

# Python ERA-20c examples

- ERA-20c daily forecast sfc
- ERA-20c daily analysis pl
- ERA-20c daily analysis pv
- ERA-20c daily invariant
- ERA-20c ocean wave fc

Below you can find some simple Python scripts making use of the `ecmwfapi` library for era20c dataset:

## ERA-20c daily forecast sfc

```
#!/usr/bin/env python
from ecmwfapi import ECMWFDataServer

server = ECMWFDataServer()

server.retrieve({
    'dataset' : 'era20c',
    'stream'  : 'oper',
    'levtype' : 'sfc',
    'param'   : '165.128',
    'date'    : '20091201/TO/20101201',
    'type'    : 'fc',
    'time'    : '06',
    'step'    : '06',
    'area'    : "70/-130/30/-60",
    'grid'    : "2/2",
    'target'  : "data.grib"
})
```

## ERA-20c daily analysis pl

```
#!/usr/bin/env python
from ecmwfapi import ECMWFDataServer

server = ECMWFDataServer()

server.retrieve({
    'dataset' : 'era20c',
    'stream'  : 'oper',
    'levtype' : 'pl',
    'levelist' : '975/1000',
    'param'   : '131.128/132.128',
    'date'    : '19000101/to/19000210',
    'type'    : 'an',
    'time'    : '06',
    'target'  : 'era20c_daily_an_pl.grib'
})
```

## ERA-20c daily analysis pv

```
#!/usr/bin/env python
from ecmwfapi import ECMWFDataServer

server = ECMWFDataServer()

server.retrieve({
    'dataset' : 'era20c',
    'stream' : 'oper',
    'levtype' : 'pv',
    'levelist' : '2000',
    'param' : '129.128/131.128/132.128',
    'date' : '19200405/to/19200406',
    'type' : 'an',
    'time' : '06',
    'target' : 'era20c_daily_an_pv.grib'
})
```

## ERA-20c daily invariant

```
#!/usr/bin/env python
from ecmwfapi import ECMWFDataServer

server = ECMWFDataServer()

server.retrieve({
    'dataset' : 'era20c',
    'stream' : 'oper',
    'levtype' : 'sfc',
    'param' : '129.128/160.128/161.128/162.128/163.128/172.128/173.128/234.128/27.128/28.128/29.128/30.128/43.128/74.128',
    'date' : '19000101',
    'target' : 'era20c_daily_invariant.grib'
})
```

## ERA-20c ocean wave fc

```
#!/usr/bin/env python
from ecmwfapi import ECMWFDataServer

server = ECMWFDataServer()

server.retrieve({
    'dataset' : 'era20c',
    'stream'  : 'wave',
    'param'   : '244.140/249.140',
    'date'    : '1954-02-01/to/1954-04-30',
    'type'    : 'fc',
    'time'    : '06',
    'step'    : '03/09',
    'target'  : 'era20c_daily_wave_fc.grib'
})
```