

Commemorating the 30th Anniversary of the Barbara Petchenik Children's Map Competition and exploring directions for the future

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Abstract: The thirty-year anniversary of the Barbara Petchenik Children's Map Competition, created by the International Cartographic Association (ICA) in 1993, will be celebrated at the 31st International Cartographic Conference (ICC 2023) in South Africa. It was initiated under the leadership of Professor D. R. Fraser Taylor, then ICA President, and its aim was to promote creative graphic cartographic representation of the world by children. A commemorative UNICEF poster was produced to support the initiative, and over past decades, Brazil has engaged in intensive school mapping work with children and researchers, some of this presented in commemorative books, including Dra. Carla de Sena's new book "Children's Maps: The History of the Livia de Oliveira Competition" (2021). From 2005, ICA in collaboration with prestigious publishers (Esri Press, SinoMaps, National Geographic Institute of Spain) produced the "Children Map the World" series, which currently counts with six volumes. Submitted drawings are also used in other periodical publications as journals and books published by international and national organizations in different countries. The competition maps are sent to Carleton University Library where they are processed for digital and physical archiving and all the entries are then made publicly available at - <https://childrensmaps.library.carleton.ca/>. This special anniversary presents as a pivotal moment to commemorate, advance and expand the reach and import of children mapping their worlds. This presentation will review the developments in the Barbara Petchenik Childrens Map Competition over the years, and discuss some exciting new developments and directions for the future.

Keywords: Barbara Petchenik Children's Map Competition, Cartographic Representation of the World by children, History and New Directions

1. Introduction

The 31st International Cartographic Conference (ICC), taking place in Cape Town, South Africa, 13-18 August, 2023, is also the 30th Anniversary of the Barbara Petchenik Biennial Childrens's Map Competition, and it presents as a pivotal moment to reflect on, commemorate, advance and expand the reach and import of children mapping their worlds. It was created by the International Cartographic Association (ICA), under the leadership of Professor D. R. Fraser Taylor, twice president of ICA during that period (Taylor, 1991). It acknowledged both the first female Vice President of the ICA, Barbara Petchenik (1939–1992) as well as her passion for promoting creative graphic cartographic representation of the world by children and her wish to make sure children leave school with some idea of the relative shapes and sizes and arrangements of labelled earth areas.

Inspired in Barbara Petchenik's example, a group of cartographers headed by Regina Araujo de Almeida (Sao Paulo University, Brazil) and Jacqueline Anderson

(Concordia University, Canada) began to contact colleagues working on this research field beginning the decade of 90s. The result of their activity was the foundation of the Working Group on Cartography and Children in 1995, which became a Commission of the ICA four years later during the 19th International Cartographic Conference in Ottawa, Canada (Anderson & Almeida, 1995). From the beginnings in 1993, first the Working Group and later the Commission on Cartography and Children has collaborated with the ICA Executive Committee in the organization of the Barbara Petchenik Children's Map Competition, providing consultative support in relation to the rules and judging of the entries.

The main aim of the contest is *to promote the creative representation of the world in graphic form by children*. Children under 16 years are encouraged to draw a map on a general theme changed every four years (e. g. Save our Environment, Many Nations, one World, Living in a Globalized World, My Place in Today's World, We Love Maps, and A Map of My Future World). The Children's Map Competition is run first at the national level. The

national winners then compete in the international round, which takes during the biennial ICCs. The maps are exhibited during the conference, and the international winners are selected. Map drawings are judged in four age groups (under 6, 6 to 9, 10 to 12 and 13 to 15 years), giving a maximum of twelve awards, and a further public award given by the participants in ICC conferences. In 2017 the ICA Commission on Art and Cartography commenced presenting a Creativity Award as well.

The 2023 ICC theme is *Smart Cartography for Sustainable Development*, and the topic for the Children's Map Competition is *A Map of My Future World*.

After the completion of the final round, the maps are sent to [Carleton University Library](https://childrensmaps.library.carleton.ca/) where they are processed for digital and physical archiving. All the entries are then made publicly available at

<https://childrensmaps.library.carleton.ca/>;
<https://storymaps.arcgis.com/stories/c5688394cb3941cb82f36cd3a844c6d0>

For more general information about the competition and work, please note the following links:

[ICA Barbara Petchenik Children's World Map Drawing Competition ICA Commission on Cartography and Children](#)

[Facebook page of ICA Commission on Cartography and Children](#)

International recognition and engagement has grown steadily, as affirmed in the steady increase in the number of countries participating in the competition and in the number of map drawings submitted. Over 3000 maps have been created by children around the world over the past three decades. In 2015 189 drawings from 38 countries were exhibited at the ICC. At ICC 2021, 178 submissions from 32 countries and 5 continents were received, and in view of the Corona Virus Pandemic, a virtual gallery was created to display the map drawings.

From 2005, ICA, in collaboration with prestigious publishers such as Esri Press, SinoMaps, and the National Geographic Institute of Spain, has produced the *Children Map the World* series, which currently includes six volumes. Submitted drawings are also used in other periodical publications (journals and books) published by international and national organizations. A recent example is the bilingual book entitled *SDGs in action: a generations' view*, published by the Jobstmedia Präsentation Verlag and the Vienna University of Technology (<https://sdggeneration.cartography.at/>). Over past decades, colleagues in Brazil have engaged in intensive school mapping work with children and researchers, and some of this is presented in Dra. Carla de Sena's new book "Children's Maps: The History of the Livia de Oliveira Competition" (2021).

A commemorative UNICEF poster was produced in 1993 to support the initiative and the pdf (available in English and Portuguese) and remains an excellent how-to guide to

lead adults and children into this increasingly more important cartographical work in an age of unprecedented and challenging global connection, environmental shift and climate change, in order to leave a *Legacy of Hope* for the world's children consistent with the UN Convention on the Rights of the Child, the UN Sustainable Development Goals, and global Diversity, Equity and Inclusion aspirations.

In addition to Canada (Carleton University), countries like Brazil and Hungary have played a particularly active role over the years, and this paper includes details of their work and research findings. However, there may be other countries as deeply engaged, and we look forward to learning more about such research. As such, this paper offers a historical overview of the Barbara Petchenik's Children's Map Competition, and the contributions of the writers of this paper. Plans are underway to create a Special Journal Issue on *Children's Mapping Across the World* during the upcoming year.

1.1 The Hungarian Experience: How do children represent the world in their maps? An overview of over twenty-five years of the Hungarian Children's Map Competition history

Maps created by children and youth in Hungary between 1993 and 2023 were analysed with respect to the use of imagination and creativity to present diverse characteristics like the shape and size of continents, artistic solutions to represent thematic data, and to use a diversity of materials to convey messages in the Barbara Petchenik Children's Map Competition and the country is very proud that children won two prizes during the first seven years of the competition and nine prizes in the last twenty three years (Figure 1).



Figure 1: Two examples of winner maps drawn by Hungarian children: "My Imagination" by Luca Kunos (7 years) on the left and "Let the music for everyone" by Valentina Sturcz (14 years) on the right

Reflecting on the experience of judging the entries

Initially, only a few general rules were established to evaluate the maps produced (note https://icaci.org/files/documents/reference_docs/2023_bp_c_rules.pdf; <http://lazarus.elte.hu/ccc/pdf/bpcrules2023.pdf>) because of the degree of difficulty to categorize and evaluate the diversity and inventiveness of ideas,

methods, techniques etc. used. In 2005, the Jury requested guidelines to make the selection process more objective, and some general guidance/advice was provided to support the general rules. While the four age groups serve as a good starting point in the selection process, in some cases the solutions used by children to draw their maps extend beyond the ordinary age limits. This was especially challenging with the third age group (children between 9 and 12 years), because it can be considered a transitional group, containing maps with graphic and cartographic characteristics of the first two age groups and the oldest one. Two common considerations for all groups are the originality of the maps and the fidelity to the theme of the competition. Some fine differences/distinctions in the work of each age group were also suggested: in the first two age groups (under 6 and 6 to 8 years) a jury cannot require “cartographical precision” because experiences using maps is very limited; with the last age group (between 13 and 15 years), the analysis of the cartographic solutions is more important than the graphic solutions, because at this age they have had practice using cartographic products (maps, atlases, etc.) in classrooms; in the third age group (between 9 and 12 years) both factors (cartographic and graphic) should be analyzed at the same level, while respecting differences in knowledge and experience with map products. A scoring system, following Bulgarian practice, was adopted in 2009 to ensure the more objective selection of the three first places within each age group by members of the International Judging Commission.

Systematizing children maps

The rich and varied world of maps created by children for the Hungarian competitions led to a process of classification which commenced with the cartographic element: the solutions used to draw the base map and to represent the thematic information. Considering the base map made or used by children in their works, the works can be classified according to: i) Types of representation of the world (see Figure 2): two- or three-dimensional (spheres, relief-models, etc.); ii) Extension of the territory represented on the map: Earth (in the Universe), continent(s), region, country, or a smaller unit (province, city, etc.); iii) Projection of the Earth or selected territory to a 2D plane: No map projection (very characteristic to children less than 9 years old), using (copying) a traditional (conventional) cartographic projection that can be a frequently used projection (mainly in school atlases) or rarely used projection, exaggerated deformation of the territory represented on the map that can be based on a map projection (e.g. intentional distortion of the graticule) or other graphic (map-based but non-cartographic) solution (e.g. geometric cartogram); iv) Representation of the territory with non-cartographic, unusual shapes: human shapes, animal shapes, botanical shapes (the Earth as a flower or other plant or tree), artificial shapes (drawing the Earth on a bus, house, etc); v) Graphic solutions to place the map within (to) a

pictorial environment, creating a connection between the map and “outer” illustrations (Figure 3): human connection (very often the Earth on human hands), animal connection, botanical connection, artificial connection.



Figure 2: Earth globe and 3D representation submitted to the Hungarian competitions: “The Earth we have populated” by Brigitta Petho Toth (15 years) on the left and “Map of the future” by Liliana Borbala Balogh (10 years) on the right



Figure 3: Placing maps in a human environment: “We loved it then” (Villő Szekeres-Ugron (12 years) on the left and “World peace” by Li Zirui (13 years) on the right

When specialists consider classifying the works based on the solutions used for the representation of the thematic information, some of the categories to define can be: i) Type of a message according to the selected theme: positive or negative; ii) How the thematic (or geographical) information (data) is represented: using a traditional (cartographic) method (that is creating a traditional thematic or physical map) or using graphic (non-traditional, non-cartographic) solutions: realistic depiction, fantastic, humorous, etc.

Other factors that can be considered are how children elaborate the map, what materials and techniques they use: i) Traditional or conventional (handmade): pencil, pen, paintbrush (oil paint or other), photo montage; ii) Artisan, using different kinds of materials: natural (seed, beans, flowers, leaves, etc), artificial or man-made (paper, plastic, textile, etc); iii) Digital (made using computer); iv) Their combination.

Possible future research themes

Analyzing the Hungarian entries, different themes can be proposed for further research by colleagues and PhD and

MSc students: i) Influence of traditional artistic manifestations (or art movements) in maps made by children, their adaptation to the cartographic language or vice versa. This topic is proposed because organizers of the competition found out that a remarkable percent of the named entries were made by pupils under the guidance of Art teachers or by pupils from Art Schools; ii) Use of texts on maps drawn by children as a tool to represent the main message, to complete the pure cartographic information, etc.; iii) Development of the spatial and graphic visualization of Hungarian children in Elementary Schools: from the visualization without teacher's influence (1st grade), studying the development of their capacity on map-based visualization from grades 3 to 5 and finally in 8th grade (last grade in Hungarian Elementary Schools); iv) Use of computer-based solutions to create their own maps, from the general graphic solutions (drawing applications that could be used to illustrate a map) to the cartographic solutions (possible use of mapping application, online mapping services, application for choosing a projection, etc. to create their own base map).

1.2 The Brazilian Experience: Maps for and By Children - Reflecting on three decades of history building a national network through conferences, publications, and a national map competition

A mini history of the early work in Children's Mapping:

Brazilian colleagues engaged with the ICA's work in children's mapping from its inception, including with the The Cartography and Children ICA Working Group, which after several years of activity, became an ICA Commission in 1999. It is currently coordinated by Dr. Carla Sena. Her 2021 book, *Mapas de crianças: a história do Prêmio Livia de Oliveira*, outlines the decades of development in Brazil, and the relevance of research, the number of published works, theses and dissertations produced. It also highlights the importance of engaging children and young people in map making, in addition to using maps. From 1995, researchers and professors organized conferences and national symposia on School Cartography in Brazil, and these academic events provided many exchanges of experiences and encouraged the joint involvement of elementary and high school teachers and students of Geography and Pedagogy courses from universities and colleges in various states of the country; this led to the creation of a national group, initially under the leadership of the Geography Education Laboratory (LEMADI), at the Department of Geography, FFLCH/University of São Paulo (Almeida & Almeida, 1995). Conferences were organized linking several geographers and cartographers, universities, and institutions throughout the country. A national formal network was created and enlarged over the years, and the events occurred in different cities. Young children were also included in the research and publications. The participation of schoolteachers, graduate and undergraduate students from geography and cartography

made the formal group even larger. Also, the support of ICA, Brazilian Society of Cartography (SBC), several state and federal universities, and institutions such as the Brazilian Association of Geographers (AGB) helped strengthen the work over the decades.

Over the past 28 years, Brazil organized 14 national and international events, 12 National Symposia on Cartography for Children and School Kids and 2 Latin American Forum of Cartography for Children. On average, these conferences were held in Brazilian state or federal universities, where lectures, round tables, oral presentations, and poster sessions took place for a period that varied from 3 to 5 days. Most of the participants were professors, school and college teachers, graduate and undergraduate students interested in maps for children and youth, mainly geographers, but also cartographers. In the first 20 years, from 1995 through 2015, there were 9 National Symposia with Proceedings published with almost 500 papers, and many abstracts and poster sessions (Almeida e Almeida, 2012). The oral presentations and the articles were grouped into various themes, such as: graphic and cartographic representations of space, map theory and cartographic communication, teacher training and curriculum, teaching methodology, production of didactic materials, atlas design and methodology, digital technologies and cartography, maps and non-formal education and tactile cartography. School of Brazilian Cartography hosted the 16th ICA Conference in Rio de Janeiro. The last Symposium on *The (Geo)Technologies and the (multiple) School Cartographies in Contemporaneity* was held on December 5th to 7th, 2022. Children's Mapping has become a strong field within geography and cartography, as well as in pedagogy and teacher training in Brazil. In this extensive work with teachers over 30 years, the importance of maps for everyday life and the principles of cartography are highlighted as a content to be worked on in not only in Geography classes, but also in an interdisciplinary way with Arts, Literature, History, Mathematics and Science.

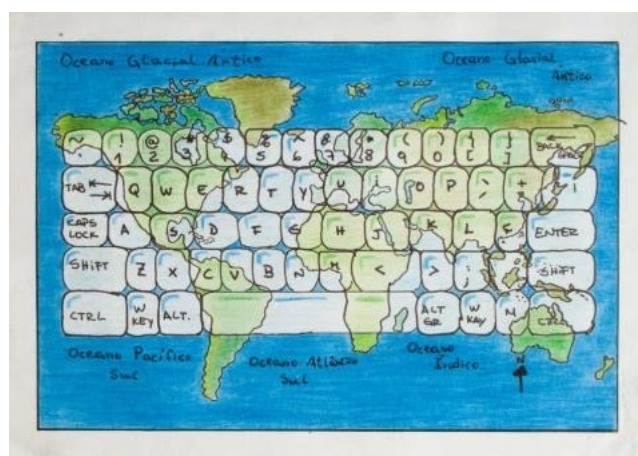


Figure 4: Title: The World In a Click (Public award)
Artist: Ana Carolina Otton Sarmanho (2011)

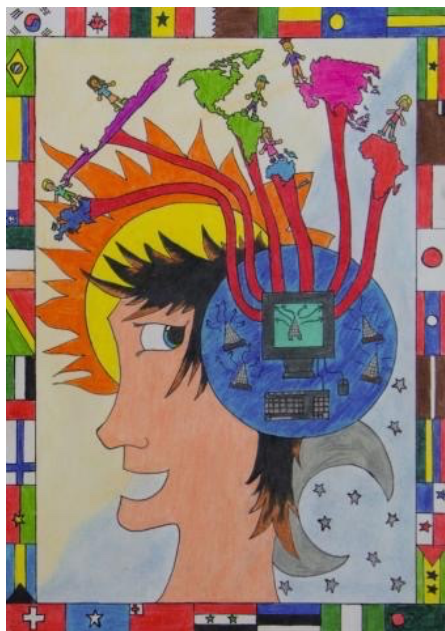


Figure 5: Title: Internet Brings Knowledge to the World And Makes It Globalized
Artist: Vanessa Giroto Muniz (2009)

The Brazilian Map Competition: a tribute to the geographer Livia de Oliveira

In 2020, an important book by Carla Gimenes de Sena, *Children's maps - the history of the Livia de Oliveira Contest/ Mapas de crianças: a história do Prêmio Livia de Oliveira* (2021) was published to disseminate a selection of maps drawn by children and young people in Brazil who participated in the Livia de Oliveira and Barbara Petchenik Children's Map Competitions between 1995 and 2018. The annual competition, "Prêmio Livia de Oliveira", was created in honor of this professor, the Brazilian pioneer in school cartography research in the 1970s. In the national contest, each school sends up to 20 drawings, which are pre-selected, organized and exhibited at universities, schools and scientific events where popular voting, which is the principal means of judging, is possible. Three drawings from each category are awarded, in addition to the selection of maps to represent Brazil in the international ICA Competition. Children receive medals and diplomas, recognizing their participation and work.

During the social isolation caused by the COVID 19 pandemic, the exhibition of the drawings and voting became digital, with the creation of a website (www.mapasdecrianças.com) that hosts the drawings during the voting and then archives drawings that receive awards. School teachers who participated during this period stated that promoting the contest with the children at home was a way of engaging them in the study of Geography and Cartography, in addition to it being an activity that could be carried out with remote teaching. In

2022, after returning to face-to-face activities in schools, the organizers registered 480 drawings in the national competition.

The children's maps in this new book show paths to be discovered, point out environmental problems or social issues, inequality, violence, war and world peace. They are vital expressions of a time, a place, a culture. They materialize the thinking of children and young people about geographic space and society, and all need to listen to these voices. Maps on Figures 4 and 5 are examples of this. Above all, these drawings are testimony that maps can still be both science and art, as they were considered in the past. Readers are invited to navigate through the images, discovering details, colors and shapes that express the ideas of children and young people, their worldviews, aspirations, desires, concerns and problems they face. The drawings are intertwined with phrases expressing the thoughts and reflections of geographers and cartographers, Brazilians and also others from abroad, about the maps. It also includes photographs of various moments which reinforced the relevance of the competition and the conferences to gather so many researchers together; it also demonstrates a mission well accomplished.

Children's maps help us to see the importance of a plural and inclusive cartography centered on the map user, analogue or digital, multisensory, multicultural, open to differences and aimed at minority groups such as the traditional people in the Amazon. Cartography should seek new paradigms, since maps are everywhere; their ubiquity today is remarkable, inclusive of a possible new cartography within the metaverse. It needs to incorporate not only current digital technologies, but all sorts of new and old possibilities which will coexist in our world, including maps as works of art, as representations of virtual realities or dreams.

1.3 The South African Experience: Children's Mapping in South Africa: The Geomatics and Cartographic Research Centre, Carleton University, Canada and the National Association of Child and Youth Care Workers Association (NACCW), South Africa

A Pilot Children's Mapping Project

Since January 2022, the Geomatics and Cartographic Research Centre (GCRC), Carleton University and the National Association of Child and Youth Care Workers (NACCW), in South Africa (SA), (comprising a multidisciplinary team of academics, cartographers and child and youth care workers - cycws), have been engaged in the pilot phase of children's mapping project, slated to be developed further as a multi-phased, transdisciplinary, intersectional, international partnership project. As part of a pilot project, GCRC has been engaged in online children's mapping meetings with the

NACCW in SA over the past fifteen months; twenty cycws from seven provinces worked with GCRC to bring children's mapping to over a hundred learners: children and youth, aged five to sixteen. Since March 2022, eighteen recorded Teams meetings have been held to teach cycws how to engage with both general cartographic principles and simple art techniques; they, in turn, have applied this to their work and interventions with children; and the ongoing map creation work has been reviewed online every two weeks by team members. Much has been undertaken to date to develop this innovative transdisciplinary children's research/mapping project; it is innovative because it links children's mapping and cartographic approaches in global earth observation with child and youth care work in the social services field. Academic researchers and students from both Canada, South Africa and Brazil have been involved in the work to date.

While trained in childcare work, the NACCW cycws had had no previous background in cartography or geography nor in art and map creation; neither have the children in their care. Consistent with Barbara Petchenik's original wish *to make sure children leave school with some idea of the relative shapes and sizes and arrangements of labelled earth areas*, the cycws have helped children to pay conscious attention to their environments and then present their reflections in drawing and maps that demonstrate an understanding of world maps, scale, coordinates (latitude and longitude), symbols/signs, typography (appearance/size of writing), environmental and social issues, and also demonstrate imagination, dynamism, interpretations, creativity, uniqueness and some artistic skill. This school-based support program has advanced locational and aspirational mapping practice over the past year, and today the social services sector workers, researchers and children, from a diversity of locations (urban, rural, informal settlements isolated), impacted by a range of environmental challenges (floods to drought), and community and social challenges (safety, poverty, empowerment), are accessing mapping and cartography in the examination of a complex intersection of locational issues. This preliminary effort has been exceptionally fruitful and two hundred maps were created during this period. Sixty six maps have been submitted to the 31st ICC taking place in Cape Town, SA August 13-18, 2023. Further, of four GCRC led abstracts accepted for presentation at the conference, two address this joint work.

The pilot project has revealed that focusing the attention of children and young people on mapping has led to an articulation of self-awareness and environmental conscious on a local and global scale and the preliminary review by a doctoral student identifies the following negative and positive story telling about climate change, environmental and social crises, needs and aspirations. Thus, beyond the significant interest in the Children's Map Competition submissions, this project has revealed new potential for children's mapping to serve as an

important methodology for engagement and interaction, and for further analysis of the locational, social and safety needs of children. Initial feedback is already indicative of the potential of this innovative interactive methodological approach to impact practice, program and policy development in the social service sector. As such, the children's mapping is moving beyond the competition level to integration with childcare work at key practice, program and policy development levels.

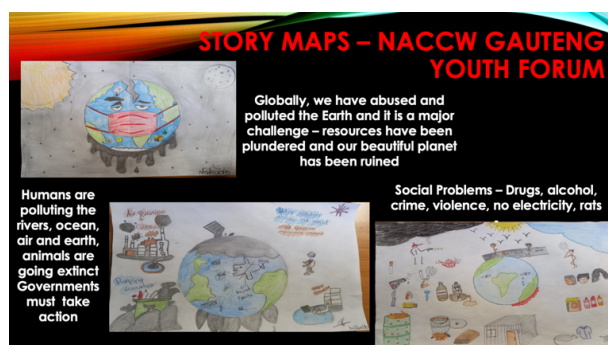


Figure 6: 2023 South African Children's Maps

1.4 Some Concluding Thoughts

The conscious engagement in understanding and articulating the environmental realities of the local and global worlds has the potential to serve both in personal development and preparation of youth for future leadership roles in their communities. Children's mapping can serve as a catalyst and methodology for such engagement, and, in collaboration with child and youth care and education sector partners, can support practice, programs, policy and advocacy, consistent with the United Nations Convention on the Rights of the Child.

Today, in a world of innovative and accelerating digital communications, technological development, Indigenous visibility, global connection, urbanization, migration, displacement, refugee crises, diversity challenges, climate change, loss of species, both mapping and storytelling have the potential to play increasingly more important roles, including in the context of the United Nations Sustainable Development Goals (UNSDGs), to advance further research and development and to create a legacy of hope for children at large.

Research is just beginning with respect to many emerging and urgent social realities of the day: implications of the Corona Virus 19 Global Pandemic (particularly on children and youth); accelerating climate change and environmental, health and social justice crises, including migration and dislocation; and unprecedented digital/technological communications advances, challenges and prioritization; persistent HIV Aids health and social issues. A grave and challenging new world is fast presenting itself to an increasingly traumatized global youth population, particularly in South Africa and other *third world* countries. As such, every child needs to gain an understanding of the local and global landscape, to

examine relationships with it on multiple scales (personal, family, community, environmental, spiritual, national, social, economic, work), to explore frequently unarticulated emotional dimensions, as well as to develop strengths and capacities to interface with the complexities, and to empower themselves to engage as future leaders.

Research affirms, both mapping and storytelling are fundamental human inclinations. Today, in a world of innovative and accelerating digital communications technological development, global connection, urbanization, migration, displacement, refugee crises, diversity challenges, climate change, loss of species, both mapping and storytelling have the potential to play increasingly more important roles, particularly in the context of the United Nations Sustainable Development Goals. It is critical to engage children and young people thoughtfully in the issues of their times and prepare for future leadership roles. Children's Mapping can serve as a catalyst for such engagement, in collaboration with child and youth care and education sector partners.

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