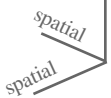
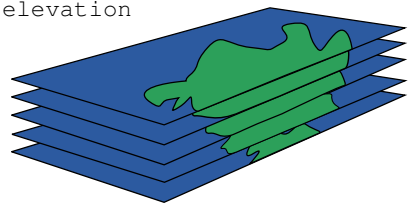
a) *Essential* data dimensions:



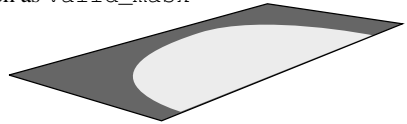
Named dimensions and coordinates:

b) Top level *essential* variables in the dataset, such as `elevation`



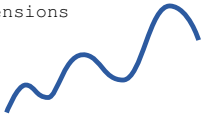
```
>>> elevation.dimensions
    (seconds, x, y)
>>> elevation.long_name
    channel_bottom__elevation
```

c) Lower level *auxiliary* variables in the dataset, such as `valid_mask`



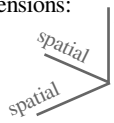
```
>>> valid_mask.dimensions
    (x, y)
```

and `sea_level`

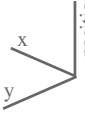


```
>>> sea_level.dimensions
    (seconds)
```

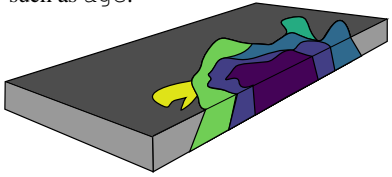
d) *Essential* data dimensions:



Named dimensions and coordinates:



e) Top level *essential* variables in the dataset, such as `age`:



```
>>> age.dimensions
    (position, x, y)
>>> age.units
    years
```

f) Lower level *auxiliary* variables in the dataset, such as `wireline_log_23`

```
>>> wireline_log_23.dimensions
    (position)
>>> wireline_log_23.xy_location
    [112233, 9988777]
```

g) Dataset metadata, such as

```
>>> .source
    ABC Sedimentology Lab Expt 55z
```