

# CanoPy user manual

CanoPy is the Python module for [the Georgia Canopy Analysis 2009 project](#) sponsored by [the Georgia Forestry Commission \(GFC\)](#). For further information about this project, please refer to the [CanoPy page](#).

This document explains how to use the [CanoPy](#) module. For technical details, please read the [CanoPy technical manual](#). Also refer to the [CanoPy tutorial](#).

## Authors

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## Requirements

- ArcGIS Desktop 10.x
- ArcPy
- Python 2 standard module: os
- Feature Analyst™ by the Textron Systems
- Automated Feature Extraction (AFE) models trained using Feature Analyst

We are currently planning on developing a fully open source solution without using ArcGIS and Feature Analyst.

## How to use the CanoPy module

1. Clone the [CanoPy GitHub repository](#)

```
git clone https://github.com/HuidaeCho/canopy.git
```

2. Copy canopy\_config-example.py to canopy\_config.py
3. Edit canopy\_config.py to recognize your layers and folder structures
4. Start ArcMap
5. Add Physiographic\_Districts\_GA.shp. Its layer name is phyregs\_layer in canopy\_config.py
6. Add naip\_ga\_2009\_1m\_m4b.shp. Its layer name is naipqq\_layer in canopy\_config.py
7. Open the Python window from within ArcMap
8. Import the canopy module

```
import sys
sys.path.append('C:/path/to/the/canopy/module')
import canopy
```

9. Assign physiographic region IDs to the naipqq layer

```
canopy.assign_phyregs_to_naipqq()
```

10. Add physiographic region IDs to process to phyreg\_ids

```
phyreg_ids = [8, 7]
```

11. Reproject original NAIP QQ tiles to the target projection

```
canopy.reproject_naip_tiles(phyreg_ids)
```

12. Run trained AFE models to classify canopy and non-canopy cells

13. Convert AFE output files to the final seamless canopy GeoTIFF file per physiographic region

```
canopy.convert_afe_to_canopy_tiff(phyreg_ids)
```

[software](#)

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