

## Why Should Students Research Earth System Science?



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1. **Because We Live on Earth** - No matter where you eat, sleep, play, pray, or work, we are all constantly connected to Earth's System's plants, animals, weather, oceans, etc. It is estimated that within the next decade, nearly eight billion people will call Earth home and in order to sustain a high quality of life (at current demands on energy and materials), we must know more about our home planet and its processes, resources, and diverse environments.
2. **We all Benefit from Earth System Science** - Our daily lives are connected to the constant changes in the Earth System that are integrated and interdisciplinary. The more we understand the local, regional, and global processes affecting this complex system, the better we are to assess the availability of natural resources, forecast the risks of natural hazards, become better stewards of the environment, and more.
3. **Earth System Science Supports Informed Citizenry-** Earth's processes are not limited to those topics commonly found in an Earth Science textbook. The boundaries of some Earth's

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phenomena are not clearly defined and their interactions are dynamic and constantly changing on a variety of geographic and temporal scales. Earth's processes integrate fundamental scientific processes within biology, chemistry, physics, ecology, and mathematics and an Earth System-literacy individual must have a solid base in each of these to tackle complex issues facing future generations.

4. **Because the Earth is All Around Us:** The opportunities to engage students in scientific practices are endless. In many cases, you don't require special equipment or access to labs to guide students to make observations and formulate research questions. See the list below to engage students in authentic science research.