Advancing understanding of the influence of environmental seasonality on household experiences with water: A systematic literature review

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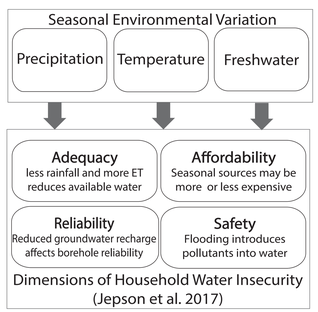
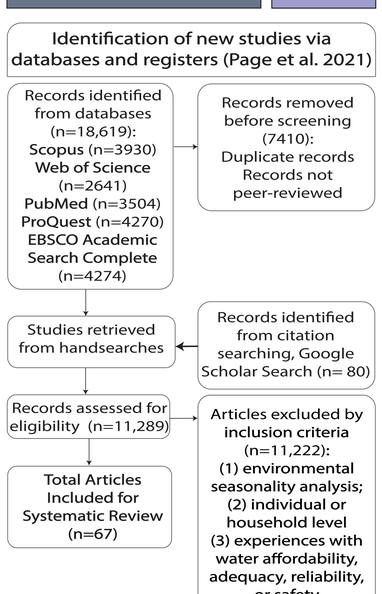
INTRO

Research Questions:
(1) How does environmental seasonality affect HWI?
(2) How do environmental seasonal effects on HWI vary over time?

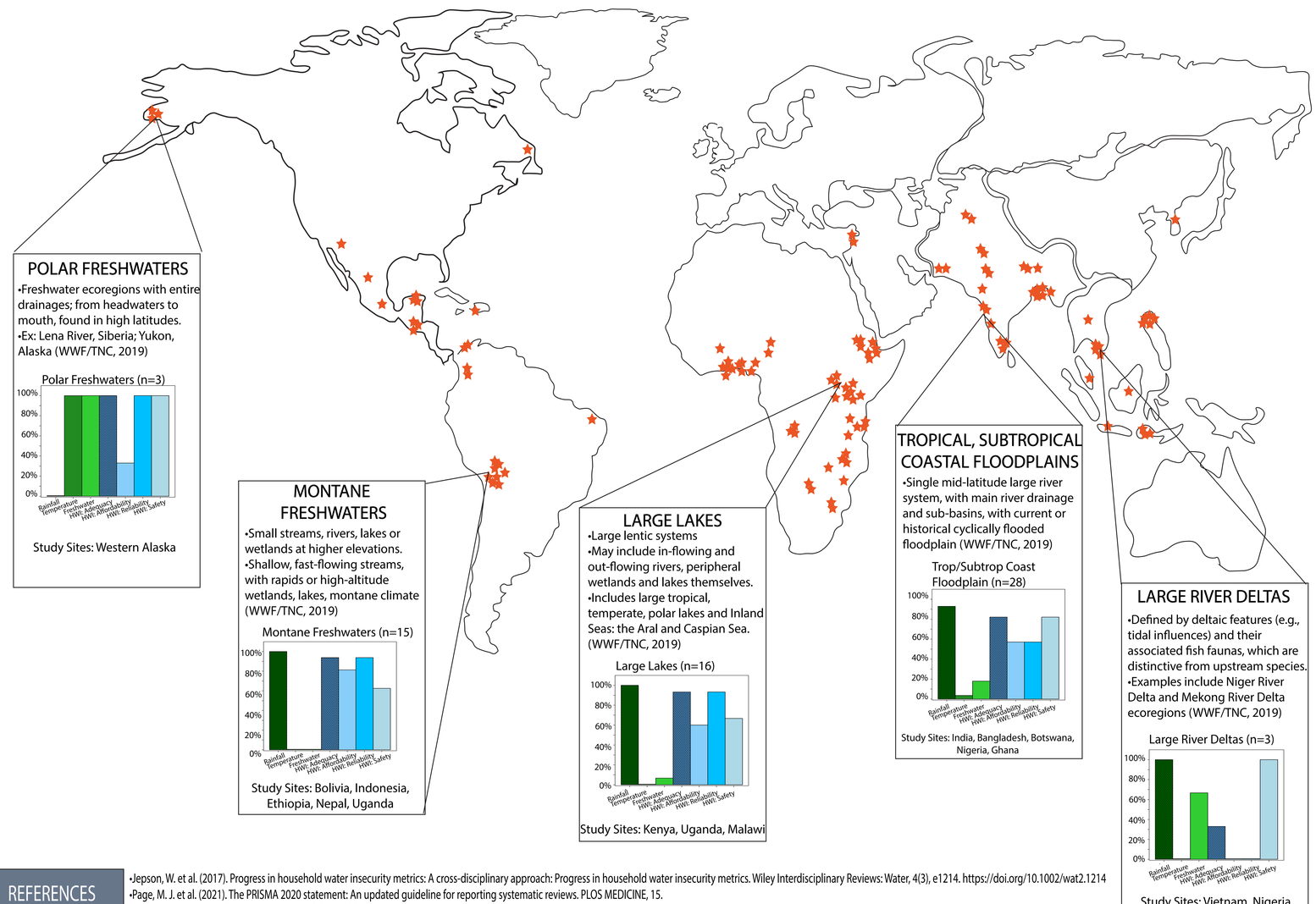


METHODS



FINDINGS

- Many studies *68.7%* were ***cross-sectional*** (*n=46)* and *31.3%* were ***longitudinal*** (*n=21*).
- Most studies *86.6%* considered the effects of ***rainfall seasonality*** (*n=58*) on household experiences with water with less studies *13.4%* focusing on ***temperature*** (*n=9*) and *26.9%* on ***freshwater seasonality*** (*n=18*).
- Of all studies, *77.6%* (*n=52*) analyzed ***water adequacy***, *47.8%* (*n=32*) ***water affordability***, *68.7%* (*n=46*) ***water reliability***, and *82.1%* ***water safety*** (*n=55*).



LITERATURE GAPS

(1) Low representation of longitudinal studies

(2) Of longitudinal studies, only 6 of 12 major freshwater habitats are represented (WWF/TNC, 2019)

(3) Of studies that consider water safety (n=55, 82.1%), only 18 (26.9%) used objective water quality testing

(4) Household water affordability is the least studied dimension of household water insecurity

FUTURE DIRECTIONS

(1) Greater precision with flood and drought typologies, when possible

(2) More longitudinal studies

(3) Consider effects of extreme climate

(4) Address location and freshwater habitat gaps

(5) Consider health implicaitons

(6) Consider engineering and policy implications

REFERENCES

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