

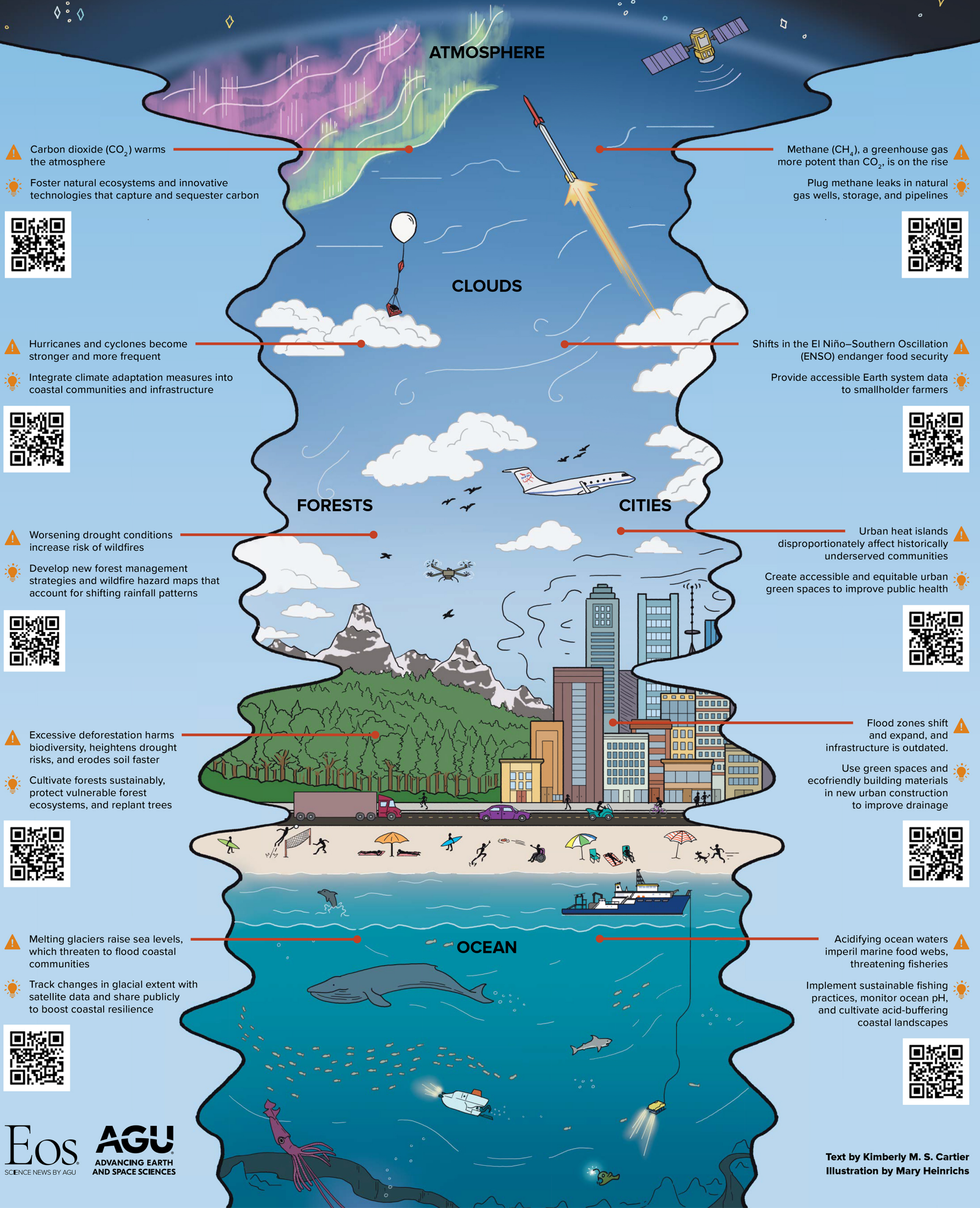




Layers of Climate Change

Issues and Solutions from Sky to Sea


Earth is an interconnected system—changes in one part ripple throughout the world. Anthropogenic climate change throws that system out of balance and endangers biomes, livelihoods, and lives. As countries around the world work to lower carbon emissions and switch to renewable energy sources, scientists also are developing innovative ways to mitigate climate impacts. Read below to learn about some of the  pressing problems the world faces and  solutions in the works to help communities adapt. Scan the QR codes to learn more.




 Carbon dioxide (CO₂) warms the atmosphere


 Foster natural ecosystems and innovative technologies that capture and sequester carbon




 Methane (CH₄), a greenhouse gas more potent than CO₂, is on the rise


 Plug methane leaks in natural gas wells, storage, and pipelines




 Hurricanes and cyclones become stronger and more frequent


 Integrate climate adaptation measures into coastal communities and infrastructure




 Shifts in the El Niño–Southern Oscillation (ENSO) endanger food security


 Provide accessible Earth system data to smallholder farmers




 Worsening drought conditions increase risk of wildfires


 Develop new forest management strategies and wildfire hazard maps that account for shifting rainfall patterns




 Urban heat islands disproportionately affect historically underserved communities


 Create accessible and equitable urban green spaces to improve public health



 Excessive deforestation harms biodiversity, heightens drought risks, and erodes soil faster


 Cultivate forests sustainably, protect vulnerable forest ecosystems, and replant trees




 Flood zones shift and expand, and infrastructure is outdated.


 Use green spaces and ecofriendly building materials in new urban construction to improve drainage




 Melting glaciers raise sea levels, which threaten to flood coastal communities

 Track changes in glacial extent with satellite data and share publicly to boost coastal resilience



 Acidifying ocean waters imperil marine food webs, threatening fisheries

 Implement sustainable fishing practices, monitor ocean pH, and cultivate acid-buffering coastal landscapes

