

Coastal Resilience to Climate Change

ESA-Star News Item

This News Item presents an overview of the Thematic Call for Proposals entitled "[Coastal Resilience to Climate Change](#)" issued under the ARTES 4.0 Generic Programme Line "Business Applications – Space Solutions", "Space Systems for Safety and Security" (4S) and "Space for 5G/6G and Sustainable Connectivity" Strategic Programme Lines in the frame of standard call for proposals AO/1-10494 (see details in the attached Activity Description) .

This Thematic Call for Proposals (CfP) for Applications Activities seeks to develop space-based services and invites proposals for feasibility studies and demonstration projects to address the risks associated with climate change. The goal is to enhance coastal resilience and ensure the sustainability of economic activities in vulnerable regions. Companies are encouraged to submit business propositions for the development of space-based services designed to enhance coastal resilience. A description of the activity and a list of optional use cases provided by ESA partners are available in this news item and at this link: [Coastal Resilience to Climate Change](#)

The call is centred on, but not restricted to, the following areas of interest:

- **Monitoring and Early Warning Systems** – Environmental changes can be monitored to provide early warnings for extreme weather events, such as storms, floods, and heatwaves.
- **Monitoring Coastal Erosion and Sea-Level Rise** – Tracking coastal erosion and sea-level rise provides critical information for planning and implementing coastal defences.
- **Water Management** – Managing water resources by monitoring rainfall patterns, river flows, and drought conditions.
- **Biodiversity and Ecosystem Services** – Monitoring changes in biodiversity and ecosystem services helps protect and manage natural habitats.
- **Urban Planning and Infrastructure** – Accurate geospatial information supports urban planning by helping design resilient infrastructure that can withstand climate impacts.
- **Adapting Coastal Agriculture** – Implementing services to protect crops from salinity intrusion, flooding, coastal erosion, extreme weather events, and changes in precipitation patterns.
- **Disaster Response and Recovery** – Reliable communication during and after disasters ensures that emergency services can coordinate effectively.
- **Nature-Based Solutions (NBS)** – Implementing NBS, such as mangrove restoration, can enhance coastal resilience and provide multiple ecosystem services.
- **Port Solutions** – Services may involve management systems that recommend strategies such as raising the height of quays and docks, installing advanced drainage systems, and developing climate adaptation plans.
- **Tourism** – Implementing climate adaptation strategies, such as building resilient infrastructure and promoting sustainable tourism practices, can help mitigate the impacts of climate change on tourism infrastructure.
- **Insurance** – Using satellite data, insurers can better assess risks and manage claims, offering tailored products for coastal communities.

The interested Industry partners are invited to submit their Activity Pitch Questionnaire (APQ) by following the guidelines available at this link [Activity Pitch Questionnaire guidelines](#) based on a template made available by ESA at this

link:<https://business.esa.int/sites/business/files/APQ%20ProjectName.pdf> and further details are available in the document attached to this news item. The completed Activity Pitch Questionnaire (APQ) shall be uploaded using the online web submitter on ESA's open space innovation platform (OSIP) under the channel [Outline Proposal for ARTES Downstream Business Applications – Feasibility Studies/Demonstration Projects](#).