

## Uses of space-based technologies in tsunami early warning systems

Type of space technology	Sub-type of space technology	Applications / comments
<b>Earth observation from satellites</b>	Moderate resolution optical satellite imagery (pixel size up to 10 meters resolution)	Location of urban and rural areas exposed to tsunamis
	High resolution optical satellite imagery (down to 1-meter resolution or less)	Location of critical infrastructure, road network on coastal areas, other types of infrastructure exposed to tsunamis, as well as industrial, commercial, touristic, educational, health, housing, financial, religious, and cultural facilities in areas exposed to tsunamis Identification of potential evacuation routes and safe areas
	Moderate resolution digital elevation models	Used in combination with tsunami modelling to model tsunami propagation inland for national-level purposes and rural areas
	High resolution digital elevation models	Used in combination with tsunami modelling to improve models of tsunami propagation inland for local- or urban-level purposes like ports and coastal cities
<b>Satellite telecommunications</b>	Data transmission	Used for the transmission of data from sensors deployed in remote areas and from buoys at sea to Regional Tsunami Watch Centres.
	Transmission of texts	The World Meteorological Organization has allowed for the use of meteorological satellites to transmit information about tsunamis within continents and from one continent to another one.
<b>Global Navigation Satellite Systems</b>	Global Positioning System (GPS, United States), GLObal NAVigation Satellite System (GLONASS, Russian Federation)	Geographic location of critical infrastructure, road infrastructure (bridges), buildings, industrial facilities. Assessment of the magnitude of strong earthquakes.