# A SYSTEM OF HYDROLOGICAL AND CLIMATOLOGICAL BUFFER-ZONES FOR MIRES

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In Europe, there are various concepts for hydrological buffer-zones for mires. Some buffer-zones are inside the mires, some outside. The hydrological processes, which shall be influenced by the buffer-zones, and the aims of mire-protection are different. Nevertheless, not all important processes and aims of protection are included in the existing conceptions.
The water-, nutrient- and energy-supply of different mire types depends of their surroundings, e.g. catchment-areas, geology, local mesoclimate and immission-conditions. The catchment-areas can be subdivided into surface-water- and groundwater-catchments. The groundwater-catchments can belong to different aquifers, which in a different way are connected with different parts of mires. We show some examples [of…?] from Northern and Southern East-Germany. In these catchment-areas, there are different land-use types and land-use-changes going on. It must be identifided, how this is connected with mire hydrology and ecology. After identifiing and calculating hydrological processes, one can say, how the surroundings must be protected.
The mire microclimate depends on the mesoclimate of the surroundings. The relationship between a mire and its surroundings is realised via air-transport (advection) and radiation. The climate of the surroundings and the processes of advection and radiation are the extern regulators of mire-evapotranspiration. Depending on evapotranspiration, the water-quality and/or the vegetation in a mire can change. In dry climates, dry seasons or under possible climatic changes the oasis-effect plays an important role on mire-evapotranspiration. We will present a simple method of calculating the oasis-effect. If we calculate the influence of different surroundings to oasis-effect, we ca identify management options for so called climatic-buffer-zones.
We distinguish 3 types of hydrological and 3 types of climatological buffer-zones for mires. In mire protection and revitalisation projects one must identify processes of water, nutrient and energy exchange with each possible buffer-zone. We will give some examples, how buffer-zone-management is compatible to the local water-, forest- and nature-protection-legislation, to NATURA 2000 and EU-Water Framework Directive.