

INTERACT III Station Managers' Forum

The Sonnblick Observatory

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ZAMG
Zentralanstalt für
Meteorologie und
Geodynamik

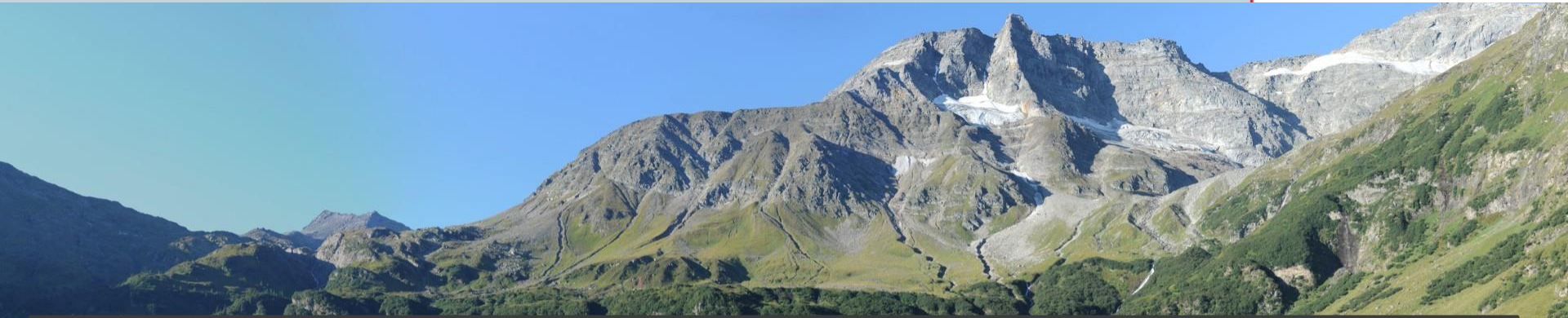
Brief Introduction to the Sonnblick Observatory (SBO)

➤ Location



Brief Introduction to the Sonnblick Observatory (SBO)

Location



SBO@SV-Archive, engraving by Heilmann



SBO@SV-Archive



SBO@SV-Archive



SBO@ZAMG-SBO.L.Rasser



Sonnblick Observatory (SBO)

1886-09-02

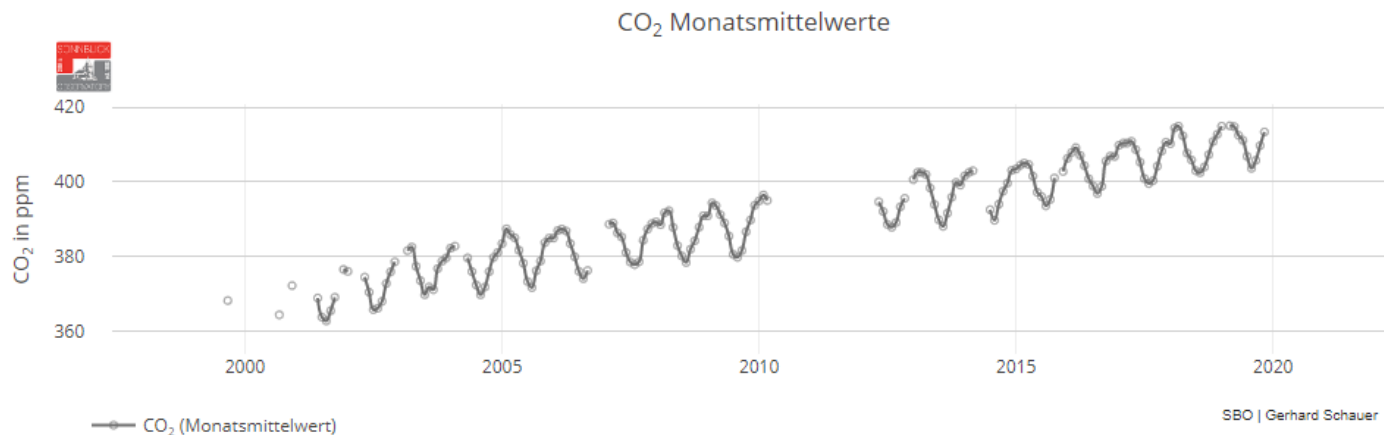
2020

Brief Introduction to the Sonnblick Observatory (SBO)

➤ Profile

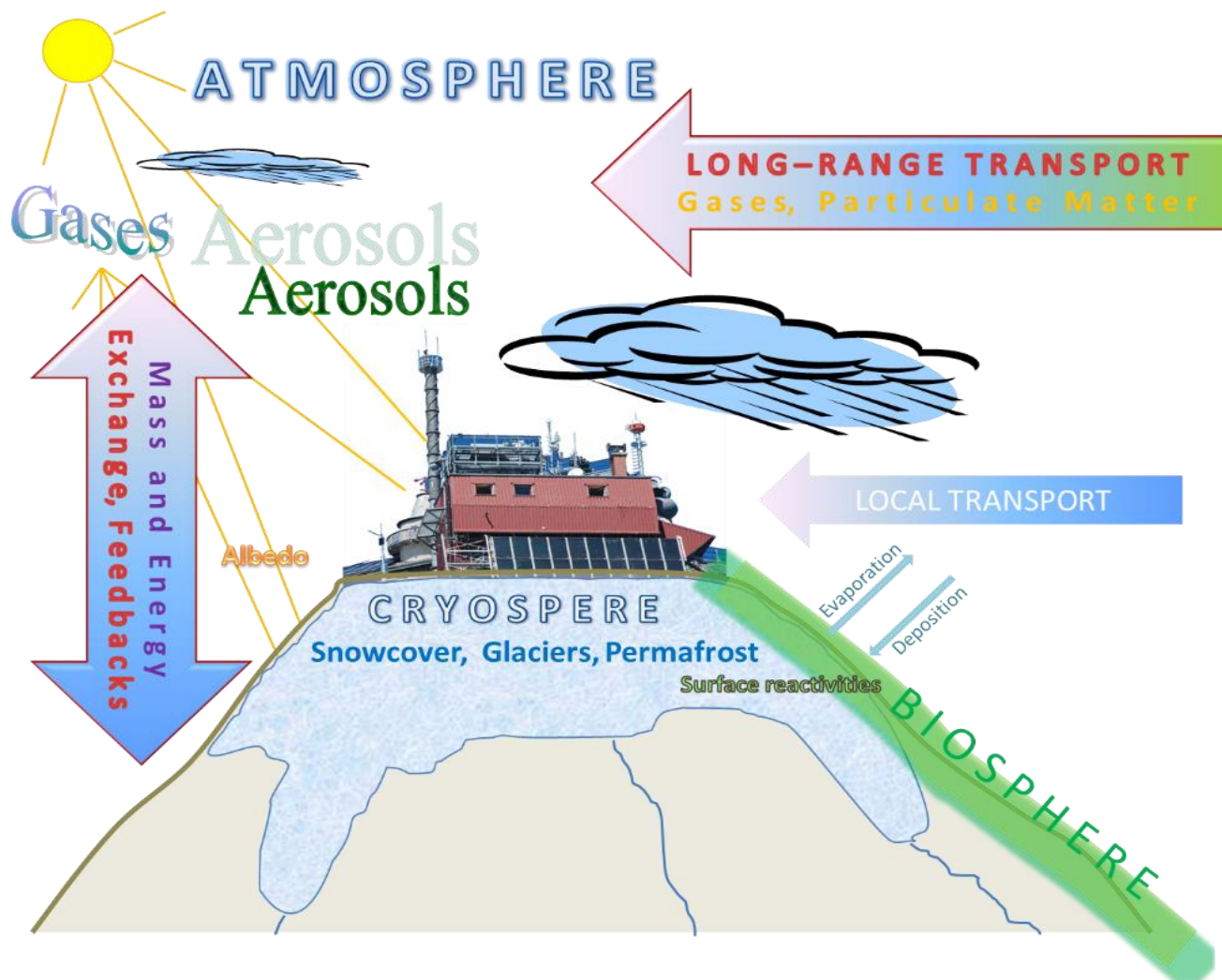
High-altitude observatory and research platform

- 3106 m über NN
- alpine ridge, exposed and detached
- limited tourism
- nearly emission-free
- 134 years of monitoring
- -6.5°C (1888-1918) $\rightarrow$ -4.7°C (1988-2018)
- 1986 mm (1981-2010)



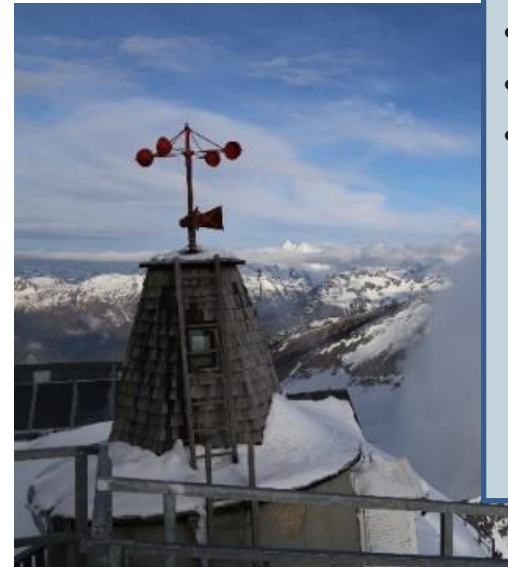
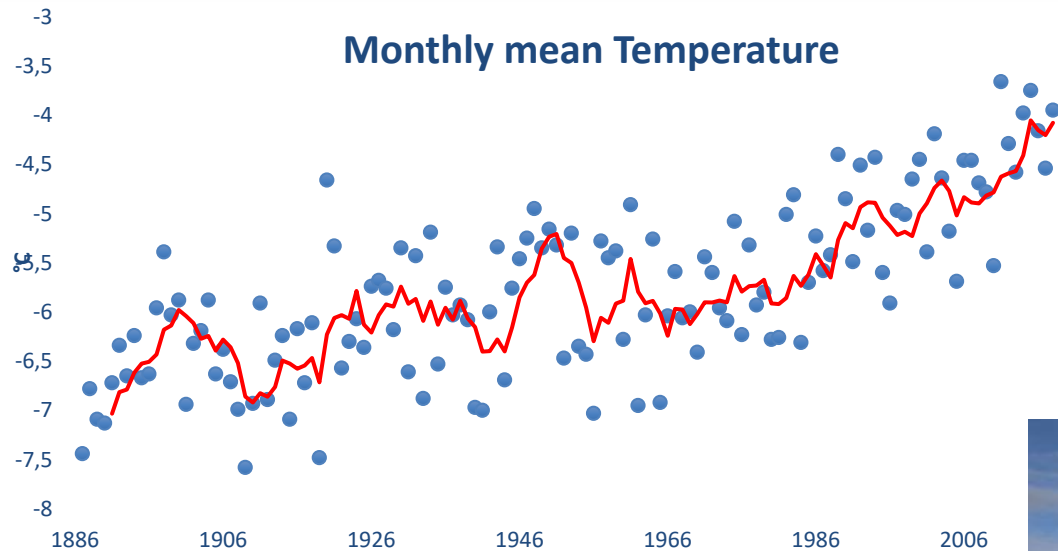
Brief Introduction to the Sonnblick Observatory (SBO)

➤ Research and Monitoring Program



The role of the Sonnblick Observatory in relation to:

➤ Meteorology



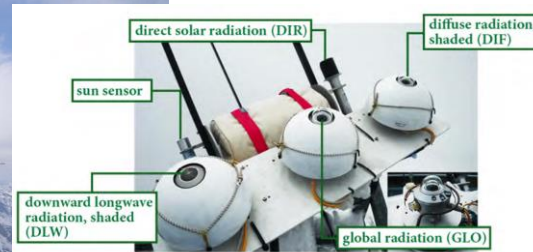
- 1886 -ongoing

Parameter:

- Metrological parameters
- Climate data
- METAR
- SYNOP

The role of the Sonnblick Observatory in relation to:

➤ Radiation



- 1886 -ongoing

Parameter:

- Sunshine duration
- Stratospheric ozone (1994)
- Spectral UV (1997)
- Radiation (2011)



The role of the Sonnblick Observatory in relation to:

➤ Aerosol & Trace Gases

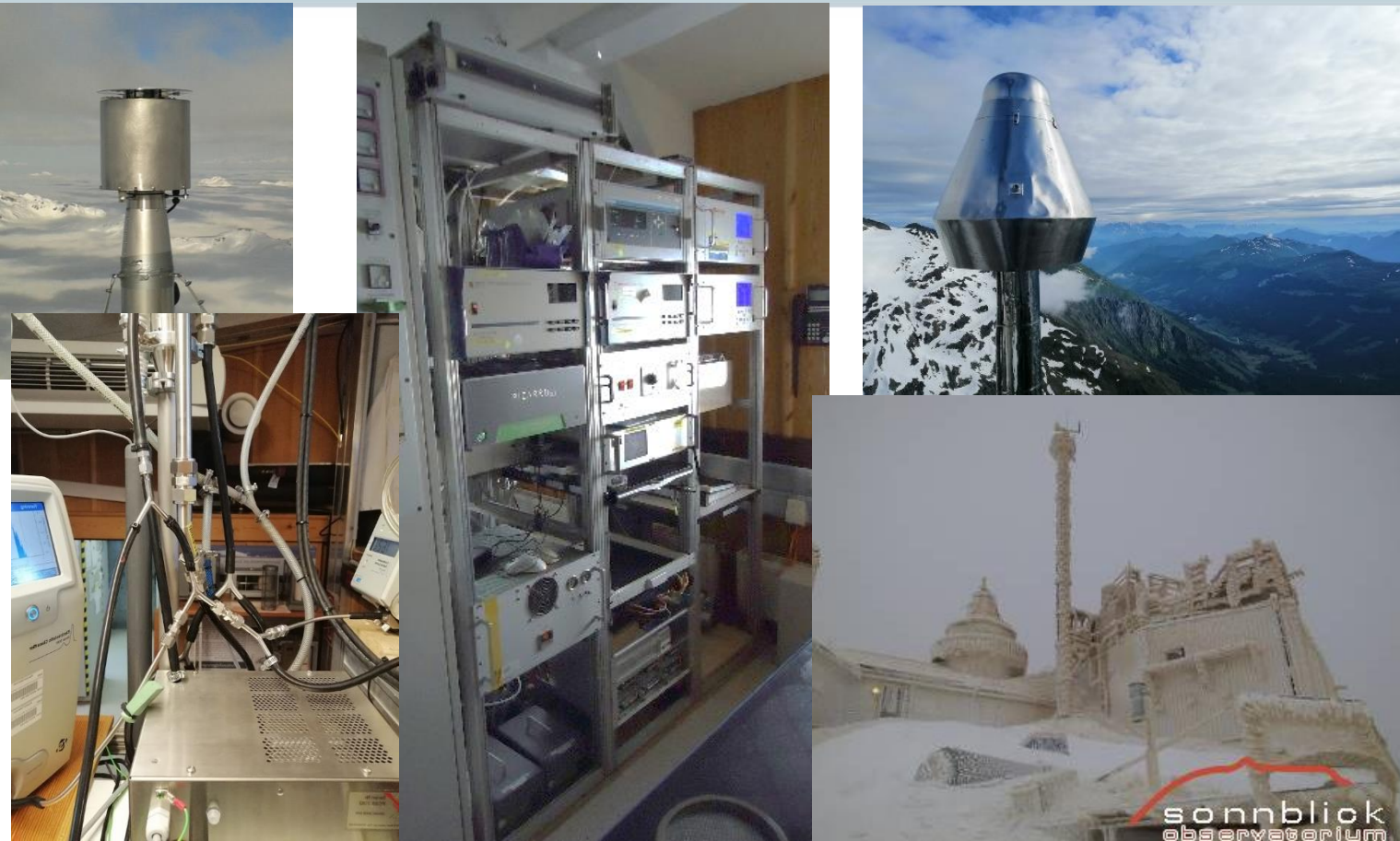
Parameter:

- Trace gases:

CO₂, CH₄, CO, O₃,
Nox, SO₂

- Aerosol:

particulate mass
concentration,
particle number
concentration and
distribution
light absorption
and scattering
coefficient,



The role of the Sonnblick Observatory in relation to:

➤ Cryosphere

- 1896-ongoing

Parameter:

- Mass change, glacier mass balance, length of glacier, outflow rate, snow coverage, snow depth
- Permafrost: ground temperatures
- Seismology: rock fall

2014



2015



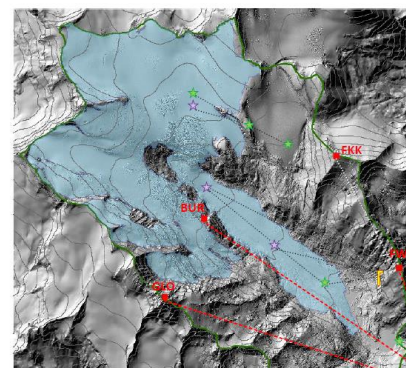
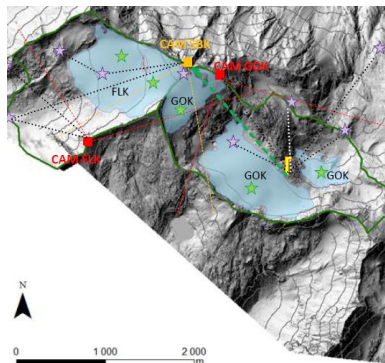
2016



2017



2018



Sonnblick Observatorium (SBO): Operation 24/7

Field
measurements

Measuring decks

Office and
Life

Top station and
technique

Thank's for your attention!

