Light Detection and Ranging (LiDAR) – A Boon for Climate Change Adaptation

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How LiDAR Came About

• A grant from the USAID in 2019
• Discussions and decisions to purchase a LiDAR scanner
• Sought to work a relationship with Maya Island Air
• Did one job and then there was a pause because of COVID 19 and other realities
• Went with Leading Edge Geomatics – that fell through
• Now partnering with Quantum Spatial Canada, a Subsidiary of NV5 Global
What we Did

• The Centre obtained a grant from the Caribbean Development Bank (CDB) to survey all 19 Borrowing Member Countries (BMCs)
• Only 10 signed the Project Participating Agreement (PPA)
• The PPA sets out the conditions, which is largely to facilitate internal assistance
• We took about 6-7 months to agree on a formula to partner with QSI
• QSI have since sub-contracted KASI Aviation Services to complete the data capture
What has happened to date

- Ten (10) countries are participating
- We surveyed Barbados, Tobago, Suriname, Guyana, Antigua and Barbuda, St. Kitts, Saint Lucia, Turks and Caicos, and Belize
- St. Vincent and the Grenadines remains to be completed
- We are receiving good support from the Governments
- Thereafter, we will process the data and deliver the products
LiDAR and Climate Change

• What is Climate Change and Why does it matter
  • Seek to mitigate the effects of climate change
    • Reduce emissions
  • Let us adapt through putting in place that which matters most
    • Grey solutions
    • Nature base solutions
    • A combination of the two
• Let us seek to avoid losses and damages
  • These are outside of adaptation – somethings we cannot adapt to
• Build a better future
The Centre entered into an Agreement with Global Affairs Canada in April 2023 and with the USAID in May 2023

They received grant funds to survey 7 countries under Global Affairs Canada and 9 under USAID

Some countries will overlap

Commenced on the 11 February 2024 with data acquisition

Thus far we have completed 7 countries and we are presently in Barbados

Most of the countries are seeking to collect the GCPs post survey
Benefits of LiDAR

• Near shore bathymetry
• Digital Elevation Models
• Bare earth models
• Conduct contour and elevation mapping
• Use data for adaptation planning and building projects
• Help to determine land use planning
• Help us to understand what not to do
CARICOM Next Steps: Building the National Capacities for using LiDAR Products

• Ensure that we are not satisfied with getting the products
• Use the products for planning purposes
• Expand the uses of LiDAR application
• Continue to build the human resources for using this technology
Thank You!

Let’s Connect!
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