

Remote Sensing Answer Sheet

_____/90 points

ALL ANSWER MUST GO ON THIS SHEET!

Write Legibly... any answer illegible will be scored as a zero.

Team Name: KEY

Team #: KEY

Student Names: KEY

1. SAR:

Synthetic-aperture radar

can penetrate clouds; use day or night

LIDAR:

Light detection and ranging

use day/night, detects aerosols

2. - Supervised or unsupervised classification
- direct image processing or use of software analysis

3. '85 mixed cloud canopy (evergreen closed okay)

'88 mixed cloud canopy

'96 mostly bare disturbed areas

'01 mostly bare disturbed areas

Caused by anthropogenic disturbances; clearing forest for agriculture, etc.

4. Image A: False color image

Image B: True color image

Produced by assigning a layer to each color

TCI - Red, Green, Blue ; FCI - filters of wavelengths
outside of visible portion
of ES.

5. Decrease in recharge averages approx. 100mm over the given
time period. Anthropogenic processes may lead to loss of topsoil
reducing water infiltration. Warming temperatures will affect
recharge rates.

6. Note: show all work and circle final answers.

Atmosphere:

$$(550 \text{ GtC} \times 0.25) + 750 \text{ GtC} = 887.5 \text{ GtC}$$

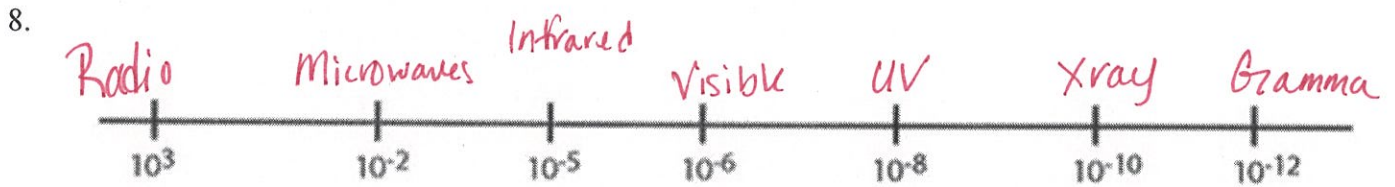
Vegetation:

$$(550 \text{ GtC} \times 0.31) + 610 \text{ GtC} = 780.5 \text{ GtC}$$

Ocean Sediments

$$(550 \text{ GtC} \times 0.44) + 150 \text{ GtC} = 392 \text{ GtC}$$

7. Methane concentrations are higher in the Northern Hemisphere due to the fact that natural/human caused sources are more abundant here. Winds may have transported plumes of gas away from their sources.



9. Radar - shows differences in surface roughness and geometry; can be used day/night.

10. As surface temp increases, albedo decreases.

11.

RADAR

Radio detection and ranging

SONAR

Sound navigation and ranging

MODIS

Moderate resolution imaging
Spectroradiometer

GOES

Geostationary operational environmental
Satellite

GRACE

Gravity recovery and climate experiment

SeaWiFS

Sea Viewing wide field of view sensor

LASER

Light amplification by stimulated
emission of radiation

TRMM

Tropical rainfall measuring mission

ETM+

Enhanced thematic mapper plus

CERES

Clouds and the earth's radiant
energy system

12. a. Snow free areas due to wind
b. moist, cold, sandy tundra
c. early may; early June
d. (any date between June 11 and July 30)

Multiple Choice Section

- | | |
|--------------|--------------|
| 1. <u>B</u> | 15. <u>C</u> |
| 2. <u>B</u> | 16. <u>A</u> |
| 3. <u>A</u> | 17. <u>B</u> |
| 4. <u>A</u> | 18. <u>B</u> |
| 5. <u>B</u> | 19. <u>A</u> |
| 6. <u>C</u> | 20. <u>D</u> |
| 7. <u>C</u> | 21. <u>A</u> |
| 8. <u>B</u> | 22. <u>D</u> |
| 9. <u>B</u> | 23. <u>B</u> |
| 10. <u>B</u> | 24. <u>C</u> |
| 11. <u>C</u> | 25. <u>C</u> |
| 12. <u>B</u> | 26. <u>A</u> |
| 13. <u>B</u> | 27. <u>C</u> |
| 14. <u>A</u> | 28. <u>A</u> |