



Water footprint: what, why and how?

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Elina Saarivuori

VTT Technical Research Centre of Finland



What is water footprint?

An underwater photograph showing a diver's legs and feet in a blue, slightly hazy environment. The diver is wearing dark fins and is standing on a rocky seabed. The text is overlaid on the center of the image.

Water footprint evaluates the impacts of water use
based on value chain approach

Why water footprint?

- Scarcity of global water sources has become a major global issue
- Regional problem
 - Majority of freshwater withdrawals take place in watersheds already experiencing high water scarcity
- Water is not only scarce in volume; it is also becoming less suitable for productive purposes
- Concern of the water resources and water quality have led to companies changing the way they address water
 - **Good water resources, low water use in the process and high water purification technologies bring benefits to the product manufacturers.**

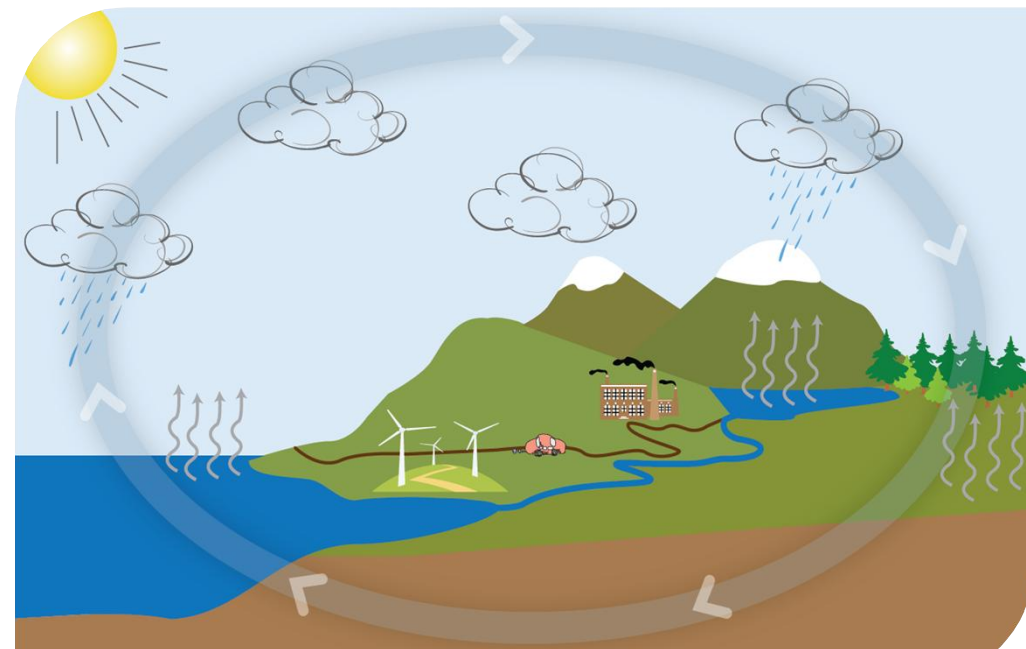


IN THE BIG PICTURE

**Hydrological cycle is a closed loop:
what goes up will come down**

Water use is not an issue
as such in the global
hydrological cycle.

Instead one should look at
the local impacts of water
use!



Different approaches to water footprinting

Value chain approach

- Water footprint Network WFN
- Life-cycle assessment

Organisational level

- WBCSD Global water tool
- GEMI Local water tool
- Etc.

Standardisation (on-going)

- ISO 14046 Water Footprint
- Alliance for Water Stewardship AWS
- European Water Stewardship Standard EWP

Value chain approaches

Water Footprint Network

- Widely used
- Well suited for calculating water footprints at e.g. national level, but problematic at product level calculations
- Terms green, blue and gray water

Measures volume

Life cycle assessment

- Impacts from pollutant emissions are characterised
- Impacts from water unavailability are not yet fully quantified
- Method development is active to account for quantity, quality and scarcity

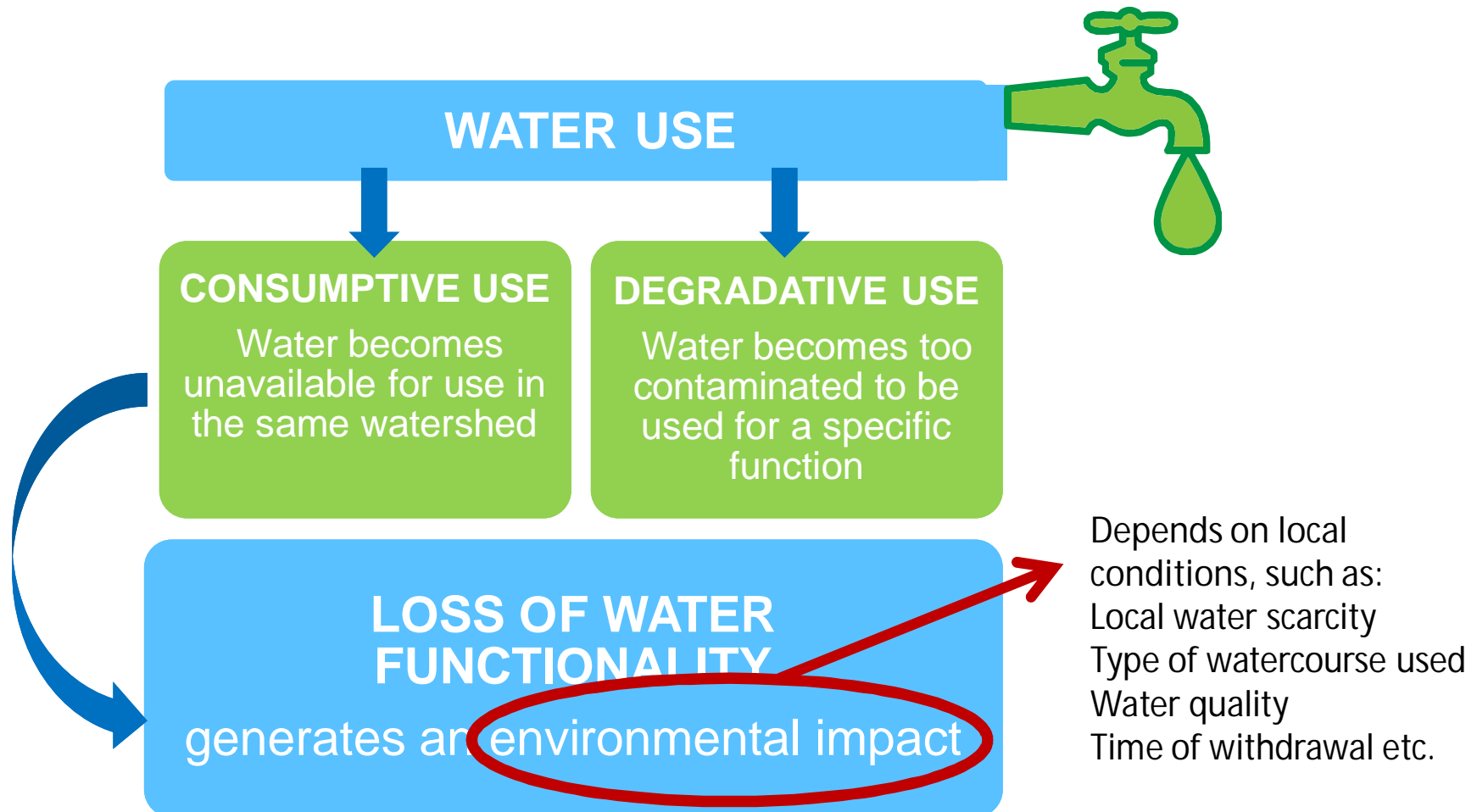
Measures impact

ISO 14046 (draft)

- On-going, standard expected in 2014
- Based on life cycle assessment
- Include quantity of water use and changes in quality
- Regionalised
- Include all impacts related to water

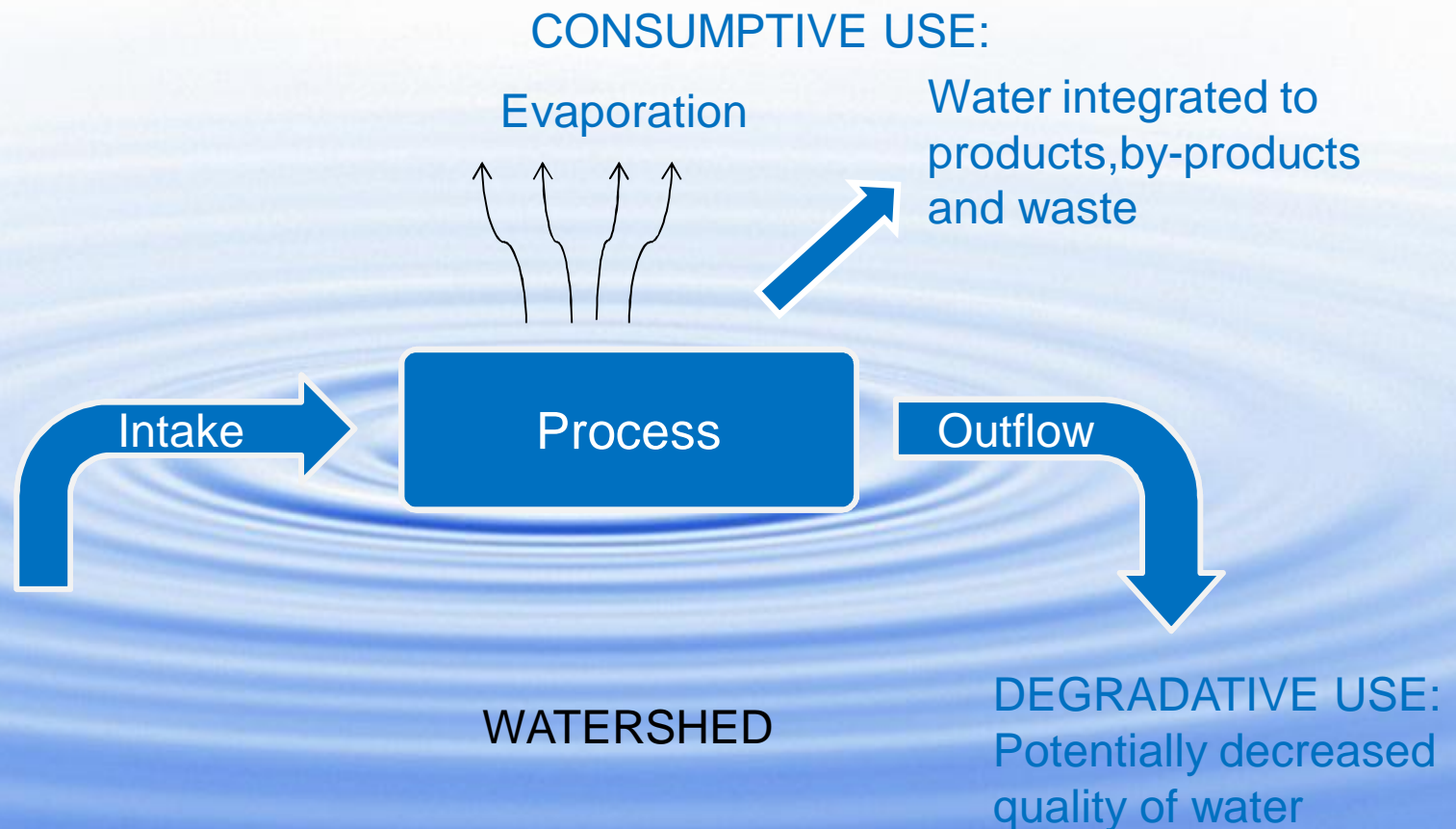
Measures impact

Water impact

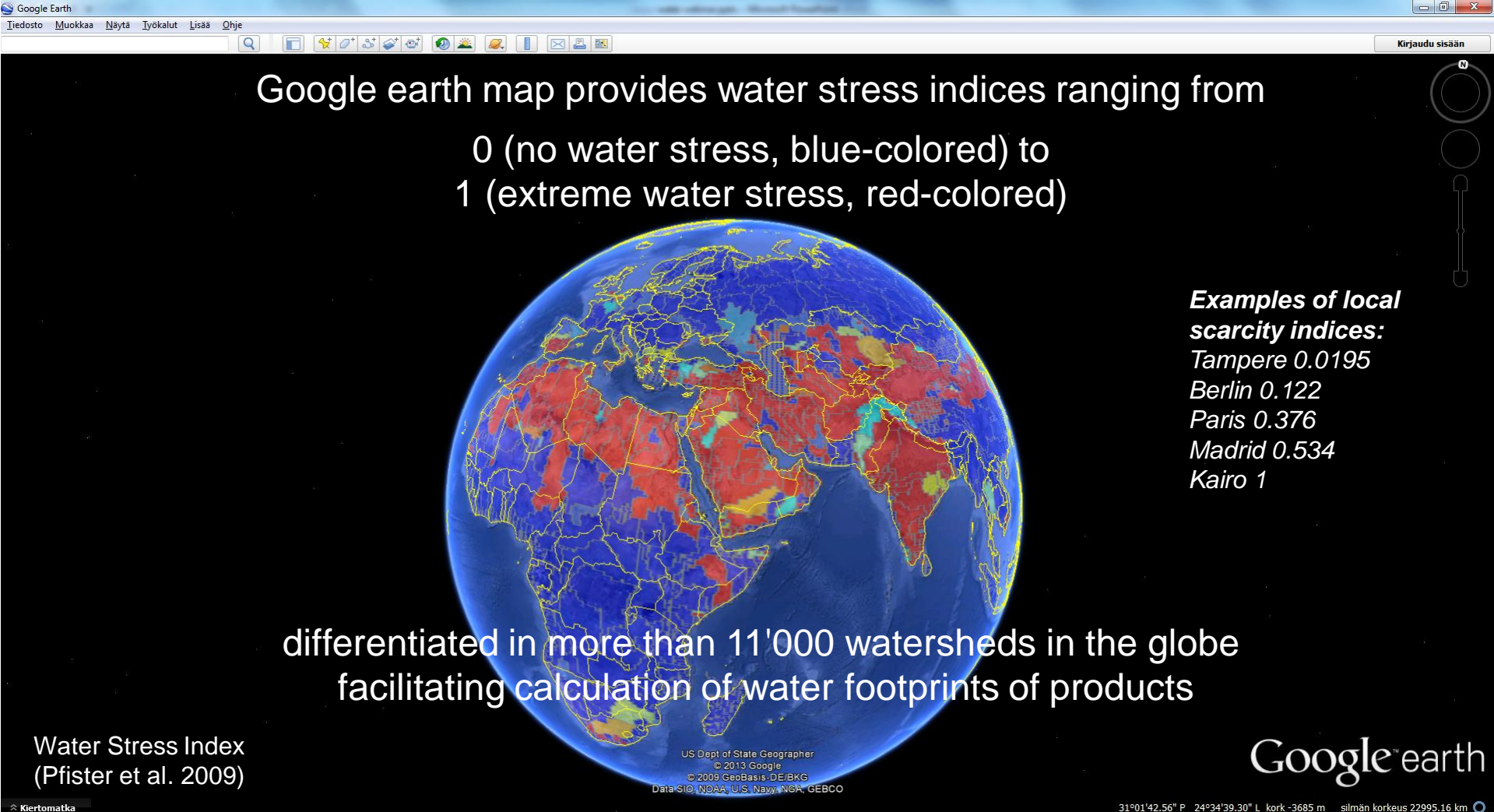


How to define water footprint?

Water Inventory → Impact Assessment → Water Footprint



Local indicators



Google earth map provides water stress indices ranging from 0 (no water stress, blue-colored) to 1 (extreme water stress, red-colored)

Examples of local scarcity indices:
Tampere 0.0195
Berlin 0.122
Paris 0.376
Madrid 0.534
Kairo 1

differentiated in more than 11'000 watersheds in the globe
facilitating calculation of water footprints of products

Water Stress Index
(Pfister et al. 2009)

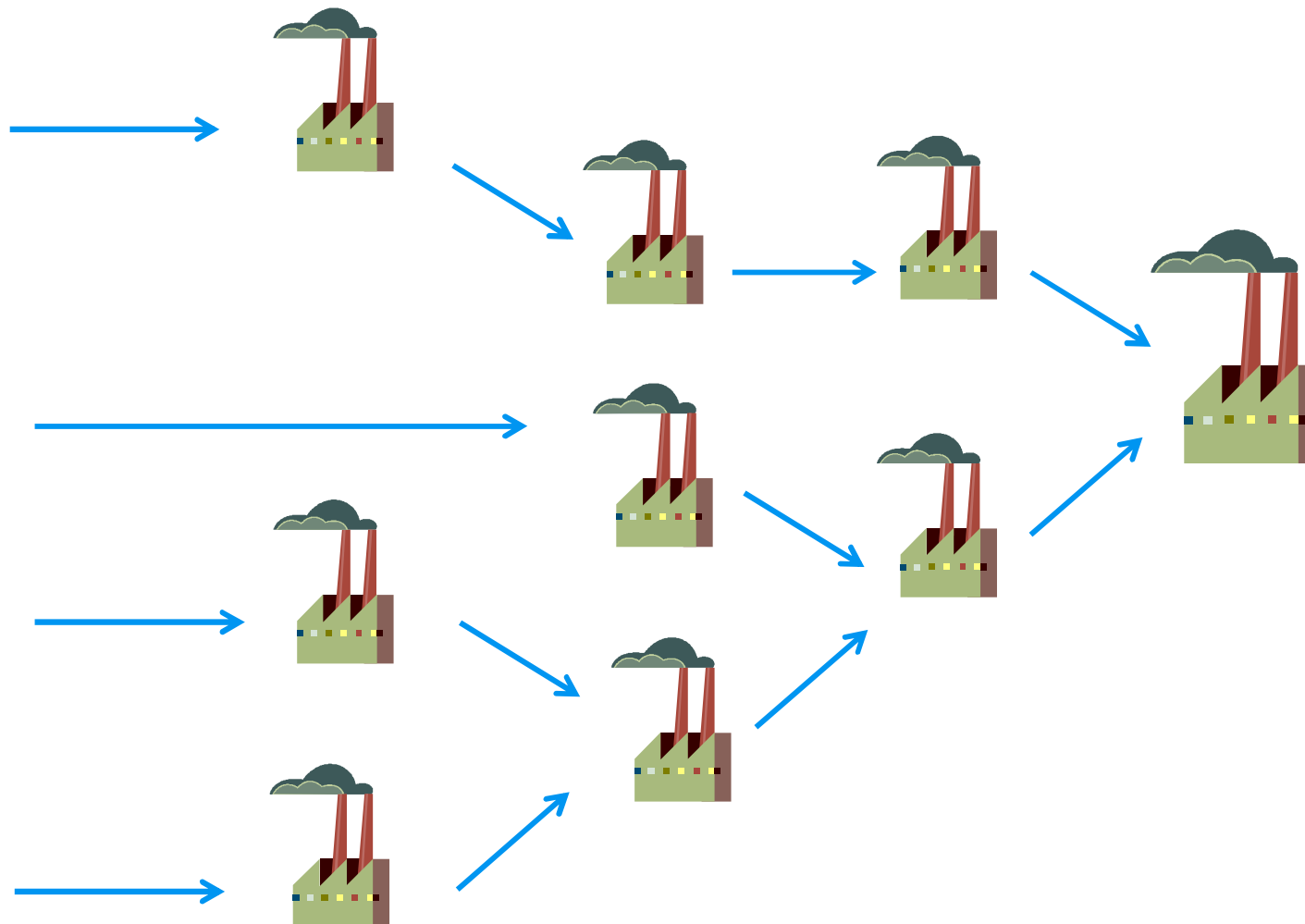
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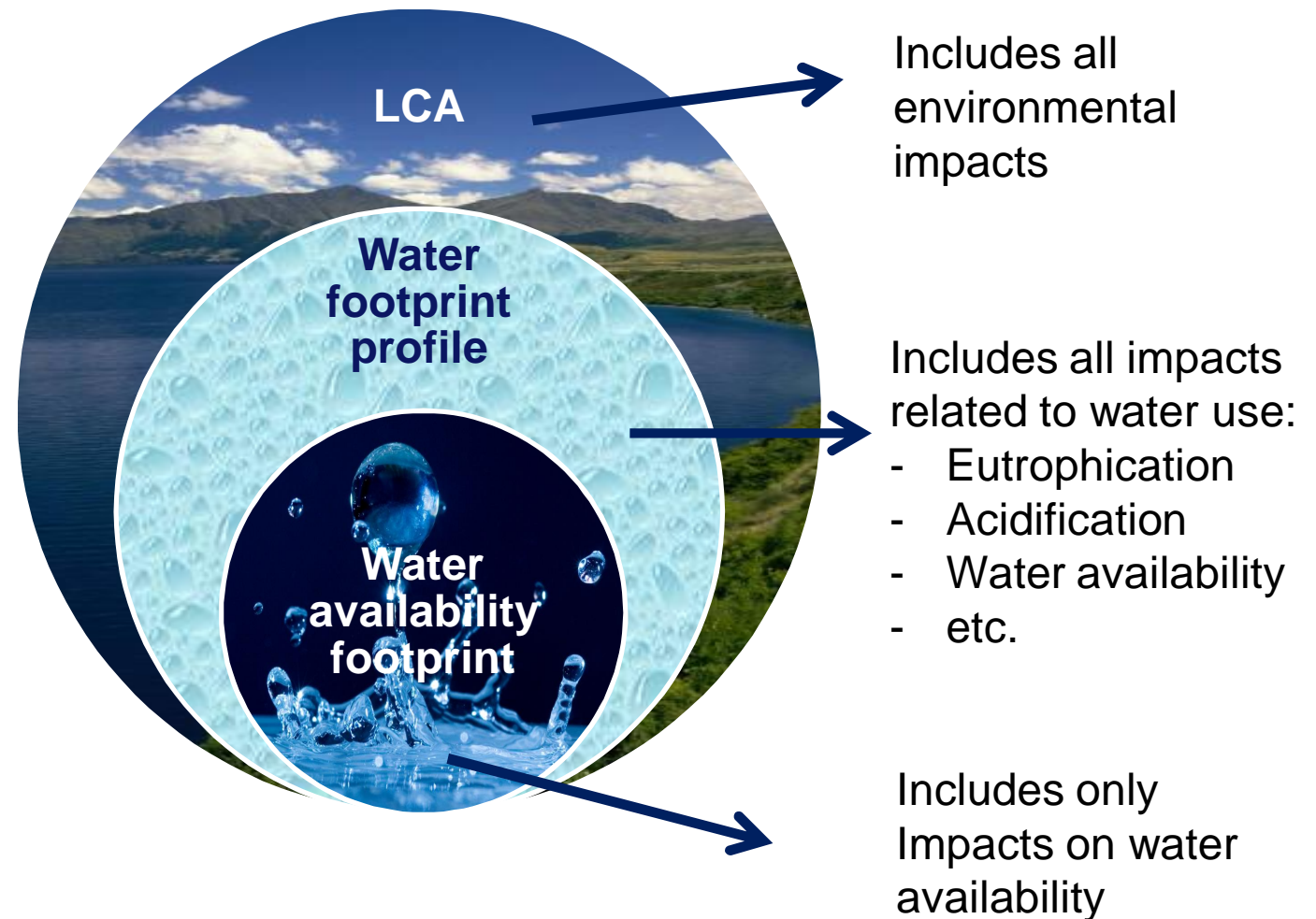
Kiertomatka

31°01'42.56" P 24°34'39.30" L kork -3685 m silmän korkeus 22995.16 km

Challenge in data collection

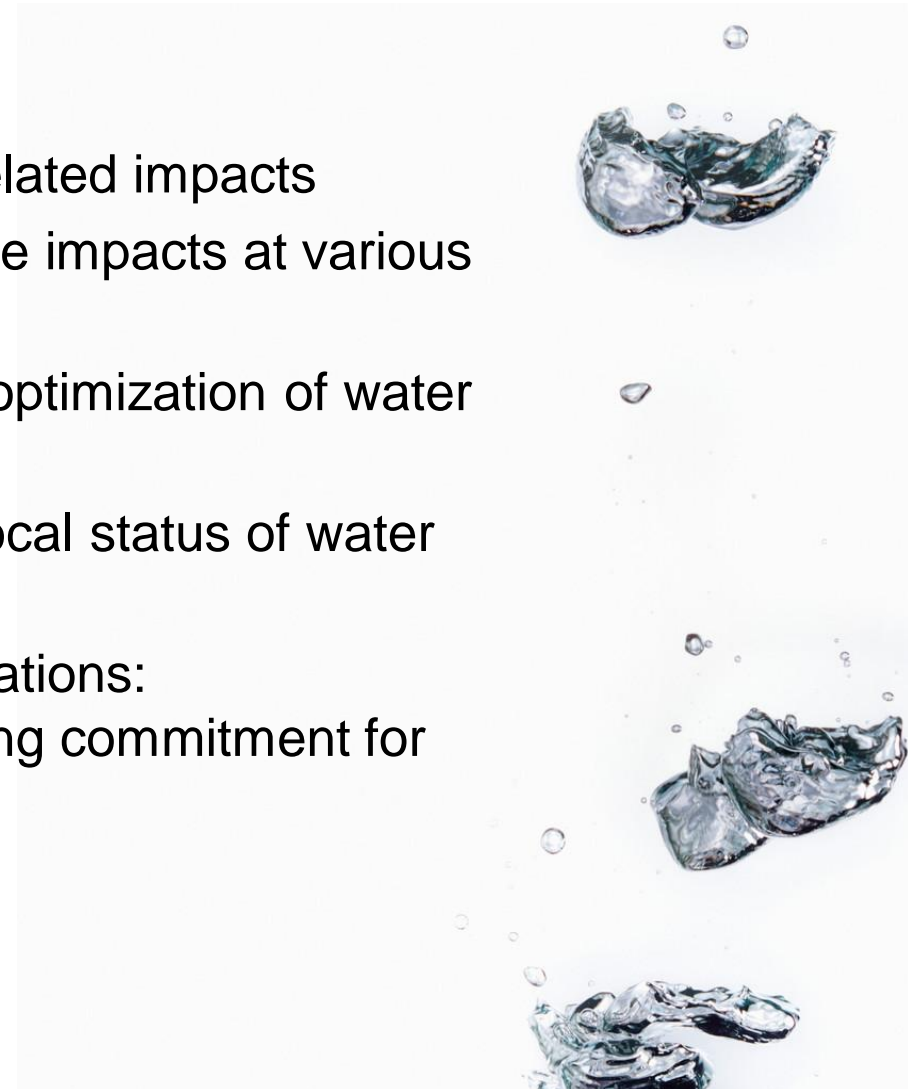


Different options of water footprint assessment



Water footprint can assist in...

- Assessing magnitude of water related impacts
- Identifying opportunities to reduce impacts at various stages in the life cycle
- Facilitating water efficiency and optimization of water management
- Understanding water risks and local status of water resource
- Meeting with stakeholder expectations: demonstrating and communicating commitment for sustainable water use



Footprint assessment in the big picture: developing a water strategy



Thank You!

For more information on the topic, please contact

Elina Saarivuori
elina.saarivuori@vtt.fi

