

Mapping with python



Why do we need to plot maps?

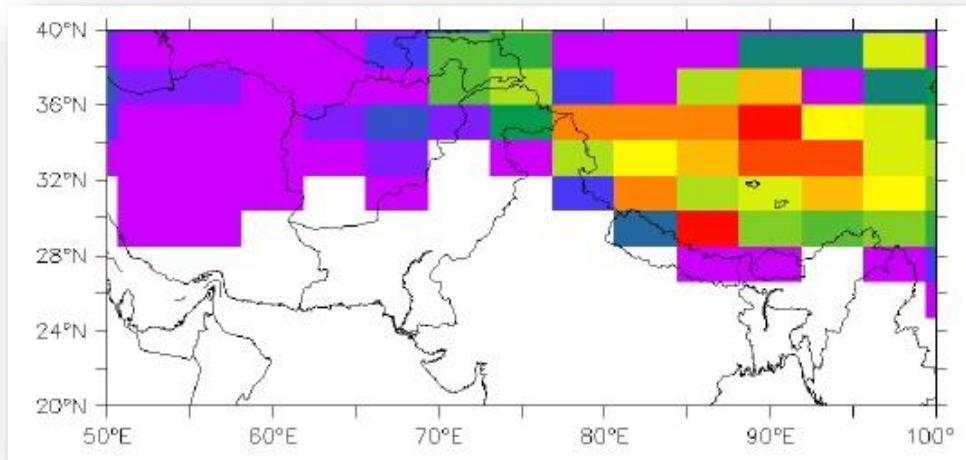
Climate scientist style

Geographer style



One data source
Highly automatized

Multiple data sources
Manual



Ménégoz et al. 2014



Pieczonka et al. 2013

(Open access) options available

Climate scientist style

Geographer style



matplotlib



My own criteria

Climate scientist style

Geographer style



- Decent projection handling (on-the-fly reprojection)
- Manual and automatization both possible
- Reproducible
- Python compatible

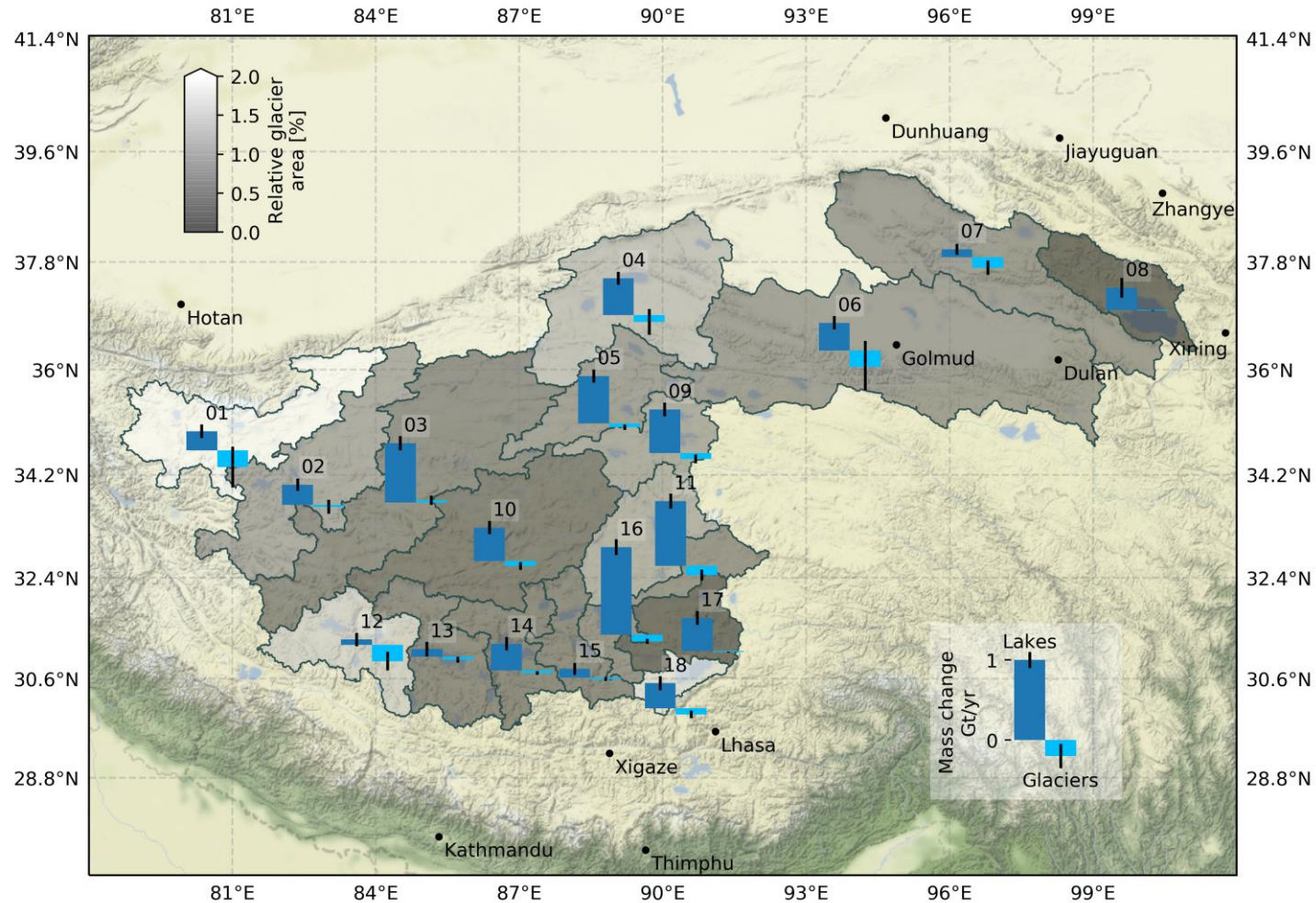
Why cartopy?

- Honest answer: because it is a python package (and basemap is depreciated)
- It manages raster vector data well (with gdal and osr packages)
- While using it, I found many cool features 😊
- Main drawbacks: not fully compatible with pyproj, slow if you work with a shapefile with many features

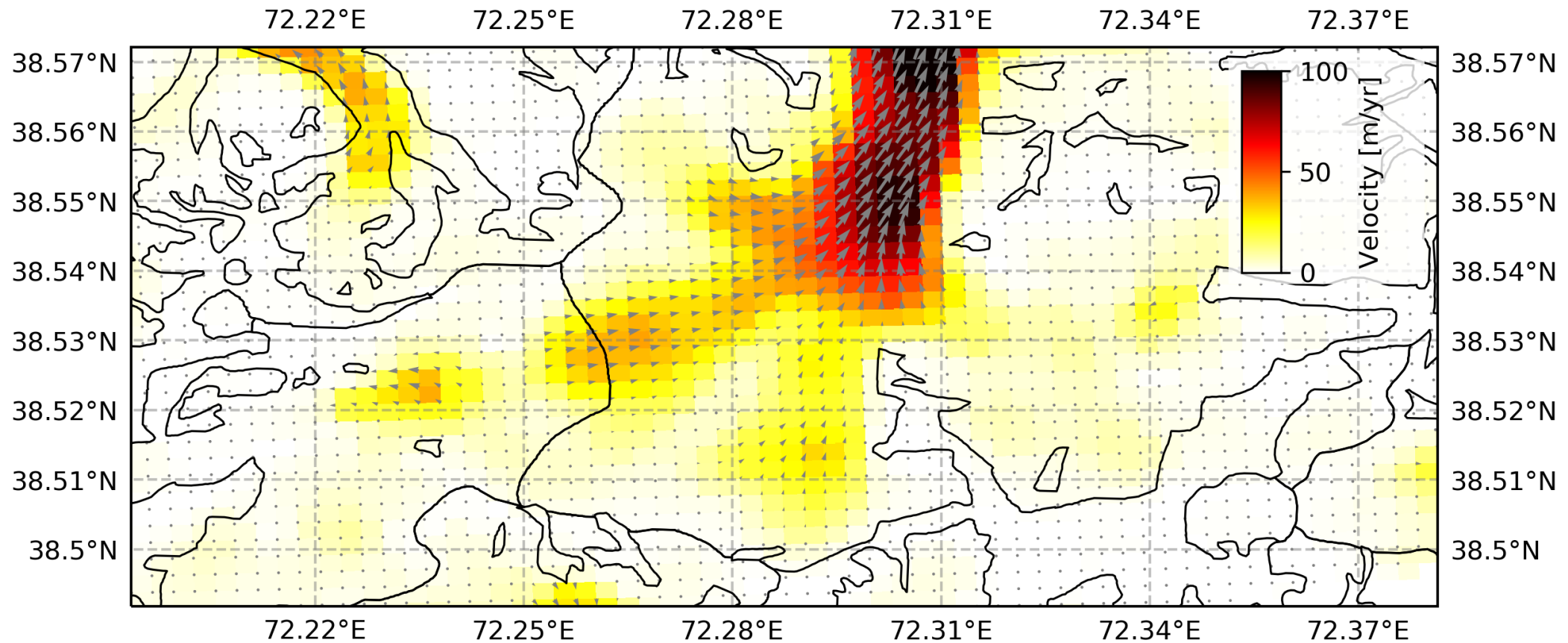
Usage

- Two main uses:
 - Quickviews that are not too ugly with cool functionalities from python
 - Publication figures

Some examples – publication type figures



Some examples – quickviews



Useful links

- Cartopy website:

<https://scitools.org.uk/cartopy/docs/latest/>

- Stef Lhermite's notebook:

https://github.com/steflhermitte/EO-Notebooks/blob/master/RS_Notebook1_Mapping-in-python.ipynb