Introduction

The Cascadia Subduction Zone (CSZ) is a tectonic plate boundary where the Juan de Fuca Plate subducts beneath the North American Plate. This process leads to the formation of earthquakes and tsunamis along the Oregon coast. The Oregon Geologic Survey (OGS) has modeled potential tsunami inundation scenarios for coastal communities in Oregon, including Dunes City.

Map Specifications

OGS developed a tsunami hazard map for Dunes City using advanced modeling techniques. The map incorporates various factors such as earthquake magnitude, fault characteristics, and coastal topography. The map is updated regularly to reflect new scientific understanding and data.

Earthquake Size

The earthquake size is a critical parameter in tsunami hazard assessment. Larger earthquakes are more likely to generate larger tsunamis. The map provides a range of possible magnitudes for future earthquakes, helping to understand the potential impact on the community.

Maximum Slip

The maximum slip is another important metric that indicates the maximum ground displacement during an earthquake. This value is crucial for assessing the potential damage to infrastructure and buildings. The map includes data on historical earthquake events and projected slip values for future scenarios.

Tsunami Inundation

Tsunami inundation maps are essential for emergency planning and evacuation strategies. The map details the extent of inundation for different tsunami waves, which can inform local officials and residents about potential affected areas.

Conclusion

Understanding and preparing for Cascadia Subduction Zone earthquakes and tsunamis is crucial for the safety of coastal communities in Oregon. The detailed modeling and mapping efforts by OGS provide valuable tools for emergency management and public education.