

# IMPLEMENTATION OF THE PRINCIPLES OF THE NEW WATER PARADIGM FOR CLIMATE RECOVERY

Kysuce, 18. máj 2010



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WATER HOLISTIC



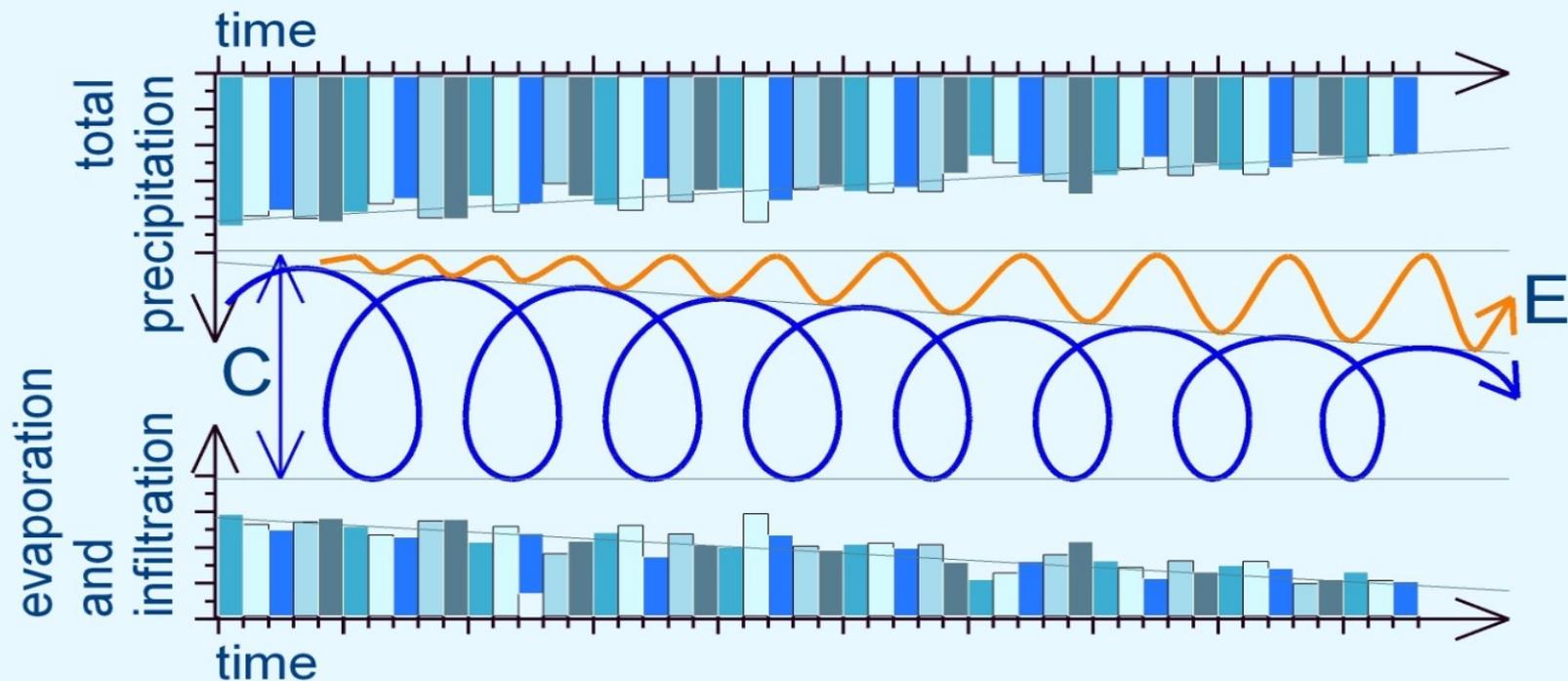
**Climate Landscape,**  
October, 18.-19th 2022

# OLD WATER PARADIGM

- **humanity accelerates the runoff from land**
- **more solar energy is transformed into sensible heat**
- **draining of a land can be reversed through comprehensive conservation of rainwater**
- **renewal of small water cycle over land can temper extreme weather events and ensure a growth in water reserves**



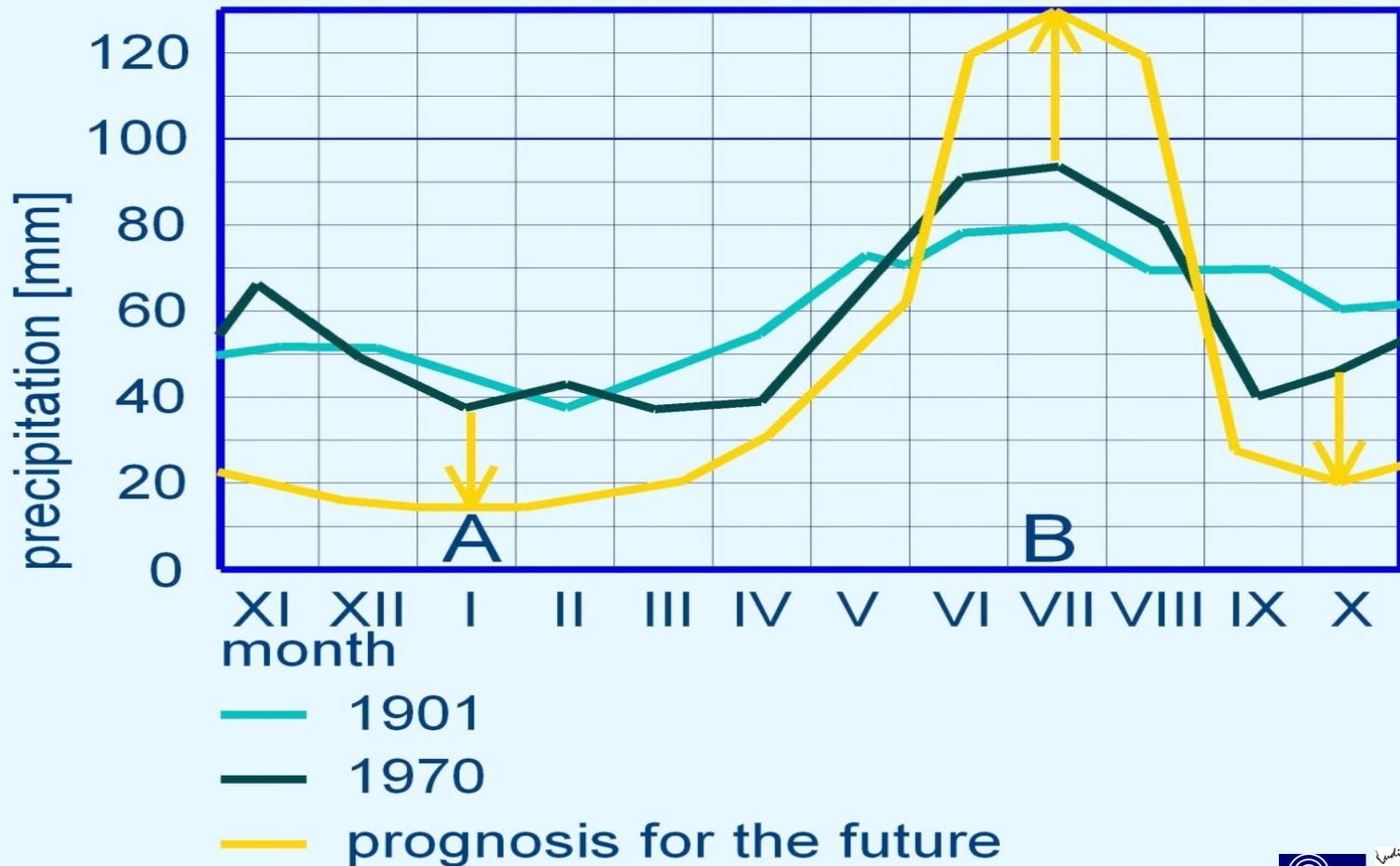
# GROWTH OF EXTREME WEATHER WITH DECLINE OF SMALL WATER CYCLE



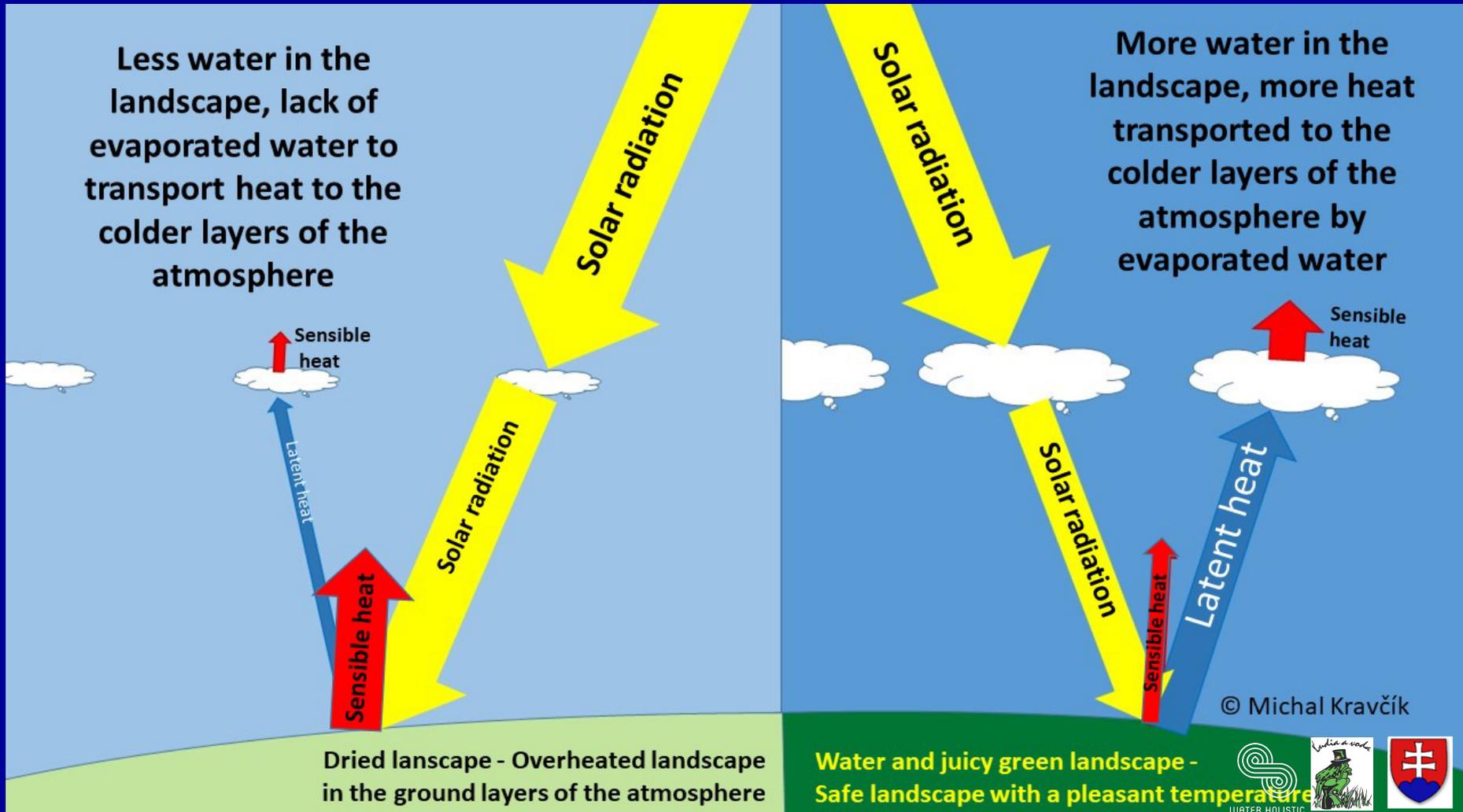
C - diagram of the circulation of water on land

E - diagram of extreme weather events

# PRECIPITATION TRENDS IN SLOVAKIA

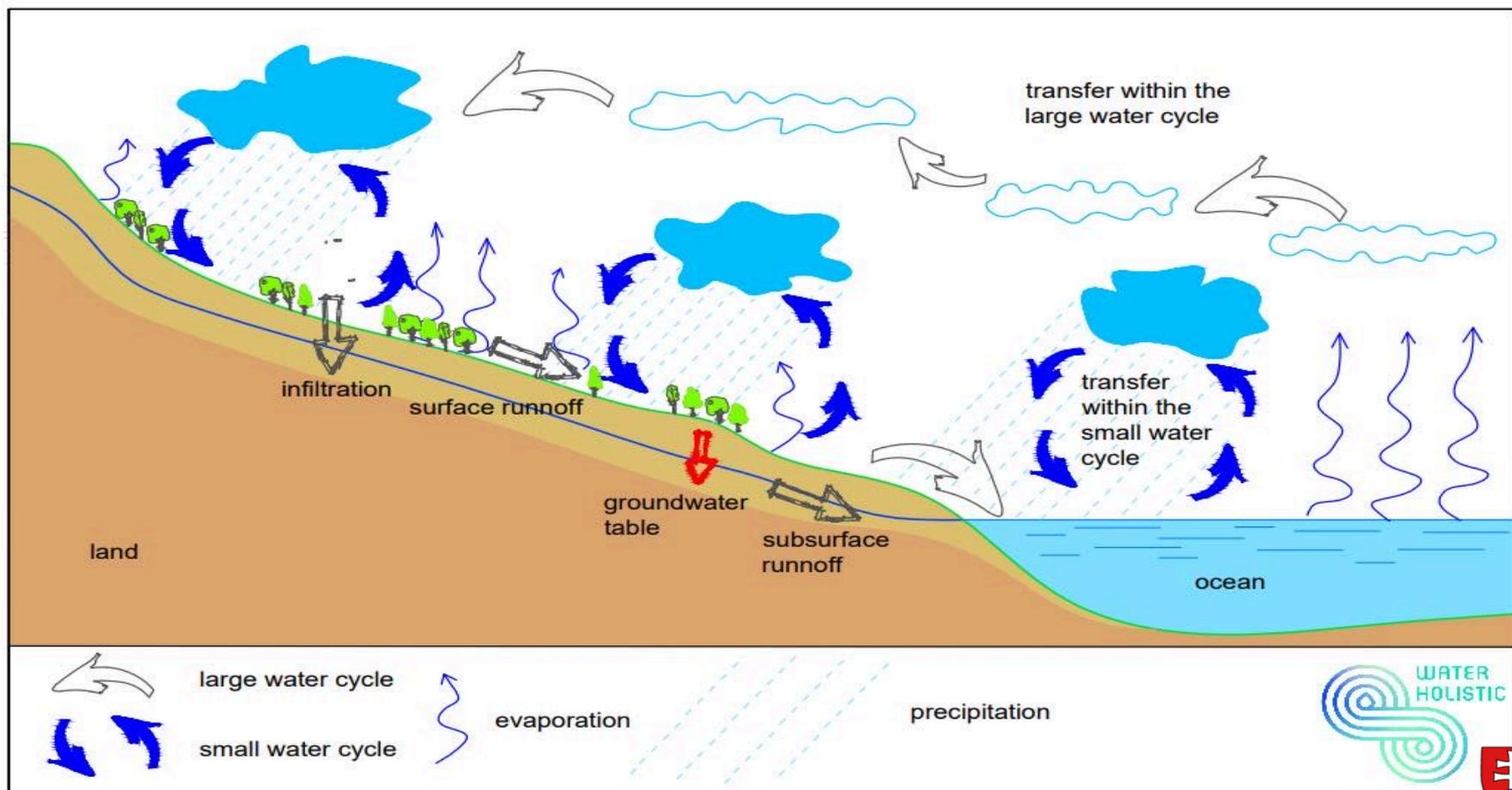


# Water in a small water cycle is the air conditioning device of the planet Earth

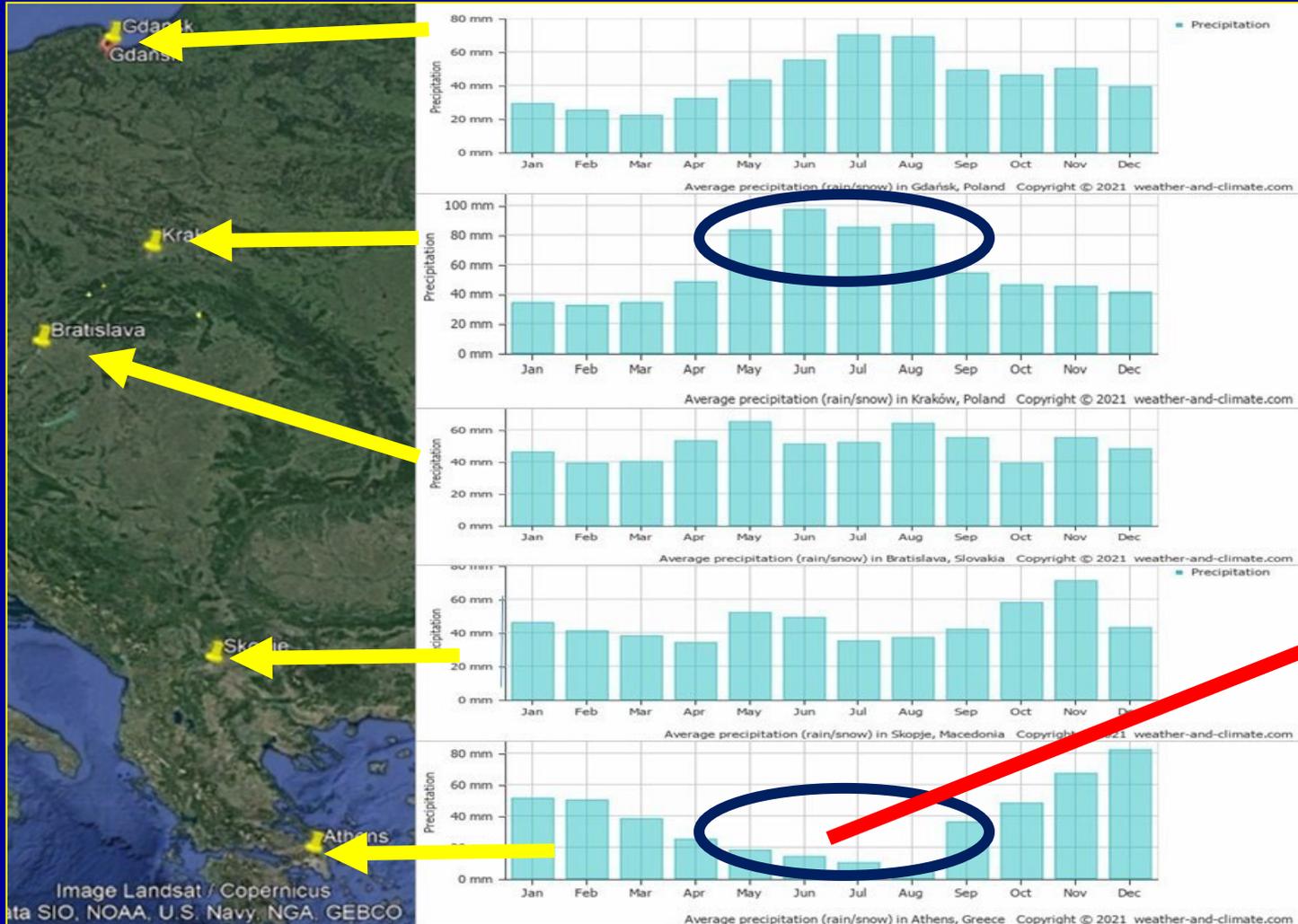


# SOIL SEALING DESTROYS SMALL (short) WATER CYCLE(S) ON LAND

## LARGE AND SMALL WATER CYCLES

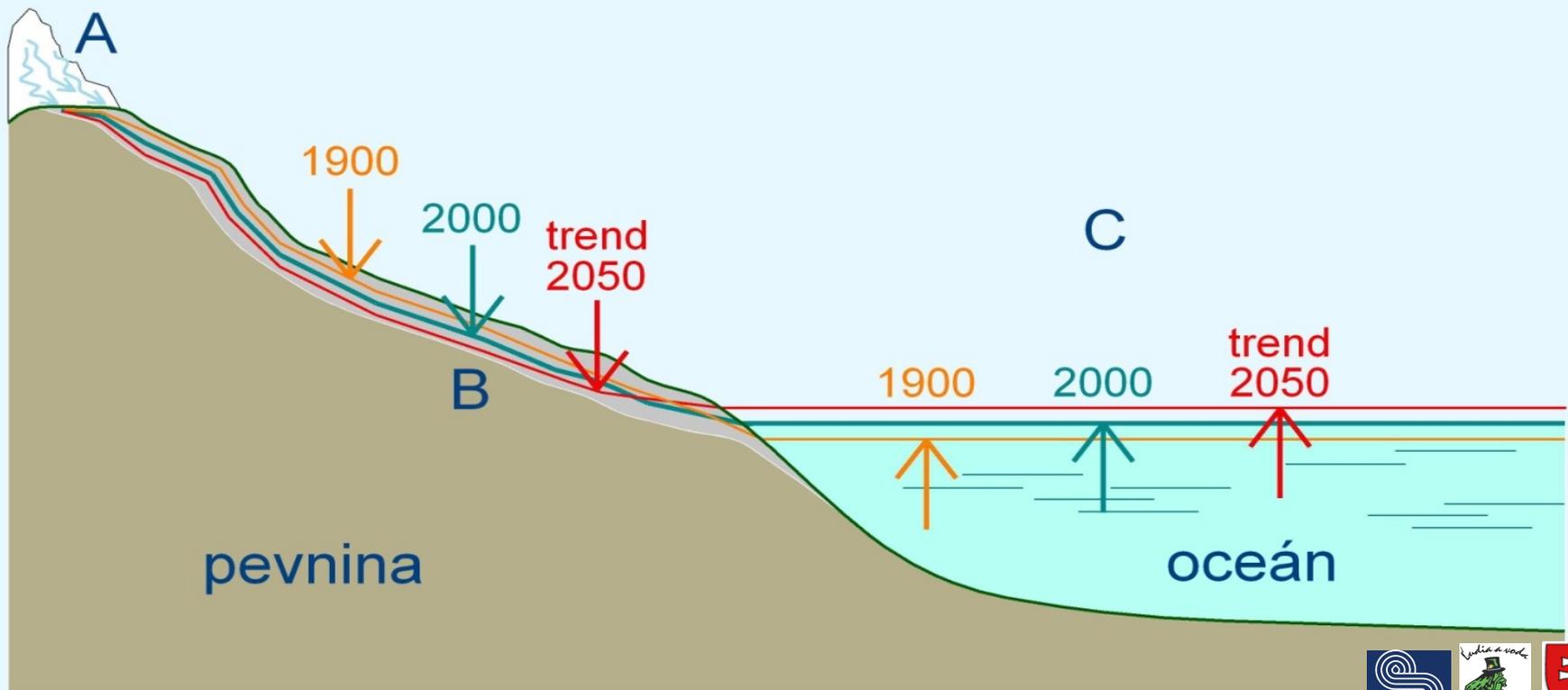


# CHARACTERISTICS OF MONTHLY PRECIPITATION FROM THE BALTIC TO THE MEDITERRANEAN

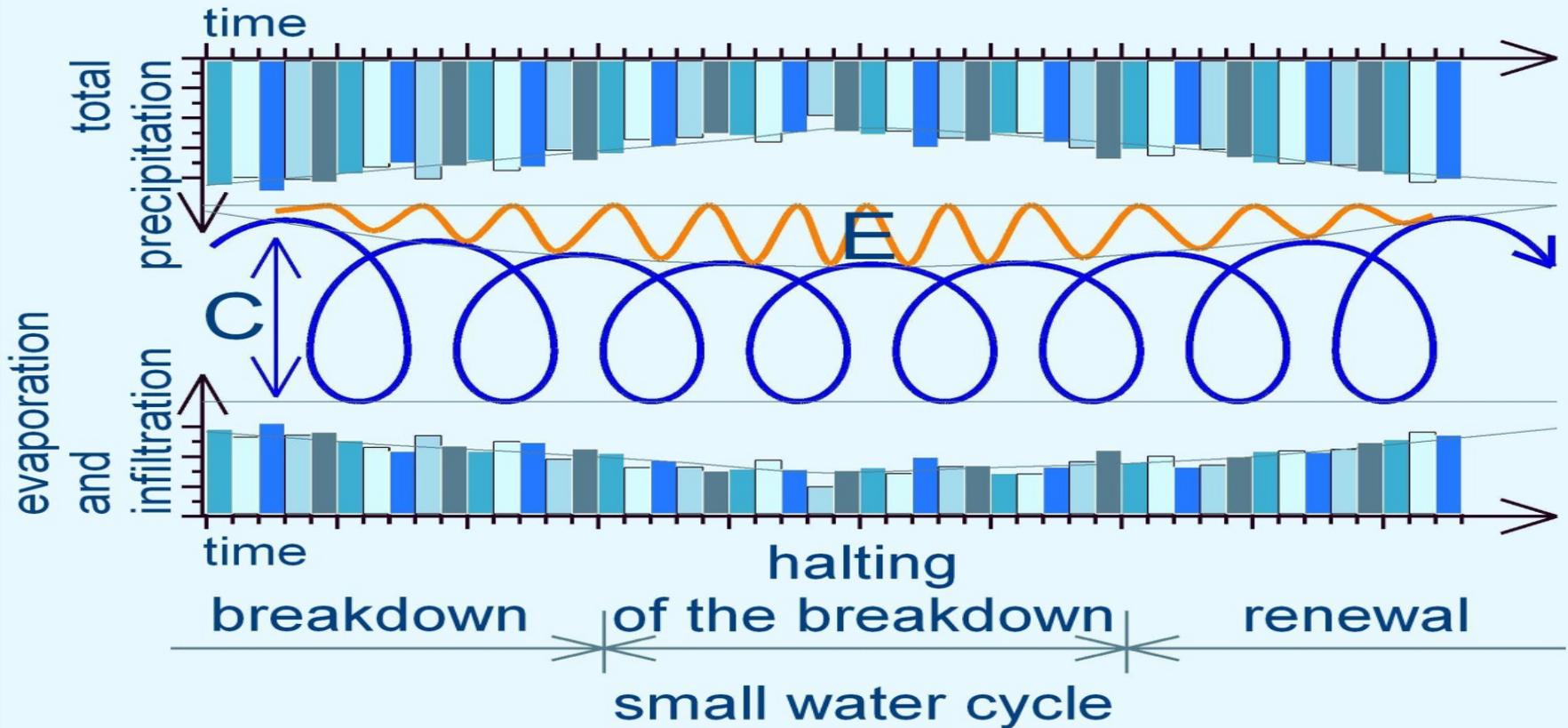


NO RAIN

# SEA LEVEL RISE FROM DRYING OF CONTINENTS

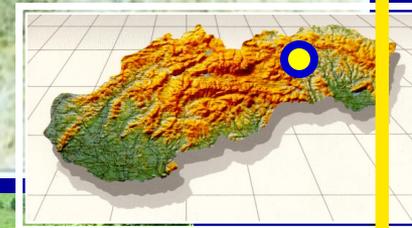
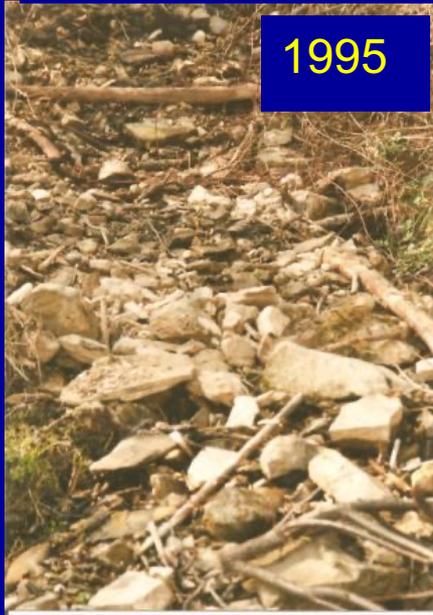


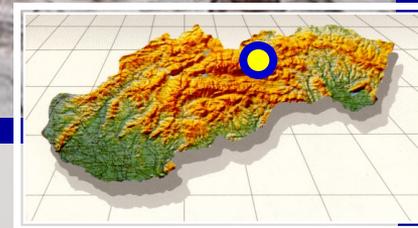
# DESTRUCTION AND RENEWAL OF SMALL WATER CYCLE



- C** - diagram of the circulation of water on land
- E** - diagram of extreme weather events

# Blue Alternative (People and Water, 1995)





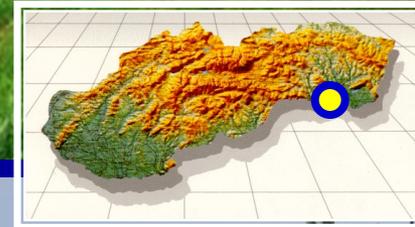
**NEW FOREST 16 YEARS AFTER WINDSTORM**



**November, 28<sup>th</sup> 2005**



**June, 30<sup>th</sup> 2008**



**June, 16<sup>th</sup> 2022**



**Restoration of water sources in urban zone Košice**



# Water for the Recovery of the Climate

A New Water Paradigm

M. Kravčík, J. Pokorný, J. Kohutiar,  
M. Kováč, E. Tóth

• [www.waterparadigm.org](http://www.waterparadigm.org)

- protects groundwater and soil water as the main treasure of water
- rainwater is an asset that needs to be retained (especially in soil/plants)
- soil sealing may be important factor in global warming



# Principle „Keep rainwater on the land“

## MIKROŠTRUKTÚRY NA ZACHYTÁVANIE VODY V TERÉNE

1. VRSTEVNICOVÉ HRÁDZKY



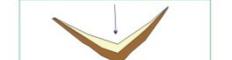
2. TERASY



3. POLOOBLÚKOVÉ HRÁDZKY



4. TROJUHOĽNÍKOVÉ HRÁDZKY



5. OČNÉ TERASY



6. ŽĽABOVÝ TYP MIKROPOVODÍ



7. JAMKOVÉ ŠTRUKTÚRY



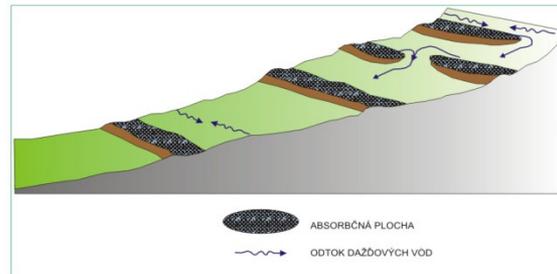
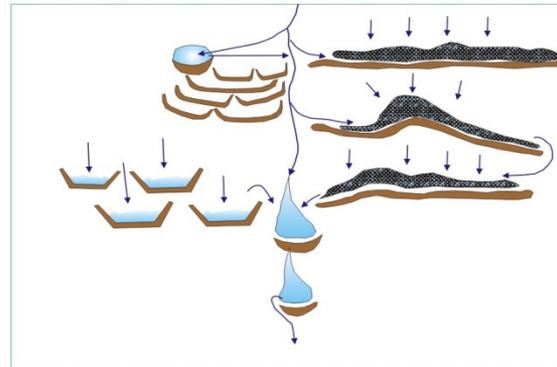
8. KAZETOVÉ ŠTRUKTÚRY MIKROPOVODÍ



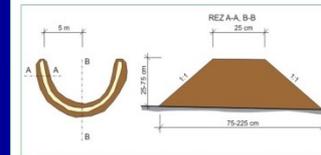
9. ŠACHOVNICOVÉ ŠTRUKTÚRY



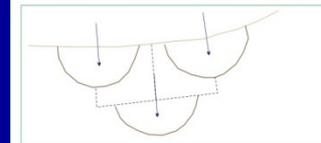
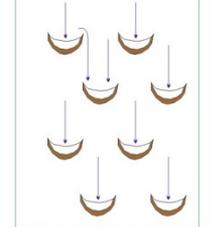
## KOMBINÁCIA RÔZNYCH TECHNÍK ZADRŽIAVANIA DAŽDOVÝCH VOD



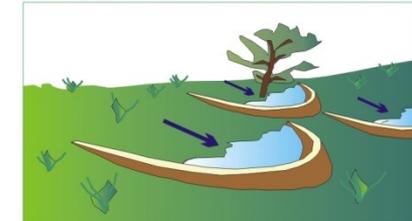
## POLOOBLÚKOVÉ HRÁDZKY



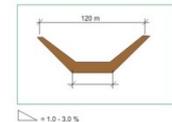
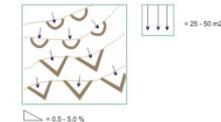
## SYSTEM ZACHYTÁVANIA DAŽDOVEJ VODY



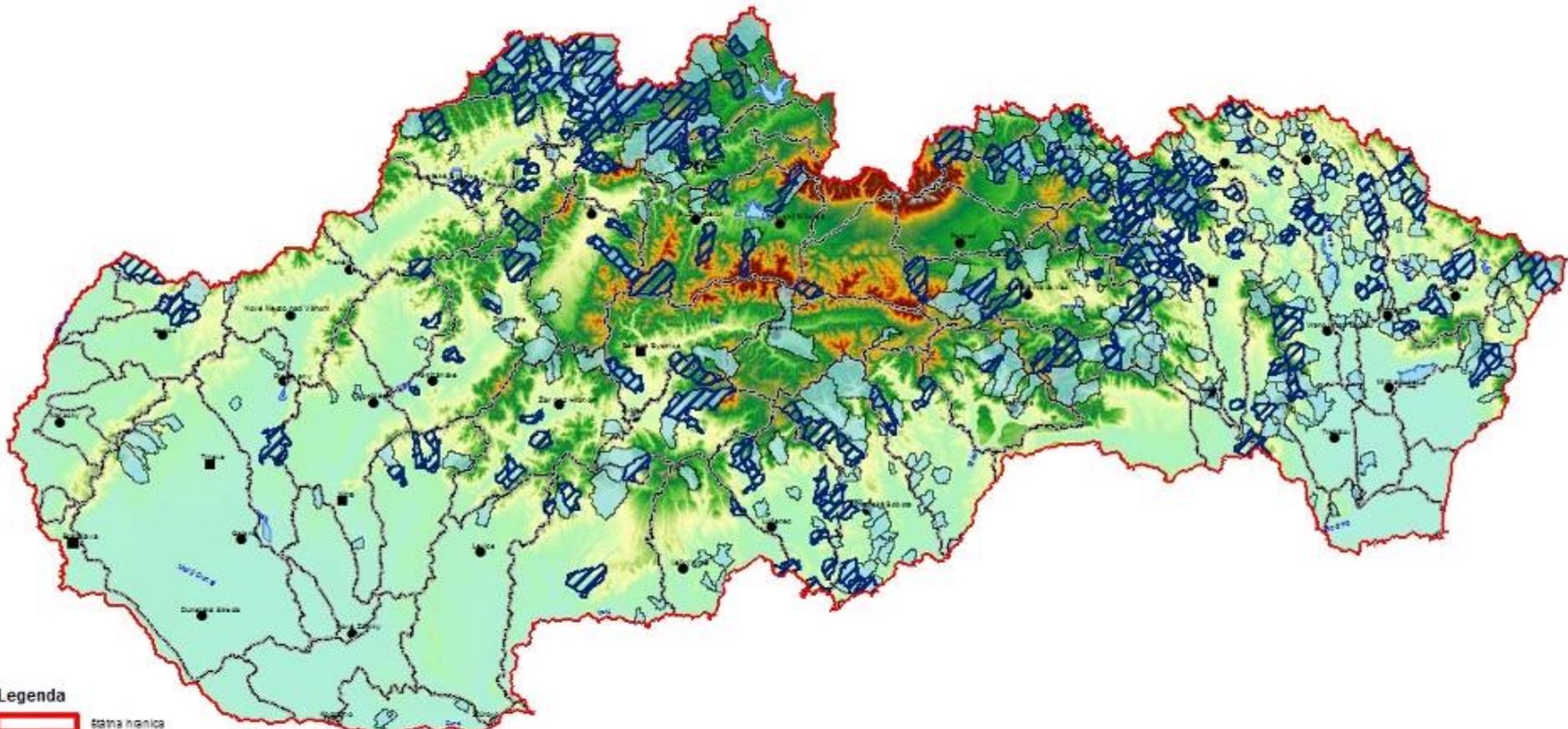
## RIEŠENIE POLOOBLÚKOVÝCH HRÁDZOK



## RIEŠENIE POLOOBLÚKOVÝCH HRÁDZOK



# 488 communities involving to the Government Landscape restoration program in 2011



**Legenda**

- státní hranice
- 1RP
- 2RP
- hranice povodí

**terén**

výška (m)

- 2500
- 150

# Snežnica







2012

Documentation of the  
Landscape Revitalisation  
Program Implementation



MICHAL KRAVČÍK A KOLEKTÍV

**Po nás púšť a potopa?**

After us, the desert and the deluge?



WATER HOLISTIC



# PROCESSING OF THE lands restoration of Košice region (approx. 1000 km<sup>2</sup> benefits)



| EXPECTED ACTION PLAN<br>BENEFITS                          | Arable<br>Land | Viney<br>ard | Garde<br>n | Orcha<br>rd | Grasslan<br>d | Forest | Built-up<br>Urban<br>Land | Other<br>Land | Total by region<br>(in million m <sup>3</sup> ) |
|---|----------------|--------------|------------|-------------|---------------|--------|---------------------------|---------------|---|
| Water retention measures<br>(in m <sup>3</sup> )          | 29,768         | 0,552        | 0,741      | 0,172       | 8,337         | 10,450 | 4,786                     | 4,820         | 59,626  |
| Financial investments<br>(in million EURO)                | 148,86         | 2,76         | 3,71       | 0,85        | 41,67         | 52,24  | 133,75                    | 24,59         | 408,43  |
| New water resources<br>(in l/s)                           | 5943           | 111          | 149        | 66          | 1666          | 2089   | 954                       | 965           | 11943   |
| Annual crop yield increase<br>(in million EURO)           | 16,32          | 0,24         | 0,85       | 0,15        | 5,13          | 8,88   | 0,00                      | 0,00          | 31,57   |
| Evapotranspiration<br>(in million m <sup>3</sup> )        | 19,82          | 0,37         | 0,49       | 0,21        | 5,56          | 6,97   | 3,18                      | 3,21          | 39,81   |
| Sensible heat mitigation<br>(in GWh)                      | 15 694         | 258          | 380        | 163         | 4 145         | 5 441  | 2 591                     | 2 556         | 31 228  |
| Temperature mitigation<br>(in °C)                         | -1,190         | -0,940       | -0,440     | -0,760      | -0,650        | -0,360 | -1,130                    | -1,770        | -0,770  |
| Soil and biomass carbon<br>storage (in thousands of tons) | 571,30         | 8,27         | 37,66      | 5,64        | 310,66        | 753,59 | 96,49                     | 61,76         | 1 845,37  |
| New jobs  | 1 191          | 22           | 29         | 6           | 334           | 418    | 1 070                     | 197           | 7   |



# GLOBAL ACTION PLAN FOR THE RESTORATION OF THE NATURAL WATER CYCLES AND CLIMATE

Author: Michal Kravčík  
Editor: Jan Lambert

*A global plan of climate restoration of the **small water cycle**<sup>1</sup> of regional landscapes, with a goal of decreasing floods, drought, natural disasters, and other undesirable climate changes, and increasing the biodiversity and production potential of all continents, through the introduction of various measures of rainwater retention suitable for all areas of human habitation and usage.*



picture: Michal Kravčík

The Mulloon Institute in New South Wales, Australia is committed to developing the knowledge and practical experience required to advance regenerative land and water management techniques, including but not limited to permaculture techniques for soil hydration and natural sequence farming, and rural landscape management techniques aimed at restoring natural water cycles that allow the land to flourish despite drought conditions. See <http://themullooninstitute.org/> and <http://www.nsfarming.com/>.

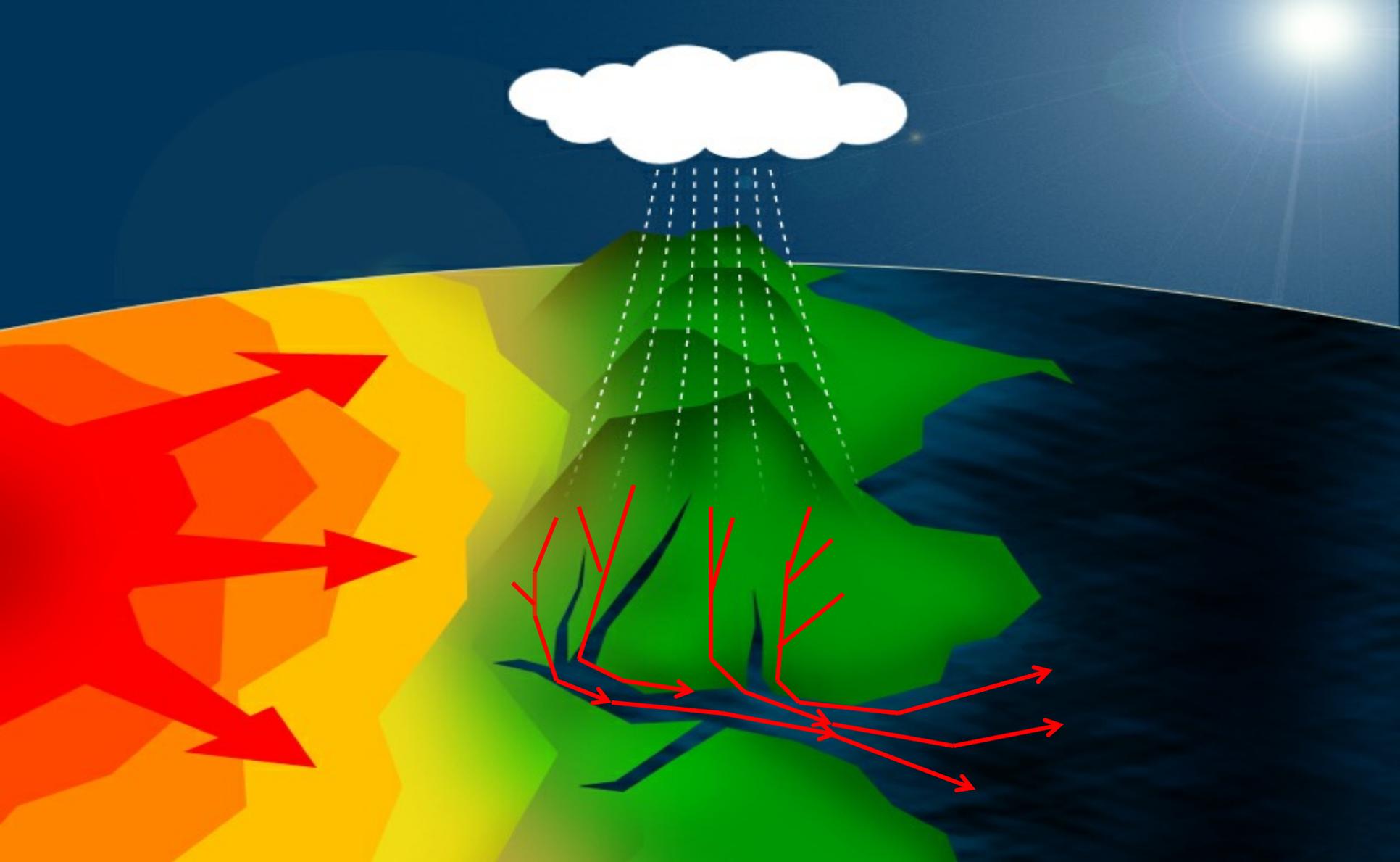
**Global Action  
Plan(GAP) is  
available  
online at**

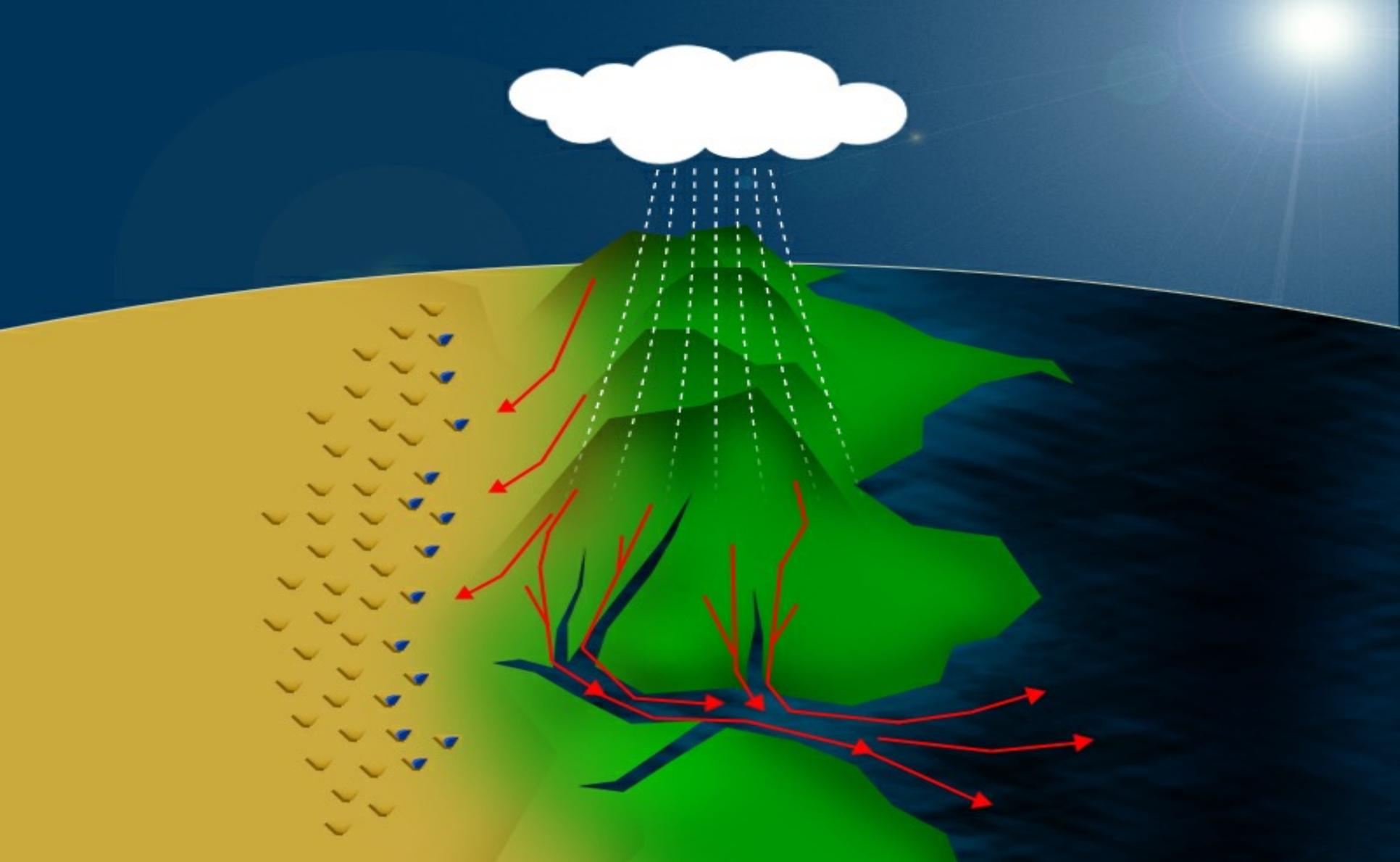
**[www.bio4climate.com](http://www.bio4climate.com)**

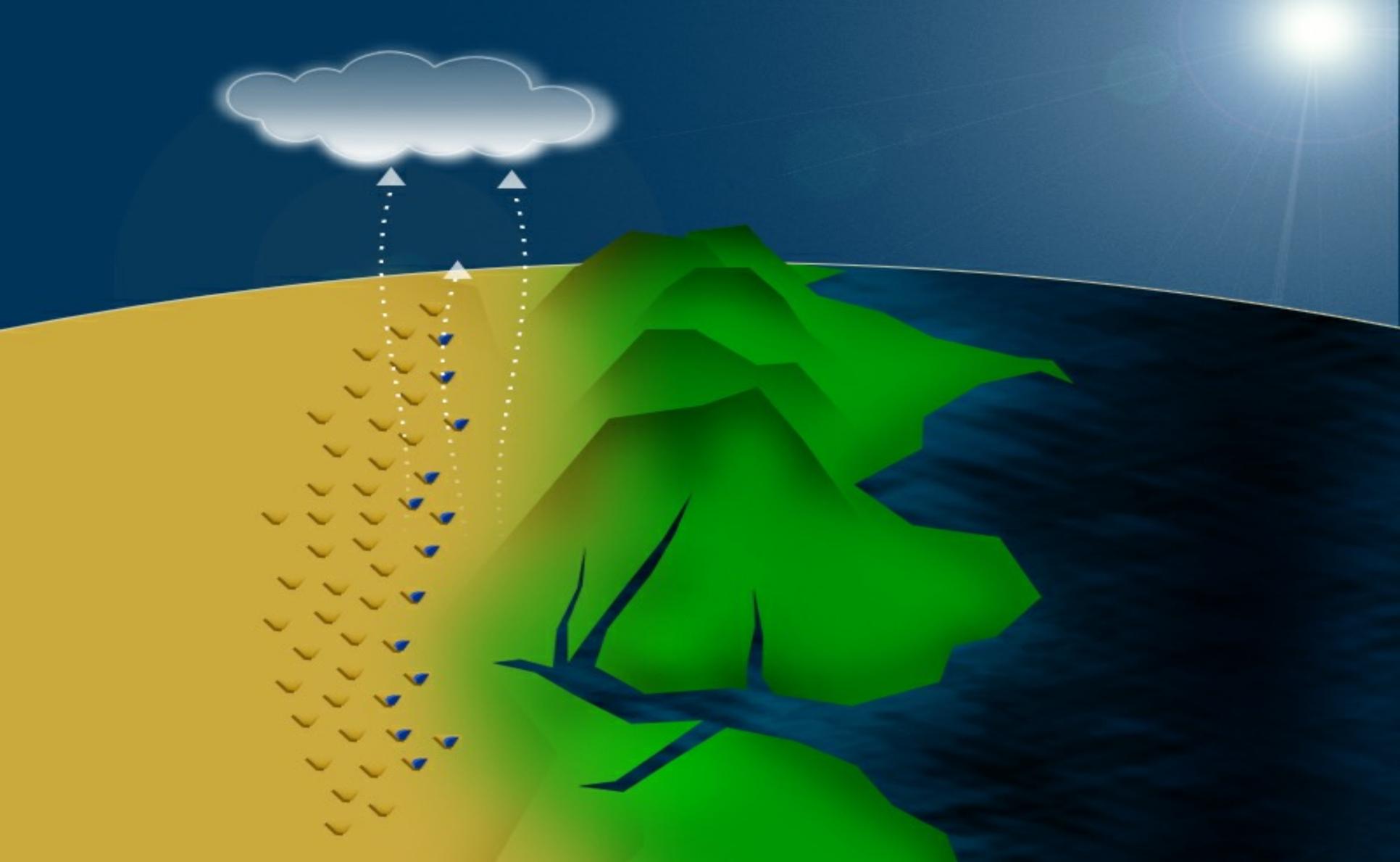


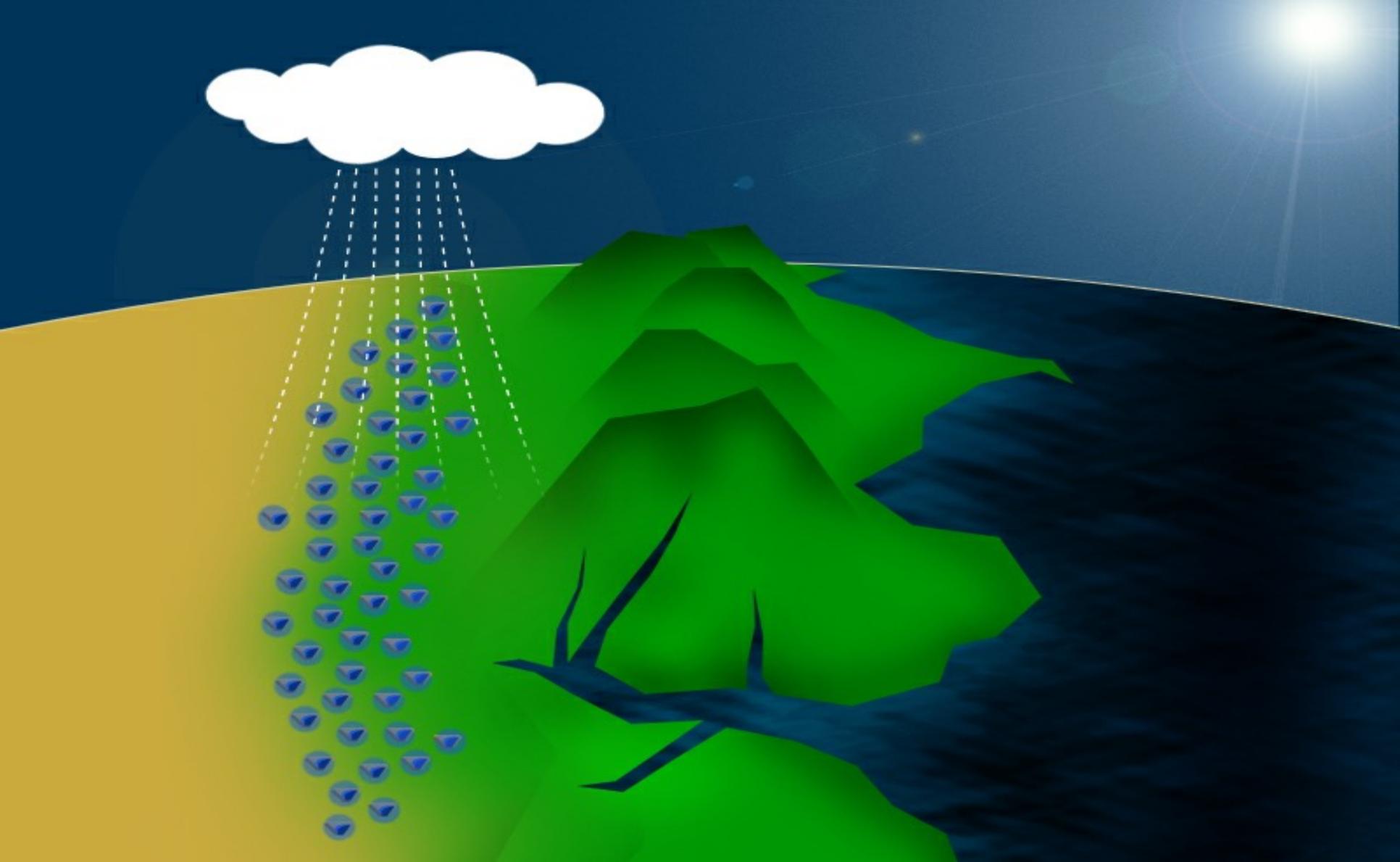
WATER HOLISTIC









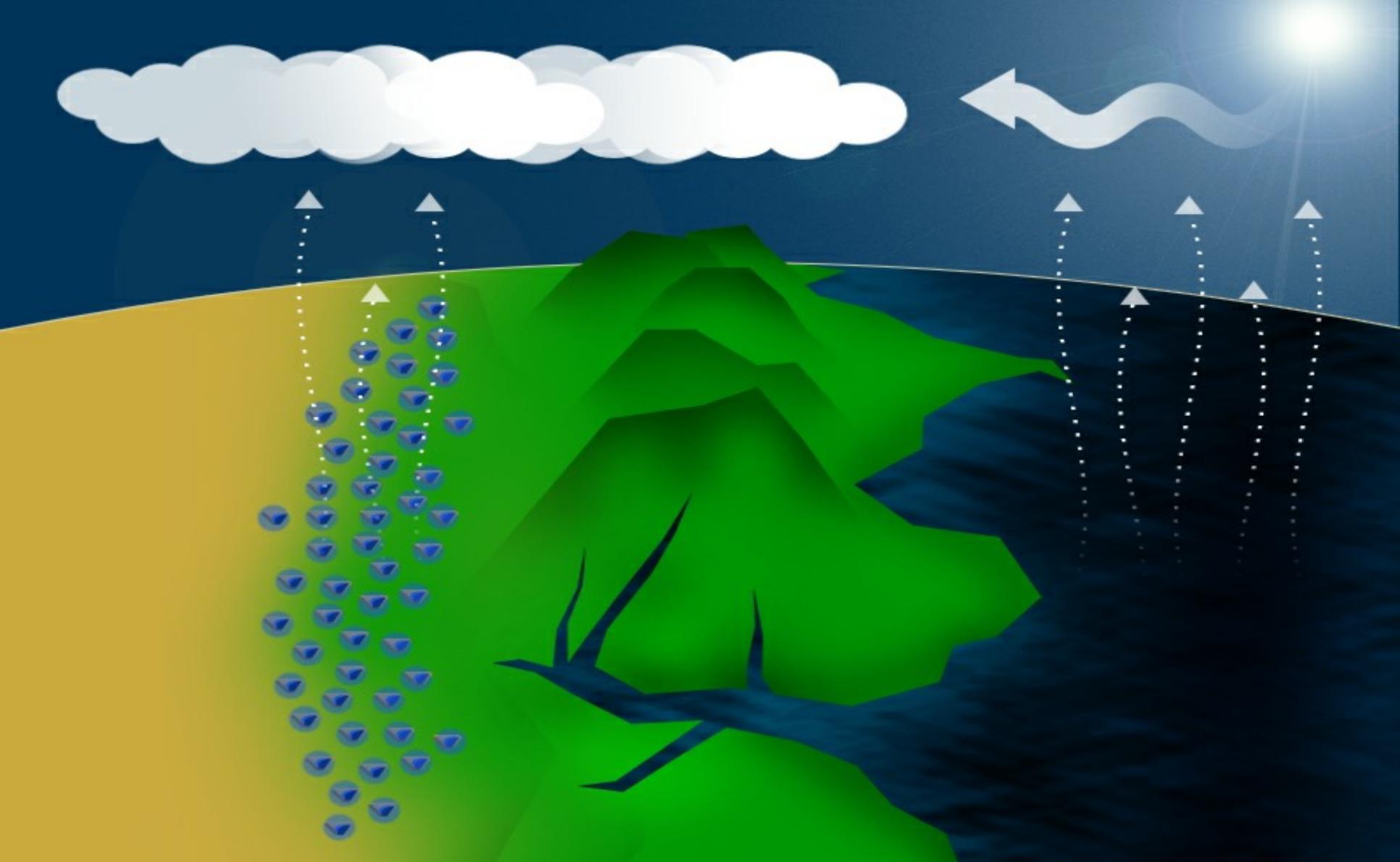


NGO People and Water

[www.ludiana.org](http://www.ludiana.org)



WATER HOLISTIC



# Need for sustainable cycles – Water cycle, Carbon cycle, Energy cycle, Nutrition cycle

New Water Paradigm /  
NEXUS approach

There is continual loss of soil organic material and water retention capacity of the landscape for decades. We need to slow down this process and reverse it.

Cumulative impact of sensible heat production is not a subject of regular evaluation. We have verified way to measure, recalculate and assess it.

In practice we do not support and maintain ecosystem services of soil and landscapes on permanent and effective way. We decided to change it.

By implementation of soil adaptation and management measures and rainwater management we are able to reduce variety of risks, our sensible heat footprint and turn soil degradation to soil renewal. We can ensure sustainable cycles.



# Valuing and funding soil and landscape ecosystem services

Innovations from Slovakia /  
AKIS

**SOIL – CARBON AND WATER BANK OF THE LANDSCAPES** - The concept of valuation and financing of soil and landscape ecosystem services

**1. CLIMATE FUND FOR SOIL** – New financial instrument for support of soil climate actions

**2. SOIL - INFORMATION AND MONITORING SYSTEM**

**3. CARBON AND WATER BANK** - certification system

**Agricultural knowledge base NEXUS:**  
water

- soil
- vegetation
- climate
- Food
- energy



WATER HOLISTIC

**THANKS !  
ĎAKUJEM !**



[www.waterparadigm.org](http://www.waterparadigm.org), [www.waterholistic.com](http://www.waterholistic.com)

**30 years experiences brings global recognition**

