



SPHERES OF EARTH

EARTH SYSTEMS AND FEATURES

Quick Reference Sheet

1. **Atmosphere:** This system relates to meteorological features and phenomena such as weather, clouds, or aerosols (particles in the air). It includes an ever-changing *mixture of gas and small particles located above the Earth's surface*. Features associated with the atmosphere that can be studied using astronaut photography are:

-Clouds
-Air Pollution/Aerosols

-Hurricanes and Cyclones
-Dust and Sand Storms

-Aurora

2. **Biosphere:** This system is associated with *living systems* such as *biomes* or *ecosystems*. This includes life on land, in the oceans and rivers, and even life we cannot see with the naked eye. Features associated with the biosphere that can be studied using astronaut photography are:

-Coastal Biomes
-Grasslands

-Forests
-Urban/Agricultural Ecosystems

-Deserts

3. **Hydrosphere:** This system is associated with *water in solid (ice) and liquid states*. Water in a gas state (water vapor) is probably best considered as a feature of the atmosphere. Features associated with this system that can be studied using astronaut photography are:

-Oceans
-Ice Bergs (Polar Ice Caps)

-Lakes and Rivers
-Glaciers

-Snow

4. **Litho/Geosphere:** This system is associated with solid portions of the Earth. It includes rocks, sediments and soils, *surface landforms* and the *processes* that shape the surface. Features associated with this system can be broken down into a variety of different processes. These are:

-Fluvial and Alluvial Processes: Deltas, river channels/canyons, alluvial fans
-Aeolian Processes: Sand dunes, yardangs, wind streaks
-Tectonic Processes: Folds, faults, mountains
-Volcanic Processes: Volcanoes, central vents, volcanic deposits
-Impact Processes: Impact craters
-Other Processes: Mass wasting processes, erosional processes