Monitoring of intertidal morphodynamics around Swansea Bay

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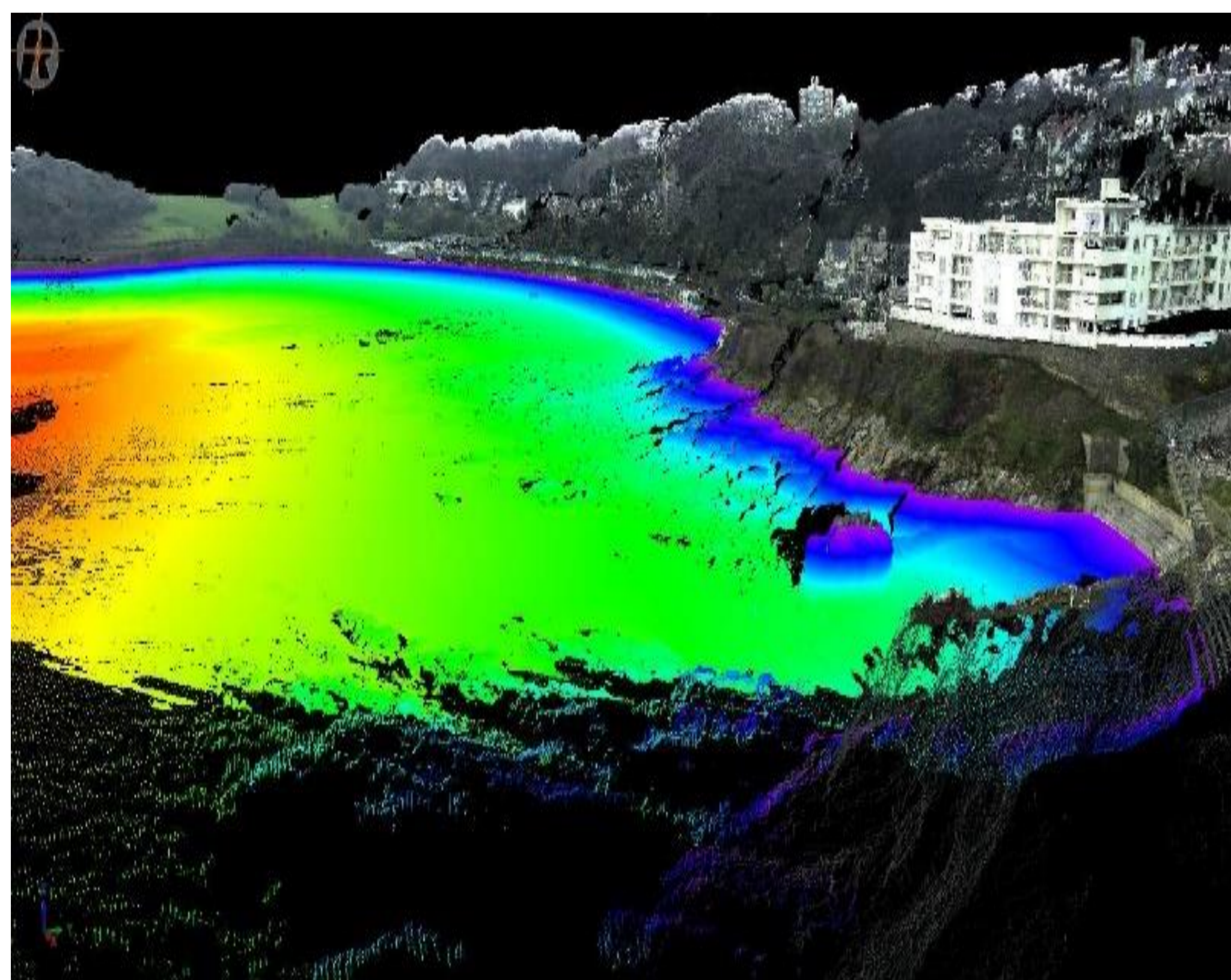SEACAMS2, College of Engineering, Swansea University, Bay Campus, Swansea, SA1 8EN

Figure 1. Langland Bay terrestrial laser scan

Description

SEACAMS2 will develop protocols and validate techniques to demonstrate accuracy of UAV photogrammetric techniques for mega-tidal areas. Surveys will be conducted monthly over 1-2 years and the level of analysis compared to biannual cross-shore surveys to demonstrate the added value of the proposed methods. Geologically complex embayments will be surveyed using terrestrial laser scanners.
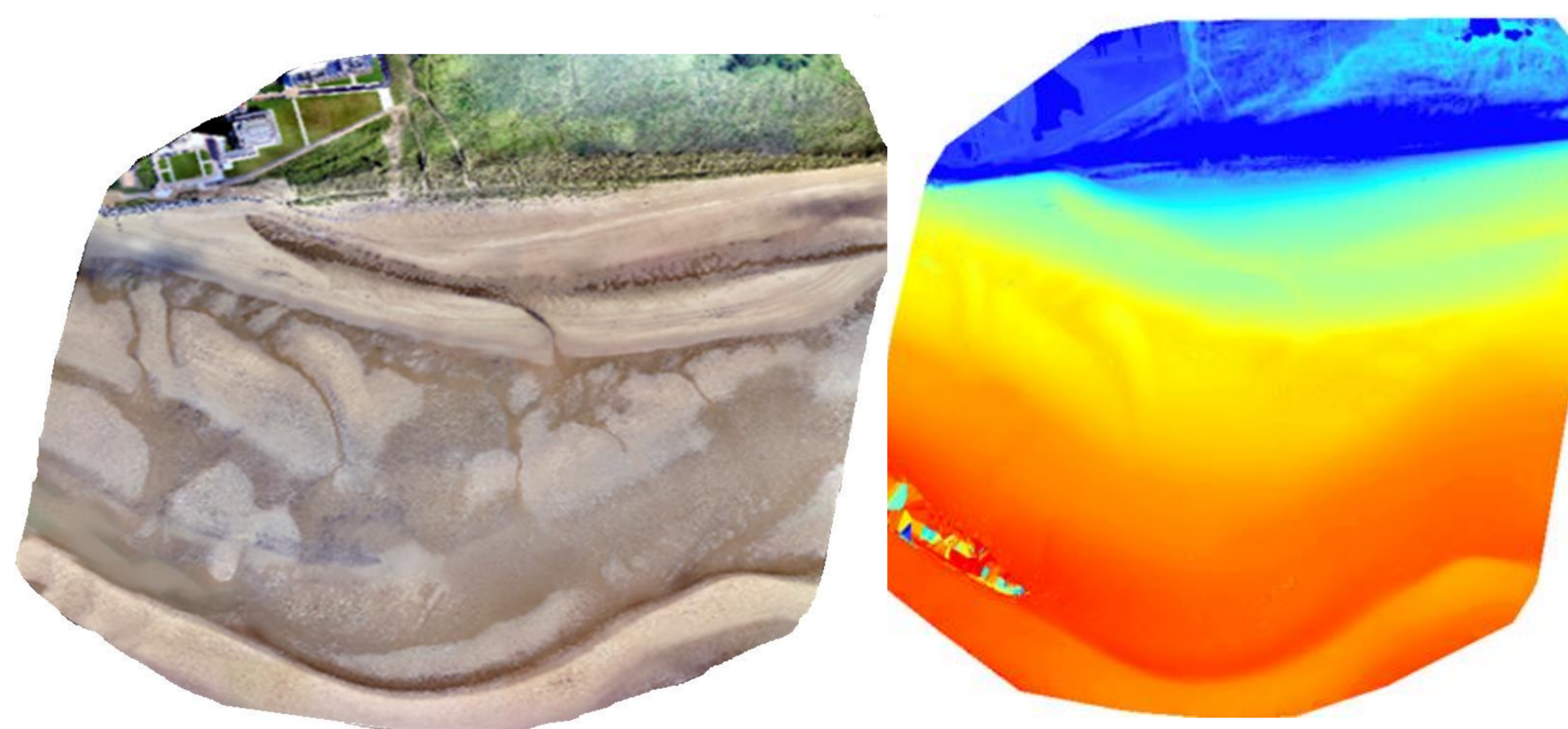
The datasets will provide a useful and high resolution pre-construction dataset against which impact of lagoon construction and operation can be measured. The UAV will be deployed in rapid response mode pre- and post- storm to develop understanding of storm impacts on mega-tidal embayments. Sediment type discrimination will be developed for the terrestrial laser scanner data.

Figure 2. Crymlyn UAV imagery and DSM

Outcomes

- Acceptance of novel survey techniques which will reduce AEMP costs for enterprise.
- Greater understanding of mega-tidal morphodynamics which will reduce future consenting burden.
- The baseline data will be useful in assessing tidal lagoon impact and enable bids for further funding.

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