Earthquakes, atmospheric events, floods and landslides are extremes with effects on population and devastating operational problems in Health Care Infrastructure (HCI).

The first goal of this small workgroup, is to associate the adequacy of HCI to local Environmental Stressors.

The second goal being to test and flag the adequacy of health facilities under regional extreme catastrophes and

Identify where additional humanitarian facilities will be necessary to assist in the relief of extreme events.
Health Care Infrastructure

• Assessing the vulnerability and adequacy of health care infrastructure capacity against local environmental stressors and regional extreme catastrophes.

• Develop a partnership with UN agencies (WHO, UNISDR, UNEP) and governmental agencies (Australia, Canada, China, European Union, India, United Kingdom, United States, Uruguay, and others) that share an interest in better identifying health care facilities at risk from environmental stressors and extreme weather events.

• Integrate EO datasets in order to develop an informational resource that assesses the vulnerability of health care infrastructures to local environmental stressors (during seasonal loads and local population needs).

• Examine the adequacy of seasonal loads and treatments during regular conditions.

• From remote images, identify installed energy, transportation, and communication resources.

• Develop methods to assess the adequacy of these infrastructures under regional extreme catastrophes. This has implications for both real-time operations and for long-term health adaptation planning.
A holistic approach for a comprehensive view into resource requirements during 2023-2024

Harnessled experiences from other EO4HEALTH small workgroups to:

Examine rising temperatures and prolonged heat waves in reducing food supplies through lower agricultural yields and milk production, augment vector population growth and range expansion. Diagnose and treat heat exhaustion, dehydration, and related complications. Health systems must prepare for increased patient load due to the direct health effects of increasing temperatures and extreme heat. The HCI group participated and organized the following:

- At the 125 OGC meeting in Frascati, Italy the Global Health Summit during 20-24 Mar., 2023.
- On 28th Nov., 2023 a presentation by Emmanouel Platanakis from Bath Univ. on HEALERS: Harnessing Earth Air-quality, cLimate, and Environmental Remote Sensing for health and
- At the same event, a presentation on “Predicting the Multisectoral Impacts of Heat Waves and Urban Pollution on Electricity Supply and Health Emergencies” by Antonio Correas from Skymantics.
- On 7th Feb., 2024 a HCI presentation “Realistic accessibility modeling for better health system planning”, by Prof. Nicolasi Ray from GeoHealthgroup at Institute of Global Health in Geneva.
Advance the data resources and handling for global HCI applications:

- Complement remote sensing data with a dense in-situ measurement network for particulate matter.
- Assess case studies with desert storms for e.g. on 26-28 Mar. 2018 when Sahara dust storms with winds over 50 km/h (31 mph) swept over the 22 million people over north African megacities.
- Increase risks of wildfires and antimicrobial resistance, which can directly influence health system capacity.
- Incorporate AI in GEO assessment of HCI.
- Post pandemic assessment of best positioning of HCI in Europe according to Regulatory Demand and local epidemiological necessities.
- Participate in several Horizon Europe calls for establishing a monitoring and mitigation alert system for heat specifically tailored to vulnerable populations, as part of the HERC²ULES project.