NOTE FROM THE AUTHOR ON GRADING:
Partial credit is suggested for Section II, but is not necessary. To administer partial credit, 3 points is to be awarded for a correct answer, 2 points is to be awarded for an answer within one year of being correct, and 1 point is to be awarded for an answer within two years of being correct. The exception is question 21- no partial credit is to be given on this question, since everyone should know what date Sputnik was launched: It's the most important date in remote sensing.

Elsewhere on the test, especially on the short answer questions, partial credit is awarded for reasonably close answers.

The highest score on this test at competition was a 61; any score above 30 would have been in medal range. If you decide to add partial credit in Section II, a good score would be about 50 and I would expect the top score to be 75 or a little above. (This depends, of course, on when and where a competition would be held).

If you are planning to take this test for practice, good luck. I hope you have as much fun taking the test as I did writing it.

SECTION I

1. A, B, C, D, and E
2. E
3. C
4. A
5. D
6. C
7. A
8. D

SECTION II

9. 2007 (Also award two points if their answer was incorrect, but within 21-25 years after their answer for "Landsat 5 is launched")
10. 1978
11. 1972
12. 1960
13. 1984
14. 1997
15. 2012
16. 1975
17. 2002
18. 1999
19. 1982
20. 1964
21. 1957 (No partial credit)
22. 1958
23. 1993

SECTION III

24. Radio Detection and Ranging
25. Light Detection and Ranging
26. Sound Navigation and Ranging
27. Moderate-resolution Imaging Spectroradiometer
28. Cloud-Aerosol Lidar and Infrared Pathfinder Satellite Observations
29. Geostationary Operation Environmental Satellite
30. Gravity Recovery and Climate Experiment
31. Sea-viewing Wide Field-of-view Sensor
32. Light Amplification by Stimulated Emission of Radiation
33. Tropical Rainfall Measuring Mission

SECTION IV

34. Remote Sensing
35. Geosynchronous Orbit
36. Sun-synchronous Orbit
37. Geostationary Orbit
38. Swath
39. Temporal Resolution
40. Spatial Resolution
41. Active Sensor
42. Albedo
43. Scale
44. Hydrologic (Water) Cycle
45. The Electromagnetic Spectrum
46. Radiometric Resolution
47. NDVI (Normalized Difference Vegetation Index)
48. Spectral Resolution

SECTION V

IMAGE A
49. The left image
50. Clouds
51. 7600 mi^2 (5 points 7500-7700, 4 points 7350-7850, 2 points 7000-8000, 1 point 6000-9000)
52. 2nd band: 0.52-0.6 μm; 4th band: 0.76-0.9 μm; 7th band: 2.08-2.35 μm

IMAGE B
53. Hurricane Katrina (award one point for simply "a hurricane")
54. The city is flooded

IMAGE C
55. Magenta
56. The image is of a floodplain, so the blue-green sections represent riparian vegetation (aquatic plants)
57. The stress is caused by human settlement, hunting, fishing, and/or cattle grazing. (Must have 2, 2 points) The conservation regulations are ineffective because many residents of the area rely solely on the wetlands to support themselves, as they are affected by poverty. (3 points)

IMAGE D
58. 3572 mi² (5 points 3250-3750, 4 points 3000-4000, 2 points, 2500-4500, 1 point 2000-5000)

IMAGE E
59. False-color
60. Hypersalinity (Niau contains an extreme amount of salt)

SECTION VI
61. Students should have the following on their answer sheets:

	NDVI	EVI	
3 pts	$$NDVI = \frac{(NIR - VIS)}{(NIR + VIS)}$$	$$EVI = G \times \frac{(NIR - RED)}{(NIR + C1 \times RED - C2 \times Blue + L)}$$	3 pts
3 pts*	NDVI = $\frac{(0.37\text{-}0.16)}{(0.37+0.16)}$	EVI=2.5 * $\frac{(0.37\text{-}0.16)}{(0.37+6*0.16\text{-}7.5*0.11+1)}$	4 pts*
3 pts	NDVI = 0.40	EVI = 0.35	3 pts

*Award full credit for the second step if the correct values are identified for variables but the wrong equation is used.
NIR = 0.37
RED/VIS = 0.16
BLUE = 0.11

62. EVI