Python 3.11.3 [main, GCC 13.1.1 20230429]
Linux-6.4.3-arch1-2-x86_64-with-glibc2.37

depal (version 0.0.1)

depal.py: Digital Earth Pacific (Abstration Library)

Modules

geopandas	numpy	pystac_client	
itertools	planetary_computer	rasterio	
matplotlib	pandas	rioxarray	
xrspatial.multispectral	matplotlib.pyplot	stackstac	xarray

Functions

cleanup()
```
# Cleanup Dask Resources
```

coastal_clip(aoi, data, buffer=100)
```
# Clip Coastal Buffer by Metres
```

colour_maps()
```
# List Colour Maps
```

get_area_from_geojson(geojson_file)
```
# AOI from GeoJson File (use geojson.io)
```

get_cloudless_mosaic(aoi, collection_name='sentinel-2-l2a', timeframe='2019-11-01/2022-11-31', cloudcover=10, resolution=100, max=100, period='yearly')
```
# median composite - Cloudless Mosaic achieved y combining images across time
```

get_country_admin_boundary(country, admin_type, admin)
```
# AOI from Country Administrative Boundary
```

get_country_boundary(country)
```
# AOI from a Country Nation Boundary
```

get_data(aoi, bands=[], collection_name='sentinel-2-l2a', timeframe='2023-01-01/2023-12-31', cloudcover=10, resolution=100, max=30, period='monthly')
```
# Xarray Dataset from STAC
```

get_evi(aoi, collection_name='sentinel-2-l2a', timeframe='2019-11-01/2022-11-31', cloudcover=10, resolution=100, max=100, period='monthly')
```
# evi - Enhanced Vegetation
```

get_gci(aoi, collection_name='sentinel-2-l2a', timeframe='2019-11-01/2022-11-31', cloudcover=10, resolution=100, max=100, period='monthly')
```
# gci - Green Chlorophyll Index
```

get_global_land_cover(aoi, name='io-lulc-9-class')
```
# Get Global LandCover over AOI
```

get_latest_images(aoi, collection_name='sentinel-2-l2a', timeframe='2023-01-01/2023-12-31', cloudcover=10, resolution=100, max=30, period='daily')
```
# Latest RGB Images
```

get_ndmi(aoi, collection_name='sentinel-2-l2a', timeframe='2019-11-01/2022-11-31', cloudcover=10, resolution=100, max=100, period='monthly')
```
# ndmi - Normalised Difference Moisture Index
```

get_ndvi(aoi, collection_name='sentinel-2-l2a', timeframe='2019-11-01/2022-11-31', cloudcover=10, resolution=100, max=100, period='monthly')
```
# ndvi - Normalised Difference Vegetation Index
```

get_ndwi(aoi, collection_name='sentinel-2-l2a', timeframe='2019-11-01/2022-11-31', cloudcover=10, resolution=100, max=100, period='monthly')
```
# ndmi - Normalised Difference Water Index
```

get_sipi(aoi, collection_name='sentinel-2-l2a', timeframe='2019-11-01/2022-11-31', cloudcover=10, resolution=100, max=100, period='monthly')
```
    # sipi - Structure Insensitive Pigment Index: which is helpful in early disease detection in vegetation.
```

init(type='remote', maxWorkers=12, resolution=100)
```
    # Initialise and Configure Dask and Resolution Defaults
```

list_boundary_types(country)
```
    # List Administrative Boundaries In a Country
```

list_countries()
```
    # List Pacific Island Countries and Territories
```

list_country_boundary(country, admin_type)
```
    # List Areas/Locations of a Administration Type Within A Country
```

list_data_assets(collection_name)
```
    # List Data Assets (non-spectral) and Common Names within a Data Source, Pipeline or Sensor
```

list_data_bands(collection_name='sentinel-2-l2a')
```
    # List Data Bands and Common Names within a Data Source, Pipeline or Sensor
```

list_data_sources()
```
    # List Data Sources, Pipelines and Models
```

list_global_land_cover()
```
    # List Global LandCover DataSets
```

save(data, file_name)
```
    # Save Data as GeoTIFF/COG Series
```

smooth(data)
```
    # Focal Mean Smooting
```

visualise(data, cmap=None)
```
    # Visual Data by Colour Maps
```

Data

__copyright__ = 'Pacific Community (SPC)'
__email__ = 'sachindras@spc.int'
__license__ = 'GPL'
__status__ = 'Development'
catalog = <Client id=microsoft-pc>
chunk_size = 4096
default_resolution = 100
padm = country ... ... -176.24805 -13.28860))) [698 rows x 12 columns]

Author

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