

Schweizerische Eidgenossenschaft
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Swiss Agency for Development and Cooperation SDC

MAAYODAI

UNIVERSITÉ DE GENÈVE

University of Zurich

Repetition (level 1): Mass Balance

Andreas Linsbauer

IHCAP – Indian Himalayas Climate Change Adaptation Programme
Capacity building programme "Cryosphere" Level-2 (Jan 5 – Feb 13, 2015)

Glacier volume assessment

GlabTop
max: 200 m
mean: 61 m

ice thickness distribution (m')

Rep: Mass balance

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Understanding the process chain

CLIMATE

MASS BALANCE

direct, immediate signal

indirect, delayed, filtered and enhanced signal

ICE FLOW, ICE THICKNESS, ICE TEMPERATURE

ADVANCE/RETREAT

Haeblerli, 2014

Rep: Mass balance

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Mass budget of a glacier

Balanced budget year

Accumulation (+)

Equilibrium Line

Ablation (-)

Glacier flow

Mass gain

Mass loss

M. Maisch

Rep: Mass balance

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Mass budget of a glacier

Negative budget year

Equilibrium Line

Mass gain

Mass loss

M. Maisch

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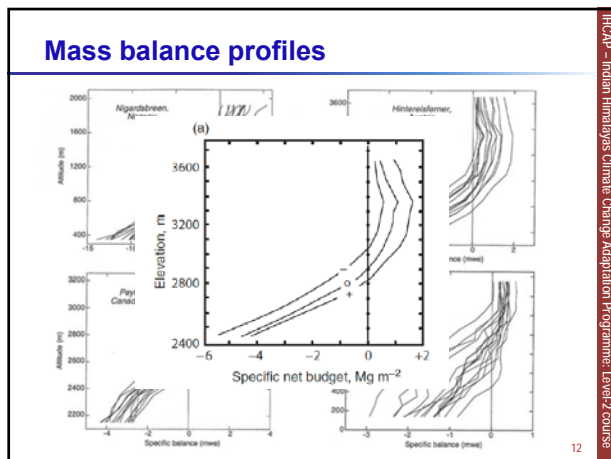
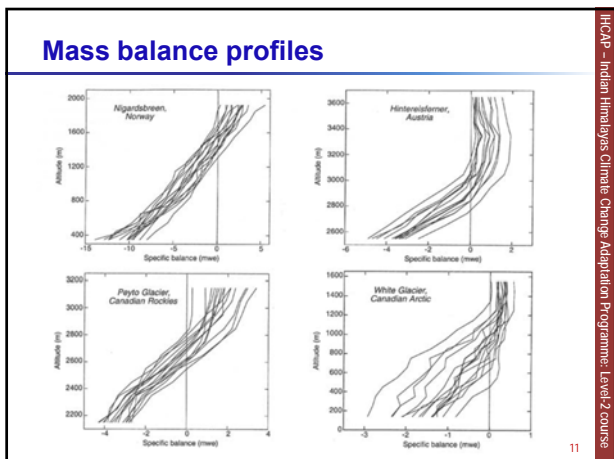
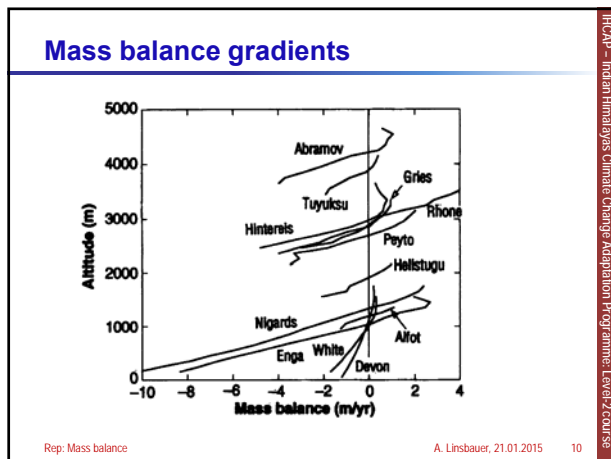
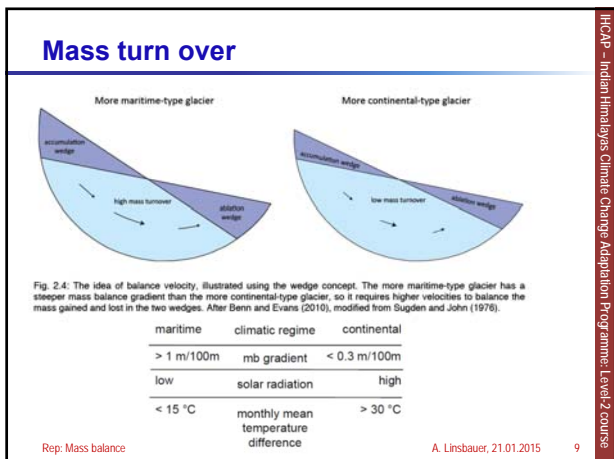
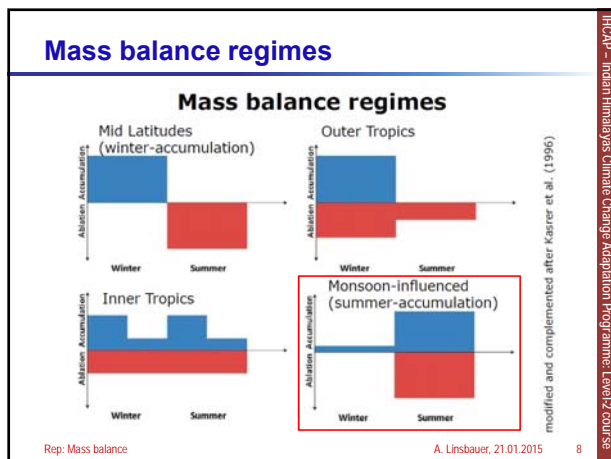
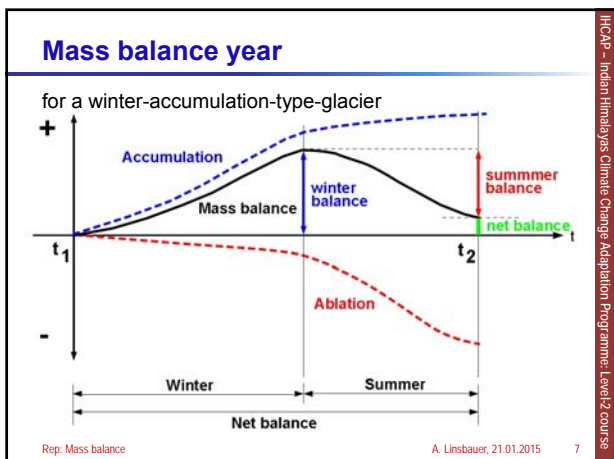
Negative mass budget

Foto: Rothenbühler 2003

Rep: Mass balance

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Measuring the mass balance

- Direct glaciological method
- Geodetic method
- Hydrological method
- Index method
- Linear mass balance model

Rep: Mass balance

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