

Supplementary material 2 (SM2)

Glossary of terms: Indigenous futures thinking

This Glossary accompanies the review article, *Framings in Indigenous futures thinking: barriers, opportunities, and innovations*. Definitions relate to the specific context of futures thinking with, for, and by Indigenous peoples; they may thus differ in detail from those used within other contexts and disciplines.

Western-driven futures-thinking methods

Method	Description
3D landscape visualisations	Landscape visualization using computer-based models and/or physical constructions in 3 dimensions (Lovett et al. 2015).
Adaptive management	A process for learning about the effectiveness of management by monitoring outcomes (Williams 2011).
Backcasting	A futures method in which a particular future scenario is identified in some detail. Its origins and lines of development are then carefully traced back into the present. Often contrasted with forecasting. (Slaughter 2005).
Bayesian network analysis	Bayesian networks are directed non-cyclical graphical representations in which the dependence, or cause and effect relationships between variables are made explicit. Advantages of using BNs include that uncertainty can be explicitly considered (van Putten et al. 2013).
Bricolage	People's creative and resourceful use of available resources, reconfiguring, improvising, or building on them to construct new ones in the process of meeting objectives or solving problems (Abu & Reed 2018).
Causal layer analysis	Exposes hidden assumptions and helps create new narratives through analysis of four layers of meaning: the litany, social causes, discourse/worldview, and myth/metaphor (Inayatullah 1998).
Change management	An approach to transitioning individuals or groups to a different desired state (Karp 2004).
Community diaries	The approach mixes elements of traditional recording apparatus (e.g., videography, photography, and audio recorders), social media contributions, and custom-built capture technologies (e.g., time-lapse video and experience capture installations) to create a rich description of events as they unfold (Kelliher and Burn 2015).
Critical futures	Approach to futures based on 'probing beneath the surface', i.e., looking beyond empirical surfaces to the linguistic, cultural, and symbolic dimensions where meanings and assumptions are actively shaped. Hence its use of the 'interpretative perspective'. Hence 'critical' here does not simply mean 'to criticise', but rather, 'looking more deeply' (Slaughter 2005).

Cross impact analysis	Structures thinking about how one event impacts the likelihood of other events through use of a 2X2 matrix table. The probability of impact of one event on another is assigned subjectively or are underpinned by mathematical relationships (Slaughter 2005).
Decision modelling	Alternative decisions are scored against multiple, weighted criteria or objectives to determine which alternative performs best across all objectives (Cook et al. 2014b).
Dialogue	Discussion facilitated by open-ended questions, observations, and a focus on contextual information to promote social learning and shared understanding (Schultz et al. 2019).
Dynamic knowledge loop	Explores the dynamic processes of “adaptation of knowledge” or social learning which leads to changes in “knowledge of adaptation” (Hagemeier-Klose et al. 2014).
Emerging issue analysis	Used to identify trends and problems as they emerge based on an s-shaped curve from novelty to information saturation (Molitor 1977).
Ethnographic futures research	Method is non-directive and open-ended with some set probes from an interview protocol to guide the participant into different aspects of their community. Participants talk about the future as if it already happened and they are looking back over the years to see how they got to where they are today. There are three scenarios: the optimistic, pessimistic, and most likely (Textor 1995, Gordon 2021).
Fifth scenario	Uses an existing set of four scenarios to describe the preferred future and the steps needed to achieve it (Inayatullah 2008).
Future generations	An examination of how present-day actions will impact future generations, beyond our children and grandchildren (Matters 2019).
Futures triangle	A tool to consider plausible futures based on past, present, and future drivers and trends (push of the present, weight of the past, pull of the future) (Inayatullah 2008).
Fuzzy cognitive mapping	Fuzzy cognitive mapping (FCM) are diagrams with a number of nodes, so-called “concepts” that are connected through arrows that show the direction of influence between concepts, with weights assigned to the arrows to reflect the strength of causal links (Kosko 1986). Qualitative and quantitative data from multiple and diverse sources can be included, and multivariate interactions that lead to nonlinearities. It aims to make implicit assumptions (or mental models) explicit in futures studies (Jetter & Kok 2014).
Gaming/roleplay	Participants use information provided to make decisions in games about the future in a controlled, risk-free environment using methods such as consciously acting out an adopted role (Slaughter 2005).
Genius forecasts	Statements based on individual insight, rather than methodological foresight about the future. Often used by those who would not identify as a futurist but feel capable of making such claims based on theory, knowledge, and experience (Glenn 1994, Matters 2019).

Horizon scan	Systematic outlook to collect and organize a wide array of information to identify emerging issues and detect early signs of potentially important developments (Cuhls 2019).
Integral futures	Inquiry into the future that recognises and embraces multiple knowledge systems, world views, and methodological pluralism to consider a world characterized by volatility, uncertainty, complexity, and ambiguity (Voros 2008, Frame 2018).
Issue-centred scanning	A tool for collecting and organizing a wide array of information to understand and track previously identified issues (Amanatidou et al. 2012).
Leading/ lagging indicators	Using data on from current or recent trends (lagging indicators) and developing indicators that attempt to anticipate future trends (leading indicators) (Moore 1969).
Multiscale scenario	Exercises that consist of a set of linked scenarios constructed at two or more scales, storylines are developed at several scales, e.g., global, and national, and are linked to one another to some degree (Mistry et al. 2014).
Participatory scenario planning	Participatory scenario planning (PSP) is a process in which stakeholders, frequently guided by researchers, are engaged in a highly collaborative process, and develop a leadership role within some or all stages of a scenario development process to investigate alternative futures (Oteros-Rozas et al. 2015).
Photovoice	Enabling the taking of photos with the goals to enable people to record and reflect upon their community's strengths and concerns; to promote critical dialogue and collective knowledge production; and to inform policy (Wang & Burris 1997, Maclean & Woodward 2013).
Positive scenarios	Scenarios that explore what people want for the future and how social action can lead to those desirable futures (Falardeau et al. 2019).
Q-methodology	Q methodology involves a group of participants sorting a sample of items into a configuration (the Q sort) that reflects a relevant subjective dimension (e.g., degree of preference for items) (Stephenson 1993). In futures/social-ecological systems studies, it has helped elicit concepts, values, and discern congruences and discrepancies at both individual and group levels, capturing how participants see themselves in connection with place, in positive, negative, and neutral ways, across time (Armatas et al. 2016).
Rapid rural appraisal	Used to further incorporate local knowledge into the research process. Transect walks of the community territory are used to identify features, resources, uses, and problems of different zones, reveal villagers' perceptions of their natural resources, and gain understanding of the communities surrounding environment (Chambers 1992).
Reverse engineering	Reverse engineering uncovers the design and functionality of a system by working backward from its final form (Wang 2010). In futures thinking, alternative views of the future are identified and

	backcasting used to show short, medium, and long-term threats and opportunities that will have a high impact on the system today (Ednie et al. 2023).
Risk analysis	A process for assessing and dealing with hazards (Burgman 2001).
Roadmap	For identifying the actions required to overcome any barriers (HSC 2014).
Scenario planning	A tool encompassing many different approaches to creating alternative visions of the future based on key uncertainties and trends (Peterson et al. 2003).
Scenarios from seeds	This approach builds on emerging and potentially transformative initiatives operating mostly at local scales, referred to as seeds, which demonstrate agency by contributing positive changes to their system (Bennett et al. 2016).
Seven questions	Series of questions designed, originally by Shell in considering possible scenarios, to stimulate reflection and speculation about the future (Ratcliffe 2002).
Simulation/modelling	Using a model to imitate the operation of a system over time to explore the effects of alternative conditions or actions (Fishwick 1995).
Six pillars approach	This approach is linear and sequential with the goal to map the future, anticipate emerging issues, understand deeper patterns, dive deeper into core narratives, create alternative scenarios, and conclude with a vision and strategic pathways to realize the vision (Inayatullah 2008).
Social multi-criteria evaluation	SMCE simplifies and structures complex decision-making problems by allowing the use of various evaluation criteria that are relevant for the stakeholders (Munda 2004, Zepharovich et al. 2021).
Societal, Technological Environment, Economic, Political (STEEP) analysis	Scans the contextual and external environment for an issue in relation to the STEEP areas (Carlsson et al. 2015).
Storytelling/narration	Using stories to make a topic tangible and encourage imaginative thought by capturing historical and current details, along with desirable or possible future conditions (Cook et al. 2014a).
Strategic planning	A strategic plan is a vision of the future and the basic steps required to achieve that future. A good plan should include goals and objectives, desired outcomes, metrics for measuring your progress, timelines, and budgets (Cook et al. 2014a).
Structured decision making (SDM)	SDM is designed to deliver insight to decision makers about how well their objectives may be satisfied by potential alternative courses of action. It helps find 'win-win' solutions across groups, clarifies the irreducible trade-offs that may exist between alternate potential courses of action and helps to communicate how people view these various options (Robinson & Fuller 2017).
Three horizons	Horizon 1 is 'business as usual', or ' <i>the world in crisis</i> ' (H1). It is characterized by 'sustaining innovation' that keeps 'business as usual' going. Horizon 3 (green) is how we envision a ' <i>viable world</i> '

	(H3). Horizon 2 (blue) represents ‘world in transition’ (H2) – the entrepreneurial and culturally creative space of already technologically, economically and culturally feasible innovations that can disrupt and transform H1 to varying degrees and can have either regenerative, neutral or degenerative socio-ecological effects (Sharpe et al. 2016).
Trend impact analysis	Projection based on past trends to infer the consequences of similar or different trajectories in key variables (Cook et al. 2014b).
Visioning	Participants describe the ideal scenario in detail. They share and refine the vision, often exploring barriers and key actors, the resources required and the steps involved in achieving the vision (Cook et al. 2014b).

Indigenous-driven futures-thinking methods

Method	Description
Culture camps	Week-long camp with the Traditional Owners (including their children) who wanted to share, record, and map some of their knowledge and values about their country (Lyons et al. 2019).
Dadirri	Indigenist research method involving inner, deep listening and quiet, still awareness (West et al. 2012).
Dialogue-based group concept mapping	Process combines structured discussion with interactive concept mapping to create visual summaries of local knowledge about vulnerability and resilience (Webler et al. 2017).
Digital storytelling	The purpose of this digitalization was to avoid the limitations of typical interview-based narrative research, mainly that the participants’ narratives are still processed through the lens of the researcher (Drawson et al. 2017).
Elder-focussed sharing	Elders as community experts become active in the process of informing the research design, research decision making, sharing their knowledge, and disseminating results to initiate meaningful change (Waddell et al. 2017).
Indigenous methodology	Relationally relevant research methodology influenced by the protocols of respect, relevance, and responsibility found within the Indigenous knowledges (Kovach 2021).
Indigenous science fictions	Science fiction is particularly suited to exploring questions of environmental futurity and reintegrating the human and the non-human (Mackey 2018).
Listening sessions	Sessions where stakeholders of varied backgrounds frame challenges and opportunities from their perspectives (Drawson 2017).
Pockets of the past	Values and assets elders and community members want to hold on to or revive for the future (Falardeau et al. 2019).
Readers theatre	Reading a written script in a group setting (Drawson 2017).

Rituals/ceremonies incorporating dreaming/visioning	Relationships don't just shape Indigenous reality; they are our reality. Indigenous researchers develop relationships with ideas in order to achieve enlightenment through the ceremony of maintaining accountability to these relationships. These ceremonies and rituals may incorporate dreaming and visioning (Wilson 2008).
Storytelling	Conversational method in Indigenous research differs from its use in Western research in several ways: a connection to Indigenous knowledge, a location within an Indigenous paradigm, a relational nature, a purpose (which is often decolonizing), following a specific protocol that reflects the Indigenous knowledge, a flexible nature, collaboration, and reflexivity (Kovach 2010).
Talking circles	Talking circles are an ancient customary cultural way for Indigenous people to share their stories; construct collective decisions to solve problems; and to carry out group processes (Kurtz et al. 2017).
Walking workshops	Actively interacting and engaging in the landscape, guided by local experts. guided by elders and experts from the community preceded and followed by dialogue with scientists and policy makers (Malmer et al. 2017).
Yarning	Conversational process that involves the sharing of stories and the development of knowledge. It prioritizes indigenous ways of communicating, in that it is culturally prescribed, cooperative, and respectful (Drawson 2017).

Futures vantage point

(van Notten et al. 2003)

Vantage point	Description
Forecasting (exploratory)	Present as the starting point and explores into the future.
Backcasting (action pathways)	Reasons from specific future and explores paths to arrive at it.
Hybrid	Mix of forecasting and backcasting.

Scenario types

Type of scenario	Description
Exploratory	Explore a range of plausible futures based on trajectories of drivers (MEA 2005).
Policy screening	Evaluate the impact of alternative policy options (Wyatt et al. 2021).
Target-seeking	Desired endpoint defined and then search for interventions to fulfill the goals (Gordon et al. 2022).
Retrospective	Historical scenarios used to analyse the gap between policy objectives and actual policy results, after using counterfactual scenarios. Used to evaluate how well implemented policies have performed

	(Manuschevich & Beier 2016).
Integrated	Combine scenarios with other methods for exploration of futures, e.g., scenarios with biocultural analysis, pathway generation (De Smedt et al. 2013).

Indigenous constructs

Construct	Description
Arts	Arts and crafts keep Indigenous culture, stories, and traditions strong (Bruce and Hilbert-Bruce 2009).
Connections	With family, country, animals, plants (Rey 2021, Rose 1996).
Foods/medicines	Hunting and gathering connects with environment, animism, relational knowledge, and relational ontologies in Indigenous societies (Bird-David 2015).
Identity	Indigenous identity as a person comes from connections to Country, family, animals, plants, and history (Rey 2021).
Knowledge systems	Indigenous epistemologies - a body of propositions that are adhered to, whether formally or informally, and are routinely used to claim truth - underpin a wide range of Indigenous knowledge of land, seas, people (Díaz et al. 2015).
Lore	Includes creation and origins stories (Machosky 2021).
Law	Well-established codes of conduct regarding how to operate and co-exist within their societies based on custom and tradition (Ahrén 2004).
Renewal	Concepts of recovery from the trauma of colonisation, that you have to know the past to know the future (Corntassel 2012).
Rights	Indigenous rights to lands, seas, resources, and self-determination (Alam & Faruque 2019).
Spirituality	Indigenous axiology (values), presences of spirits (including your own) in everyday, beliefs, and values (ontology) (Wilson 2008).
Time	Indigenous concepts of circularity of time, past-present-futures (Janca & Bullen 2003).
World views	Indigenous ontologies, perceptions based on their traditions and beliefs (Chilisa 2019).

Trauma-informed approach

(Schultz et al. 2016; Szczygiel 2018; Sundborg 2019; Isobel 2021; Champine et al. 2022; Alessi & Kahn 2023)

Principle used	Description
Promoting a sense of safety	Efforts to reduce any experience of racism, power imbalances and retraumatisation.
Promoting calm/anxiety-managed	False promises, stressful discussions minimised.

environment	
Promoting a sense of self-efficacy/collective efficacy	Mobilise capacity for resilience & healing.
Critical reflection on colonial/historical/social context	Acknowledgement of structural influences that determine current condition.
Promoting connectedness (to community and country)	Building social supports and utilising protocols and cultural norms.
Access to support for managing trauma	Formal or informal, culturally appropriate (e.g., psychologists, cultural leaders).
Promoting hope for future	Acknowledging/revitalising spiritual and cultural connectedness to look at future with hope and resilience.

Strengths-based approach

(Hammond 2010; Kirmayer et al. 2011; Fogarty et al. 2018; Gibson et al. 2020)

Principle used	Description
Holistic approach	Privilege Indigenous ways of knowing and being, collective approaches.
Revitalising language and culture as healing resource	Use culture to deal with adverse circumstances (resilience).
Build on existing strengths	Utilise existing positive attributes or resources in practice/management/ways of knowing.
Empowerment	Focus on self-determination and abilities, renew agency through process.
Wider range of metrics/adaptations based on Indigenous concepts	Processes using relational, eco-centric, communal metrics for success.

Other theoretical orientations reflecting Indigenous realities

Theoretical orientation	Description
Adaptation	Considers global change (environment, social, technological etc), vulnerabilities, future trajectories, and current responses (Preiser et al. 2018).
Afrofuturism	Highlights uniquely African ways of futures-thinking and speculative fiction, foregrounding African perspectives (Yaszek 2006).
Decolonising	Considers futures that overcome colonial relations of domination and subordination, including through resistance of the oppressed (Bourgeois et al. 2022).
Deliberative	Focuses on effectiveness of a range of deliberative, inclusive processes (Burchardt 2014).
Diversity	Considers futures from the perspectives of, and collaboration among, diverse knowledge and governance systems (Tengö et al. 2014).

Futures	Considers futures as a field of study, promotes futures literacy and ideas like futures imaginaries (Barrett et al. 2022).
Indigenous Futurism	Highlights uniquely Indigenous ways of futures-thinking (Fricke 2019).
Indigenous research	Focuses on Indigenous world views and knowledge systems as the basis of research methodologies (Chilisa 2019).
Rights-based	Highlights how rights, particularly to land through tenure, but also gender and other rights, underpins sustainable futures (Sarmiento Barletti et al. 2023).
Social-ecological	Considers how the interactions in social-ecological systems underpins outcomes, such as resilience and collapse, and contributions to human well-being (Reyes-García et al. 2024).
Sustainable livelihoods	Focusses on multiple sources of well-being (financial, social, natural etc), usually in small-scale rural societies; includes contributions of ecoagriculture (Kalafatic 2007).
Transformations	Considers how transformations in response to global change can provide for sustainable futures (Lam et al. 2020).

References

- Abu, R., Reed, M.G. (2018). Adaptation through bricolage: Indigenous responses to long-term social-ecological change in the Saskatchewan River Delta, Canada. *Canadian Geographies/Géographies canadiennes* 62(4), 437-451. doi:10.1111/cag.12469
- Ahrén, M. (2004). Indigenous peoples' culture, customs, and traditions and customary law-the Saami people's perspective. *Ariz. J. Int'l & Comp. L.* 21, 63
- Alam, S., Al Faruque, A. (2019). From sovereignty to self-determination: emergence of collective rights of indigenous peoples in natural resources management. *Geo. Envtl. L. Rev.* 32, 59
- Alessi, E.J., Kahn, S. (2023). Toward a trauma-informed qualitative research approach: Guidelines for ensuring the safety and promoting the resilience of research participants. *Qualitative Research in Psychology*, 20(1), 121-154
- Amanatidou, E., Butter, M., Carabias, V., Konnola, T., Leis, M., Saritas, O., Schaper-Rinkel, P., van Rij, V. (2012). On concepts and methods in horizon scanning: Lessons from initiating policy dialogues on emerging issues. *Sci. Public Policy* 39(2), 208-221. doi:10.1093/scipol/scs017
- Armatas, C., Venn, T., Watson, A. (2016). Understanding social-ecological vulnerability with Q-methodology: a case study of water-based ecosystem services in Wyoming, USA. *Sustain Sci* 12(1), 105-121. doi:10.1007/s11625-016-0369-1

- Barrett, P., Kurian, P., Cretney, R., Blackett, P., Le Heron, E., Le Heron, R. (2022). Participatory processes and the evolution of environmental agendas in estuary restoration: the Maketū case. *New Zealand Journal of Marine and Freshwater Research*, 56(3), 340–352
- Bennett, E.M., Solan, M., Biggs, R., McPhearson, T., Norström, A.V., Olsson, P., Pereira, L., Peterson, G.D., Raudsepp-Hearne, C., Biermann, F., Carpenter, S.R., et al. (2016). Bright spots: seeds of a good Anthropocene. *Frontiers in Ecology and the Environment*, 14(8), 441–448
- Bird-David, N. (2015). Hunting and gathering societies: anthropology. *International Encyclopedia of the Social & Behavioral Sciences*, 428–431
- Bourgeois, R., Karuri-Sebina, G., & Feukeu, K.E. (2022). The future as a public good: Decolonising the future through anticipatory participatory action research. *Foresight* in press.
- Bruce, L., Hilvert-Bruce, J. (2009). *Arts and Crafts of Indigenous Australia*. Macmillan Education Australia
- Burchardt, T. (2014). Deliberative research as a tool to make value judgements. *Qualitative Research*, 14(3), 353–370
- Burgman, M.A. (2001). Flaws in subjective assessments of ecological risks and means for correcting them. *Australian Journal of Environmental Management* 8:219–226
- Carlsson, J., Eriksson, L.O., Öhman, K., & Nordström, E.M. (2015). Combining scientific and stakeholder knowledge in future scenario development—A forest landscape case study in northern Sweden. *Forest Policy and Economics*, 61, 122–134
- Chambers, R. (1992). *Rural appraisal: rapid, relaxed and participatory*. Institute of Development Studies (UK)
- Champine, R.B., Hoffman, E.E., Matlin, S.L., Strambler, M.J., Tebes, J.K. (2022). “What does it mean to be trauma-informed?": A mixed-methods study of a trauma-informed community initiative. *Journal of Child and Family Studies*, 1–14
- Chilisa, B. (2019). *Indigenous research methodologies*. Sage publications
- Cook, C.N., Inayatullah, S., Burgman, M.A., Sutherland, W.J., Wintle, B.A. (2014a). Strategic foresight: how planning for the unpredictable can improve environmental decision-making. *Trends in Ecology & Evolution*, 29(9), 531–541
- Cook, C.N., Wintle, B.C., Aldrich, S.C., Wintle, B.A. (2014b). Using strategic foresight to assess conservation opportunity. *Conservation Biology*, 28(6), 1474–1483
- Corntassel, J. (2012). Re-envisioning resurgence: Indigenous pathways to decolonization and sustainable self-determination. *Decolonization: Indigeneity, Education & Society* Vol. 1, No. 1, 2012, pp. 86–101
- Cuhls, K.E. (2019). Horizon Scanning in Foresight – Why Horizon Scanning is only a part of the game. *Futures & Foresight Science* 2(1). doi:10.1002/ffo2.23
- De Smedt, P., Borch, K., Fuller, T. (2013) Future scenarios to inspire innovation. *Technological forecasting and social change* 80 (3):432–443

- Díaz, S., Demissew, S., Carabias, J., Joly, C., Lonsdale, M., Ash, N., Larigauderie, A., Adhikari, J.R., Arico, S., Báldi, A., Bartuska, A., et al. (2015). The IPBES Conceptual Framework — connecting nature and people. *Current Opinion in Environmental Sustainability* 14(1), 1-16. doi:10.1016/j.cosust.2014.11.002
- Drawson, A.S., Toombs, E., Mushquash, C.J. (2017). Indigenous Research Methods: A Systematic Review. *International Indigenous Policy Journal* 8(2). doi:10.18584/iipj.2017.8.2.5
- Ednie, G., Kapoor, T., Koppel, O., Piczak, M.L., Reid, J.L., Murdoch, A.D., Cook, C.N., Sutherland, W.J., Cooke, S.J. (2023). Foresight science in conservation: Tools, barriers, and mainstreaming opportunities. *Ambio* 52(2), 411-424. doi:10.1007/s13280-022-01786-0
- Falardeau, M., Raudsepp-Hearne, C., Bennett, E.M. (2019). A novel approach for co-producing positive scenarios that explore agency: case study from the Canadian Arctic. *Sustainability Science*, 14, 205-220
- Fishwick, P.A. (1995). Simulation model design and execution: building digital worlds. Prentice Hall PTR
- Fogarty, W., Lovell, M., Langenberg, J. Heron, M-J. (2018). Deficit Discourse and Strengths-based Approaches: Changing the Narrative of Aboriginal and Torres Strait Islander Health and Wellbeing, The Lowitja Institute, Melbourne
- Foresights' Horizon Scanning Centre (HSC). (2014). Exploring the future: tools for strategic thinking. The Government Office for Science, London
- Frame, B. (2018). New Zealand: New futures, new thinking? *Futures* 100, 45-55. doi:10.1016/j.futures.2018.04.005
- Fricke, S.N. (2019). Introduction: indigenous futurisms in the hyperpresent now. *World Art*, 9(2), 107-121
- Gibson, C., Crockett, J., Dudgeon, P., Bernoth, M., Lincoln, M. (2020). Sharing and valuing older Aboriginal people's voices about social and emotional wellbeing services: a strength-based approach for service providers. *Aging & Mental Health*, 24(3), 481-488
- Glenn, J.C. (1994). Genius forecasting, intuition and vision. Washington, DC: United Nations University
- Gordon, H.S.J. (2021). Ethnographic futures research as a method for working with Indigenous communities to develop sustainability indicators. *Polar Geography* 44(4), 233-254. doi:10.1080/1088937X.2021.1881647
- Gordon, L., Holmgren, K.E., Bengtsson, J., Persson, U.M., Peterson, G.D., Rööf, E., Wood, A., Alvstad, R., Basnet, S., Bunge, A.C., Jonell, M., Fetzer, I. (2022). Food as Industry, Food Tech Or Culture, Or Even Food Forgotten?: A Report on Scenario Skeletons of Swedish Food Futures. Swedish University of Agricultural Sciences
- Hagemeier-Klose, M., Beichler, S.A., Davidse, B.J., Deppisch, S. (2014). The Dynamic Knowledge Loop: Inter- and Transdisciplinary Cooperation and Adaptation of Climate Change Knowledge. *International Journal of Disaster Risk Science* 5(1), 21-32. doi:10.1007/s13753-014-0015-4

- Hammond, W. (2010). Principles of strength-based practice. *Resiliency initiatives*, 12(2), 1-7
- Inayatullah, S. (1998). Causal layered analysis: Poststructuralism as method. *Futures* 30(8), 815-829. doi:10.1016/S0016-3287(98)00086-X
- Inayatullah, S. (2008). Six pillars: futures thinking for transforming. *Foresight* 10(1), 4-21. doi:10.1108/14636680810855991
- Isobel, S. (2021). Trauma-informed qualitative research: Some methodological and practical considerations. *International journal of mental health nursing*, 30, 1456-1469
- Janca, A., Bullen, C. (2003). The Aboriginal concept of time and its mental health implications. *Australasian Psychiatry* 11(sup1), S40-S44. doi:10.1046/j.1038-5282.2003.02009.x
- Jetter, A.J., Kok, K. (2014). Fuzzy Cognitive Maps for futures studies—A methodological assessment of concepts and methods. *Futures* 61, 45-57. doi:10.1016/j.futures.2014.05.002
- Kalafatic, C. (2007). Indigenous peoples' sustainable livelihoods. Food and Agriculture Organization of the United Nations Thematic brief. <https://www.fao.org/3/aj033e/aj033e02.pdf>
- Karp, T. (2004). Learning the steps of the dance of change: Improving change capabilities by integrating futures studies and positive organisational scholarship. *Foresight* 6(6), 349-355
- Kelliher, A., Byrne, D. (2015). Design futures in action: Documenting experiential futures for participatory audiences. *Futures* 70, 36-47
- Kirmayer, L.J., Dandeneau, S., Marshall, E., Phillips, M.K., Williamson, K.J. (2011). Rethinking resilience from indigenous perspectives. *The Canadian Journal of Psychiatry*, 56(2), 84-91
- Kosko, B. (1986). Fuzzy cognitive maps. *International Journal of Man-Machine Studies* 24(1), 65-75. doi:10.1016/S0020-7373(86)80040-2
- Kovach, M. (2010). Conversational method in Indigenous research. *First Peoples Child & Family Review*, 5(1), 40-48
- Kovach, M. (2021). Indigenous methodologies: Characteristics, conversations, and contexts. University of Toronto press
- Kurtz, D.L.M., Mahara, S., Cash, P., Nyberg, J., Patrick Moller, E. (2017). Indigenous Methodology in Understanding Indigenous Nurse Graduate Transition to Practice. *International Indigenous Policy Journal* 8(4). doi:10.18584/iipj.2017.8.4.9
- Lam, D.P., Hinz, E., Lang, D.J., Tengö, M., von Wehrden, H., Martín-López, B. (2020). Indigenous and local knowledge in sustainability transformations research: a literature review. *Ecology & Society*, 25(1)
- Lovett, A., Appleton, K., Warren-Kretschmar, B., Von Haaren, C. (2015). Using 3D visualization methods in landscape planning: An evaluation of options and practical issues. *Landsc. Urban Plan.* 142, 85-94. doi:10.1016/j.landurbplan.2015.02.021

- Lyons, I., Hill, R., Deshong, S., Mooney, G., Turpin, G. (2019). Putting uncertainty under the cultural lens of Traditional Owners from the Great Barrier Reef Catchments. *Regional Environmental Change* 19(6), 1597-1610. doi:10.1007/s10113-019-01468-w
- Machosky, B. (2021). Allegory and the Work of Aboriginal Dreaming/Law/Lore. *Allegory Studies: Contemporary Perspectives*
- Mackey, A. (2018). Guilty speculations: The affective climate of global Anthropocene fictions. *Science Fiction Studies* 45(3), 530-544
- Maclean, K., Woodward, E. (2013). Photovoice Evaluated: An Appropriate Visual Methodology for Aboriginal Water Resource Research. *Geographical Research* 51(1), 94-105. doi:10.1111/j.1745-5871.2012.00782.x
- Malmer, P., Tengö, M., Belay Ali, M., Cadalig Batang-ay, M.J., Farhan Ferrari, M., Mburu, G.G., Mitambo, S., Phokha, C., Trakansuphako, P. (2016). International exchange meeting for mobilisation of indigenous and local knowledge for community and ecosystem wellbeing. Hin Lad Nai, Chiang Rai province, Thailand. 13 – 15 February 2016. Workshop report. In: SwedBio, Stockholm, Sweden. Online: <http://swed.bio/wp-content/uploads/2017/03/Walking-Workshop-Report-Hin-Lad-Nai.pdf>
- Manuschevich, D., Beier, C.M. (2016). Simulating land use changes under alternative policy scenarios for conservation of native forests in south-central Chile. *Land Use Policy*, 51, 350-362
- Matters, S. (2019). Strategic Foresight in Métis Communities Lessons from Indigenous Futurism In. Submitted to OCAD University in partial fulfillment of the requirements for the degree of Master of Design in Strategic Foresight and Innovation, Toronto, Ontario, Canada. Online: https://openresearch.ocadu.ca/id/eprint/2804/1/Matters_Samantha_2019_MDES_SFI_MRP.pdf
- Millennium Ecosystem Assessment. (2005). *Ecosystems and Human Well-being: Synthesis*. Island Press, Washington, DC
- Mistry, J., Tschirhart, C., Verwer, C., Glastra, R., Davis, O., Jafferally, D., Haynes, L., Benjamin, R., Albert, G., Xavier, R., Bovolo, I., Berardi, A. (2014). Our common future? Cross-scalar scenario analysis for social-ecological sustainability of the Guiana Shield, South America. *Environmental Science & Policy*, 44, 126-148
- Molitor, G.T. (1977). How to anticipate public-policy changes. *SAM Advanced Management Journal* 42(3), 4-13
- Moore, G.H. (1969). Generating leading indicators from lagging indicators. *Economic Inquiry* 7(2), 137
- Munda, G. (2004). Social multi-criteria evaluation: Methodological foundations and operational consequences. *European Journal of Operational Research* 158(3), 662-677. doi:10.1016/s0377-2217(03)00369-2
- Oteros-Rozas, E., Martín-López, B., Daw, T.M., Bohensky, E.L., Butler, J.R.A., Hill, R., Martín-Ortega, J., Quinlan, A., Ravera, F., Ruiz-Mallén, I., Thyresson, M., et al. (2015). Participatory

- scenario planning in place-based social-ecological research: insights and experiences from 23 case studies. *Ecology and Society* 20(4), 32. doi:10.5751/ES-07985-200432
- Peterson, G.D., Cumming, G.S., Carpenter, S.R. (2003). Scenario planning: a tool for conservation in an uncertain world. *Conservation Biology* 17:358–366
- Preiser, R., Biggs, R., De Vos, A., Folke, C. (2018). Social-ecological systems as complex adaptive systems: organizing principles for advancing research methods and approaches. *Ecology and Society* 23(4). doi:10.5751/es-10558-230446
- Rey, J.A. (2021). Indigenous Identity as Country: The “Ing” within Connecting, Caring, and Belonging. *Genealogy* 5(2). doi:10.3390/genealogy5020048
- Reyes-García, V., García-del-Amo, D., Álvarez-Fernández, S., Benyei, P., Calvet-Mir, L., Junqueira, A.B., Labeyrie, V., Li, X., Miñarro, S., Porcher, V. and Porcuna-Ferrer, A., et al. (2024). Indigenous Peoples and local communities report ongoing and widespread climate change impacts on local social-ecological systems. *Communications Earth & Environment*, 5(1), 29
- Robinson, K.F., & Fuller, A.K. (2017). Participatory modeling and structured decision making. *Environmental modeling with stakeholders: theory, methods, and applications*, 83-101
- Rose, D.B. (1996) Nourishing Terrains. Australian Heritage Commission, Canberra (1996)
- Sarmiento Barletti, J.P., Prouchet, L., Larson, A.M. (2023). Rights-based approaches and Indigenous peoples and local communities: Findings from a literature review. *CABI Reviews*
- Schultz, K., Cattaneo, L.B., Sabina, C., Brunner, L., Jackson, S., Serrata, J.V. (2016). Key roles of community connectedness in healing from trauma. *Psychology of violence*, 6(1), 42
- Schultz, M., Hahn, T., Ituarte-Lima, C., Hallstrom, N. (2018). Deliberative multi-actor dialogues as opportunities for transformative social learning and conflict resolution in international environmental negotiations. *International Environmental Agreements–Politics Law and Economics* 18(5), 671-688. doi:10.1007/s10784-018-9410-4
- Sharpe, B., Hodgson, A., Leicester, G., Lyon, A., Fazey, I. (2016). Three horizons: a pathways practice for transformation. *Ecology and Society*, 21(2)
- Slaughter, R. (2005). Futures Thinking for Social Foresight. Glossary of Futures Terms. In: Foresight International, Online: https://foresightinternational.com.au/wp-content/uploads/2015/05/FTSF_Glossary.pdf
- Sundborg, S.A. (2019). Knowledge, principal support, self-efficacy, and beliefs predict commitment to trauma-informed care. *Psychological Trauma: Theory, Research, Practice, and Policy*, 11(2), 224
- Stephenson, W. (1993). Introduction to Q-methodology. *Operant Subjectivity* 17(1/2)
- Szczygiel, P. (2018). On the value and meaning of trauma-informed practice: Honoring safety, complexity, and relationship. *Smith College Studies in Social Work*, 88(2), 115-134

- Tengö, M., Brondizio, E.S., Elmqvist, T., Malmer, P., Spierenburg, M. (2014). Connecting diverse knowledge systems for enhanced ecosystem governance: the multiple evidence base approach. *Ambio*, 43, 579-591
- Textor, R.B. (1995). The ethnographic futures research method - an application to Thailand. *Futures* 27(4), 461-471. doi:10.1016/0016-3287(95)00011-k
- van Notten, P.W., Rotmans, J., Van Asselt, M.B., & Rothman, D.S. (2003). An updated scenario typology. *Futures*, 35(5), 423-443
- van Putten, I., Lalancette, A., Bayliss, P., Dennis, D., Hutton, T., Norman-López, A., Pascoe, S., Plagányi, E., Skewes, T. (2013). A Bayesian model of factors influencing indigenous participation in the Torres Strait tropical rock lobster fishery. *Marine Policy* 37, 96-105. doi:10.1016/j.marpol.2012.04.001
- Voros, J. (2008). Integral Futures: An approach to futures inquiry. *Futures* 40(2), 190-201. doi:10.1016/j.futures.2007.11.010
- Waddell, C.M., Robinson, R., Crawford, A. (2017). Decolonizing Approaches to Inuit Community Wellness: Conversations with Elders in a Nunavut Community. *Canadian Journal of Community Mental Health* 36(1), 1-13. doi:10.7870/cjcmh-2017-001
- Wang, W. (2010). Reverse engineering: Technology of reinvention. Crc Press, Boca Raton, USA
- Wang, C., Burris, M.A. (1997). Photovoice: Concept, methodology, and use for participatory needs assessment. *Health Education & Behavior* 24(3), 369-387
- Webler, T., Stancioff, E., Goble, R., Whitehead, J. (2017). Participatory Modeling and Community Dialog About Vulnerability of Lobster Fishing to Climate Change. In: Gray, S., Paolisso, M., Jordan, R., Gray, S. (eds.) *Environmental Modeling with Stakeholders: Theory, Methods, and Applications*. pp. 267-287. Springer International Publishing
- West, R., Stewart, L., Foster, K., Usher, K. (2012). Through a critical lens: Indigenist research and the Dadirri method. *Qualitative Health Research*, 22(11), 1582-1590
- Williams, B.K. (2011). Adaptive management of natural resources—framework and issues. *Journal of environmental management*, 92(5), 1346-1353.
- Wilson, S. (2008). *Research is Ceremony. Indigenous Research Methods*. Fernwood Publishing, Black Point, Canada
- Wyatt, K.H., Arkema, K.K., Wells-Moultrie, S., Silver, J.M., Lashley, B., Thomas, A., Kuiper, J.J., Guerry, A.D., Ruckelshaus, M. (2021). Integrated and innovative scenario approaches for sustainable development planning in The Bahamas. *Ecology & Society*, 26(4)
- Yaszek, L. (2006). Afrofuturism, science fiction, and the history of the future. *Socialism and Democracy*, 20(3), 41-60
- Zepharovich, E., Ceddia, M.G., Rist, S. (2021). Social multi-criteria evaluation of land-use scenarios in the Chaco Salteño: Complementing the three-pillar sustainability approach with environmental justice. *Land Use Pol.* 101, 105175. doi: 10.1016/j.landusepol.2020.105175