

SkyWind Solutions

Actionable Water Level Intelligence

The Data Gap Undermining Coastal Decision-Making

America's $8.3 trillion coastal economy operates with insufficient data.

- Only 207 tide stations cover the entire U.S. coast, with gaps often spanning 50 to 100+ miles between locations.
- Most operators rely on the closest available gauge, even when it fails to reflect actual on-site conditions.
- Astronomical tide forecasts follow sun–moon cycles but ignore wind, weather, and local geography.
- Small changes in shoreline, seabed, or river flow can shift water height by feet — and timing by hours.

The result: critical blind spots in flood planning, adaptation projects, and community safety.

Source: NOAA Office for Coastal Management, 2022.



Why It Matters Now

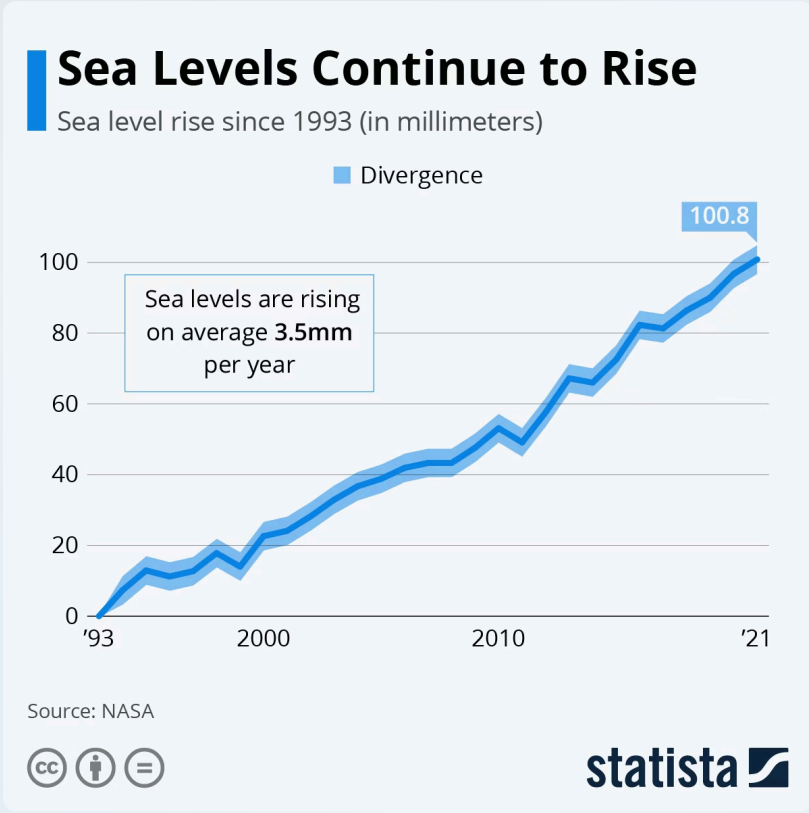
Rising flood risk calls for next-generation forecasting

Sea level projected to rise **10–12 inches in 30 years**

"100-year floods" now occur every **30–50 years** in many U.S. cities

85% of coastal areas underestimate surge probability

⏳ Legacy models ignore real-time climate volatility — and that's costly.



Our Solution

SkyWind Solutions delivers hyperlocal, AI-powered, total water level forecasts.

Hyperlocal, Site-Specific

Customized to your location, not just the nearest tidal gauge

Proprietary ML Models

Custom-trained with site-specific bias correction, learning from historical forecast errors

90% Confidence Intervals

Expected levels *plus* projected range of likely outcomes for better decision making.

API-First Architecture

Easy plug-in for enterprise users

- Designed to support critical ops and under-served coastal regions.
- Designed to ingest IoT sensor feeds where available.





Technical Architecture

SkyWind Solutions provides site-specific water level forecasts using science-based models designed for real-world operations.

- Custom-trained AI models, developed with deep meteorological and mathematical expertise
- Site-specific bias correction, dynamic model tuning, no static assumptions
- Adaptive model feedback: forecasts improve with usage
- Modular API for seamless delivery and deployment

⚙️Our system combines meteorological accuracy, localized model correction, and flexible delivery.

Scientific Firepower

Built by experts in numerical modeling, weather science, and coastal risk.



Bonnie Schneider

Former national TV meteorologist (NBC News, CNN, Bloomberg, Weather Channel). Author: *Extreme Weather* (Macmillan) and *Taking the Heat* (Simon & Schuster) and the *EcoTech Report*, advancing sustainability in technology. Graduate of Boston University.



Dr. Greg Rainwater

Applied mathematician and atmospheric scientist with a research focus on numerical methods and parallel computing for weather and climate models. A Native American researcher, Dr. Rainwater developed advanced time integration techniques during his Ph.D. at UC Merced and holds an M.S. in Mathematics from Portland State University.



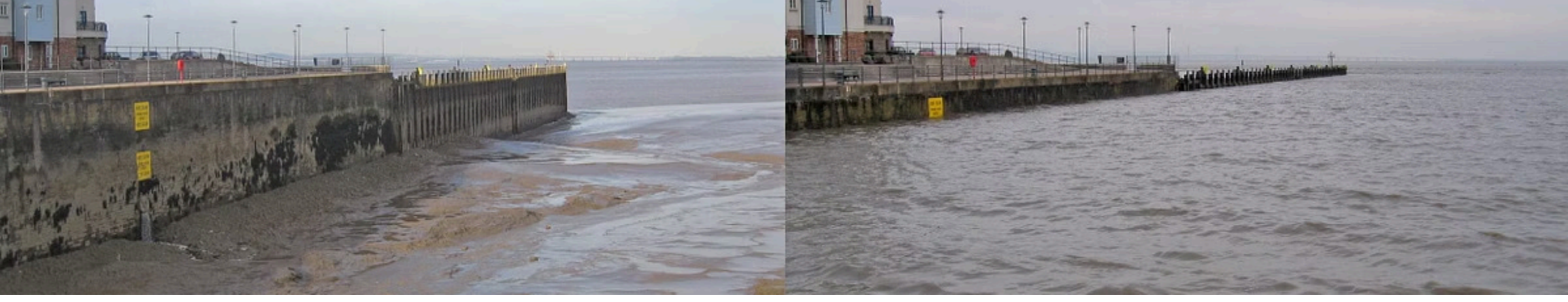
Dr. Kevin Viner

Meteorologist specializing in numerical methods and dynamical systems for global atmospheric prediction. Dr. Viner spent over a decade at the U.S. Naval Research Laboratory advancing large-scale forecasting systems. Ph.D. in Atmospheric Sciences from Texas A&M University and an M.S. from Purdue University.

Extended Team:

The extended executive team includes senior-level scientists with doctoral degrees in meteorology, mathematics, and engineering.

Collectively, they lead initiatives in numerical weather prediction, high-performance computing, and advanced software architecture — bringing decades of specialized experience at the forefront of their fields.



Partnership Strategy

Collaborative Solutions for Critical Coastal Challenges

📍 Priority Partnerships:

High-risk coastal municipalities seeking enhanced flood preparedness

Ports & marinas optimizing operational safety and efficiency

Climate resilience programs building adaptive capacity

Engineering firms designing coastal infrastructure and flood mitigation systems

Real estate developers and agencies managing coastal property risk

Insurance companies requiring hyperlocal flood risk assessment



3-Month Pilot Program

Risk-free onboarding. Real-world validation.

What We Offer:

- ✓ Site-specific forecasts calibrated to your exact location
- ✓ Continuous model improvement based on your operational feedback
- ✓ Performance evaluation and measurable value demonstration

Our Process:

1. **Discovery**
   Understand your operational needs
2. **Customization**
   Calibrate forecasts to your environment
3. **Evaluation**
   Measure value, define next steps

Success Metrics:

Improved decision-making accuracy

Enhanced safety and flood response

Demonstrated value in reducing risk and cost

Let's Talk

Ready to replace guesswork with precision?

Book a short call to discuss your use case.



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Meet with Us

[Meeting Calendar Link]