NOAA'S SEA LEVEL CALCULATOR
PUTTING THIS TOOL TO GOOD USE

The powerful calculator delivers comprehensive local sea level data, visuals, and projections. Decades of observational data, combined with advanced modeling techniques, make this all-inclusive approach possible.

Notable factors are the holistic information this technical tool contains and the way the information is provided. The "Quick Views," listed below, let users explore various sea level change components in one convenient platform. Quick Views provide essential information for undertaking many decision-making processes, examples of which are provided in this document.

1. Future Sea Levels
2. Changes in Flood Frequency
3. Extreme Water Levels
4. Observed Sea Level Trends
5. Seasonal Variation

QUICK VIEW: FUTURE SEA LEVELS

Customize thresholds and datums, visualize inundation, and compare observation-based trajectories with model-based projections. All of this is made possible through the tool's interactive graphs, tables, and maps, and the foundational data obtained from the *2022 Interagency Sea Level Rise Technical Report*.

How You Can Use It

- **Resilience Officer:** Demonstrate when critical thresholds will be crossed to justify resilience funding.
- **Civil Engineer:** Utilize scenarios to calculate freeboard heights for infrastructure projects, refine elevation requirements, and incorporate customized datums to align with various project needs.
- **Natural Resource Manager:** Use decadal projections to prioritize habitat conservation and restoration efforts.
- **Engagement Professional:** Craft educational materials using the tool's visuals; draw on videos and descriptions within the tool to explain complex data.

QUICK VIEW: CHANGES IN FLOOD FREQUENCY

Combine historical flooding data with future projections to illustrate how minor, moderate, and major flood events will evolve under various sea level rise scenarios. Input custom flooding day thresholds and visualize how these compare to projected conditions.

How You Can Use It

- **City Manager:** Use projected flood frequencies to illustrate funding needs for drainage improvements, including adding backflow preventers, pumps, or bioswales.
- **Floodplain Manager:** Combine historical flooding data and future projections to recommend zoning changes and secure funding for flood control infrastructure.
- **Public Works Manager:** Prioritize drainage improvements based on decadal flood frequency projections to address high-risk areas.

QUICK VIEW: EXTREME WATER LEVELS

Access probabilities for extreme water levels, including projections developed using the various user-selected sea level rise scenarios. Review top historical flood events and compare them to future probabilities.

How You Can Use It

- **Structural Engineer:** Use extreme water level probabilities to set safe building elevations to prepare structures for current and future flooding.
- **Emergency Manager:** Review historical flood events to assess emergency services needed and use future probabilities to plan updated procedures and evacuation routes.
- **Planners and Public Works Managers:** Plan for high-risk events by comparing historical context to future flood probabilities and allocating resources effectively.

QUICK VIEW: OBSERVED SEA LEVEL TRENDS

Examine historical sea level trends with tide gauge and satellite data. Explore regional extrapolations to project future conditions. See how rates of rise have evolved over time, helping ground community planning in a historical context.

How You Can Use It

- **Land Use Planner:** Influence zoning policies by demonstrating historical sea level change and potential future acceleration.
- **Engineer:** Fine-tune elevation requirements for developments by assessing local trends against regional and global data.
- **Engagement Professional:** Build community trust by using local sea level trends to explain risks and justify planning priorities.

QUICK VIEW: SEASONAL VARIATION

Anticipate risk periods and plan for infrastructure maintenance, road closings, and public safety measures by using the monthly flooding and extreme events data.

How You Can Use It

- **Natural Resource Manager:** Plan seasonal trail closures and maintenance schedules to protect habitats during high-risk periods.
- **Public Works Manager:** Schedule maintenance strategically to address recurring seasonal flooding issues.
- **Floodplain Manager:** Educate residents and local governments about seasonal flood risks to improve preparedness efforts.

SEA LEVEL CALCULATOR

coast.noaa.gov/digitalcoast/tools/sea-level-calculator.html

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