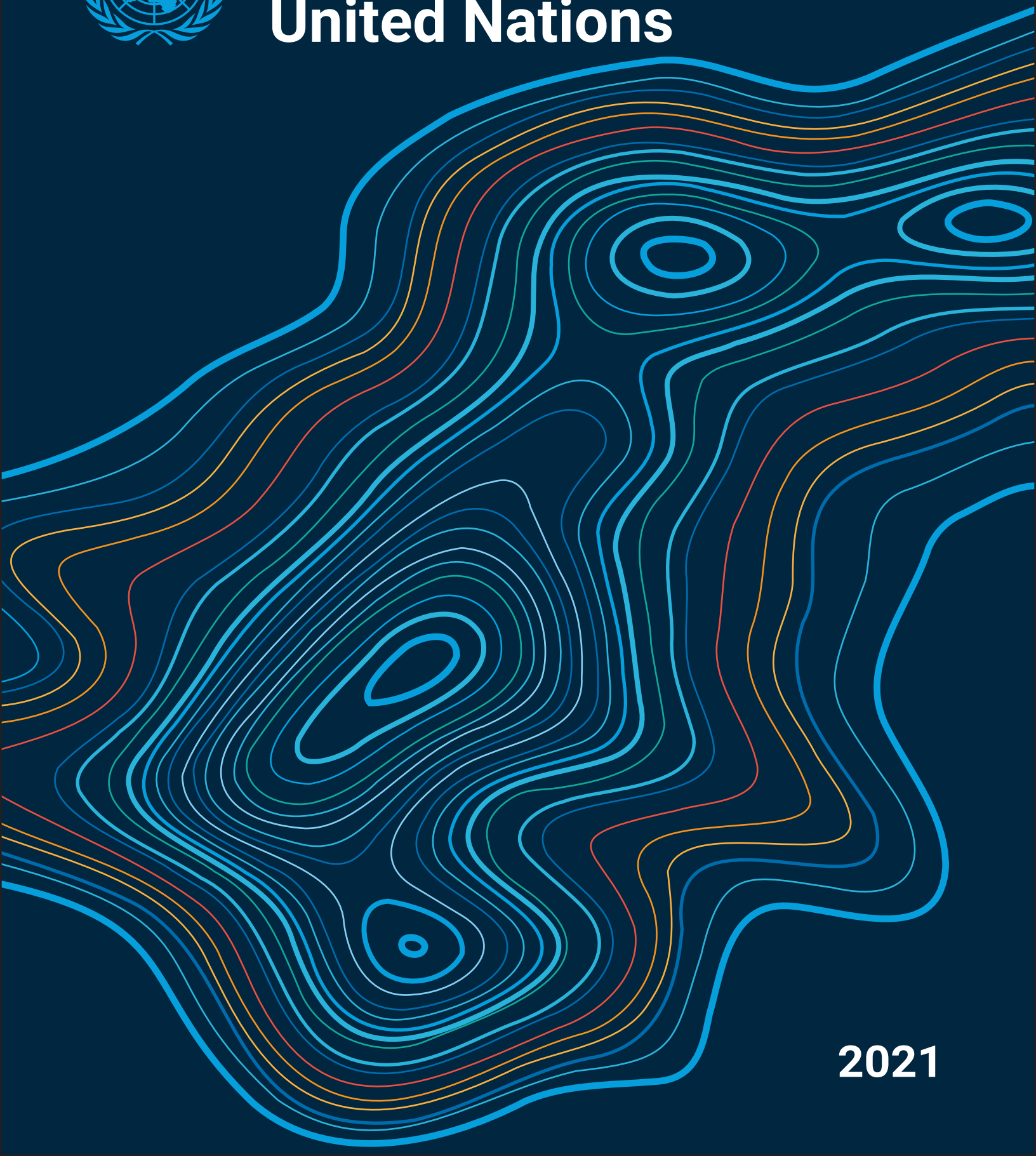
Geospatial Strategy *for the* United Nations



2021

Geospatial Information Section
Technology Operations Service
Operations Support Division
Office of Information and Communications Technology
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TABLE OF CONTENTS

FIGURES

MESSAGE FROM
ACTING ASSISTANT SECRETARY-GENERAL

> The Geospatial Strategy for the United Nations aims to contribute to the data ecosystem by enabling location information for the Organization. The vision is to build synergy on activities and investments on geospatial information management in the United Nations, "Delivering as One" by bringing geospatial data to innovate and to act for a better world.

MR. PATRICK CAREY
Office of Information and Communications Technology

EXECUTIVE SUMMARY

The Geospatial Strategy aims to set direction to support the implementation of the mandates of the United Nations Secretariat. The intent of the Strategy is to design, foster and build synergies for activities and investments in geospatial information management in the United Nations Secretariat, in coordination with the wider geospatial and data community of the United Nations system "**Delivering as One**".

The Geospatial Strategy focuses on improving integrated information flow, enabling a coordinated situational awareness for crisis response, enhancing information-sharing and collaborative interactions between information providers and analytical entities across the Secretariat—as called for by the Secretary-General. The Geospatial Strategy outlines a vision, mission, strategic drivers, principles, and goals for geospatial information management in the United Nations Secretariat. It details how geospatial information management is a strategic enabler and should be ubiquitous in all aspects of our work and across pillars in development, peace and security, humanitarian issues and human rights.

The Geospatial Strategy aims to further contribute to the goals described in the "Data Strategy of the Secretary-General for Action by Everyone, Everywhere" (2020-2022), building a United Nations "ecosystem that unlocks the full data potential of the Organization to better support people and planet". The Geospatial Strategy further aims to design its goals and activities, harmonized with the wider inter-agency mechanism on geospatial activities of the United Nations system, through the United Nations Geospatial Network. Finally, the Geospatial Strategy aspires to create synergies between geospatial experts and the user community by establishing a Geospatial Action Group. This group will operate under the framework of the Secretary-General's Data Strategy to develop a comprehensive Geospatial Action Plan for the United Nations Secretariat.

The Geospatial Strategy is not intended to be a prescriptive policy or an instruction for the United Nations Secretariat. Rather, it recognizes the specialized nature of each entity, their respective mandates and functions, and their need for operational autonomy to address specific mandates, where and when appropriate, in coordination with the wider United Nations system and Member States on geospatial and data management.

This document has been prepared by the Geospatial Information Section of the Office of Information and Communications Technology, in consultation with the United Nations Secretariat offices and departments including the Offices Away from Headquarters, the Regional Commissions and the Field Missions.

BACKGROUND

Under United Nations Secretariat Management Reform (effective 1 January 2019), geospatial services moved to the Office of Information and Communications Technology (OICT). This change, as well as a recommendation made by the Office for Internal Oversight Services, gave impetus to a re-evaluation of how geospatial information and services were being provided across the Organization.

Within the context of the Information and Communications Technology (ICT) Strategy and the Field Technology Framework, the Geospatial Information Section began preparing the "Geospatial Strategy for the United Nations" (hereafter Geospatial Strategy) in September 2019; internal consultations with other geospatial services of the United Nations Secretariat were conducted from February to October 2020.

The Geospatial Strategy integrates priorities of the ICT Strategy[I] on information, innovation and transformation. Additionally, it considers how the role and delivery of geospatial information and services in the United Nations can provide further "emphasis on innovation to support the substantive work of the United Nations".[II] The Geospatial Strategy is guided and complemented by ongoing relevant strategies, principles and frameworks in the Organization such as the following:

- The **Data Strategy of the Secretary-General for Action by Everyone, Everywhere with Insight, Impact and Integrity**[III] aims to build a United Nations data ecosystem for "better decisions and stronger support to people and planet—in the moments that matter most". As an integral part of the data ecosystem, location information is critical to gaining insight, to better understand events and phenomenon patterns and to act upon them.

- The **Integrated Geospatial Information Framework**[IV] (IGIF) is a comprehensive framework for the national development of geospatial information management agreed by Member States in the context of the United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM). Elements of the IGIF are used as a guide for the Geospatial Strategy to facilitate its wider understanding of the strategy.

- The **Blueprint**[V] is the strategic design that will guide the future work and activities of the United Nations Geospatial Network: the inter-agency coordination mechanism on geospatial information management established by UN-GGIM. The Blueprint provides orientations to strengthen the coordination and coherence of geospatial information management within the United Nations system. The Geospatial Strategy and the Blueprint complement each other.

- The **Secretary-General's Strategy on New Technologies**[VI] provides strategic principles and commitments for the use of technologies to accelerate the 2030 Agenda for Sustainable Development and to facilitate their alignment with the values of the United Nations Charter, the Universal Declaration of Human Rights, and the norms and standards of international law.

- The **Secretary-General's Roadmap for Digital Cooperation**[VII] guides the Geospatial Strategy to consider the principles of partnership as well as to build on existing capabilities and mandates considered critical for effective support to the work of the Organization, to meet its technological requirements. This ensures digital human rights from the perspective of data protection and privacy, and it fosters digital trust and security through global digital cooperation.

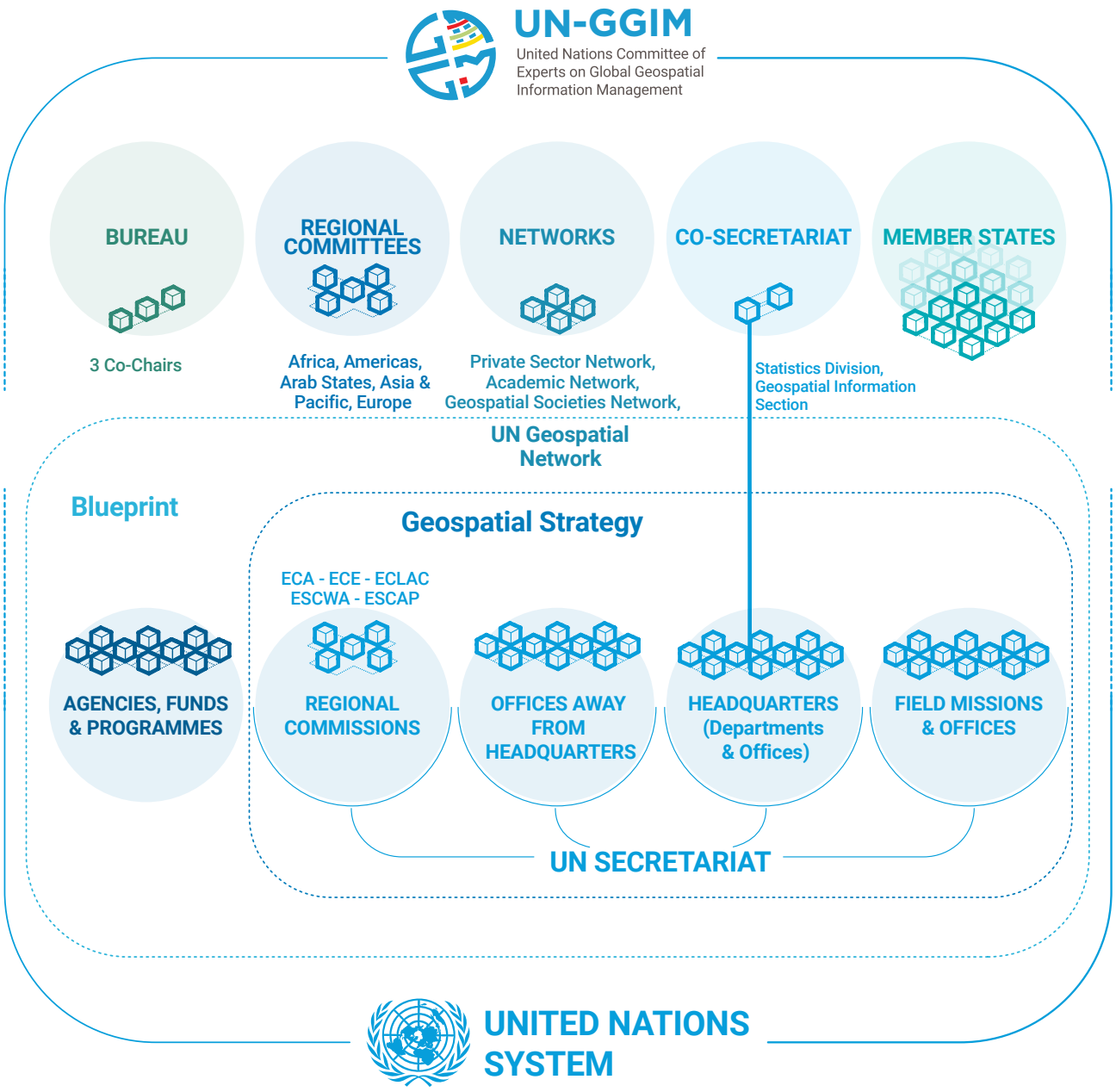


Figure 1 The Geospatial Strategy footprint in the wider geospatial context of the United Nations. The overall landscape of geospatial stakeholders includes United Nations entities, Member States and interested specialized networks.

The Geospatial Strategy aims to set a direction to effectively and efficiently support the achievement of the mandates and values enshrined in the United Nations Charter, the Universal Declaration of Human Rights and the norms of international law. The Strategy was prepared in coordination and collaboration with the users and geospatial experts of the United Nations Secretariat and with consideration of the strategy and planned activities of the United Nations Geospatial Network—the mandated inter-agency mechanism of the United Nations system. The Strategy takes into account the actors, mechanisms and frameworks comprising the overall geospatial stakeholders of the United Nations, Member States through UN-GGIM and the wider geospatial community of the private sector, geospatial societies and academia. The overall landscape of geospatial stakeholders including United Nations entities, Member States and interested specialized networks is presented in ***Figure 1***.

The intent of the Geospatial Strategy is to design, foster and build synergies on activities and investments on geospatial information management in the United Nations Secretariat, in coordination with the wider geospatial and data community of the United Nations system "**Delivering as One**".

The Geospatial Strategy sets the direction to improve integrated information flow, enable a coordinated situational awareness for crisis response, enhance information-sharing and collaborative interactions between information providers and analytical entities across the Secretariat—as called for by the Secretary-General.[VIII]

The present Geospatial Strategy outlines the vision, mission, strategic drivers, principles, and goals for the United Nations Secretariat. The Geospatial Strategy aims to improve integrated data use, enable a coordinated situational awareness, enhance information-sharing, power analytical capabilities, and provide insights for decision-makers for crisis response and to enhance support to mandates. Further, the Strategy aims to maximize synergies, pool infrastructure, benefit from geospatial expertise, develop joint methods, and gain from lessons-learned within the Secretariat.

The Geospatial Strategy is not intended to be a prescriptive policy or instruction for the United Nations Secretariat. Rather, it recognizes the specialized nature of each entity, their respective mandates and functions, and their need to operate autonomously to address specific mandates in coordination and harmony with the wider geospatial and data community of the Organization.

PURPOSE & SCOPE

Figure 2 Strategic drivers of the Geospatial Strategy for the United Nations include the Charter of the United Nations, the five pillars of the Organization, Transforming our world: the 2030 Agenda for Sustainable Development, international agreements and frameworks.

VISION & MISSION

The Geospatial Strategy envisions the effective, efficient and universal use of geospatial information in support of all mandates and operations of the United Nations for a better world as contained in its main pillars: Peace and Security, Human Rights, International Law, Sustainable Development, and Humanitarian Aid.

Guided by the mandates of the Organization, as set out by its Member States, geospatial information in the United Nations must provide accessible and authoritative knowledge and add value to support mandates and operational decision-making through information, innovation, technological solutions, and services.

The mission of the Geospatial Strategy aims to mainstream the use of geospatial information across the United Nations Secretariat and system for unified, integrated and accessible information; analysis and visualization for evidence-based decision-making; and data action in support of peace and security, human rights, international law, development, and humanitarian aid.

STRATEGIC DRIVERS

The strategy on geospatial information for the United Nations is guided by the strategic drivers, embodied within the various mandates, agreements and frameworks of the United Nations. ***Figure 2*** illustrates how the strategic drivers are, firstly, guided by the Charter of the United Nations and the five pillars of the Organization. Frameworks, international mechanisms, conventions, and agreements set out by Member States further complement the overall strategic drivers, embodied in the current overarching global blueprint of Transforming our world: the 2030 Agenda for Sustainable Development. Some examples of international frameworks that are built on the overarching drivers of the Charter, five pillars and 2030 Agenda are The Future we want: final document of the Rio+20 Conference, Sendai Framework for Disaster Risk Reduction 2015-2030, Small Island Developing States Accelerated Modalities for Action, The New Urban Agenda, United Nations Framework Convention on Climate Change (Paris Agreement), the Addis Ababa Action Agenda, and the United Nations Convention on the Law of the Sea. These are only some of the examples as the United Nations Secretariat is responsible for countless numbers of normative frameworks.

Figure 3 Geospatial Strategy for the United Nations (adapted from the Integrated Geospatial Information Framework)

PRINCIPLES

The Geospatial Strategy for the United Nations is underpinned by the principles drawn from the previously referenced strategies, framework and blueprint to:

Promote global values and mandates

Guided by the values and missions of the United Nations Charter and its five pillars in peace and security, human rights, humanitarian assistance, sustainable development, and international law; the Strategy also aims to build on existing global agendas, frameworks and mandates of the United Nations including geospatial information management.

Enable strategic leadership

Strong leadership and commitment at the highest level is critical to enhance the long-term value of investments in geospatial information.

Foster collaboration, cooperation and subsidiarity

Partnerships within the United Nations Secretariat and system including with Member States, businesses, academia, non-governmental organizations, civil society, and donors are at the core of the United Nations role. Partnerships are a critical component for the delivery of Organization mandates.

Be reliable, transparent and accountable

Data and information are authoritative, developed and shared based on the understanding that the work of the United Nations is open and transparent while also in accordance with relevant information management policies.

Deliver integrative and innovative solutions

Consideration must be taken on how people, organizations, systems, policies, and structures work together to form an effective mechanism for managing geospatial information and its use. Geospatial information must be innovative and creative to support the substantive work of the United Nations.

Insightful, accessible and actionable

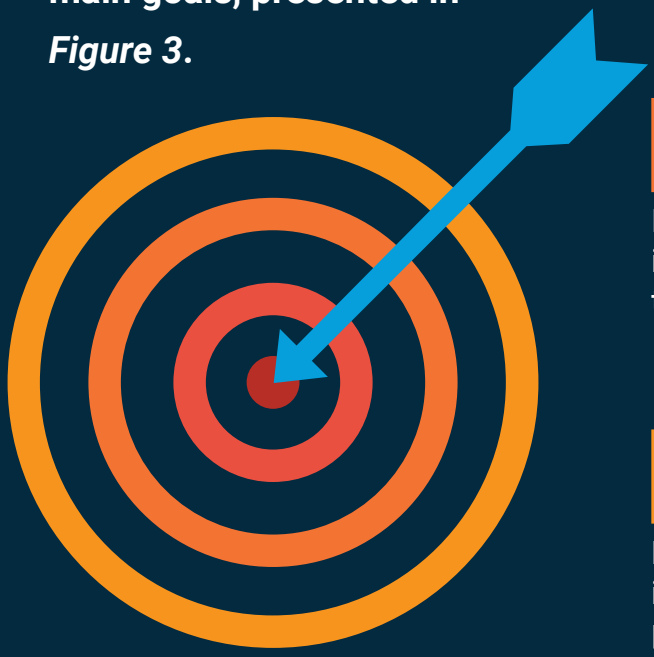
Geospatial information provides insight for better decision-making and action-taking, and it must be made accessible and actionable by everyone.

Sustainable and valued

Geospatial information must be sustainable to advance social, economic and environmental development. It must provide value to enhance effectiveness, efficiency and impact for the Organization through data for action.

GOALS

Mainstreaming of geospatial information and its innovation must enable transformation and support to the substantive work and mandates of the United Nations. The Geospatial Strategy focuses on four main goals, presented in *Figure 3*.



GOAL 1

Provide universal fundamental global geospatial data, standards, methods, tools, and services

GOAL 2

Enhance geospatial information benefits for mandate, operational and decision-making requirements

GOAL 3

Increase capacity, expertise and integrated geospatial systems across the Organization

GOAL 4

Raise awareness on geospatial information and harness international partnerships

Figure 4 Goal delivery model of the Geospatial Strategy: Goal "circles" and strategic pathways of the Geospatial Strategy for the United Nations. The ***Goal 1*** *circle (represented as the core) sets the priority and pathway for strategy delivery.* ***Goals 2, 3 and 4*** *circles follow outward. As each goal is achieved, the work builds upon the foundation and establishes the pathway on which to deliver the next.*

GOAL OBJECTIVE

The Geospatial Strategy must provide insight and impact for the delivery of the mandates of the United Nations, such as for the Sustainable Development Goals. The **goal objective** intends to structure the delivery of geospatial information services as presented in the four concentric circles in ***Figure 4*** where the first goal is embedded in the centre as the priority goal delivery and moves outwards to impact the different levels of stakeholders as each goal is delivered and build up the earlier foundations:

Goal 1 Objective: (*Inner* ○)

Strengthen geospatial mandates, activities and authoritative services to underpin all aspects of the work of the Organization.

Goal 2 Objective: (*Second* ○)

Enhance innovative geospatial services and analytics for users' problem-solving and decision-making that support the mandates of the Organization.

Goal 3 Objective: (*Third* ○)

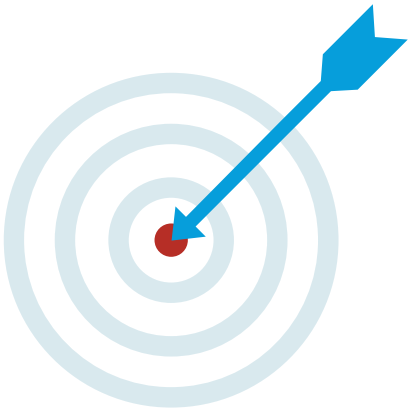
Foster a global integrated, federated and multi-disciplinary geospatial services delivery across the United Nations system "**Delivering as One**."

Goal 4 Objective: (*Fourth* ○)

Engage in partnerships with the global community for enhanced geospatial capacity and delivery for societal, environmental and economic benefits (including with Member States, non-governmental organizations, the private sector, innovators, academia, geospatial societies, and citizens).

A description of each goal delivery objective follows, with reference to the six strategic pathways (condensed from the nine IGIF strategic pathways) as a means for a concise and effective strategy in these areas: Data & Standards, Capacity & Talent, Governance & Policies, Innovation, Communication, and Partnerships. The six strategic pathways are presented at the outer edge of ***Figure 4*** to demonstrate how the delivery of the four goals will, in effect, contribute to fulfilling the six strategic pathways. The pathway implementations will support the Organization and its global stakeholders.

One critical aspect that remains to be considered is the finance and budget implications of the Strategy. As a geospatial action plan is further detailed, financial support and budget mechanisms should be leveraged to conduct specific activities towards reaching goals objectives and delivery.



GOAL 1 OBJECTIVE:

Strengthen geospatial mandates, activities and authoritative services to underpin all aspects of the work of the Organization

Data and by extension geospatial data is a strategic asset for insight, impact and integrity; and a means by which to better deliver on our mandates for people and planet. Geospatial data is increasingly the basis on which decisions are made to serve the needs of the Organization. As geospatial data and information become more critical to informing decisions, the Organization must ensure access to reliable, relevant and timely information for all. Geospatial data should be ubiquitous and permeate virtually all aspects of our work across pillars in development, peace and security, human rights, international law, and humanitarian assistance.

Strengthening geospatial data management capabilities and talents in the Organization is, therefore, critical to providing to everyone, everywhere the necessary information in moments that matters most. The geospatial mandates and functions must be supported and sustained to ensure the appropriate maintenance, management, currency, and dissemination of the data. Geospatial data and information must be mainstreamed and made pervasive in enterprise tools and technology to ensure accessible, secure, and interoperable data services—Data as a Service (DaaS)—whereby geospatial data products can be provided to the user on-demand.

Greater fundamental geospatial data accessibility and sharing should be ensured both internally and externally in collaboration with Member States, whenever possible. Specific thematic geospatial data that provide context and trends in places where the Organization operates must be available (e.g., conflict incident, security warden zones, risk areas, disaster location, health threats) to take the right decisions in the delivery of Organization mandates.

Fundamental geospatial data and information should be more widely shared among the United Nations Secretariat and the United Nations system to ensure the consistent use of geospatial data and related common representation practices. Further, the coordination of geospatial services and environment requirements should be considered to allow for pooling of resources and cost-effective investments within the United Nations system. The existing infrastructure and enterprise application platforms deployed through the Office of Information and Communications Technology and the United Nations Global Service Centre should be leveraged to deliver DaaS to realize greater efficiency in programmes, operations and management; and to improve transparency within and across the United Nations family. This will further build upon a whole-of-United Nations data ecosystem that maximizes the value of geospatial data.

GOAL DELIVERY AND STRATEGIC PATHWAYS

- Design, develop and deploy fundamental **geospatial data and services** in accordance with relevant geospatial information management standards, methods, workflows, and interoperability to ensure a sustainable geospatial data and information ecosystem. ***(Data & Standards)***
- Foster **geospatial talent, expertise, institutional capacities**, and a continuous-learning culture to ensure sustainable skills, knowledge and practices; and to provide career pathways in the Organization, particularly for women. ***(Capacity & Talent)***
- Develop, formalise and establish **geospatial policies, governance arrangements, models, norms, standards, and institutional arrangements.** ***(Governance & Policies)***
- Design, publish and integrate **geospatial data and services in enterprise applications**[1] through plug-ins, Application Programming Interface (API) and tools to mainstream data availability and accessibility. ***(Innovation)***
- Develop, diversify and **publish corporate GeoWeb-services**[2] for the deployment of corporate geo-enabled websites, desktop and mobile applications in the United Nations Secretariat; and, as applicable, within the United Nations system through existing infrastructure and cloud-based hosting infrastructure[3] to showcase the potential of geospatial services. ***(Communication)***
- Enhance the **Organizational value and benefit of geospatial information** for and with relevant substantive offices in its mandate delivery through mainstreaming geospatial information as a core knowledge and technology solution for decision-making and operations. ***(Partnerships)***

[1]such as the UN GeoPortal, Microsoft Office, Power BI
[2]such as Vector Tile, Web Feature Service, Web Map Service
[3]such as the United Nations Hybrid Cloud

GOAL 2

OBJECTIVE:

Enhance innovative geospatial and analytics for users' problem-solving and decision-making to support the mandates of the Organization

The trend to leverage "advanced analytics and artificial intelligence to improve decision-making across business processes" can be observed across organizations including the United Nations. Using analytics to deliver value and solve real problems for our Organization and stakeholders everywhere is critical. Geospatial information and Earth observation have been used to support a tighter integration of information and technology in Organizational processes and supporting mandates. Recently new and innovative analytical methods are increasingly being used such as artificial intelligence, machine learning, virtual reality, and other advanced technics.[4]

Geospatial experts can play a critical role in bridging the technical expertise of data engineers with operational business and substantive processes. The cross-cutting nature of geospatial expertise has allowed the development of close relationships and an understanding of the criticality and relevance of fit-for-purpose support to the substantive mandates. In developing this connector role and providing self-service analytics tools, geospatial experts can empower colleagues in policy, programmes and operations to access relevant data, perform queries and generate insights themselves with the help of easy-to-use analytics applications.[5]

[4]As an example, the use of artificial intelligence and machine learning is steadily increasing in the United Nations for processing large volumes of satellite imagery such as for landcover, urbanization, displaced population, destroyed facilities, etc.

[5]As an example, the ongoing Unite Aware programme in peacekeeping operations combines the availability of geo-enabled sensor data, incident reporting, geospatial data, imagery, and video feeds in a single web-mapping interface; providing a powerful decision-making support tool.

Earth observation data, technologies and analysis to support operational delivery is increasing exponentially within the United Nations Secretariat;[6] however, there is also a knowledge divide between those who are able to leverage this data and technology, and those who are not even aware of the possibilities. This gap must be reduced by providing accessible, user-orientated, fit-for-purpose solution options.

The development of user-focused geospatial services should be further amplified by enabling geospatial capabilities and talents: to develop these relationships and innovative solutions, to implement technology and to train users to best assist in the implementation of the mandates of the United Nations.

OBJECTIVES AND RELATED STRATEGIC PATHWAYS

- Facilitate the design, development and discovery of **geo-enabled data, geospatial data and information on operational requirements and mandate support delivery** to users and their substantive areas across the five pillars: by leveraging the experience developed and applied across the United Nations Secretariat, and by developing use cases, business models, datasets, dedicated support strategies, and analysis. ***(Data & Standards)***

- Foster, develop and enhance **knowledge and capacity-building** activities, programmes, trainings, knowledge sharing, technology, practices, projects, and collaborative arrangements for geospatial experts and substantive offices alike, leveraging existing geospatial-related Working Groups.[7] ***(Capacity & Talent)***

- Advocate for and participate in the establishment of **mechanisms and frameworks** on information management and data strategy across all five pillars, and incorporate geospatial information management considerations and contributions. ***(Governance & Policies)***

- Strengthen and institutionalize **enhanced innovative geospatial analytics services, self-service analytics applications**, and free/open geospatial software for geospatial information and Earth observation; deploying methods to use artificial intelligence, machine learning, algorithms, augmented/virtual reality, big data, analytics, unmanned aerial vehicles, sensors, and Internet of Things while optimizing value and without compromising security, agility, performance, or availability. ***(Innovation)***

- **Promote** and demonstrate **geospatial use cases and applications** of timely tactical, strategic operational analysis, evidence-based decision-making and situational awareness relevant to the delivery of mandates across all five pillars. ***(Communication)***

- Facilitate **cooperation and coordination with United Nations Secretariat offices** (including Offices Away from Headquarters) through the provision of hybrid data hosting, technical support, systems, methods, frameworks, and pooling United Nations Secretariat infrastructure to facilitate the use, management and dissemination of geospatial information. ***(Partnerships)***

[6]As an example, United Nations Headquarters, the Field Missions and the Sanctions Committee of the Security Council are now routinely using imagery intelligence in support of fact-finding and evidence-based decision-making and reporting.
[7]Such as the Working Group on GeoData, GeoVisualization and IMINT within the UN Peace Operations community or the UN Open GIS Initiative

GOAL 3

OBJECTIVE:

Foster global integrated, federated and multi-disciplinary geospatial services delivery across the United Nations system "Delivering as One"

Substantive offices of the United Nations Secretariat and beyond in the United Nations system have recognized the importance of geospatial information. Many have created their own geospatial capabilities in support of their respective mandates. In the United Nations Secretariat, these independent "nested geospatial offices"[8] and geospatial field offices[9] are powerful means to directly address mandates and operational requirements. Geospatial functions are created in offices, agencies, funds, and programmes across the Organization.

Regardless of these successes, integration of thematic data across the United Nations Secretariat and system has not yet happened. This was apparent during the informal Security Council Situational Awareness Briefing (2017-2018): the intent of which was to deliver an integrated, multidisciplinary briefing of key developments. An after-action review noted that "data that allows for deep conflict analysis in topical and thematic areas should be more fully identified and regularly referenced" including "data from agencies, funds and programmes that is relevant to conflict analysis".

[8]As an example, the United Nations Convention on the Law of the Sea (1982) refers to the use of geography and cartography in its operative articles 16, 47, 75, 76, 84; leading to the establishment of a geospatial team within the Division for Ocean Affairs and Law of the Sea within the Office of Legal Affairs to provide direct support to the repository functions of the Secretary-General and to the Commission on the Limits of the Continental Shelf.
[9]As an example, Peace Operations of the Secretariat and the Office for the Coordination of Humanitarian Affairs created geospatial units or positions in the field to closely support operations.

The relatively recent establishment of the United Nations Geospatial Network (2018-2019) aims to address the coordination of geospatial information management in the United Nations system. The chair, vice chairs and secretariat—representatives from the Geospatial Information Section and Statistics Division—should act as a catalyst to support the coordination, collaboration and sharing mechanisms on geospatial information within the United Nations system. This includes relevant policies, capacity building, delivery infrastructures and systems toward availing synthesized geospatial information to the leadership of the United Nations system in support of decision-making and operations. The strategic orientations and future activities of the United Nations Geospatial Network and its actors, detailed in its Blueprint, should have a multiplying factor thanks to the synergies and alignment of activities with the present Geospatial Strategy.

OBJECTIVES AND RELATED STRATEGIC PATHWAYS

- Collect, manage and share **priority geospatial datasets that are interoperable and accessible**, using recognized methods and standards. This includes geospatial and statistical integration. ***(Data & Standards)***

- Initiate, develop and maintain **business and client relationships** to understand mandates, processes and operational needs; to develop custom geospatial information, analytics, visualizations; to geo-enable data with training and capacity as well as common sourcing models through enterprise contracts (e.g., systems contracts). ***(Capacity & Talent)***

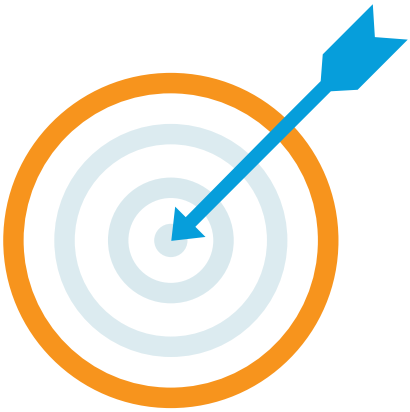
- Enable and facilitate consideration for an **overarching governance model** by the United Nations Geospatial Network by establishing and setting policies, norms, frameworks, and systems contracts on geospatial information management. This will facilitate the deployment of geospatial information services and technology in the United Nations Secretariat and system. ***(Governance & Policies)***

- Develop and foster a **global, integrated and multi-disciplinary geospatial information** system across the entities of the United Nations Secretariat. It should be flexible and scalable to extend to United Nations Agencies, Funds and Programmes; leveraging the United Nations Geospatial Network objectives, achievements and work programme. ***(Innovation)***

- **Promote, mainstream and raise awareness** on the use and relevance of geospatial information for decision-making and on societal, economic and environmental benefits in line with the mandates of the Organization. ***(Communication)***

- Strengthen **coordination, collaboration and sharing mechanisms** on geospatial information within the United Nations system to ensure the provision and availability of sustainable core and thematic information. This should be in accordance with interoperability standards, policies and protocols; leveraging existing geospatial infrastructure, incorporating latest trends, cloud infrastructure, emerging approaches, and open technologies.[10] ***(Partnerships)***

[10] *Such as the UN Hybrid Cloud or UN Open GIS initiative*



GOAL 4 OBJECTIVE:

Engage in partnerships with the global community for enhanced geospatial capacity and delivery for societal, environmental and economic benefit

As stated in the 2030 Agenda for Sustainable Development, enhancement of global partnerships is critical to "mobilize and share knowledge, expertise, technology and financial resources, to support the achievement of the Sustainable Development Goals" (paragraph 17.16). Further, the Addis Ababa Action Agenda of the Third International Conference on Financing for Development (2015) recognized that both public and private investments as well as the key role of academics and civil society support infrastructure financing, reduce costs and enable efficient delivery of services.

The principle of "**collect once, use many**" must be applied in geospatial information service delivery. Far too often, the information collected is either not re-used, collected multiple times, not properly maintained, not shared, not sourced adequately, or is of poor quality and therefore unusable. Leveraging the global community and enhancing collaboration with a wide range of partners, in particular with Member States, is a key to success in producing accurate, quality, accessible, interoperable, scalable, and standard geospatial data and services.[11] The partnership and engagement will differ widely, depending on the mandates and operations of each of the United Nations Secretariat offices and departments. In this regard, the existing inter-agency coordination mechanism, the United Nations Geospatial Network or other coordination groups are to streamline and facilitate the establishment or management of partnerships for

[11] *As an example, the Second Administrative Level Boundaries programme (which aims to provide open, accessible, interoperable, and standard global administrative unit data) is engaged with a broad range of actors including Member States, partners across the United Nations (UN-GGIM, ECA, ECLAC, OCHA, WFP, UNFPA, UNICEF, FAO, WHO, UNODC), regional partners (PAIGH, EuroGeographics) and academia (CIESIN). The programme can contribute common geographies for the Sustainable Development Goals by integrating administrative units to display, store, report, and analyze social, economic and environmental indicators across statistical datasets from different sources.*

the wider geospatial community, as appropriate and in accordance with relevant mandates[12] and regional support.[13]

The establishment of global implementation programmes rooted in the delivery of United Nations mandates and called for in the context of national development must be developed in partnership with the global community. This includes the private sector, academia, geospatial societies, international organizations; and innovators for societal, environmental and economic benefit. Operational concepts and work programmes should be developed with Member States and the global community.

OBJECTIVES AND RELATED STRATEGIC PATHWAYS

- Design, deploy and contribute to a **geospatial data ecosystem** that is accessible, interoperable and transparent with tools and technology for the general public and the international community. This includes engaging and developing collaboration with civil society for the availability of open data through crowdsourcing (e.g., mapathons to update maps during global crises, UN Mappers) and designing, developing and demonstrating use cases to showcase the impact of the geospatial data ecosystem. ***(Data & Standards)***

- Design and develop **joint work programmes, technology transfers, capacity building, and operational projects** with Member States and UN-GGIM Thematic Networks to leverage partnerships, capacity building, resources, and/or financial support (e.g., technical projects to support Member States, regional capacity building workshops, Partnership for Peace, internships, Junior Professional Officer programme, gratis personnel, talent exchange, and other in-kind contributions). ***(Capacity & Talent)***

- Establish **partnerships, agreements and long-term collaboration** for enhanced geospatial capacity and delivery for societal, environmental and economic benefit including with Member States, non-governmental organizations, the private sector, innovators, academia, geospatial societies, and citizens. Demonstrate the return on investment of mandate delivery. ***(Governance & Policies)***

- Collaborate with **research centres, laboratories, science organizations, innovation institutes, Earth observation agencies, artificial intelligence and technology groups** to enhance tools, methods, workflows, science, monitoring capabilities, trend analysis, and knowledge for societal, economic and environmental benefits. ***(Innovation)***

- Support activities related to **awareness and communication campaigns** via news, websites / social media, publication and other communication mediums on geospatial information management including through UN-GGIM, its members, subcommittees, expert groups, working groups, and networks to promote the use of geospatial information in support of the mandates and global agendas. ***(Communication)***

- Enhance and strengthen **international multi-lateral cooperation and partnerships** on geospatial information to further the aims and objectives of UN-GGIM for promotion and cooperation with Member States, academia, private sector, geospatial societies, international organizations, and innovators. ***(Partnerships)***

[12]As an example, the United Nations Office for Outer Space Affairs coordinates partnership efforts related to space-related activities whilst the United Nations Office on Disaster Risk Reduction facilitates geospatial partnership efforts related to disaster, risk-related issues.
[13]Regional Commissions foster partnerships in their respective regions. This federated networked partnership approach will allow both the data user and geospatial community to benefit across themes and scales.

TOWARDS A GEOSPATIAL ACTION GROUP &PLAN

To achieve the Secretary-General's vision of building a data ecosystem for more informed decision-making by the Organization and to deliver stronger support to people and planet, there are key contributing factors for successful implementation. The inclusion of geospatial expertise and data is a major component of the wider United Nations data ecosystem. In turn, the work of the geospatial community in the United Nations and beyond requires leadership, commitment, adequate institutional arrangements, and stronger partnerships.

Strong leadership and commitment are particularly critical to support, promote and sustain the mainstreaming of geospatial information in the United Nations. The leadership should come from the senior leadership of the United Nations Secretariat and from the users of geospatial information to drive the change and requirements.

Governance and institutional arrangements are critical components, providing effective guidance, oversight and objectives that are supported and implemented across the Organization.

Noting the Secretary-General's Data Strategy, the geospatial community of the United Nations Secretariat will establish a "**Geospatial Action Group**". This will include representatives of major geospatial information experts and users from the five pillars of the Organization.

The goals of the Geospatial Action Group include the following:

- Participate in the implementation of the wider ***Data Strategy*** and its governance mechanism, the Data Governance Council, to ensure interlinkages between the relevant data stakeholders in the Organization
- Coordinate its action with the ***United Nations Geospatial Network*** and its strategic orientations and activities as described in the Blueprint
- Elaborate a governance model on ***geospatial activities*** in the United Nations Secretariat
- Elaborate a ***Geospatial Action Plan*** to guide and build synergies between the activities in the United Nations Secretariat
- Advise and coordinate programmes and projects involving ***geospatial data and information*** including in close coordination with the United Nations Geospatial Network, the Data Stewardship Committee, ICT governance committees, and geospatial information users
- Coordinate the implementation of the ***Geospatial Action Plan***

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