Stereo Maps to Collect 3D Features and Esri User Conference 2020

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14.07.2020

Reference:

https://d3c33hcgiwev3.cloudfront.net/O1lMEj3mSw2ZTBI95psNDA_c63df9b90a75468d88937a97c7d326ec_collect-3d-features-from-a-stereo-map.pdf?Expires=1594857600&Signature=bUQt111SiypjrMtNft9VHNDlSQ4ApzE9XVr2Wn2qraGWZNytWqlnrod~RWlN0PFeilmAw8r7esZ-IRqbReVQmFAHT9IUP8AD4CBrhUmm9TqyArKjJ9VUuzQnvu0802IFK6kReaVXHBYNPLfNjO42jx~0-H3lqwm3NxqpyKL9nso_&Key-Pair-Id=APKAJLTNE6QMUY6HBC5A

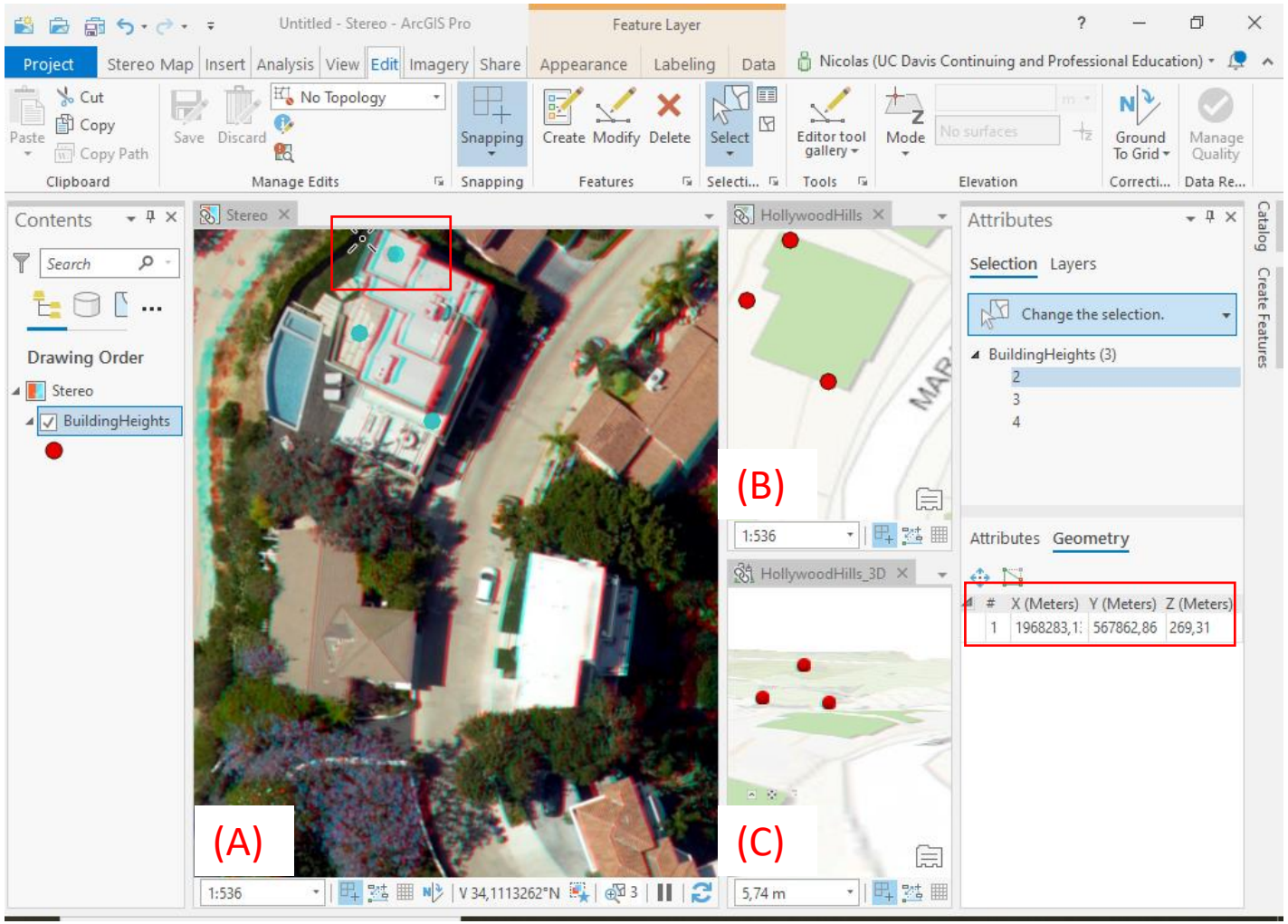
https://www.esri.com/en-us/about/events/uc/live

Outlining process

1) Explore the task of collecting 3D features from a Stereo Map for building height estimation

2) Participate and explore ESRI User Conference 2020

1) Explore the task of collecting 3D features from a Stereo Map for building height estimation



- 3 points defining 3 levels of building height have been created on the stereo map
- Points positions are updated automatically on the other maps (2D and 3D) thanks to the link view tools
- Height of the highest position on the roof is highlighted in red on the picture

(A) Stereo Map of Holywood hills
(B) 2D Map of Holywood Hills
(C) 3D Map of Holywood Hills

2) ESRI User Conference 2020: exploration 1

Site Scan for ArcGIS

- New workflow for drone imagery processing from the drone plan flight to the 3D model construction
- This workflow is based on 2 plateforms:

➢ Ipad application (Site Scan Flight Planning) to perform drone flights

➢ Web-based application (Site Scan Manager) to process drone data

2) ESRI User Conference 2020: exploration 2

New tool for analysis with remote sensing data

- Analyse change using CCDC tool

➢ Tool used to classify automatically changes over time according to pixel value

➢ Produces a multidimensional raster

➢Computes changes between the dates dataset

➢Allows to modelize precised land cover changes over time

2) ESRI User Conference 2020: exploration 3

Deep learning implementation in ArcGIS Pro

- Improve a more complex object detection
- ➢ Example: can detect boat on the sea and on the ground for dock management
- ➢ Needs ground truth data to teach the model
- ➢ Notebook with python script implemented in ArcGIS
- ➢ Allows also to classify more precisely point clouds to improve 3D model construction

Reference

Learn ArcGIS : Collect 3D features from a stereo map

https://d3c33hcgiwev3.cloudfront.net/O1lMEj3mSw2ZTBI95psNDA_c63df9b90a75468d88937a97c7d326ec_collect-3d-features-from-a-stereo-map.pdf?Expires=1594857600&Signature=bUQt111SiypjrMtNft9VHNDlSQ4ApzE9XVr2Wn2qraGWZNytWqlnrod~RWlN0PFeiImAw8r7esZ-IRqbReVQmFAHT9IUP8AD4CBrhUmm9TqyArKjJ9VUuzQnvu0802IFK6kReaVXHBYNPLfNjO42jx~0-H3lqwm3NxqpyKL9nso_&Key-Pair-Id=APKAJLTNE6QMUY6HBC5A

ESRI User Conference Plenary Session, Part 2:

https://www.esri.com/en-us/about/events/uc/live