

2. UAVs as a Game Changer

UAVs as a Game Changer for PICs

The Pacific region is one of the most disaster-prone regions of the world. It is subject to a variety of natural hazards, including floods, tropical cyclones, earthquakes, tsunamis, droughts, and volcanic eruptions. Geospatial data can play a key role in monitoring hazard conditions on the ground, but unique data collection challenges exist for PICs. Because these countries consist of multiple small islands or atolls that are often very remote from one another, it is difficult to collect geospatial data at the appropriate scale for analysis.

In most countries, mapping is conducted using satellite, aerial, or ground-captured data, or a combination of these. However, in an island country context, satellite images do not have the necessary spatial resolution (pixel size) to show details, as the islands are so small relative to the pixel size. Given islands' sparse distribution, moreover, PICs may not be captured by satellite imagery unless operators specifically prioritize them. Thus PICs must employ alternative means for capturing very high-resolution imagery data.

UAVs may solve this issue for PICs. Unlike aerial surveys using manned aircrafts, UAVs can be flown at very low cost by qualified personnel and have the flexibility to handle PICs' various requirements. Now a mature technology, UAVs are potentially a game changer that will allow high-resolution images of these remote islands to be regularly and affordably captured by local experts.