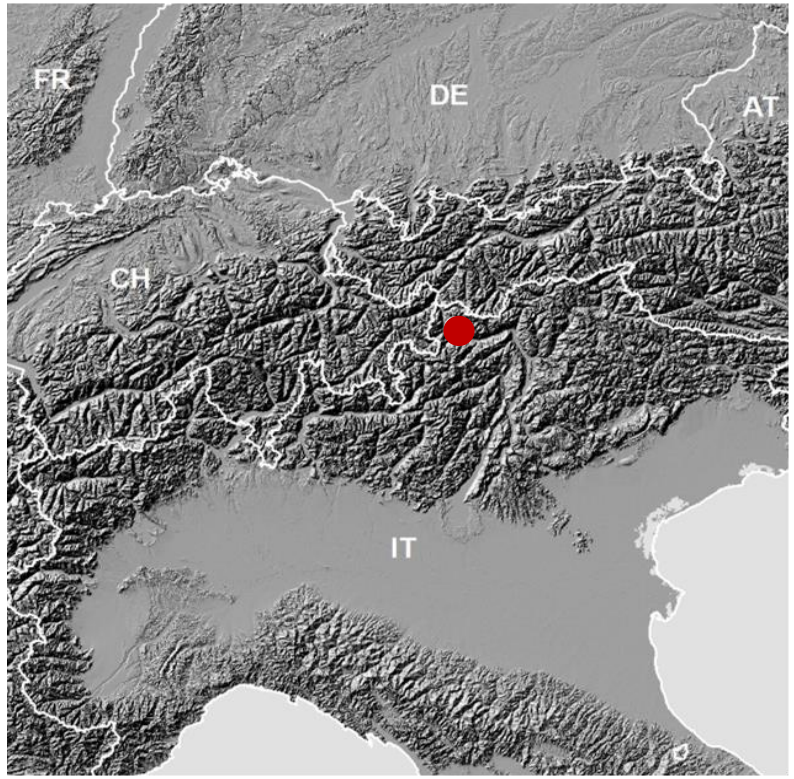
Towards a fully monitored open air laboratory:

10 years of spatially distributed microclimatic measurements in the LTSER Site Matsch | Mazia (ITA)

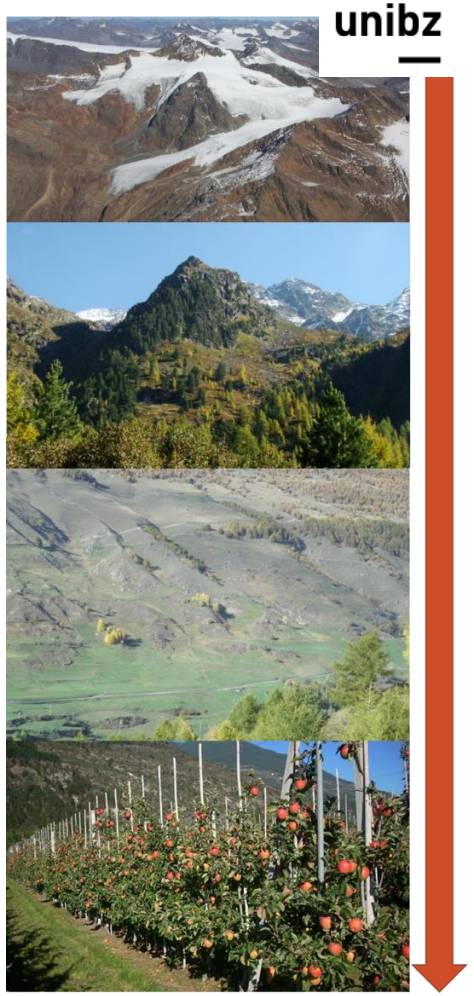
G.Niedrist , U. Tappeiner, V. Fontana, R. Bottarin, F. Comiti; G. Bertoldi, S. Della Chiesa, M. Engel, E. Guariento, B. Ilyashuk, J. Klotz, K. Koinig, N. Obojes, A. Scotti, J. Seeber, M. Steinwandter, E. Tasser, A. Zandonai, M. Palma, L. Cattani

THE LTSER RESEARCH SITE MATSCH/MAZIA (ITALIAN ALPS)

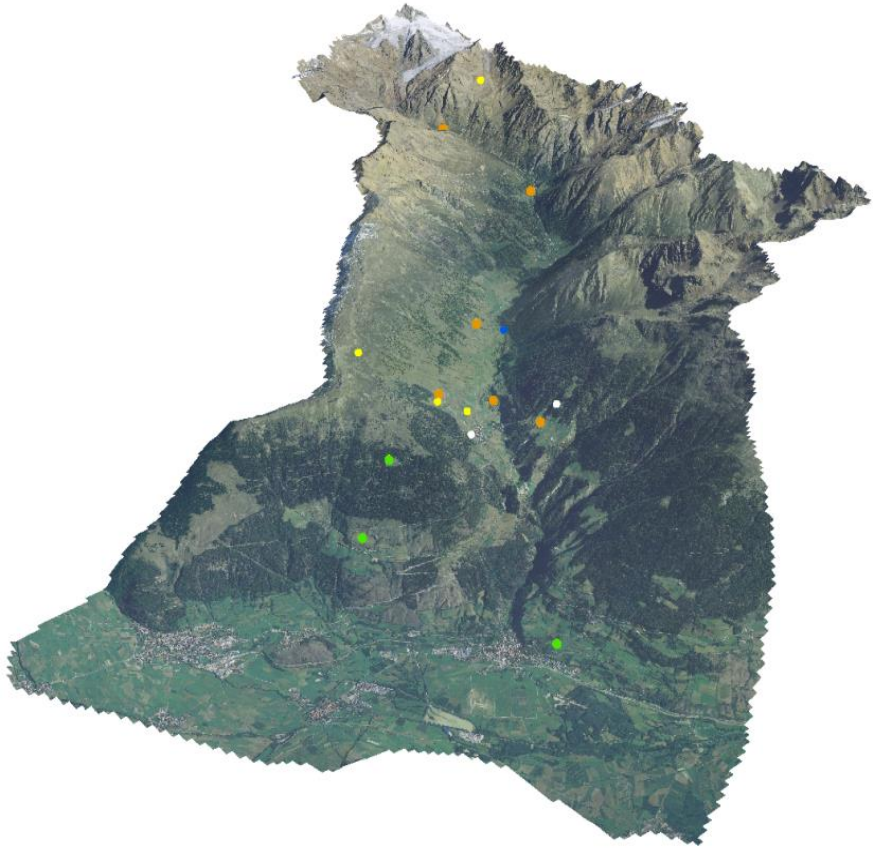


Main research topics

- Effects of climate- and landuse change
- Observe the effects through the scales and altitudinal gradients
- Human-environment interactions



THE LTSER RESEARCH SITE MATSCH/MAZIA (ITALIAN ALPS)

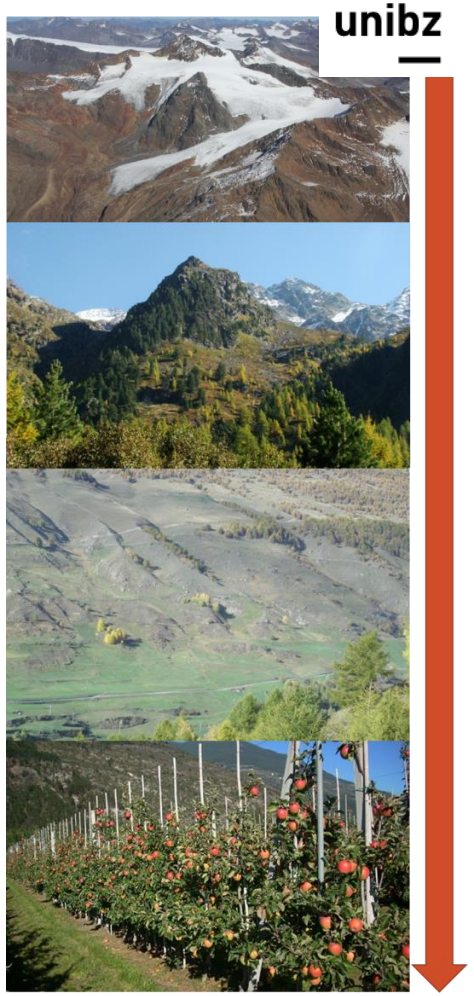


From isolated plot measurements

to

an environmental platform for interdisciplinary mountain research

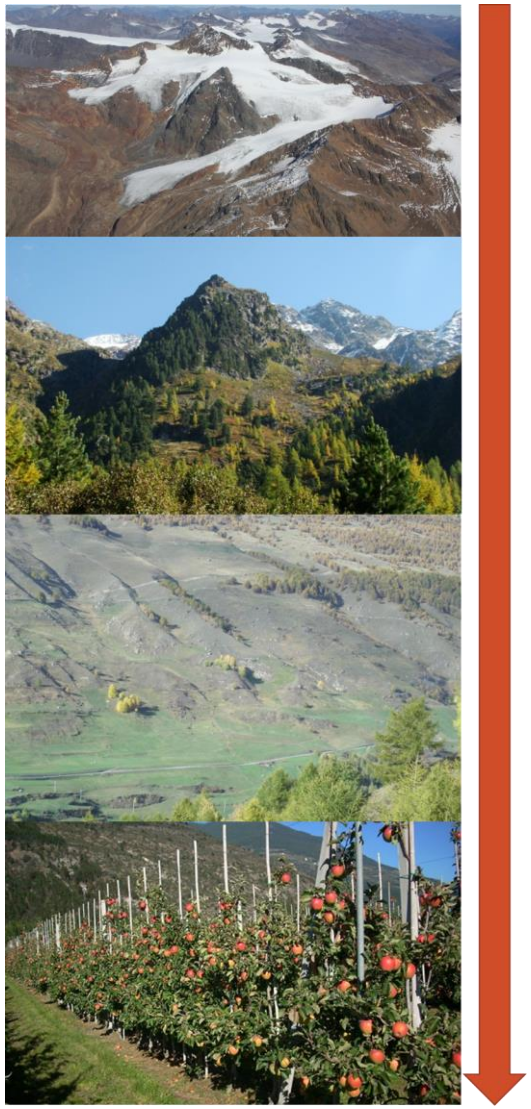
„Open air laboratory Matscher Tal“



Microclimatic station network as Backbone

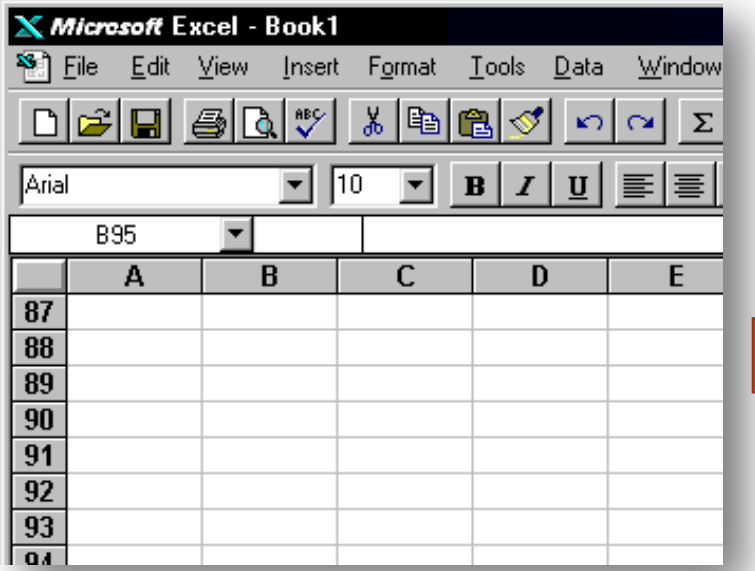
- Standard (micro-)climate
- (heated) totalisators
- Snow height
- Soil water content/potential
- Soil temperature
- Short/longw. net radiation
- Direct/diffuse radiation
- Phenocam
- NDVI/PRI
- Leaf area index
- Remote access+automated data transfer

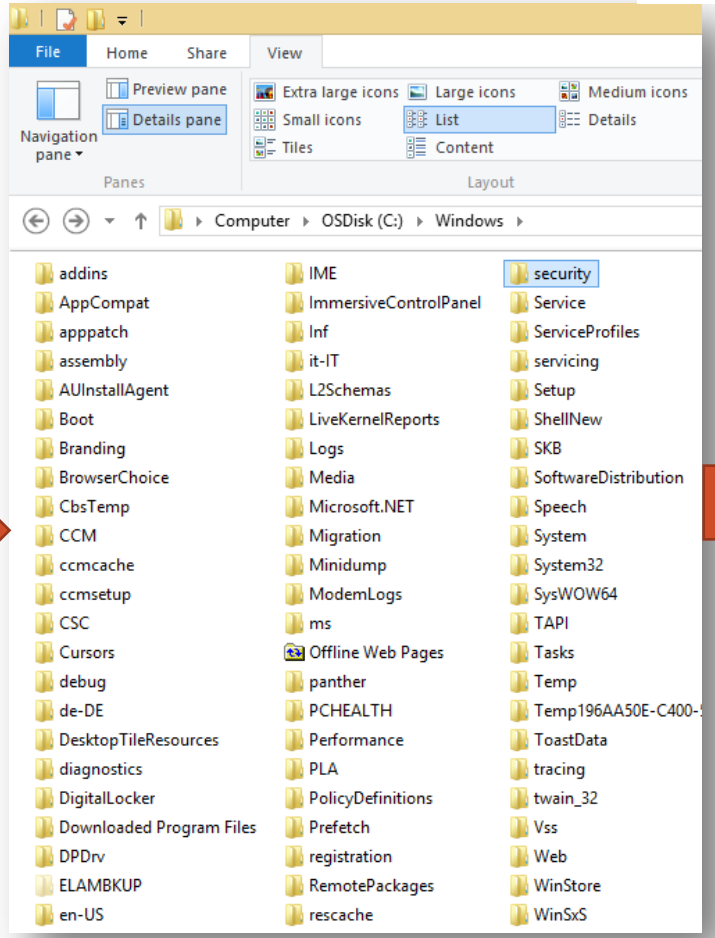
All in all: 20 Stations,
Ca 3000 parameters
every 15 min



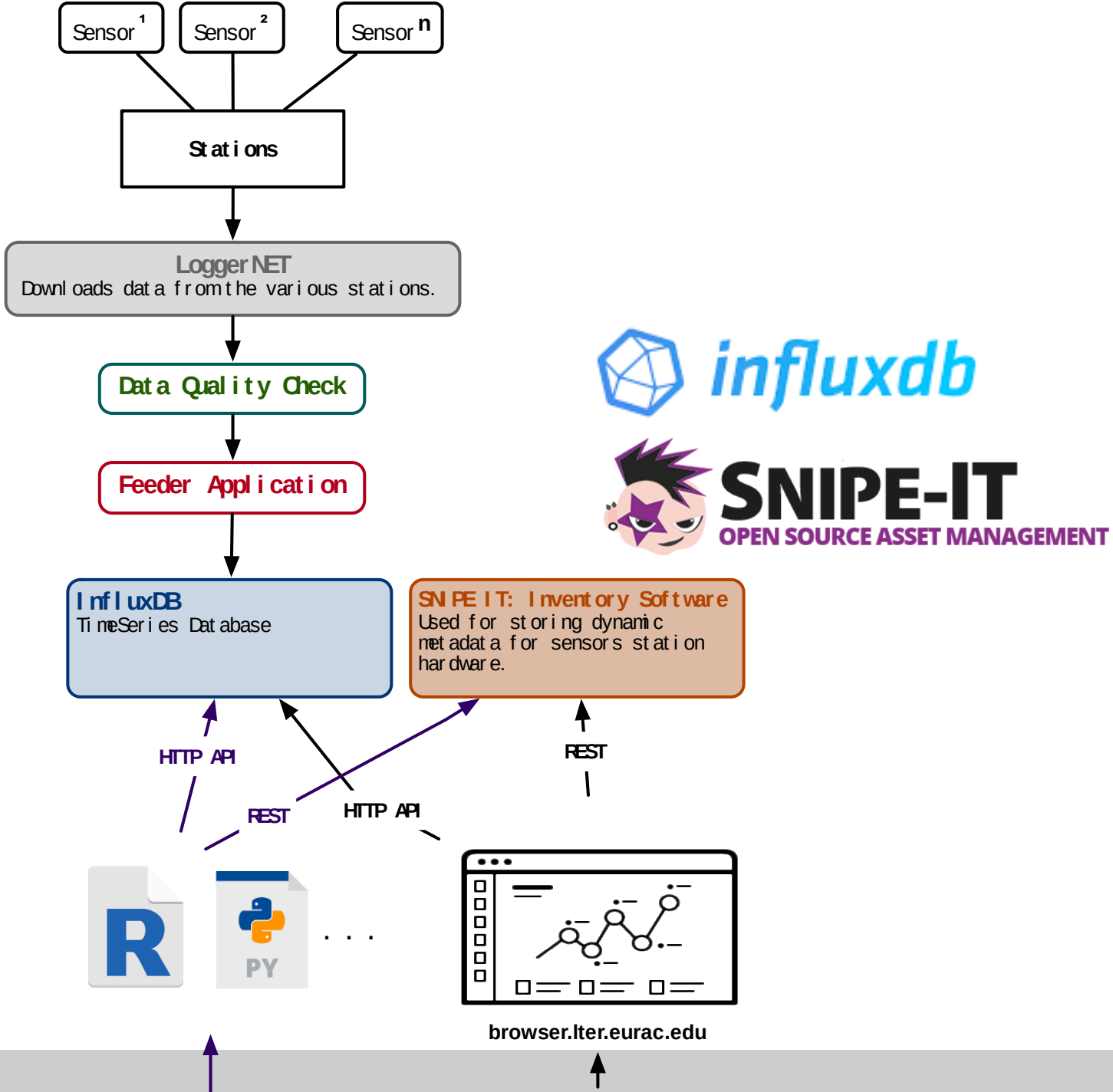
Data flow

INTEGRATED EUROPEAN LONG-TERM ECOSYSTEM & SOCIO-ECOLOGICAL RESEARCH INFRASTRUCTURE





Data flow


Sensor 1
Sensor 2
Sensor n
Stations
LoggerNET
Downloads data from the various stations.
Data Quality Check
Feeder Application
influxdb
SNIPE-IT
OPEN SOURCE ASSET MANAGEMENT
InfluxDB
TimeSeries Database
SNIPE IT: Inventory Software
Used for storing dynamic metadata for sensors station hardware.
HTTP API
REST
REST
HTTP API
R
PY
. . .
browser.lter.eurac.edu

https://browser.lter.eurac.edu/

wine summit

Filter and **download** meteorologial data of the long-term socio-ecological research site Matschertal / Val di Mazia. Download data by selecting at least one station and one measurement.

Select measurement: None selected

Select station: None selected

Select land use: None selected

Pick a date range: 2019-03-09 to 2019-09-09

Select altitude range[m]: 900 – 3 000 (900, 1 425, 1 950, 2 475, 3 000)

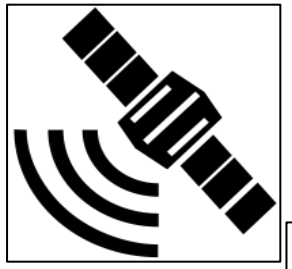
Download CSV

Disclaimer: Meteorological data downloaded from this app comes with no warranty and has not been validated by the data provider.

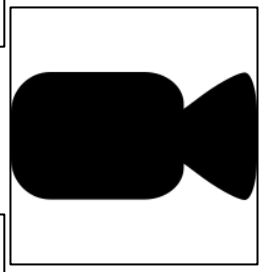
https://browser.lter.eurac.edu/

upcoming challenges:

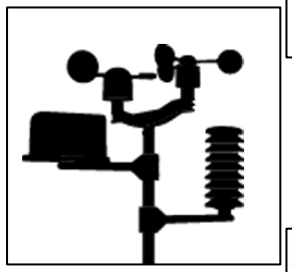
…on multiple Spatial Scales



Optical Satellite Data



PhenoCam



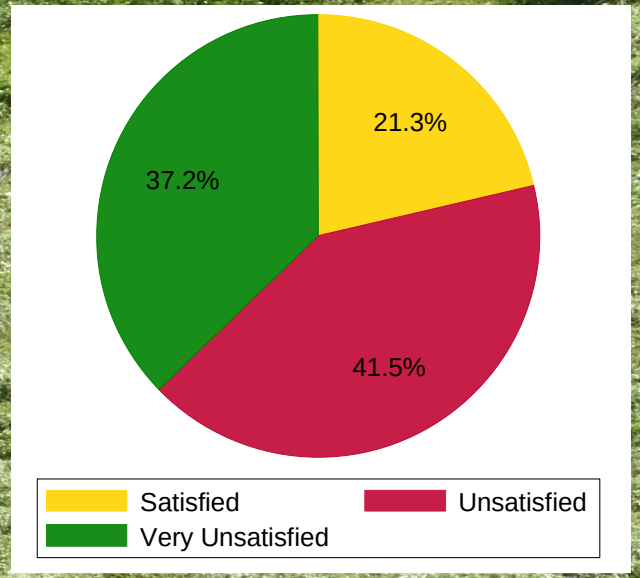
Station based Data

Field Campaign

Satisfaction about subsidies

In the past subsidies arrived punctual, nowadays they take long in coming. But if you just do it for the money then you can stop it anyway, to be a farmer. The farmers who are not farmers from the heart, so those which don't care for the nature and the homestead, should get less money"

Elmar



"The farmers are landscape gardeners, but for this activity they don't receive any support. In the range of politics, it needs a change. In my opinion the entire valley should be bio"

Rudolf

http://lter.eurac.edu
Thank you very *MATSCH*…

- Skipping data storage and security, experiences with sharing data
- Who has been sharing data in 2019 for external users?
- Automatically/ on request: Examples for automatic sharing
- Für wen? % Scientific, stakeholders, public
- Which kind of data
- Experience with ethics
- Data Policy?