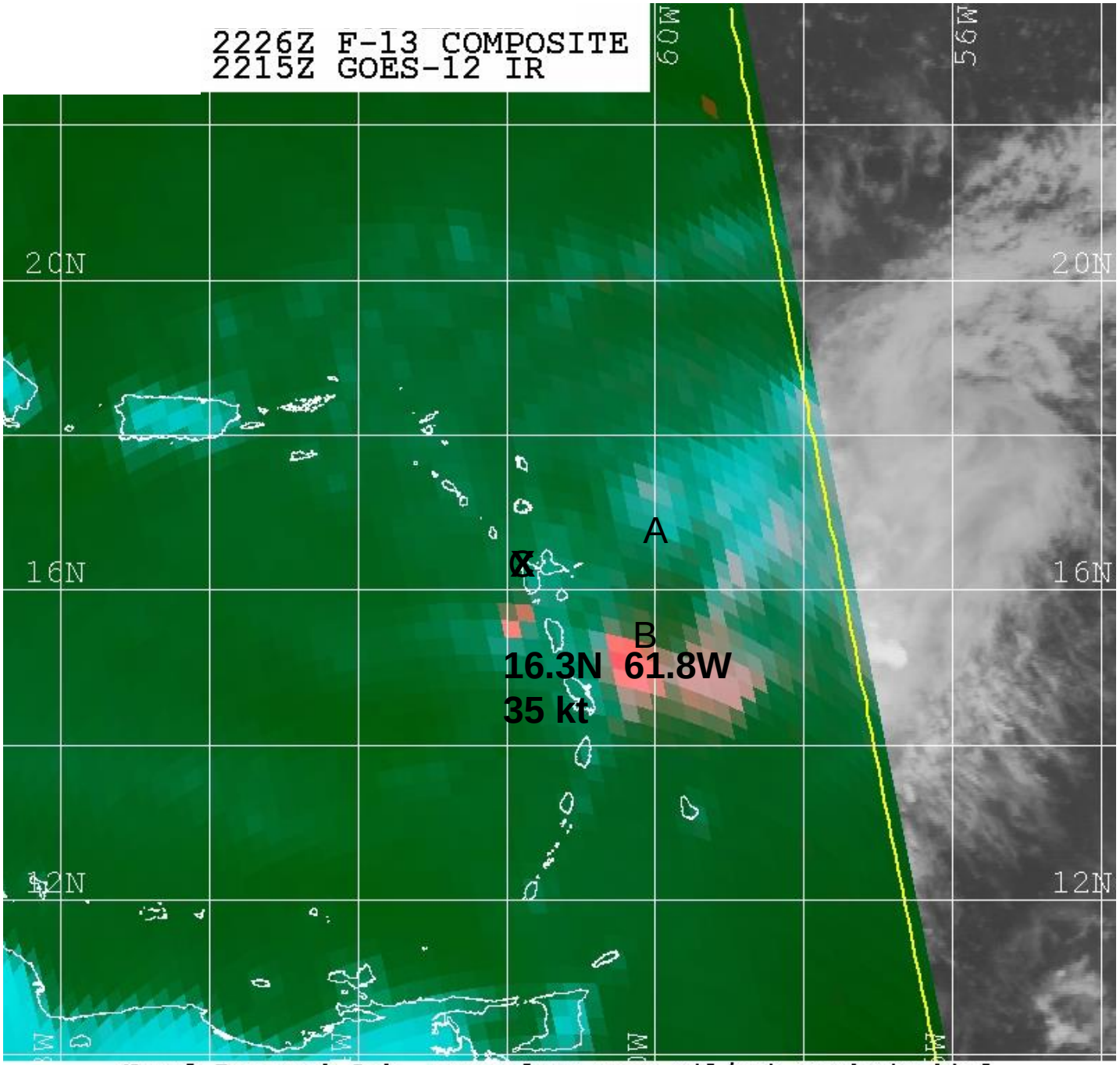

2226Z F-13 COMPOSITE
2215Z GOES-12 IR
60W
56W
20N
16N
12N
Naval Research Lab www.nrlmry.navy.mil/sat_products.html
Red=85PCT Green=85H Blue=85V

Exercise 10

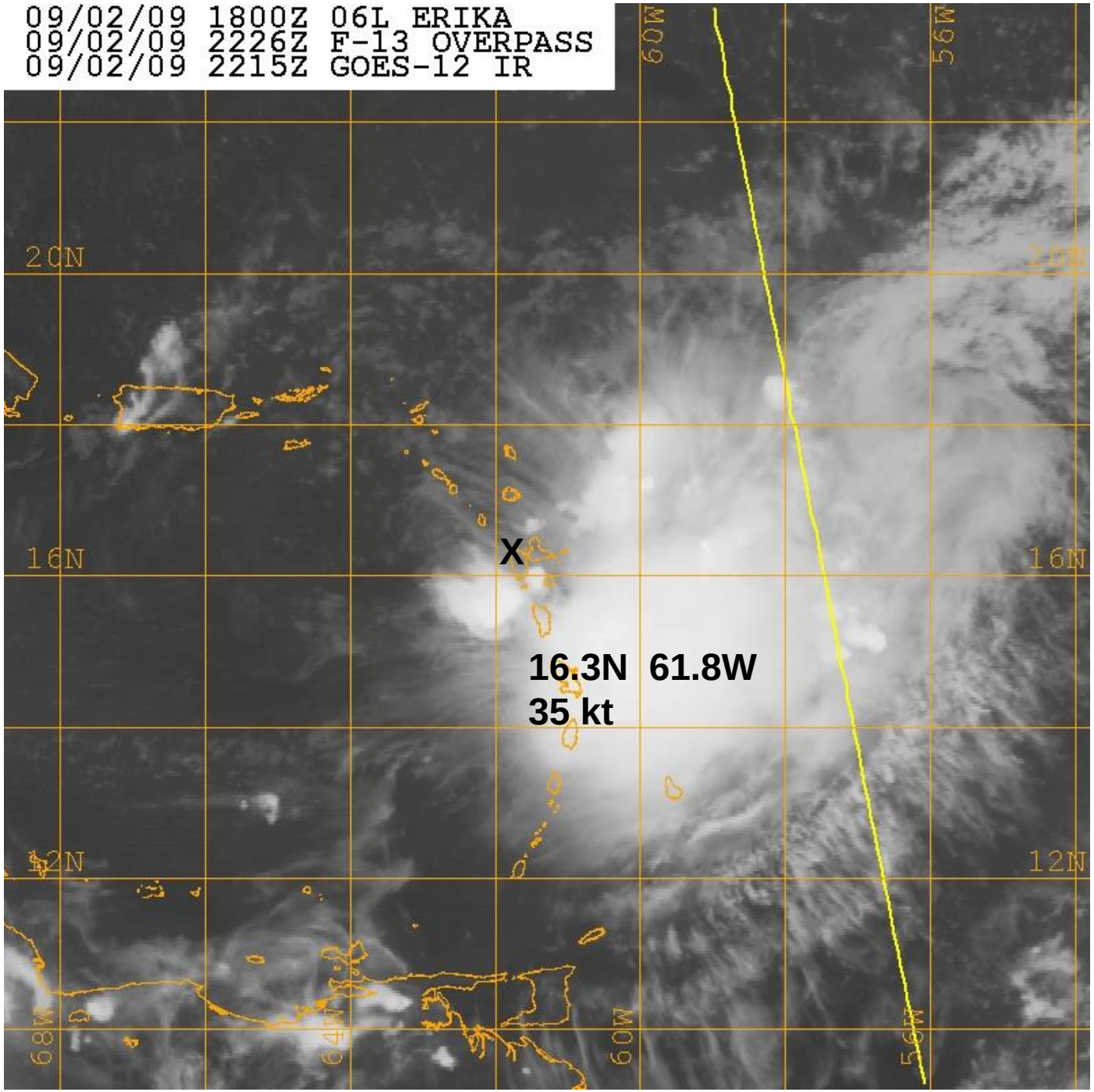

2226Z F-13 37H
2215Z GOES-12 IR
60W
56W
20N
16N
12N
Naval Research Lab www.nrlmry.navy.mil/sat_products.html
<-- 37H Brightness Temp (Kelvin) -->
160 170 180 190 200 210 220 230 240 250 260

Exercise 9

C


2226Z F-13 COMPOSITE
2215Z GOES-12 IR
60W
56W
20N
16N
12N
A
B
16.3N 61.8W
35 kt
Naval Research Lab www.nrlmry.navy.mil/sat_products.html
Red=37PCT Green=37V Blue=37H

Exercise 9


09/02/09 1800Z 06L ERIKA
09/02/09 2226Z F-13 OVERPASS
09/02/09 2215Z GOES-12 IR
60W
56W
20N
16N
12N
68W
64W
60W
56W
X
16.3N 61.8W
35 kt