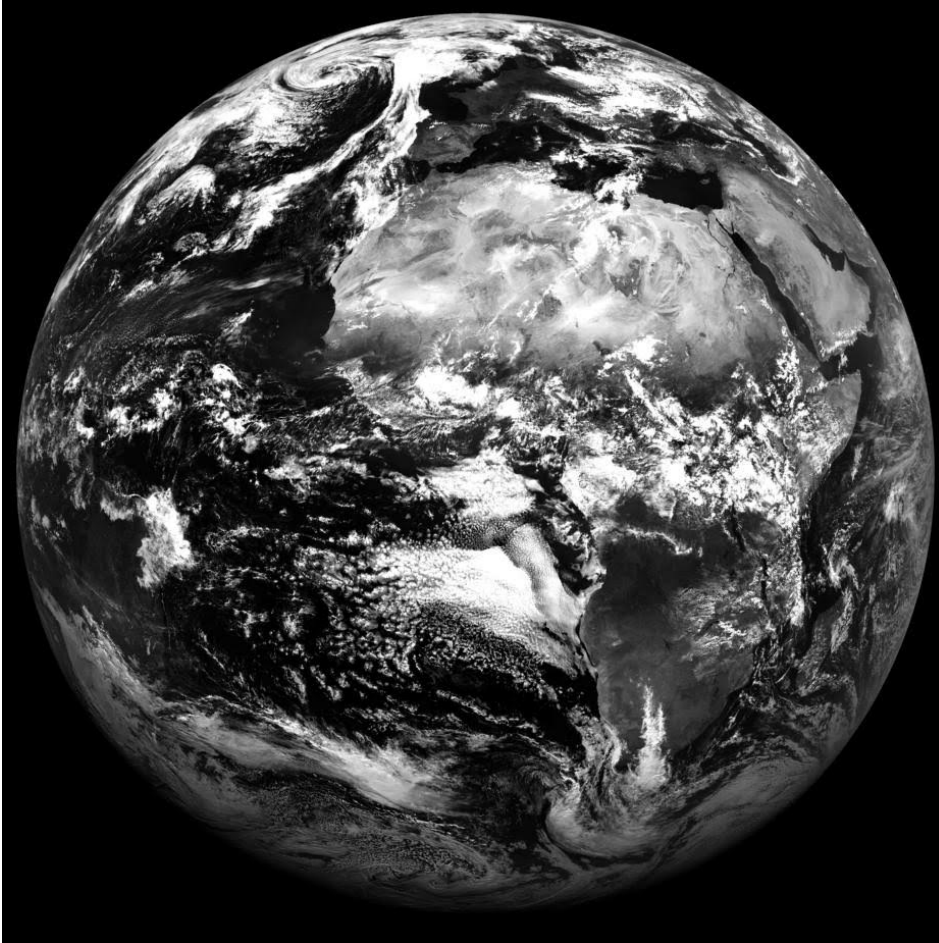

website cph pdf

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15. Oktober 2021 um 00:05

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holistic climate protection - NOW



Holistic, alternative climate protection strategy

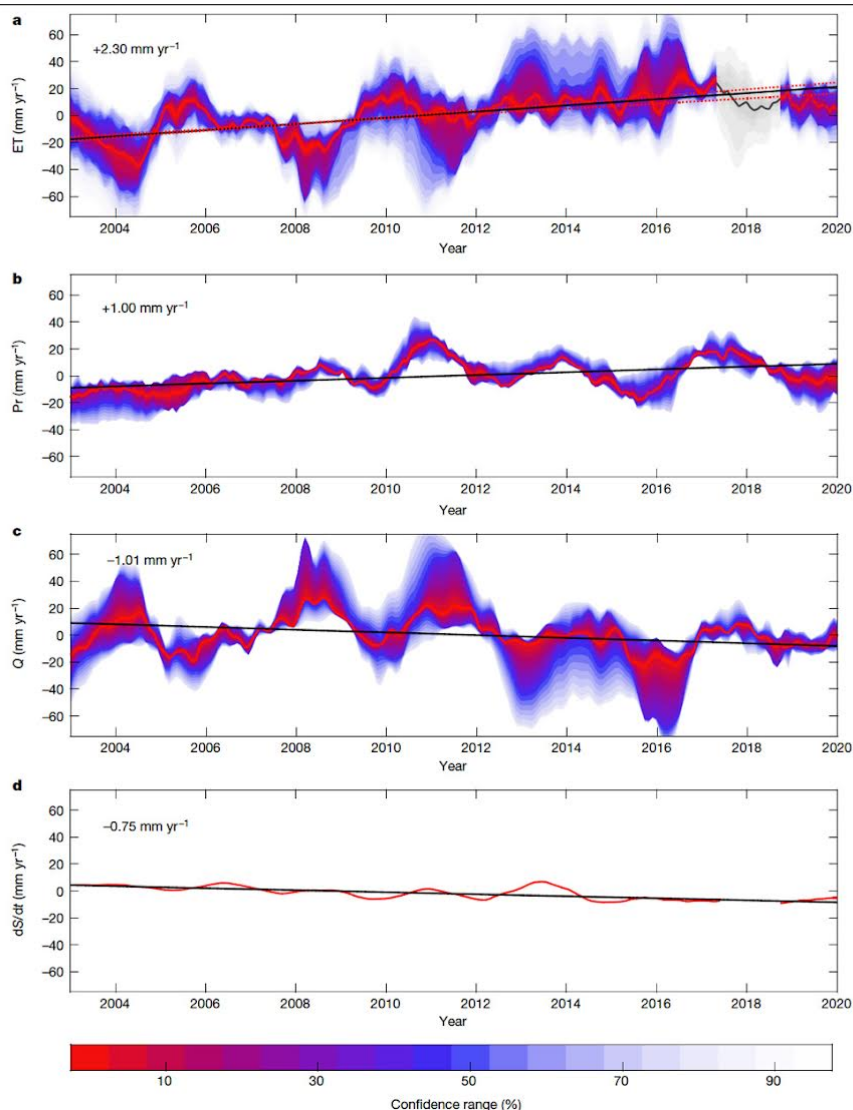
Concept for lowering sea level rise and the earth temperature

& regional protection against drought and flood disasters ... protects regions, Germany and the whole world. ---

further texts and graphics:

Further information on the development of latent heat fluxes and drainage of the continents using gravitational measurements (GRACE / FO) can be found at:

<https://www.carbonbrief.org/satellite-data-reveals-impact-of-warming-on-global-water-cycle>



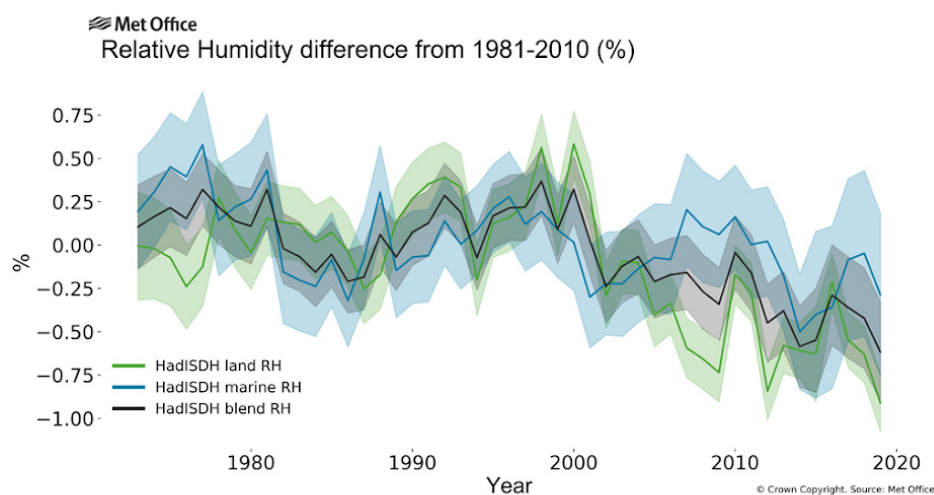
Evaporation increasing by + 2.3mm / year, which is caused by increased precipitation of + 1mm / year is not fully compensated. Decreasing runoff through the rivers of -1.01mm / year and falling groundwater level -0.75mm / year quantify the drainage of the Continents.

The authors estimate a "statistically significant" increase in evapotranspiration of around 10% above the long-term average. During the same period, rainfall only increased by

3% and the river discharge by 6%.

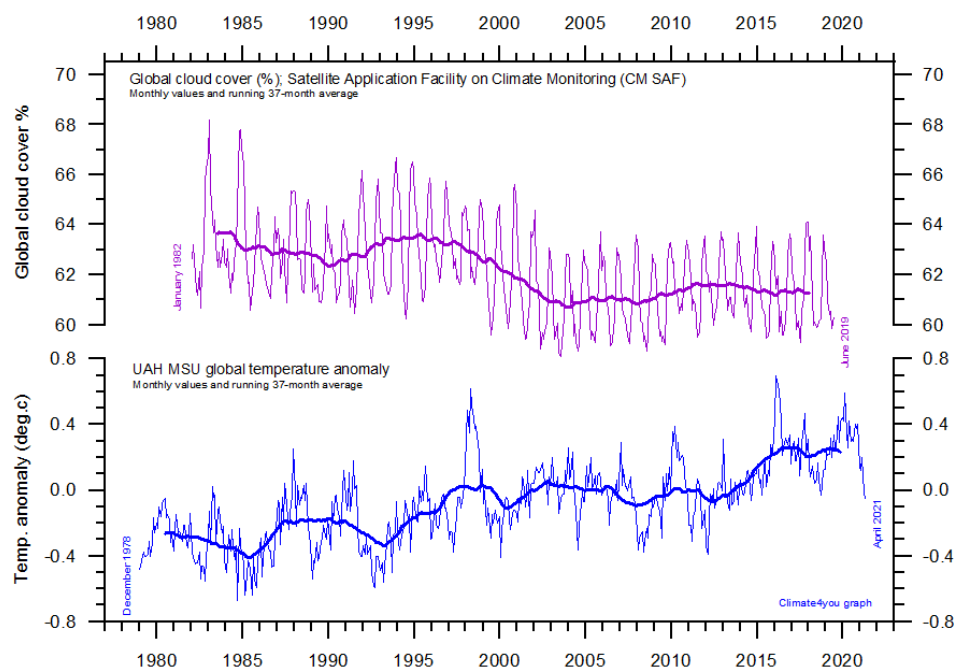
What is noticeable here is a simultaneous decrease in the relative humidity and the Cloud cover, which certainly correlates with a general increase in the number of hours of sunshine.

<https://www.carbonbrief.org/guest-post-investigating-climate-changes-humidity-paradox>

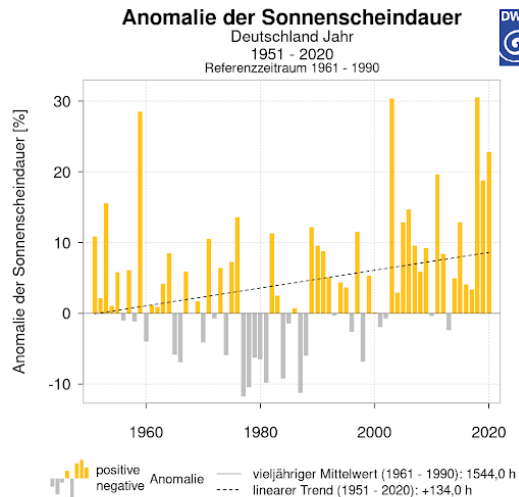


Global time series of annual average relative humidity for the land (green line), ocean (blue) and global average (dark blue), relative to 1981-2010. The two standard deviation ranges for uncertainty are shown combining the observation, sampling and coverage uncertainty.

<https://www.climate4you.com/ClimateAndClouds.htm#Clouds,%20evaporation%20and%20climate>



<https://www.dwd.de/DE/leistungen/zeitreihen/zeitreihen.html>



The 6th work report of the IPCC / WG1

https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_Chapter_07.pdf

deals in chapter 7.2.1 with the strong cooling net effect of clouds on the global radiation balance ($\sim -19\text{W} / \text{m}^2$).

In chapter 7.4.2.4.3 the warming feedback from clouds to a 1°C increase in earth temperature is limited with $+0.42\text{Wm}^{-2} \text{ }^\circ \text{C}^{-1}$.

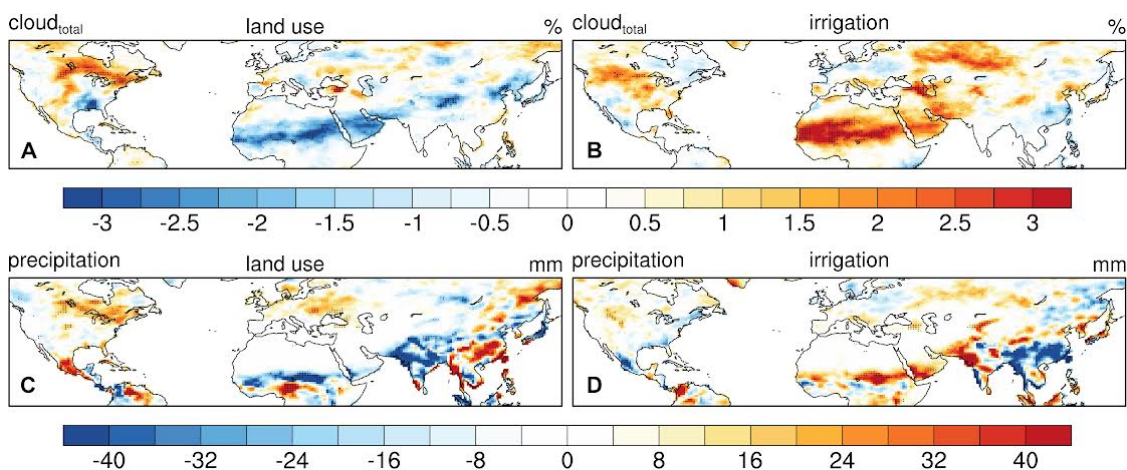
This warming feedback is mainly caused by a globally lower cloud cover (minus 2 - 2.5%) and higher temperature gradients (decrease in temperature with altitude).

- Climate models estimate the global average retention time of water in the atmosphere approx. 8.5 days based on ERA interim data.

Recent studies show the strong influence of additional or absent water u. Evaporation rates on cloud formation, temperature and radiation balance etc. in the observed Regions.

<https://www.frontiersin.org/articles/10.3389/feart.2020.00245/full>

Distinct Impacts of Land Use and Land Management on Summer Temperatures



Changes in summer monthly mean cloud cover [in%, (A, B)] and total precipitation [in mm, (C, D)] due to historical land use (left) and irrigation (right). Stippling indicates significance at the 95% confidence level.

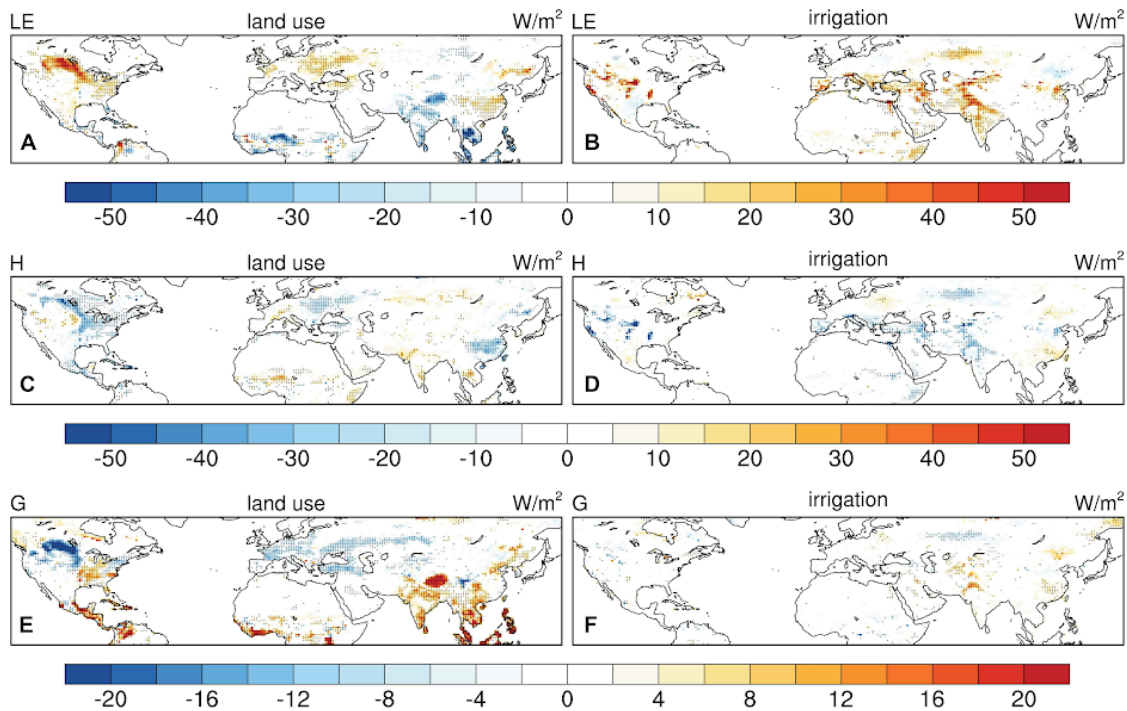


Figure 4. Changes in summer daytime latent heat [LE in W / m^2 , (A, B)], sensible heat [H in W / m^2 , (C, D)], and ground heat [G in W / m^2 , (E, F)] fluxes due to historical land use (left) and irrigation (right). Note that the scale of the label bar for G is different than those for LE and H. Stippling indicates significance at the 95% confidence level.

In particular, the last findings and graphics by Liang Chen and Paul A. Dirmeyer force a climate protection strategy based on water, evaporation and clouds and the assumption that additional irrigation and evaporation leads to increasing cloud formation and achievable cooling effects.

Even if the post refers exclusively to agricultural areas, we keep the knowledge gained definitely transferable to forest / natural areas and urban areas.