

# Earth Observing Mission

**Objective:** Identify a terrestrial problem or scenario that could be aided or assisted with space based technology. Students will relate what they have learned regarding orbiting satellites and orbits and apply to Earth observing systems. Each group will be "selling" their technology to a boardroom of their peers, to decide on the most beneficial program.

## **Procedure:**

1. Identify an environmental or social problem that could be observed from space. You may want to take the avenue of choosing a satellite first which addresses the goals of your chosen area.
  - This could be very specific and local, such as wildfires in the Amazon, flood monitoring in India, or general and regional such as Pacific Hurricanes or sea surface temperature changes.
  - Another option would be to choose a region, such as third world country, and investigate how they use satellites to address their local issues.
    - Nigeria is a great example of this
2. Identify which existing orbiting satellite(s) could observe this issue.
  - Research how this technology works including:
    - Spectral resolution and which sensors are utilized
    - Temporal resolution
    - Spatial resolution
    - Type of orbit
    - how is data received or stored
3. How could this satellite be utilized to solve your problem or address your scenario?
  - Here is where you have to apply your knowledge from class and your own research.
  - What work has been done already?
    - Your research should include looking at case studies of how this satellite has been used to address terrestrial issues in the past. This provides the support to your justification.

## **Deliverables:**

1. Each group will be presenting on their topic. **YOU MAY NOT USE A PPT!!!!!!**
  - That's correct. Those bore everyone. Even me. You will have to find a creative way to sell us your ideas. This is not limited to:
    - videos
    - Posters
    - website
    - posters using virtual technology elements
    - Plethora of digital presentation tools
    - See link on my site for ideas

**Scoring guide:**

- Clear identification of problem or scenario (5 pts)
- Identification of existing space technology to address issue (5 pts)
- Research:
  - demonstrated understanding of functionality of technology, in terms of orbit, data processing, mechanics, wavelength, resolution (15 pts)
- Application:
  - how will this specifically address and provide a solution to your scenario or problem?
    - scoring is based upon clarity of reasoning, demonstrated understanding of topic, use of case studies as support (25 pts)
- Presentation tools, clarity of ideas, depth of preparation and creativity (10 pts)
- How well did you sell it??
- - this is the final portion of your grade-based on how well you sold your topic and solution to your peers. The top group will get 10 pts, second will be 9, etc. (up to 10 pts)
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**TOTAL PTS: 70**