

# (Hydrological) Water balance

German Delegation

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# Introduction

- The water balance is used for quantitative description of the water cycle and based on the continuity equation. They linked numerically the components of the hydrologic cycle: precipitation, evaporation (evapotranspiration), discharge and water storage change.
- it exists no legal basis

# Methodology

- To determine the water balance data are required to precipitation and evaporation. The water balance results from the simplified formula:  $R = P - ET$  [mm / a]
- precipitation and evaporation are measured data
- In Germany, climate and precipitation data are mainly collected by the German Weather Service, corrected and edited.
- Scale of parameter/method use – RBs, WB....
- Description of methodology (e.g. calculation)

# Results

- For Germany, the mean annual water balance prepared in accordance with a uniform procedure and published in the HAD.
- The HAD (Hydrological Atlas of Germany) is a factory-date information. It offers basic data and aggregated data sets also provide insight into the scientific methods applied.
- It is published as a conventional graphical atlas work (scale 1:1 000000, grid resolution 1 x 1 km<sup>2</sup>) and in the form of various digital modules.

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# Results

- For the entire catchment area of the Elbe, the average annual precipitation level is (uncorrected) 628 mm, which occur in the Czech part of the basin 666 mm/a.
- In general, the annual precipitation in varying regions is very different.
- For the whole catchment area of the Elbe, the average water balance is:  $\bar{P} (628\text{mm/a}) - \overline{ET}_r (445\text{mm/a}) = \bar{R}(183\text{mm/a})$ .

$P_{\text{kor}} =$  corrected precipitation depth

$ET_R =$  real (actual) evapotranspiration

$R =$  depth of runoff

Thank you for your attention!