



ONE PLANET EDUCATION NETWORK®



Sustainable Community Development Education – Community Emergency Services Volcanoes and Related IoT Sensor Applications

Program I - Save Me! – I am the City of Goma, DR Congo™

In this Community Emergency Services and Earth Sciences education program, OPEN students learn about one of the most active and dangerous volcanoes in the world – Mt. Nyiragongo. This is a multi-year OPEN Project-Based Learning (PBL) curricula, and the first in the series of Community Emergency Services Programs.

Program II - Save Me! – I am the Big Island, Hawaii USA™

The recent unexpected violent eruption of Mt. Kilauea in Hawaii is also the focus of our Volcano program. OPEN students' research the recent series of violent fissure eruptions across the Big Island of Hawaii. Participating OPEN students will learn how Indigenous peoples of Hawaii have successfully coped for millennia living with this constant danger, and how other islanders managed to adjust to this inevitable reality with the guidance and the ancient wisdom of the island's indigenous inhabitants.

Associated STEM Lab Tech & Curricula

In this STEM Lab, your students will learn the basics of Internet Sensors and sensor networks (IoT). Teachers will be trained and supported, and students will learn data analytics and how to program and test IoT volcano sensor and atmospheric kits – CO₂ and other atmospheric gases (at least 3 gas sensors per package). With this STEM Lab, students can learn how they can actually help save lives in a community across the world. Working in tandem learning from Goma volcano scientists and OPEN technologists, your students will also collect and analyze Internet sensor data. In addition, your students will be given an opportunity to donate their finished sensor kits to the threatened communities of Goma, DRC or the Big Island's OPEN partners/schools. Or you could keep the sensors to measure these gases and pollutants around your school. As an optional program extension, students will also locate dangerous fissures under Goma city where their gas sensors could be placed by developing their own Esri GIS digital maps.



Our young students from Cinquantenaire School in GOMA, DRC have built CO₂ Internet monitoring sensors and systems to help protect their city from potential fissure eruptions and earthquakes that would emit poisonous gases

All programs include Professional Development (PD), at least four International Distance Learning events, Collaborative software and Storage for students' work products. Additional PD sessions can be purchased in blocks of four 45-minute sessions