

United Nations ESCAP Regional Space Applications Programme for Sustainable Development (RESAP)

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**Information and Communications Technology
and Disaster Risk Reduction**

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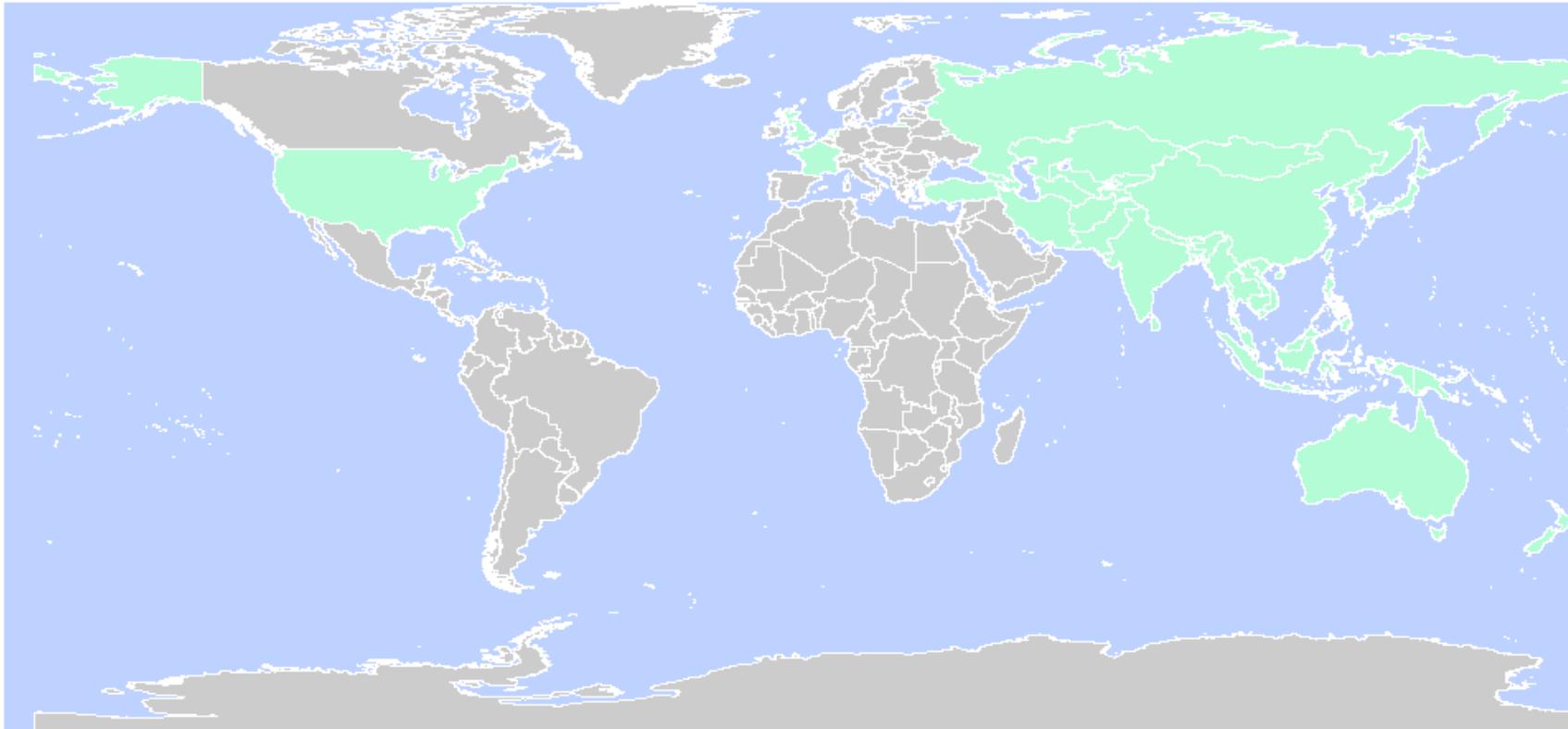


About ESCAP

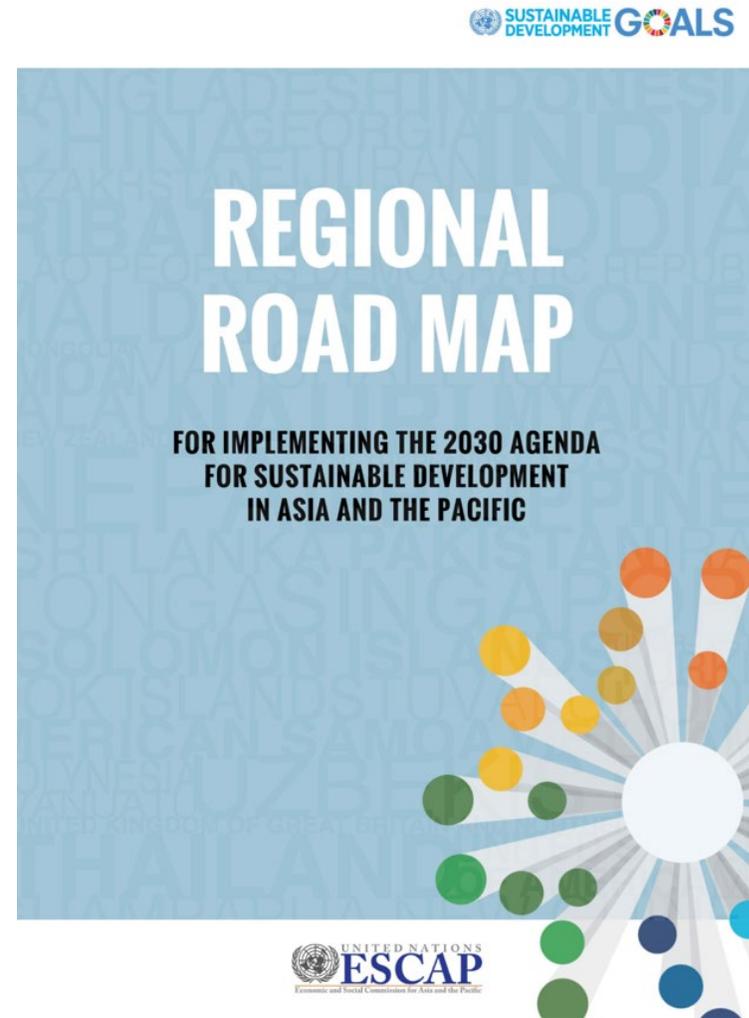
- Regional development arm of the United Nations for the Asia-Pacific region
- One of the five UN regional commissions
 - (Santiago, Chile – Addis Ababa, Ethiopia – Beirut, Lebanon – Geneva, Switzerland)
- Home to 4.1 billion people (or two thirds of the world's population) making ESCAP the most comprehensive of the five UN regional commissions
- The largest UN body serving the Asia-Pacific region with over 600 staff

About ESCAP

- Made up of 53 Member States and 9 Associate Members
 - geographical scope that stretches from Turkey in the west to the Pacific island nation of Kiribati in the east, and from the Russian Federation in the north to New Zealand in the south

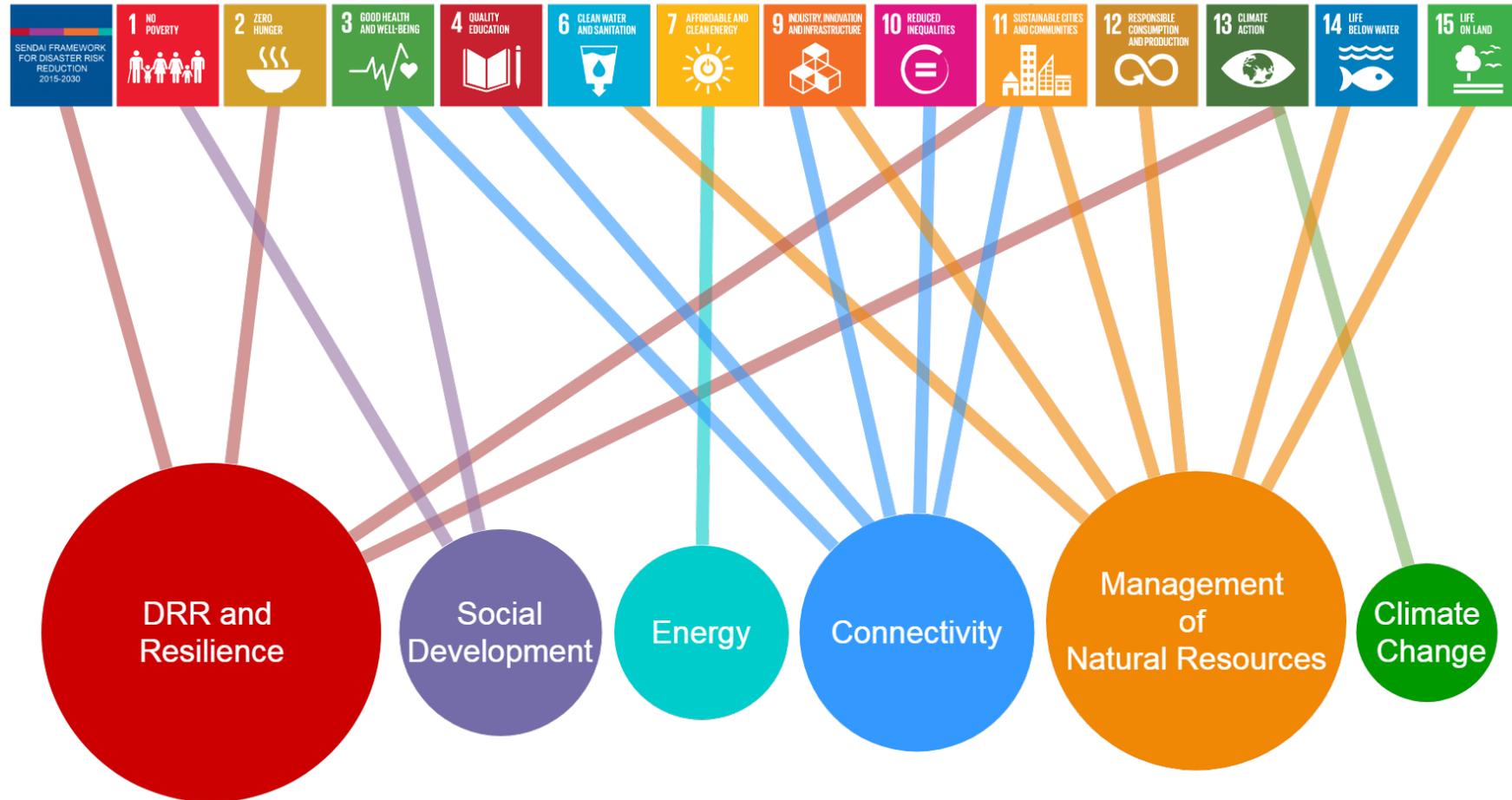


So what do we mean by sustainable development?



- **Regional Roadmap identifies the priorities for the Asia-Pacific region with regard to sustainable development**

“Integrating Geospatial Dimensions for a Sustainable Asia-Pacific”



- **14 Goals:** where space applications can significantly contribute to global framework
- **37 Targets:** as prioritized by the space community for the Asia-Pacific region

Trends in digital innovations and geospatial information

The integration of geospatial dimensions with digital innovations

- Digitally driven innovations have had a significant impact on the development of geospatial information services in the region
- Faster and more versatile digital connectivity, higher resolution satellite-derived images and geographic information systems have become increasingly accessible and available, generating more data to inform decision-making in real time
- The Asia-Pacific region is rapidly evolving into a hub of innovation
- Advances in digital innovations include the Internet of things, artificial intelligence, big data, cloud computing, robotics and automation
- Transforming the way in which people live, work and relate to one another

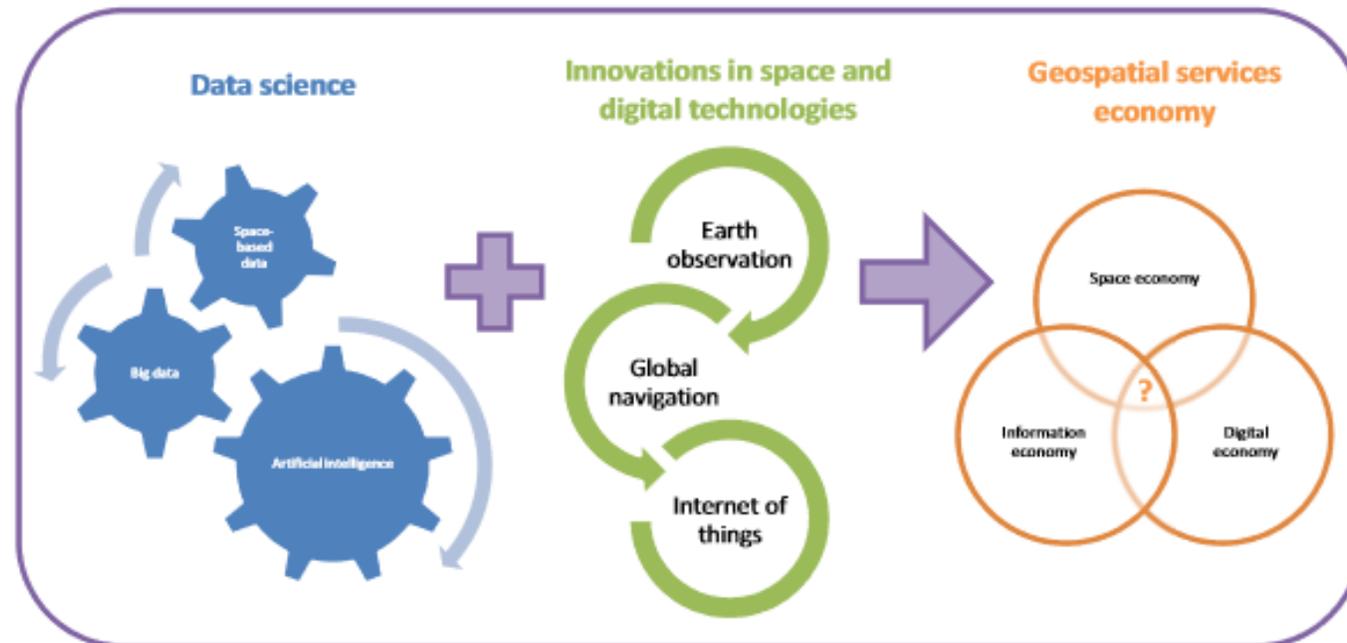
Digital innovations and the geospatial services economy

- There are more than 50 billion “things” expected to be connected to the Internet by 2020
- Miniaturization, advances in computer processing power and the convergence of space satellite imagery and big data analytics on human behaviour is rapidly expanding into the geospatial services economy

Digital innovations and the geospatial services economy

- The geospatial services economy can be considered as an intersection of the space economy, the digital economy and the information economy

Conceptual model for space applications and the geospatial services economy



3rd Ministerial Conference on Space Applications for Sustainable Development in Asia and the Pacific

- Held on 10 October 2018 in Bangkok, Thailand. It presented ministers with documents including:
 1. Ministerial Declaration on space applications for sustainable development in Asia and the Pacific
 2. Asia-Pacific Plan of Action on Space Applications for Sustainable Development (2018-2030)



Participants

- 13 Ministers, Vice-Ministers and Ambassadors from members and associate members of ESCAP
- 111 participants from 30 members and associate members, as well as one permanent observer of ESCAP
- Four UN organizations & specialized agencies, five international organizations & other entities



Media surrounding the event

Traditional media

- **6 media organizations** covered the session

Social media and website

- **Twitter:** 16 tweets shared, including 2 videos with 360 views. Total engagement: 445, Reach: 25,659
- **Facebook:** 8 posts, including 2 videos with 4,082 views. Total engagement: 810, Reach: 20,510
- **YouTube:** 2 videos, 185 views
- **Instagram:**, 9 posts including 2 videos with 8,944 views. Total engagement: 1,057, Reach: 47,079
- **Flickr:** 10 photos in one album with 7 views
- **Media outreach:** 1 press release, 1 media advisory.
- **Multimedia:** 1 thematic short video for social media and supported recording of opening video produced by IDD
- **Website:** 1,069 pageviews



Outcomes of the Ministerial Conference

Decision 1

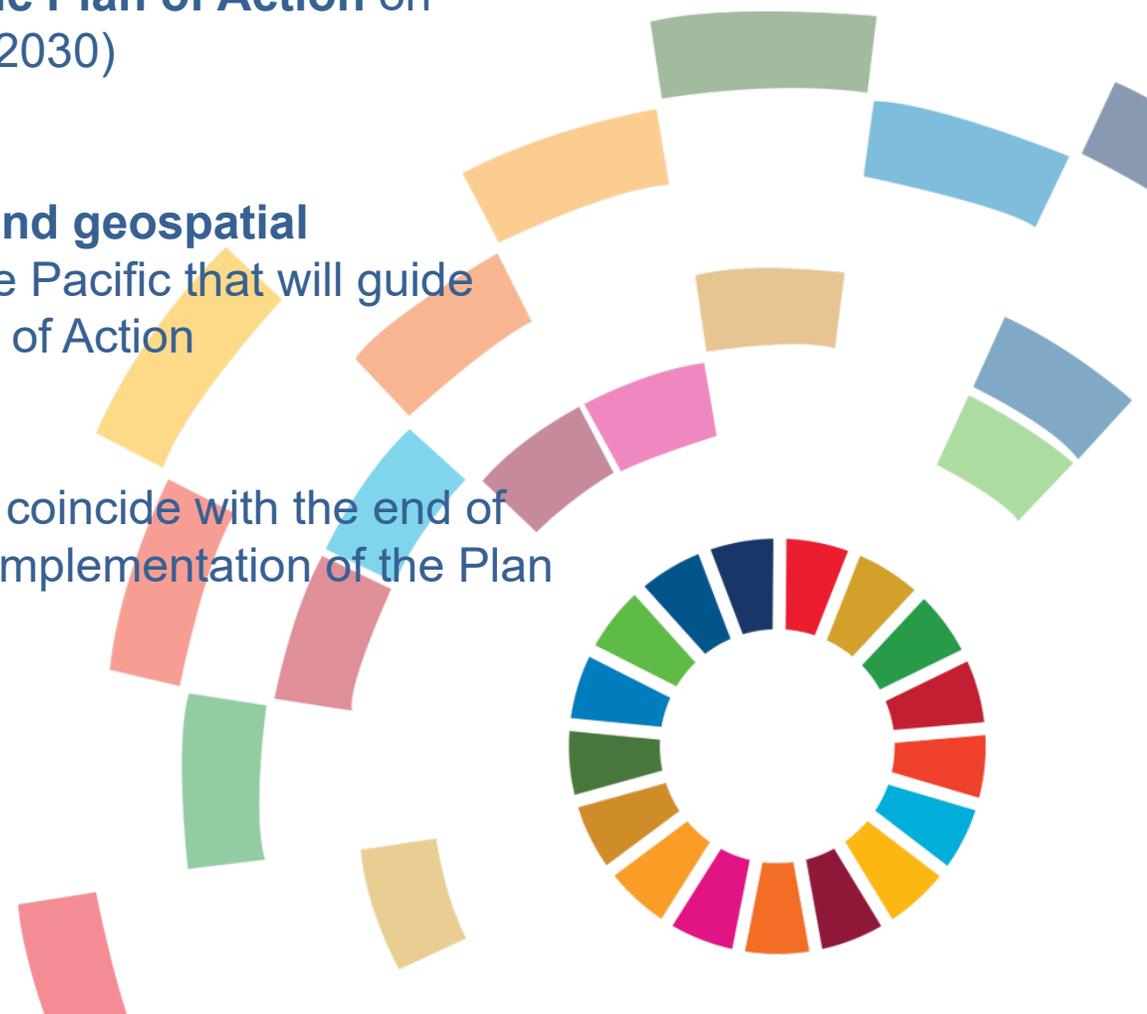
- **Adopted the Ministerial Declaration** on Space Applications for Sustainable Development in Asia and the Pacific, and the **Asia-Pacific Plan of Action** on Space Applications for Sustainable Development (2018–2030)

Decision 2

- Supported the issuance of a **biennial report on space and geospatial applications** for sustainable development in Asia and the Pacific that will guide policy actions over the implementation period of the Plan of Action

Decision 3

- Decided to convene a **fourth Ministerial Conference** to coincide with the end of the phase-I implementation and the start of the phase-II implementation of the Plan of Action



Outcomes of the Ministerial Conference

Ministerial Declaration on Space Applications for Sustainable Development in Asia and the Pacific

- Encouraged countries to work together and to mainstream the space and geospatial information applications in all appropriate aspects of sustainable development
- Pledged to continue to work collectively and assiduously towards the emergence of Asia and the Pacific as a model region for cooperation in space technology applications



Outcomes of the Ministerial Conference

Asia-Pacific Plan of Action on Space Applications for Sustainable Development (2018–2030)

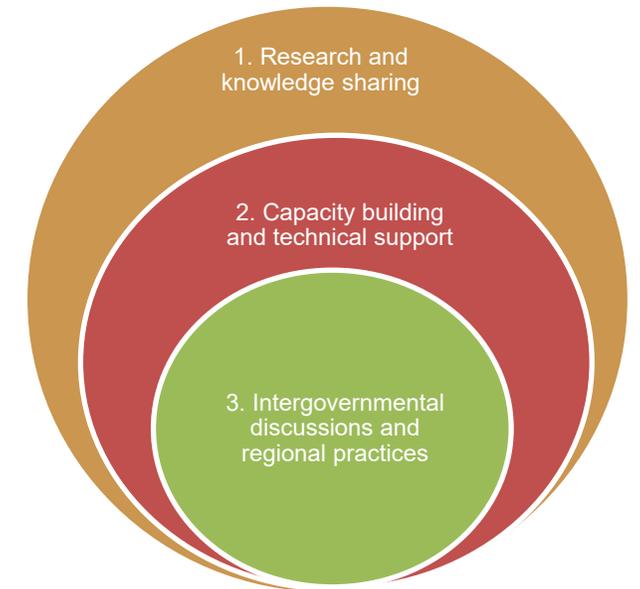
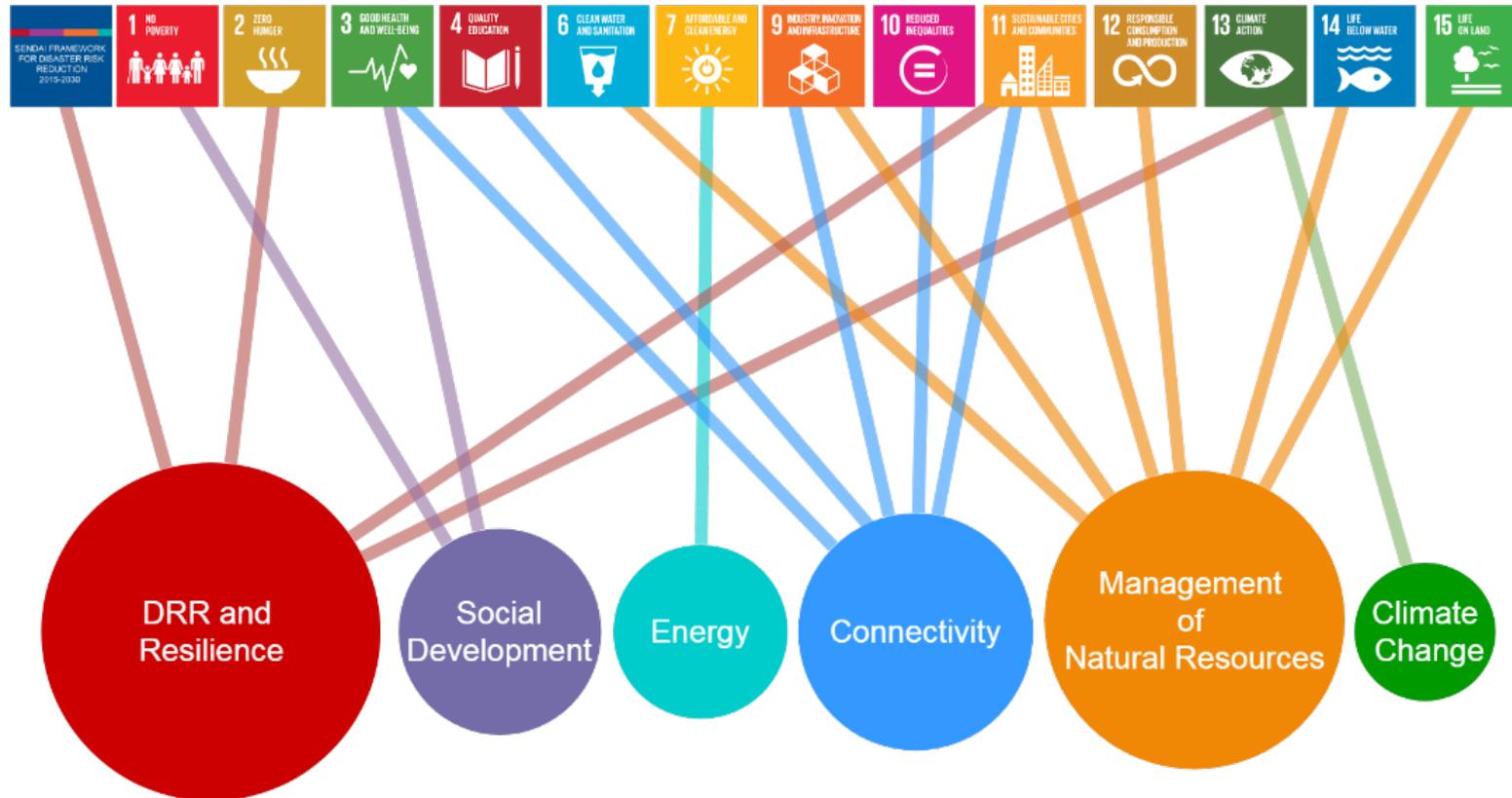
Vision

- Member States in the Asia-Pacific region can access, use and develop space science, technology and its applications to the fullest extent at the national and regional levels to achieve the goals set out in the 2030 Agenda for Sustainable Development



Asia-Pacific Plan of Action on Space Applications for Sustainable Development (2018–2030)

Overview

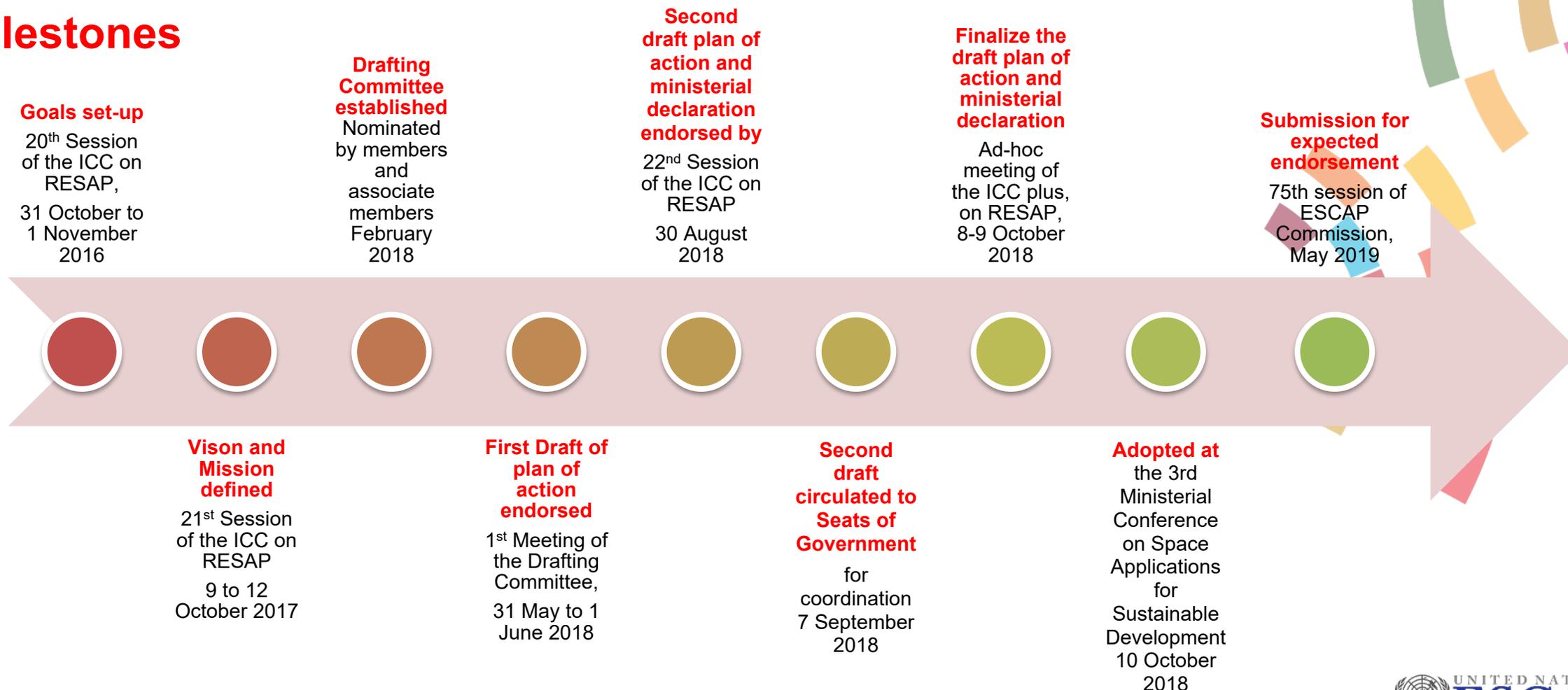


- 188 actions in six thematic areas that contribute to 37 Targets of 14 SDGs for 2030 Agenda and SFDRR
- Capacity building and technical support has been recommended as priority in implementing the Plan of Action

Process of formulating the regional plan of action (2018-2030)

Inclusive, collective, open and driven by country needs

Milestones



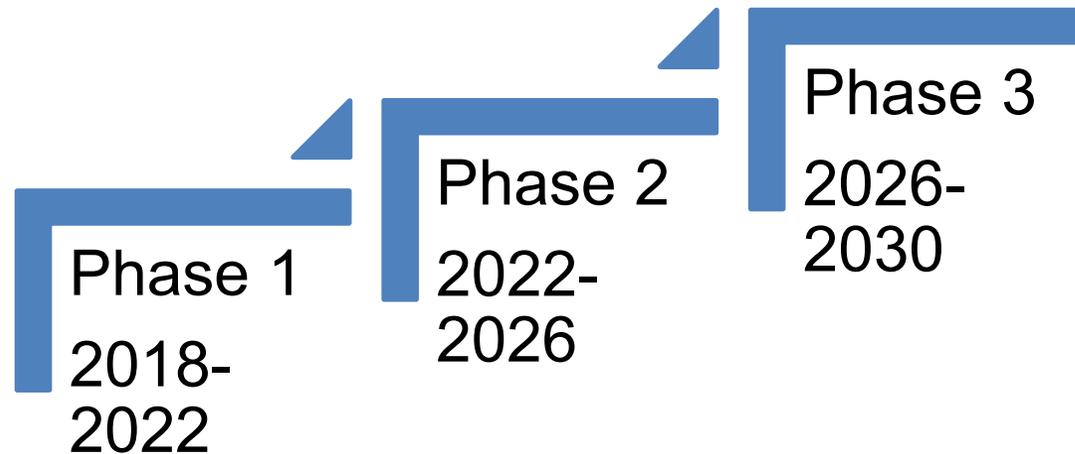
Means of implementation

- An ongoing collective effort
- Foresees enhanced cooperation and partnerships at the regional level, between existing RESAP members, intergovernmental mechanisms, international and technical organizations
- Leverages existing capacities in the region
- Primary responsibility of funding lies with national governments. Contributions will be sought and a Trust Fund is proposed to be established to support implementation.



Review phases of the plan of action

As the plan of action covers a long implementation period until 2030, the ICC, at its 22nd Session, also recognised the need to review and amend the Plan of Action periodically to reflect the evolving needs of countries, emerging technologies, shifting priorities and unforeseen challenges arising in the region.



- As a result, a phased review has been suggested over 4-year periods.
- The ICC noted that different sub-regions and countries have their own priorities.



Asia-Pacific Plan of Action on Space Applications for Sustainable Development (2018–2030)

Can be found on the meeting webpage:

<https://www.unescap.org/intergovernmental-meetings/third-ministerial-conference-space-applications-sustainable-development>

As an annex to the final report under ‘post-session’



Asia-Pacific Plan of Action on Space Applications for Sustainable Development (2018–2030)

ESCAP/MCSASD/2018/L.2/Add.2

Annex

Matrix of the Plan of Action

Disaster Risk Reduction and Resilience

Goals and targets	<i>Action Area 1 Research and knowledge-sharing</i>	<i>Action Area 2 Capacity-building and technical support Innovation</i>	<i>Action Area 3 Intergovernmental discussions and regional practices</i>
Sendai Framework for Disaster Risk Reduction Targets: 1, 2, 3, 4	<ul style="list-style-type: none"> Identify interfaces between, and integration of, traditional space-based information and frontier technologies to address disaster risk management and build resilience. Research opportunities for including Global Satellite Navigation System for infrastructure and utilities mapping, relevant to disaster damage assessment and early warning systems. Research on tele-health solutions using space technology to improve the capacity to react to emergency health situations. 	<ul style="list-style-type: none"> Develop capacity in integrating and utilizing space and geo-informatics applications with new methods, tools and technologies, from other digital innovations, for the mapping process. Contribute to the sustainable reconstruction phase of infrastructure in the post-disaster phase and to the reinforcement of resilience through the Recovery Observatory concept. 	<ul style="list-style-type: none"> Promote the use of geospatial information management systems, global navigation satellite systems and communications satellite systems towards disaster risk reduction and management at the policy level. Discuss and promote the potential concept of a common regional information technology system to support activities related to space applications for sustainable development. Promote discussions on data and information protocols for the use of global navigation satellite systems in all phases of disaster management. Provide support to mitigate the effects of disasters occurring in Asia and the Pacific through the International Charter on Space and Major Disasters.
Sustainable Development Goal 11: Sustainable cities and communities Target: 11.5	<ul style="list-style-type: none"> Share knowledge on the use of space-based information to enhance people-centred early warning systems and better understand elements at risk. Participate in holistic research and development, in cooperation with international and regional initiatives, such as the Committee on Earth Observation Satellites Working Group on Disasters, and the Group on Earth Observations Data Access for Risk Management initiative. 	<ul style="list-style-type: none"> Provide technical support on how to integrate, enhance and strengthen multi-hazard monitoring and early warning systems and real-time situational analysis for rapid-onset disasters, including flash floods from high-altitude lake and glacial outbursts, as well as slow-onset disasters, including drought and sand and dust storms. 	<ul style="list-style-type: none"> Integrate geospatial analytical techniques and products into emergency and crises management processes and plans, according to national circumstances. Promote the use of space applications in strengthening early warning systems by sharing good practices and discuss challenges in disseminating early warning information. Promote the use of space applications for critical infrastructure mapping and support actions related to building resilient societies. Integrate space applications to support the Sendai Framework Monitor system and relevant indicators.



In the process of creating this into a brochure and colourful matrix for ease of reference

Asia-Pacific Plan of Action on Space Applications for Sustainable Development (2018–2030)

ESCAP/MCSASD/2018/L.2/Add.2

Management of Natural Resources			
Goals and targets	<i>Action Area 1 Research and knowledge-sharing</i>	<i>Action Area 2 Capacity-building and technical support</i>	<i>Action Area 3 Intergovernmental discussions and regional practices</i>
Sustainable Development Goal 6: Clean water and sanitation Targets: 6.1, 6.3, 6.5, 6.6	<i>Water quality</i>		
	<ul style="list-style-type: none"> Research and share knowledge on the applications of geospatial information for water recycling. 	<ul style="list-style-type: none"> Develop capacity for and provide technical support on mapping water quality. 	<ul style="list-style-type: none"> Exchange information and good practices to provide technical recommendations on methodologies for mapping water quality.
	<i>Water resource management</i>		
Sustainable Development Goal 9: Industry, innovation and infrastructure Target: 9.4	<ul style="list-style-type: none"> Research to better understand how space and geoinformatics applications can support estimations on water resources. Share knowledge and identify hotspots for water demand in urban, rural as well as industrial and agricultural systems. Identify areas for water harvesting structures and watershed ecosystems restoration. 	<ul style="list-style-type: none"> Develop capacity for and provide technical support on mapping and monitoring water resources. Provide technical support on integrating space applications with meteorological and ground-based data to help ensure the sustainable use of water resources. Provide technical support for combining space applications with other reliable data sources for sustainable water use planning at appropriate levels. 	<ul style="list-style-type: none"> Contribute to national efforts in the use of space applications for the development of river basin management plans and regional cooperation, as applicable. Support intergovernmental discussions and facilitate the achievement of access to safe and affordable drinking water target by 2030, through the use of space applications and tools. Work with existing intergovernmental mechanisms and international and regional organizations, as appropriate, to provide satellite data and information to support sustainable water use.
	<i>Infrastructure</i>		
Sustainable Development Goal 11: Sustainable cities and communities Targets: 11.4, 11.6, 11.b	<ul style="list-style-type: none"> Research the integration of space applications and frontier technologies to support change detection of infrastructure and industries. 	<ul style="list-style-type: none"> Develop capacity for the monitoring of infrastructure and buildings, including complex large-scale engineering projects, to ensure environmental sustainability. Provide capacity for the use of geospatial information, engineering data and risk information for modelling to inform urban planning and management. 	<ul style="list-style-type: none"> Share good practices on the use of space applications for change detection of infrastructure.
	<i>Natural and cultural heritage</i>		
Sustainable Development Goal 11: Sustainable cities and communities Targets: 11.4, 11.6, 11.b	<ul style="list-style-type: none"> Research on the use of satellite data to protect and safeguard cultural and natural heritage. 	<ul style="list-style-type: none"> Develop capacity for identifying and mapping cultural and natural heritage sites, including 3D modelling and terrestrial laser scanning for visualisation. 	<ul style="list-style-type: none"> Work with existing intergovernmental mechanisms and international and regional organizations to provide satellite data and information to support the implementation of national natural and cultural heritage protection plans.



We welcome contribution from your organisations under the Plan of Action (2018-2030)

Thank you!

Questions?

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