

NORTH POLE RESCUE PLAN

Could 1.5 billion m³ of rock save the Arctic ice?

- NO EMBARGO, FREE FOR PUBLICATION -

UTRECHT, September 13th - Could 1.5 billion cubic meters of rock save the North Pole? According to the plan ‘*Diomedé Crossroads – Saving the North Pole? Thoughts on plausibility*’, it may just do the trick. The plan is published on CleverClimate.org, a new platform for ‘large-scale climate solutions’.

View full report: www.cleverclimate.org/climate/12/diomedé_crossroads/

The plan describes how building a dam in the Bering Strait theoretically influences the three most relevant factors for both formation and melting of sea ice. These are temperature isolation, water salinity and water turbulence.

Placing that dam some 300 kilometres south of the narrowest point of the strait will theoretically lead to a decrease of temperature, salinity and dynamics (through decreased wind fetch) combined. This dam would connect St. Lawrence Island in the Bering Sea with the mainland of Alaska and Siberia. All sweet water of the river Yukon would be kept north of the dam, slightly lowering salinity in the Chuckchi.

Deliberately influencing salinity could indeed be of important influence, thinks Dr. Overland, of the National Oceanic and Atmospheric Administration (NOAA).

Building the ‘St Lawrence Dam’ would also ensure the northwards transport of warm Pacific waters into the Arctic is stopped. This may help slow down the ever earlier onset of spring melting.

The dam would be over 300 kilometres long, in a part of the Bering Sea that is on average 50 meters deep. The whole enterprise would therefore require at least 1,5 billion cubic meters of rock.

If further research would prove assumptions correct, building the St Lawrence Dam could be very beneficial to the World’s climate system, as two important positive feedbacks to climate change are slowed down, one being the albedo effect and the other methane emissions from thawing permafrost. From this point of view, building the St Lawrence Dam could assist present mitigation efforts as tundra methane emissions are already a big contributor to the rising concentration of greenhouse gases.

‘The mentioned climate impacts of this plan are possible,’ according to a reply of the National Snow and Ice Data Centre (NSIDC), the world’s Arctic sea ice watchdog, associated with the University of Colorado.

‘This is certainly an interesting idea. However, there are several issues: such a dramatic change in inflow into the Arctic could have unforeseen ramifications, not just in the Arctic, but also in the North Pacific and surrounding landmasses. Also, while a dam would stop ocean inflow, there would still be atmospheric inflow and atmospheric inflow into the Arctic is a significant factor,’ writes Dr. Walt Meier of the NSIDC.

Author Rolf Schuttenhelm doesn't advocate the plan himself. 'I agree many uncertainties exist. Right now they are too many. I disagree with the conclusion we should not act – out of human inertia. The cost of inaction is enormous.'

If the St Lawrence Dam would prove capable of halting permafrost thawing, that would, theoretically, be worth 10 to 15 billion dollars annually in carbon credits as tundra methane emissions are presumed to have already surpassed one Gt of CO2 equivalents per year. With continued permafrost thawing these emissions will only keep rising.

