

# Value Chain Bibliography

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## Purpose

The *information value chain* provides a useful framework for characterizing the production, communication, and use of high impact weather warnings in terms of their processes, inputs and outputs, relationships, contributions, and operational contexts of stakeholders. A 4-year multidisciplinary project on Value Chain Approaches to Evaluate the End-to-End Warning Chain<sup>1</sup> aims to

- a) review value chain practices used to describe and understand weather, warning and climate services,
- b) assess and provide guidance on how to effectively apply value chains in a weather warning context involving multiple users and partnerships, and
- c) create a searchable warning chain database that researchers and practitioners can use to explore the organisation and performance of actual end-to-end warning chains for high impact events and assess their effectiveness using value chain approaches.

This **Value Chain Bibliography** has been created to assist the project with the first two aims. Relevant literature has been collected and tagged using Mendeley and is available to the project. The chapters in this bibliography contain references for groups of documents describing different concepts and components of the information value chain for warnings.

The bibliography will be updated periodically as new literature is added to the collection. A version of the bibliography that includes abstracts is also available.

To contribute additional literature, provide feedback, or get involved with the project please contact [Beth.Ebert@bom.gov.au](mailto:Beth.Ebert@bom.gov.au) or [David.Hoffmann@bom.gov.au](mailto:David.Hoffmann@bom.gov.au).

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<sup>1</sup> The Value Chain project is a flagship project of the World Meteorological Organization's (WMO) World Weather Research Programme (WWRP) High Impact Weather (HIWeather) project and the Societal and Economic Research Applications (SERA) Working Group. More information can be found at the HIWeather website, <http://hiweather.net/Lists/130.html>.

## Value Chain

**Keywords:** agricultural value chains, associated challenges in warning communication, bushfire impact assessment, citizen science, components, challenges, data-value chain, disaster management cycle, data-based value creation, effectiveness, effective disaster management, fire management, flow of information, forecasting challenges, gaps, GAR paper, high-impact weather project, HIWeather project overview, hydromet value chain, information value chain, knowledge value-chain, links, meteorological value chain, modelling the VC, overview, potential benefits, professional management, product development, good practice, steps, supply chain, value chain, value chain adaptation, VOICE, value chain in conservation, value chain overview, value tree, VC, warning chain, warning systems, weather service chain analysis, use of weather data, climate risk and early warning systems (CREWS)

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## Economics

**Keywords:** altruistic value, asymmetric loss function, avoided losses, benefit analysis, benefit cost ratios, benefit model, benefit-cost ratio, benefits of warning systems, benefits transfer, bequest value, cost of bad weather, cost/benefit ratio, cost/loss ratio, cost-benefit analysis, cost-loss approach, costs of disasters, costing environmental losses from natural disaster, economic, economic and social value, economic assessment, economic benefit, economic loss, economic measures, economic value, environmental losses, environmental value, estimating loss and benefit, EWS benefits, forecast value, funding, intangible value, investments, logic model, loss assessment, market observatory, merit good, monetary value, non-economic loss and damage, non-use values, financial hardship, potential economic value, SEB, social-economic benefit assessment, social benefit, societal benefits, socioeconomic value, user benefit, value, value added, value analysis, value assessment, value conversion, willingness to pay

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## Climate

**Keywords:** adaptation, climate change, climate change adaptation, climate change impacts, climate change risk, climate risk, climate risks, climate service, climate services

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## Use cases

- Use case 1 – Design a new service
- Use case 2 – Understand an existing value chain
- Use case 3 – Evaluate service effectiveness
- Use case 4 – Assess the value of service improvements
- Use case 5 – Prioritise allocation of resources

**Keywords (tags):** co-design, co-design and co-production, existing VC structures, mapping value chains, service improvements, service design, UC 1, UC 2, UC 3, UC 4, UC 5

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## Case studies

**Keywords:** Africa, Asian countries, Australia, Australia case study, agriculture, Arctic, case studies, case study, country profiles, country specific data, critical infrastructure, flood event case studies, most vulnerable countries, past efforts, solar energy, Sri Lanka, Tanzania, transport

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## Actors

**Keywords:** authorities and agencies, coordinating bodies, boundary organizations, decision making, decision, evacuation decision making, forecast users, forecaster decision making, gender, identifying key stakeholders, identifying user needs, hydromet services, human resources, interdisciplinary collaborations, key requirements, knowledge coproduction, local communities, national meteorological and hydrological services, NMHS, NMHSs, partnerships, public-private partnerships, stakeholder, stakeholders, tropical cyclone warning services, trust, user groups, users in product development, time requirements

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## Social

**Keywords:** behavioural recommendations, educational needs, evacuation behaviour, health care, intervention, counterfactual studies, mental health, perception of forecasts, public and private engagement, psychometric paradigm, qualitative benefits of services provided by NHMSs, risk perception, risk aversion, causal inference, socioeconomic vulnerability, social characteristics, social inequity, social measure, social process, social science, two-way interaction, understanding of risk, user decision, user feedback, user judgment, user needs, user preference, user psychological factors, user uptake, vulnerability

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## Evaluation and verification

**Keywords:** evaluation, evaluation and monitoring methods, evaluation of forecast skill, evaluation of risk, evaluation of simulation performance, accuracy, EWS limitations, FAR, hazard analysis, impact assessment, assessment, assessment of emergency preparedness, assessment of emergency preparedness/response/coordination, assessment of hindcasts, assessment of responsibilities, assessment of warning accuracy, improvements, improvements in communication, level of threat, methods, monitoring and evaluation, obstacles to uptake, performance assessment, POD, probabilistic counterfactual analysis, reliability, risk assessment, measuring producer skill, probabilistic lives saved, risk reduction, technological needs, uncertainty, valuation, value of forecasts, value of information, value of service, value of weather and climate information, value proposition, value network analysis, value chain analysis, warning communication methods

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## Tools

**Keywords:** digital technology, decision thresholds, decision making probabilities, detection, disaster classification, economic framework, country hydromet diagnostics, flood modelling framework, framework, guide, expert elicitation, impact-based decision support, indicators, manual, policy, questionnaire, Sendai framework, Sendai framework for disaster risk reduction, strategies to solve solutions, survey, survey and observation strategies, surveys

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## Forecasts

**Keywords:** ensemble forecast comparison, accurate data simulation, data assimilation, data modelling, development of impact-based forecasting, flood forecasting, forecast uncertainty, forecasting, forecasting models, hazard forecast, hazard modelling, IBF implementation, impact-based forecasting, multiscale hazard forecasting theme, risk modelling, use of seasonal climate forecasts, weather, weather modelling, weather predictions

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## Hazard

**Keywords:** drought, earthquake, fire, flood, bushfires, heatwaves, hurricane, hazard characteristics, natural disaster, natural disasters, natural hazard-related disaster, natural hazards, storm surge, tornadoes, tsunami, typhoon, volcano

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## Communication

**Keywords:** communication channels, communication effectiveness, communication of information, communication of risk, communication pathways, communication roles, media communication, risk communication, social media, social media (Twitter), telecommunications and public-private partnerships, Twitter, warning communication

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## Data and information

**Keywords:** big data, crowdsourcing data, crowd-sourced and anecdotal data, crowd-sourced data, data analytics, data collection, agroclimatic bulletin, books, disaster loss and damage data, disaster databases, disaster damage, emergency flood bulletin creation, exposure data, disaster impact, flood damage, global database, hurricane risk information, impact data, humanitarian impacts, information availability, information sharing, information systems, information technology, lack of information, information-intensive service, information lead time, modelling data, observations, observing systems, probabilistic information, Twitter data, uncertainty information, volunteered geographic information, vulnerability data

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## Warning

**Keywords:** cyclone warning, drought early warning, early warning, early warning services, early warning system, early warning system implementation, early warning system overview, early warning systems, early warnings, effective warning systems, enhancing warnings, EWS, EWS overview, flood early warning systems, flood warning system, impact-based forecasts and warnings, impact-based warnings, local EWS, mobile phone-based warning, tornado warning, warning, warning thresholds, warning time, warnings, warning nature and characteristics

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## Response

**Keywords:** business resilience, disaster resilience, disaster response operations, disaster risk reduction, emergency response, emergency coordination, emergency preparedness, human and community response, likelihood of evacuation, preparedness activities, public response, resilience, response, social response, user response

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