

**Search 1: Search for articles with "systematic review" in their title in Web of Knowledge, outside of the health sciences.**

*Objective:* Estimate the proportion of articles indexed in the search engine Web of Knowledge that include the title term “systematic review” and relate to topics outside of the health and health-related sciences.

*Search methods:* Systematic search of Web of Knowledge using the title word search "systematic review" and NOT (topic) health, medic\*, clinic\*, epidemiolog\*. Documents were filtered based on automated exclusion of all health-related topics under the refine option 'Research Areas', and again excluding all health-related journals under the refine option 'Source title.' Lastly, documents were scanned based on title to exclude health-related articles.

*Table 1: Inclusion and exclusion criteria*

Inclusion criteria	Exclusion criteria
Listed in WoK with "systematic review" as a title term	Not listed in WoK with "systematic review as a title term
Published 1990-2013 inclusive	Published prior to 1990
Not focused on a health or health-related topic	Health or health-related topic, including clinical medicine, public health, epidemiology, psychology, sociology, sports medicine, nutrition, disability, medical education, health communication, addition, pharmacology, dentistry, veterinary medicine, and clinical microbiology
Article or review	Meeting, abstract, editorial, book, patent or letter

*Results:*

- 60,735 articles indexed in Web of Knowledge from 1990-2013 used the title term "systematic review"
- Of these, only 218 (0.36%) were related to topics other than health or health-related disciplines.
- Dominant topics within these 218 articles include ecology, zoology, crime research, education, and computer and software engineering.

## **Search 2: Search for review articles related to climate change adaptation**

*Objective:* Identify articles indexed in the search engine Web of Knowledge, focused on climate change adaptation, and employing systematic review methods.

### *Search methods:*

We focused in this review on identifying climate change adaptation literature liberally employing systematic review approaches. Our intention was not to identify articles strictly fitting our expectations of a rigorous systematic review, but rather meeting very basic minimum requirements. This liberal requirement was selected for two primary reasons: 1) there is negligible adaptation literature that would be eligible if we employed strict requirements, thus constraining our ability to review the scope of systematic review application in adaptation research, and 2) we sought to broadly understand the diverse application of systematic review approaches, including those that strict requirements would exclude or consider ‘borderline’. The following *Phase 1* search was performed using the search engine, Web of Knowledge, using the following search string:

TOPIC: ("review")

AND TOPIC: ("adaptation")

AND TOPIC: ("climat\* chang\*")

Refined by: DOCUMENT TYPES=(article or review)

In *Phase 2*, we scanned all document titles, and abstracts where necessary, to apply additional inclusion criteria as outlined in Table 2. Articles were selected to identify those reporting or discussing human adaptation explicitly identified (or clearly implied) by the authors as adaptations to climate change. IPCC AR4 definitions were used to guide inclusion/exclusion criteria. Herein, climate change refers to any change in climate over time, whether due to natural variability or as a result of human activity. Adaptations include adjustments in human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities. Adaptations predominantly relating to natural systems were excluded along with studies reporting predominantly on risk, impacts or vulnerability, as well as mitigation and general sustainable development. Papers focusing on both impacts and adaptation, but with limited systematic attention to the latter (e.g. Beggs et al 2011, Wilson et al 2011) were excluded, as were papers with a broad focus on global environmental change not explicitly or implicitly emphasizing climate change or adaptation (e.g. Martins and Ferreira 2010). We retained papers focused on ecosystem services where explicitly framed as a human adaptation to climate impacts. Articles with relevance to climate change, but not explicitly framing the research as relevant to climate change beyond a token reference in the introduction or conclusion were excluded. (e.g. Castleden et al 2011).

We sought articles that employed systematic review methods in their paper. In order to be considered for inclusion, documents necessarily had to explicitly refer to, or imply, the use of a comprehensive or structured methodological approach to review in their abstract or title. For example, abstracts mentioning “comprehensive” or “exhaustive” review were retained for full-text evaluation. This risks omitting documents using systematic approaches but not acknowledging or implying such methods in the abstract. Some evidence of intentional review

methods in the abstract was thus used as a proxy for systematic review approaches in the document.

Papers explicitly or implicitly implying some form of intentional methodology in their review process were retained for full-text review. We aimed to apply a fairly liberal filter in order to capture a range of adaptation literature and reflect the extent to which systematic approaches are applied. The following criteria were applied:

- 1) Paper must include review of a literature source (peer-reviewed, policy documents, or grey literature) as a primary or dominant component of the research. For example, papers based on systematic analysis of interviews only were excluded. Papers not indexed as reviews were automatically already excluded in *Phase 1*.
- 2) Paper must include explicit description of methods used to select documents included in the review.
  - a. Description of methods includes explicit identification of search terms. An exception was made where papers reviewed all documents within a distinct literature source (e.g. review of all National Communications submitted to the UNFCCC). We used a fairly liberal threshold for keyword criteria, allowing authors to define keywords used but not requiring exact search strings or breakdowns of articles sourced from individual searches. Some iterative searching was considered acceptable for inclusion if the author outlined the keywords and provided an explanation of the search process in some detail.
  - b. Paper must clearly identify inclusion and exclusion criteria, OR provide a list of documents reviewed, OR the list of reviewed documents is clearly implied such that it could be accessed. In the case of reviews using a *sample* of the literature for analysis, a list of the sampled documents was not required for inclusion if the sampling strategy for selection was explicitly outlined and systematic.

Papers did not need to self-identify as using systematic approaches, and we did not apply any criteria based on approaches to analysis or presentation of results. No language restrictions were applied, though non non-English articles met inclusion criteria based on title and abstract review. No date restrictions were applied, though adaptation research is sufficiently recent and systematic approaches to adaptation research are sufficiently scarce that the earliest documents eligible for inclusion were published in 2009.

Table 2: Inclusion and exclusion criteria:

<b>Inclusion criteria</b>	<b>Exclusion criteria</b>
<b><i>Phase 1</i></b>	
Listed in WoK and based on search string: TOPIC: ("review") AND TOPIC: ("adaptation") AND TOPIC: ("climat* chang*")	Not indexed in WoK or retrieved using search string
Reviews and articles only	Articles, meeting, abstract, editorial, book, patent or letter
All dates up to Jan. 1, 2014	Articles indexed in WoK after Jan. 1, 2014
<b><i>Phase 2</i></b>	
Substantive focus on climate change adaptation. The terms 'adaptation' and 'climate change' must be present or clearly implied in the title, keywords, or abstract.	Adaptation to climate change not main focus of article (e.g. mitigation, impacts- or vulnerability-focused, weather analyses with no consideration of climate change).
Focus on human adaptation	Focus on adaptation within biophysical systems only or predominantly
Abstract implies systematic or comprehensive approaches to the review	Abstract does not imply that the review was in any way structure or systematic
Search terms, search strings, or detailed search process described	Search process not described in detail
Inclusion and exclusion criteria clearly articulated <u>OR</u> documents included in the review are listed, linked, or clearly implied	Article does not articulate inclusion or exclusion criteria <u>AND</u> does not provide a link, list or clearly imply which documents were reviewed