

Indicator name	Climate vulnerability index (CVI)
Prepared by	Center for Ecology and Hydrology (CEH), UK
Example	WWDR2, Chapter 10, Map 10.3
Rationale	Integrated assessment of local vulnerability to water-related risks
Position in DPSIR chain	State
Definition of indicator	The CVI links water resources modelling with human vulnerability assessments to contribute to a meaningful assessment for generic use.
Underlying definitions and concepts	Water-related hazards: floods and drought Water availability, for ecosystems, food production and health Integrated vulnerability assessment as a combination of physical (natural) and socio-economic data
Specification of determinants needed	Geospatial (G): what are the particular geographical characteristics of the location that make it vulnerable ? Water resources (R): what is available ? Access to water (A): what is the extent of coverage ? Use (U): how effectively is water used ? Capacity (C): what is the capacity to manage water ? Environment (E): what are the environmental impacts ?
Computation	The CVI combines components into a composite index structure $CVI = (rR + aA + cC + uU + eE + gG) / (r + a + c + u + e + g)$ Where: R, A, C, U, E and G are the sub-components and r, a, c, u, e and g are weighting factors (possibly subjective)
Units of measurement	Percentage (to serve later in comparative ranking of locations or social groups)
Data sources, availability and quality	Identify zones of present and likely future water stress Identify geographical types likely to be vulnerable Collect and collate relevant data for sample locations Select scenarios of change: social, economic and environmental conditions Calculate CVI scores for the present and expected future situations Provide results at a range of spatial scales, with indication of uncertainty
Scale of application	Ecozone type and politically defined areas National application for international comparisons Local level, such as communities, for empowerment and lobbying of politicians
Geographical coverage	Potentially global
Interpretation	CVI scores in terms of relative impacts to people
Linkage with other indicators	Possibility to relate different scales, using data of different grid resolution, or nested data for more effective spatial comparison (global, regional, local)
Alternative Methods	None known.
Related indicator sets	Human Development Index (HDI) and surrogate indices for sectoral assessment (water availability, access to water, health, etc.)
For further information	Dr C. Sullivan (csu@ceh.ac.uk), Center for Ecology and Hydrology, UK; WMO's World Weather Watch for hydrometeorological data.
Other institutions involved	National Hydrological Services for hydrological data; UNDP and IFRC and various aid agencies for data on access to water; WHO for health data.