GeoWellness Mission Statement

Natural disaster endangers people’s lives and their own properties. In November 2021, severe floodings heavily hit people’s life in British Columbia. The disaster resulted in an approximately 450 million dollars loss. It became the costliest extreme weather disaster in the history of British Columbia according to the Insurance Bureau of Canada. The actual loss due to the flood might be even higher. This event impacts many people’s lives and until this day, there are people still out of their homes, including the indigenous communitie[1]. According to the 2016 Census from Statistic Canada. British Columbia has the second largest Aboriginal population equivalents to 16.2% of the total Aboriginal in Canada[2][3]. Over 60 First Nation communities were impacted by this event. The indigenous community in British Columbia deserves more attention and help from society.

Indigenous Communities are vulnerable to natural disasters and often at high risk of displacement. Even though B.C. provides an Emergency Management Plan including mitigation, preparation, response, and recovery, and especially works in collaboration with indigenous groups to help them on disaster preparedness[4], indigenous communities suffer more than expected in the November flooding event. There is an inseparable relationship between indigenous people and SDGs. On the one hand, indigenous people work as a major group to collaborate with several groups to improve the gender quality[5]; On the other hand, helping First Nations in various aspects is also an important progress to improve the SDGs. By providing more access to the knowledge of resisting and adapting natural disasters and hazards, Indigenous people can lower the risk with early warning systems, resiliency buildings, mitigation and adaptation knowledge, etc[6]. Indigenous people are relatively vulnerable to climate; what makes it worse, indigenous communities may not receive the disaster warning message from relevant agency ahead of time[7]. Helping First Nations to learn or set up a warning system may not only save more lives, but also improve SDG #10: Reduced inequalities. Lastly, SDG #9 (Industry, Innovation, and Infrastructure) and SDG #13 (Climate Action) can be improved by helping indigenous communities construct more resilient buildings with sustainable materials, more resistant to natural disasters and friendly to environment.

The GeoWellness mission in this challenge is to raise people’s awareness about the indigenous situation in the flood event. Our vision is to improve the wellness of indigenous people through Geomatics solutions. Thus, the two web applications we developed are designed for providing insight to the users about the flood impact on the indigenous group and the accessibility of Emergency Social Service (ESS) to the aboriginal people. With the information, people can understand the severity of the disaster to the indigenous people, and what can be improved regarding the availability of ESS in order to support people in disaster.