



# DEVELOPER SUMMIT

March 10–13

# Deploying Geoprocessing Tools as Python Modules

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# ArcGIS Supported Versions

- ArcGIS 10.2 and later
- ArcGIS Pro
- ArcGIS will find esri directory in site-packages

# Python Distribution Utilities

- **Distutils**
  - Build
  - Distribute
  - Install
- <http://docs.python.org/2/distutils/>

# Directory Structure

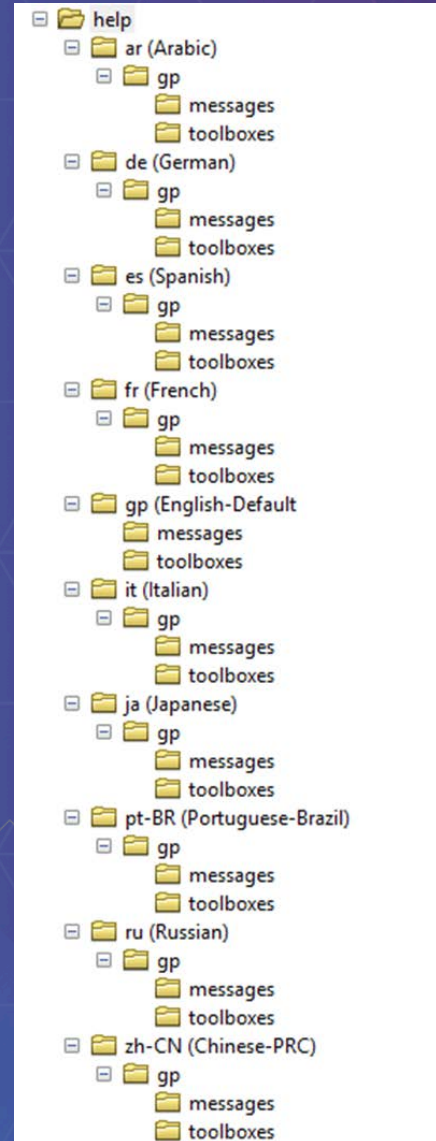
- **Source distribution**
- **setup.py**
- **\_\_init\_\_.py**
- **esri directory**
  - **arcpy**
  - **help**
    - **gp**
      - **messages** – must be created for custom messaging
      - **toolboxes**
  - **toolboxes** – must be created

# Distribution and Install

- Path to python.exe set on system
- Windows:  
    python setup.py bdist\_wininst
- Linux:  
    python setup.py bdist\_rpm
- python setup.py install
- python setup.py sdist
- pip

# Internationalization

- ArcGIS supported languages
- gp directory defaults to English



# Create Toolbox Support Files

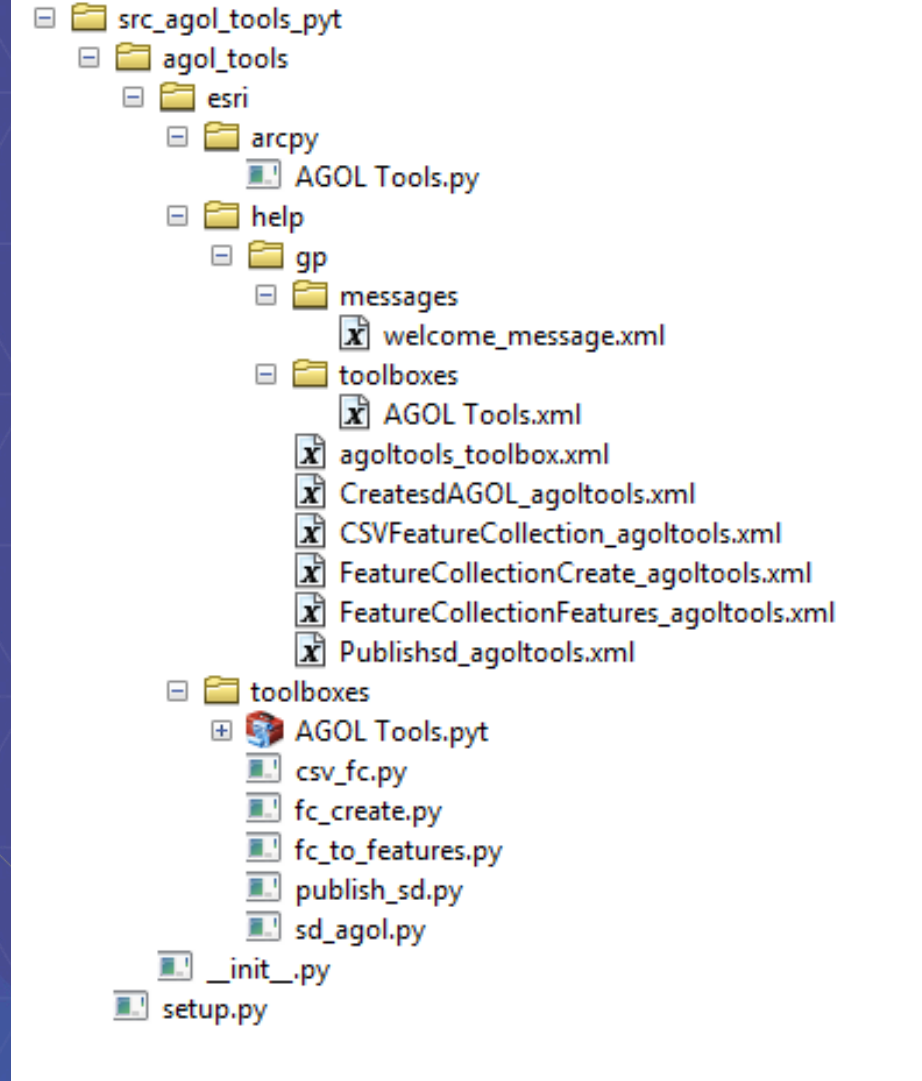
- `arcpy.gp.createtoolboxsupportfiles(<path to .tbx or .pyt>)`
- Alias must be set on .tbx or .pyt
- **gp help in language specific directories**
  - `help/gp`
    - Toolbox and tool metadata
    - Side-panel help and Item Description
  - `help/gp/toolboxes`
    - Override localizable labels
  - `help/gp/messages`
    - .xml of localizable strings
- **Create messages directory**
  - Create custom messages
  - Localize error messages



# Default Distribution

- **setup.py**

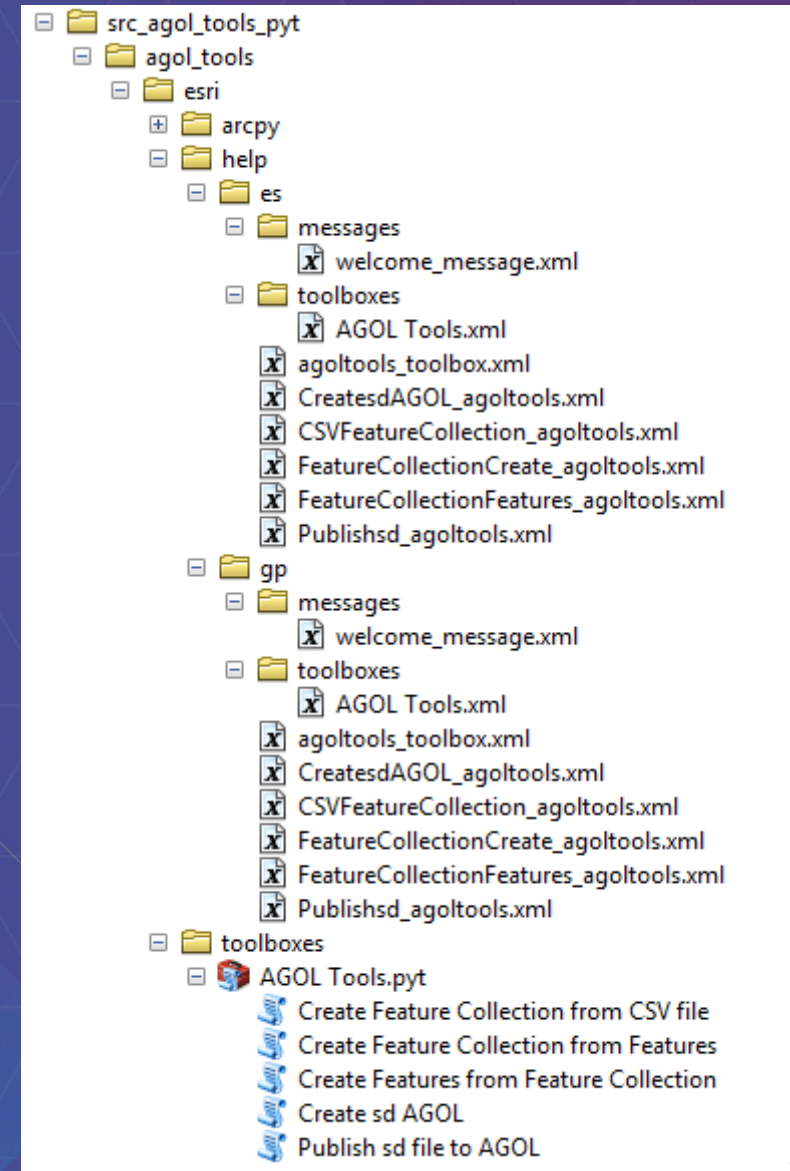
```
setup(name="agol_tools",  
      version="1.0",  
      packages=["agol_tools"],  
      package_dir={"agol_tools":"agol_tools"},  
      package_data={"agol_tools":["esri/toolboxes/*.*",  
                                  "esri/arcpy/*.*", "esri/help/gp/messages/*.*",  
                                  "esri/help/gp/toolboxes/*.*"]}  
      )
```

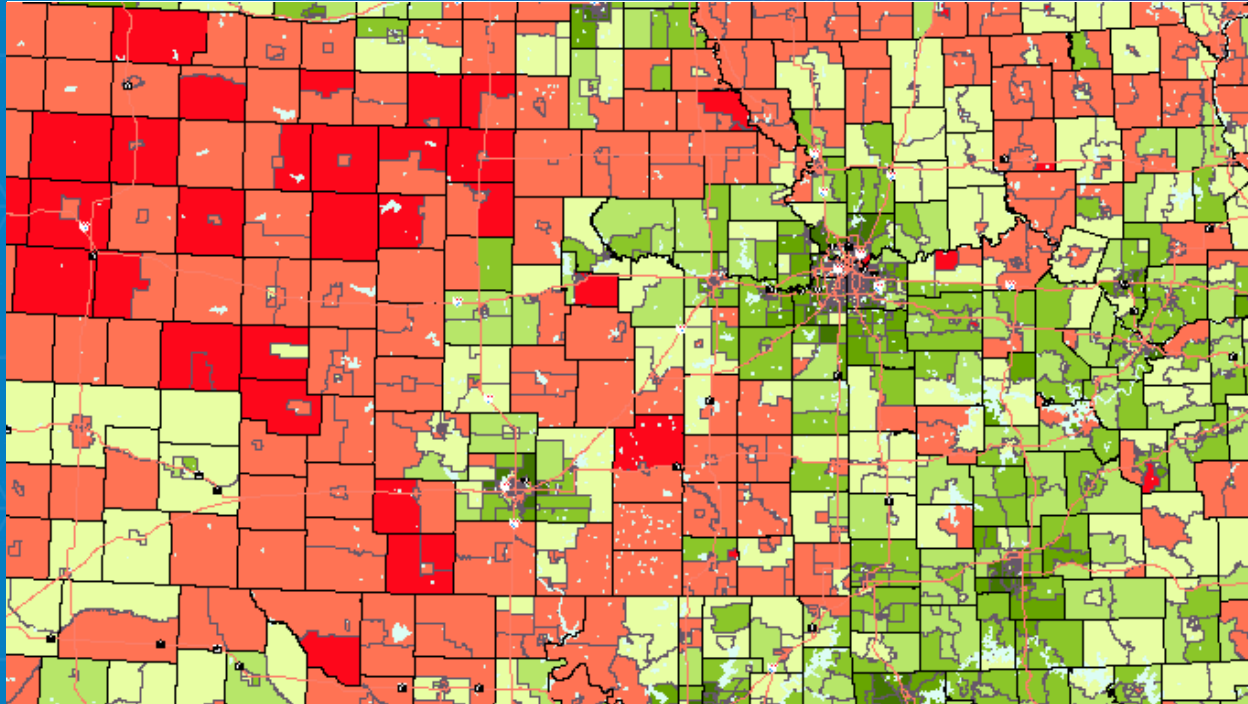


# Multiple Localization Distribution

- setup.py

```
setup(name="agol_tools",  
      version="1.0",  
      packages=["agol_tools"],  
      package_dir={"agol_tools": "agol_tools"},  
      package_data={"agol_tools": ["esri/toolboxes/*.xml",  
                                    "esri/arcpy/*.xml", "esri/help/gp/messages/*.xml",  
                                    "esri/help/gp/toolboxes/*.xml",  
                                    "esri/help/es/gp/*.xml",  
                                    "esri/help/es/gp/messages/*.xml",  
                                    "esri/help/es/gp/toolboxes/*.xml"]},  
      )
```





# Demo: Deploying GP Tools as Python Modules

Jon Bodamer

# Links

Extending geoprocessing through Python modules

<http://esriurl.com/ExtendingGP>

Internationalization of Python modules

<http://esriurl.com/ExtendingGP2>

Distributing Python Modules

<http://docs.python.org/2/distutils/>

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