How to bring the paradox on ICE & LIFE into the classroom?

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The Cryosphere...

... is also that habitat the kids live in

cryo = cold, but life???
How do kids understand this paradoxon?
Which information do we want to pass on?
Ice and Snow

Connotation of Being Devoid of Life

...Desert...

However:

CryoBIOsphere:

Area where life can subsist, evolve and interact with its environment biodiversity?
“The biology of Antarctica is almost wholly a marine biology. Other than a few cryoalgae, who colonize melting snowfields, no organisms live on land ice exclusively; there is no terrestrial cryo-ecosphere”.

*In: “The Ice: A Journey to Antarctica”; S.J. Pyne, 1986*
(Microbial) Life in Extreme Habitats:

However... anthropocentric perspectives

LIFE IN SLOW MOTION...sensitive!!
with climate change: glaciers are becoming greener

extremely sensitive ecosystems
However:
We cannot take the kids to polar regions

but to the 3rd Pole: the Alps
drag the kids to the cryosphere in the Alps
Cryoconite Holes: Living Communities

viruses, bacteria, protozoa, algae and metazoa

- Organic debris (living communities, pollen, plant an animal litter)
- Inorganic dust (mostly of local or regional origin)

relevant contribution to carbon budget
kids must see life
Snow is alive: Blood Snow
CLIMATE CHANGE....
what happens in the Ant-/Arctic can be seen even better in the Alps
Ice cores harbour information
You can read it like a book
But how to read all those pages?
What does it mean?
What works to fascinate kids in this topic?
Hypsibius klebelsbergi Mihelicić (Tardigrada).
Dastych et al. 2003

Give LIFE IN ICE a face

Tardigrades...king of survival
Hands-on activities
let them do it yourself
pass on REPONSIBILITY
Sonnblick Observatory
3.100m
Laboratory experiments
let them have impact

Logo competition for
TAWANI ANTARCTIC EXPEDITION 2008
face the kids with local issues
laboratory in ice for university and children

Hintertuxer Natur Eis Palast
Focus on problems the kids are faced with: SKIING

Glacial Melt in Touristic Areas
„Active Glacier Protection“

Rettenbachferner, Ötztal Alps

60 cm snow

100 cm ice
What does not work?
too little involvement

- DNA stuff – „anonymous“
- things they cannot see, grasp
- too big groups
- experiments just done by adults
Organisations helping to translate
Young University (Silvia Prock)
Sparkling Science – Bridging Schools and Universities
Or: How to Fall in Love with Ice