

The International Cartographic Association Workshop for Cartography and Sustainable Development at the University of Aruba: An Introduction

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“In a sea of difficulties there is always an island of possibilities” (German proverb Ratter, 2018). Maps can reveal pathways towards localized solutions that meet our present needs without compromising the availability of resources for our collective future. This is the aim of sustainable development. This does not seem like a strange goal, yet, the concept is presently politically divisive, a villainized concept. This will not deter the ICA Commission for Cartography and Sustainable Development, on the contrary. Sustainable development and cartography are both transdisciplinary fields that require understandings from multiple epistemologies. Sustainability must focus on long term preservation of resources rather than quick consumption satiating short-term gains at any and all spatial scales. Cartography is essential for conveying the magnitude of the challenges towards achieving the United Nations Sustainable Development Goals (SDG) and exploring the spatial distribution of where to focus our attention (Kraak et al., 2020). Maps reveal spatial trends, barriers to success, areas for opportunities, and where to target efforts to achieve sustainable development. Maps can foster sustainable development understanding through coherent narratives to inform policy support, business and personal decision making (Le Sourd & Ricker, 2025).

Small islands are facing sustainability challenges up to decades ahead of the rest of the world, meaning they are also the first to find approaches to address these challenges. Small islands contribute by total carbon emissions the least to anthropogenic forcing of climate change, yet are the first to feel the negative effects due to their environmental and economic vulnerability (Nurse & Moore, 2005). Given their small land area, limited natural resources, diverse and complicated colonial histories, remoteness, economic reliance on external markets (and often tourism), and concentration of populations around the coasts, exacerbating their sustainability challenges (Rattner, 2018). This island narrative is well known by the international community – that islands are the epitome of resource restricted environment (Hillbom et al., 2022). Small islands have all the same sustainability challenges as continents, only more condensed and visible. Islands are knowledge leaders for climate change adaptation and resilience (Ratter, 2018). They have come up with creative and effective solutions to a range of sustainability challenges making them hubs of innovation for sustainability and resilience (Singh et al., 2020). Small islands are the ideal locations for fostering and building understanding of sustainability in social, cultural, economic and ecological integrated perspectives (Mijts et al., 2026).

Together, the Commission on Cartography and Sustainable Development aims to make maps to expose complexities that cloud our vision towards sustainable futures. To address this transdisciplinary challenge, to explore how cartography and geospatial data can support sustainable development, the Workshop for Cartography and Sustainable Development brought together international experts, educators, industry leaders, government officials, students, and practitioners. The University of Aruba was the perfect location for the Workshop for Cartography and Sustainable Development as it is home to the Sustainable Island Solutions through Science, Technology, Engineering, and Mathematics (SISSTEM) academic program. This interdisciplinary program is trailblazing, where research and teaching directly serve the residents and students of the island (and islands more broadly), ensuring that sustainability pathways are generated by islanders for islanders to support a comfortable livelihood for generations to come.

The Commission of Cartography and Sustainable Development, the Commission on the User Experience, and the Working Group on Participatory Mapping of the International Cartographic Association organized the workshop for Cartography and Sustainable Development at the University of Aruba as a three-day event spanning January 26–28, 2026. On the first day of the workshop, participants met and enjoyed a curated sustainable island tour revealing some of the environmental and social sustainability successes, but also where more efforts could be made. On Tuesday workshop

participants offered formal presentations on a wide range of topics that integrate cartography and sustainability. Abstracts from these presentations are shared here in these formal proceedings. On the final day, participants met with members of the Aruba Sustainable Development Goal Task Force to exchange ideas. Then workshop participants gathered to outline ideas from the workshop to start assembling a shared publication.

We came together on the island of Aruba to learn about sustainability challenges facing small islands, share lessons learned from using cartography for addressing sustainable development from education, citizen science, traditional environmental science, social science, earth observation data and more, to shared resources and innovative resources for making maps. In these edited abstracts, we share a wide range of creative solutions, experiences and knowledge about how to make and use maps to address sustainable development. Topics include spatial narratives and scale, educational materials, data availability, and transformation necessary for mapping sustainable development and more. We hope to inspire others to experiment with creative solutions to make maps for a sustainable world.



Figure 1. Some speakers at the Workshop for Cartography and Sustainability 27 January 2026 at the University of Aruba.

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