

GBGI and water flow: a Review

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Project Aims



- » Undertake a systematic review of evidence supporting the use of Green-Blue infrastructure to impact water flow in urban areas

- » Thank you to the entire Team, in particular:

 - » Jannis Wenk
 - » Franciszek Bydalek

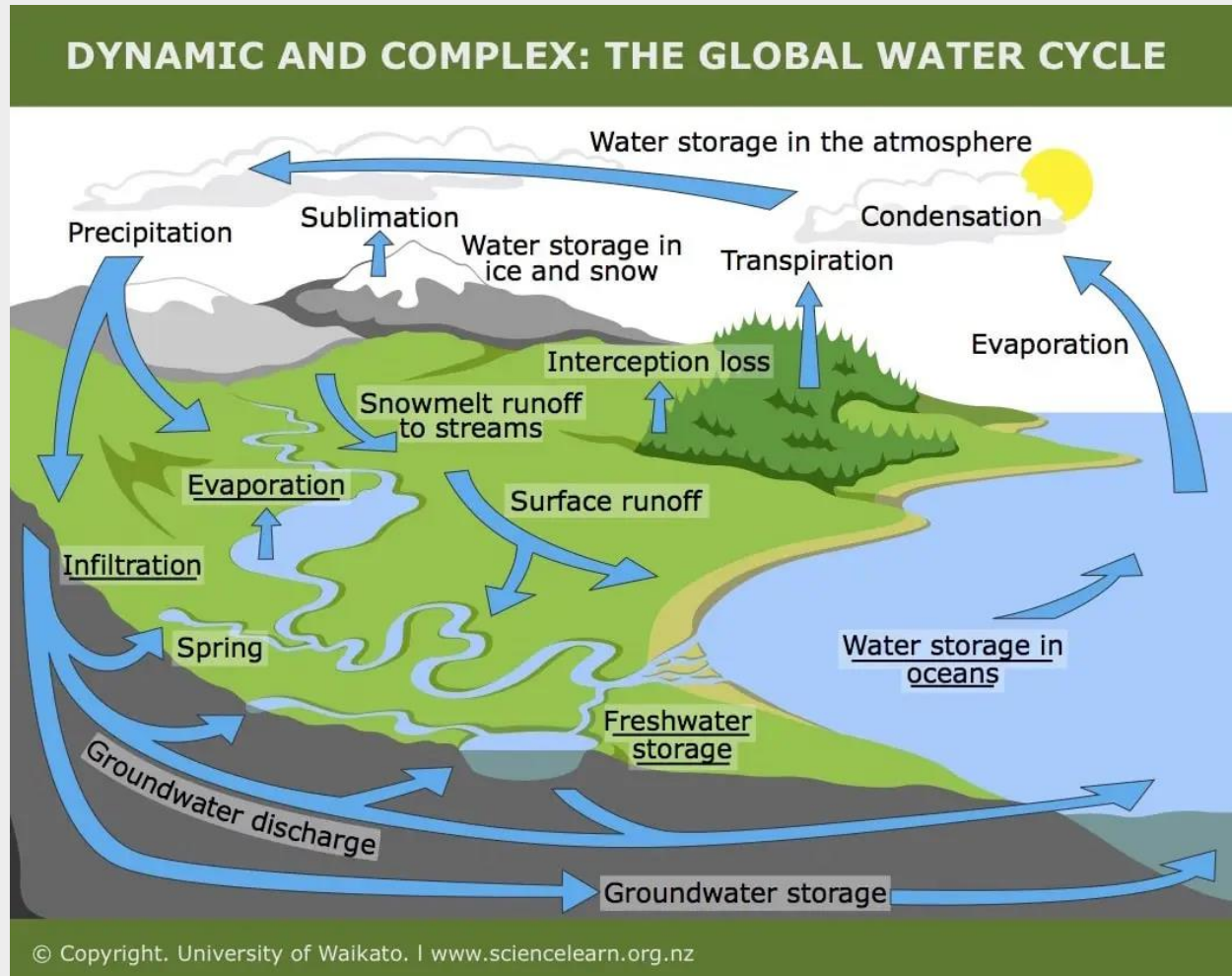
Green blue grey infrastructure

US EPA definition

"the range of measures that use plant or soil systems, permeable pavement or other permeable surfaces or substrates, stormwater harvest and reuse, or landscaping to store, infiltrate, or evapotranspire stormwater and reduce flows to sewer systems or to surface waters."

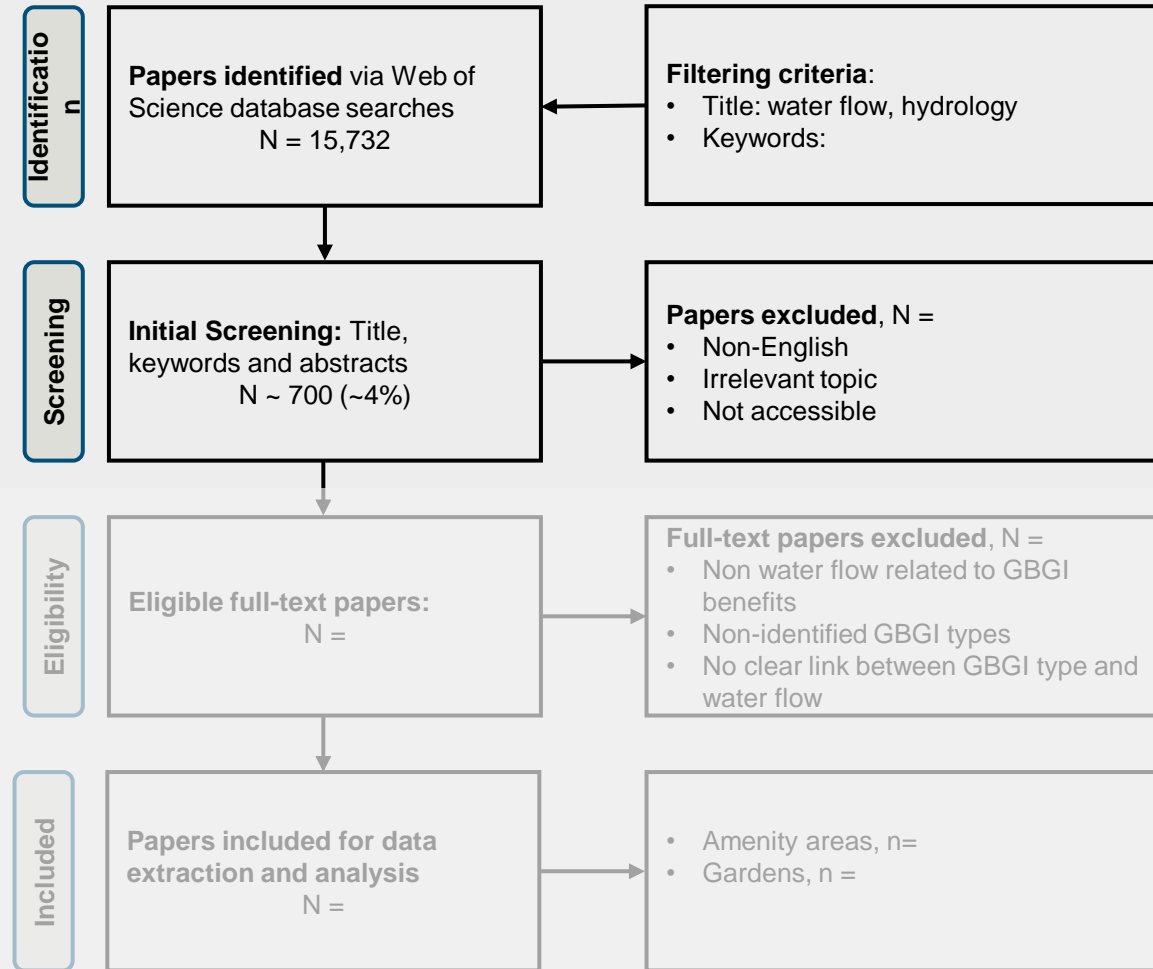


Focussing on the hydrological cycle



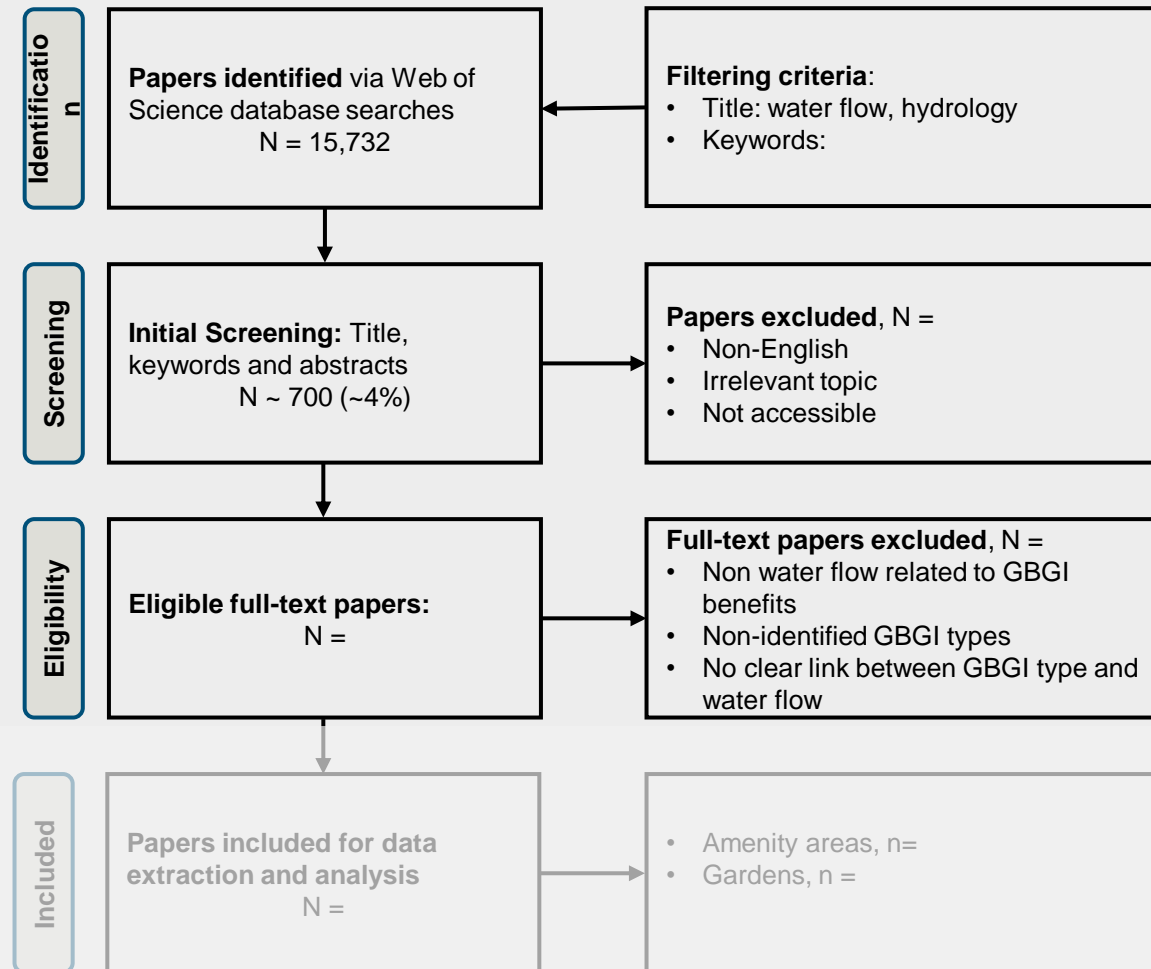
- » **Infiltration:**
 - » Infiltration rate (mm/min or mm/hr)
- » **Evapotranspiration:**
 - » Tree transpiration (mm/hr, or equivalent to the percentage of runoff)
 - » Green surfaces evaporation coefficients (i.e. mm/h)
- » **Runoff:**
 - » Discharge lag (min/hours)
 - » Peak flow reduction (mm or percentage reduction)
 - » Baseflow (percentage reduction / increase)
 - » Groundwater / soil moisture levels (% reduction / increase)
- » **Additional parameters:**
 - » Origin(s) of the authors.
 - » Catchment properties
 - » • Catchment area (size, km²)
 - » • Land use composition (percentage urban or impervious surfaces)
 - » • Geographical location of Case studies

Workflow

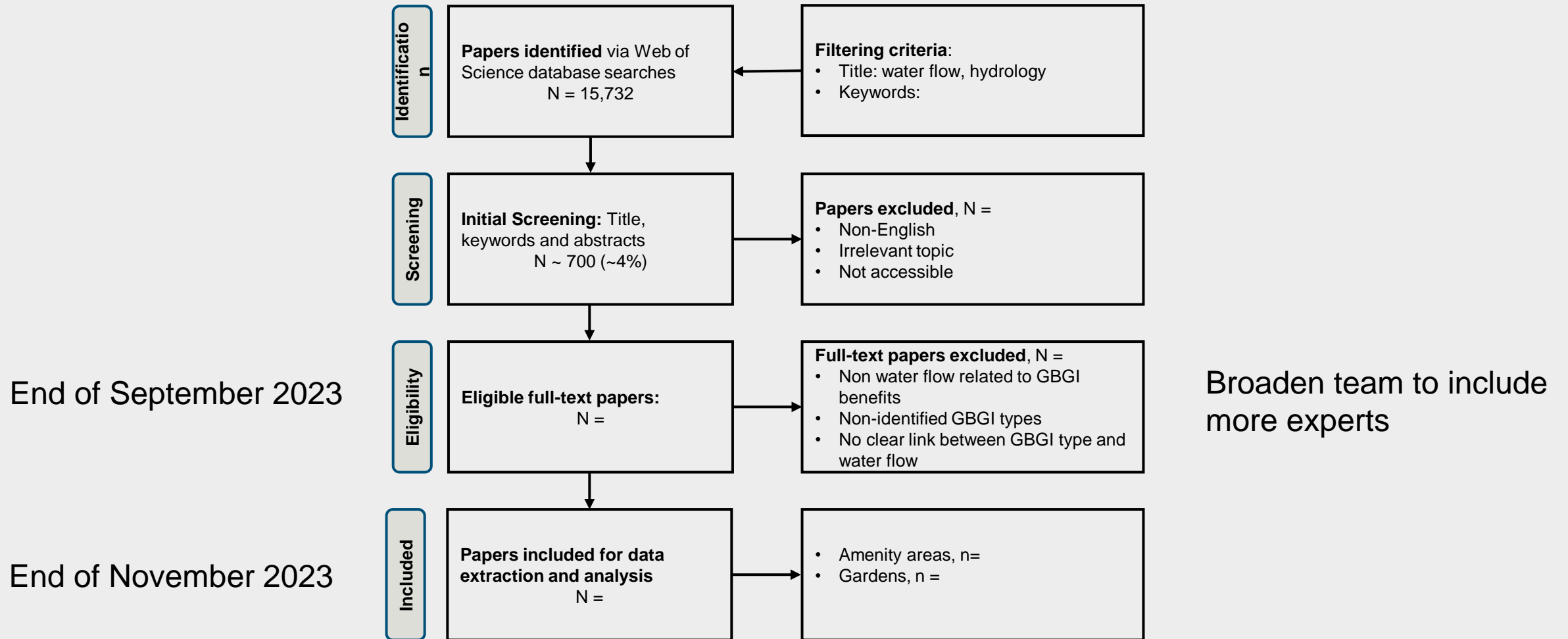


Workflow

End of September 2023



Workflow



Aim for first submission, End of 2023

nature water

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Aims & Scope

Water is at the heart of human civilization. Throughout history, societies have progressed by improving access to clean water for drinking, for sanitation and for agriculture, and by removing contaminants from water to reduce the effects on the environment and improve public health. Our modern society faces new challenges that require innovative approaches to our relationship with water: climate change affects water systems by increasing droughts and floods, which in turn reduce water