Fort Clinch State Park Aquatic Preserve

SEACAR Water Quality Analysis

Last compiled on 18 March, 2025

Contents

| Indicators | 2 |
|--|----|
| Nutrients | 2 |
| Total Nitrogen - Discrete | 2 |
| Total Phosphorus - Discrete | 4 |
| Water Quality | 6 |
| Dissolved Oxygen - Discrete | 6 |
| Dissolved Oxygen Saturation - Discrete | 8 |
| Salinity - Discrete | 0 |
| Water Temperature - Discrete | 2 |
| pH - Discrete | 4 |
| Water Clarity | 6 |
| Turbidity - Discrete | 6 |
| Total Suspended Solids - Discrete | 8 |
| Chlorophyll a, Uncorrected for Pheophytin - Discrete | 20 |
| Chlorophyll a, Corrected for Pheophytin - Discrete | 22 |
| Secchi Depth - Discrete | 24 |

Indicators

Nutrients

Total Nitrogen - Discrete

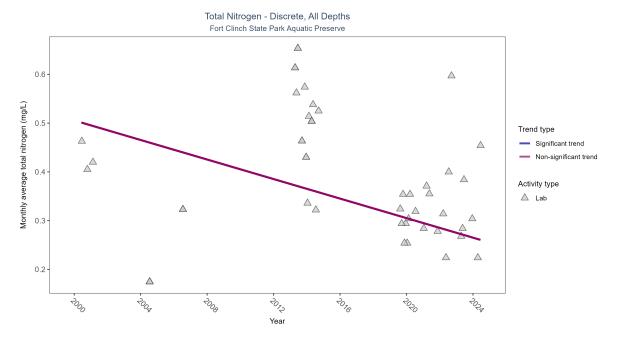
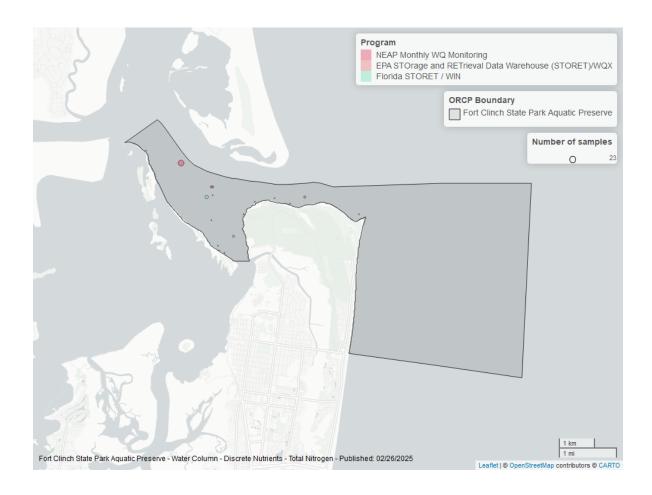


Table 1: Seasonal Kendall-Tau Results for - Total Nitrogen

| Activity Type | Statistical Trend | Sample Count | Years with Data | Period of Record | Median Result Value | Tau | Sen Intercept | Sen Slope | P |
|---------------|----------------------|--------------|-----------------|------------------|---------------------|----------|---------------|-----------|---------------------------------|
| Lab | No significant trend | 55 | 12 | 2000 - 2024 | 0.354 | -0.33333 | 0.50547 | -0.01001 | 0.09079793075239506183748972035 |



Total Phosphorus - Discrete

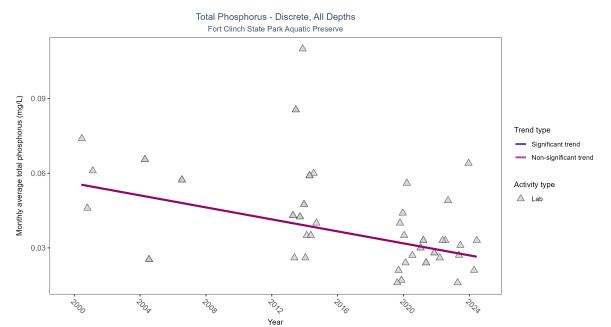
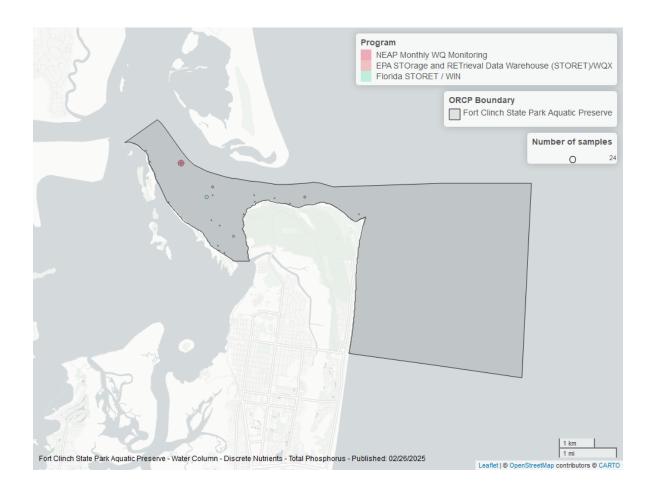


Table 2: Seasonal Kendall-Tau Results for - Total Phosphorus

| Activity Type | Statistical Trend | Sample Count | Years with Data | Period of Record | Median Result Value | Tau | Sen Intercept | Sen Slope | P |
|---------------|----------------------|--------------|-----------------|------------------|---------------------|----------|---------------|-----------|---|
| Lab | No significant trend | 58 | 12 | 2000 - 2024 | 0.034 | -0.25833 | 0.05592 | -0.0012 | 0.23736860507756143978674856498400913551449775695800781250000000000 |



Water Quality

Dissolved Oxygen - Discrete

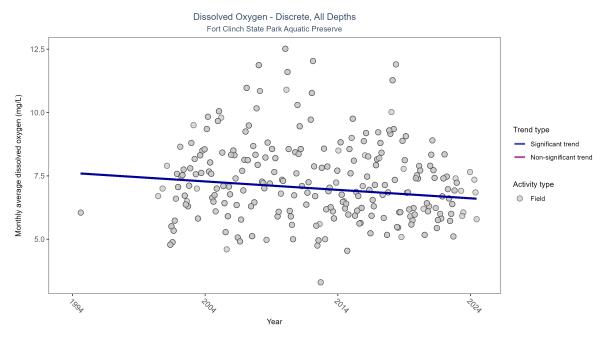
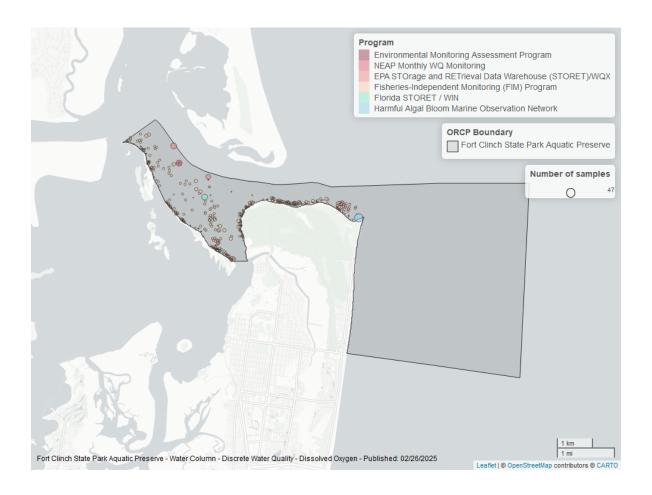


Table 3: Seasonal Kendall-Tau Results for - Dissolved Oxygen

| Activity Type | Statistical Trend | Sample Count | Years with Data | Period of Record | Median Result Value | Tau | Sen Intercept | Sen Slope | P |
|---------------|--------------------------------|--------------|-----------------|------------------|---------------------|----------|---------------|-----------|---------------------|
| Field | Significantly decreasing trend | 1641 | 26 | 1994 - 2024 | 7.1 | -0.18465 | 7.61469 | -0.03332 | 0.00004697327489331 |



Dissolved Oxygen Saturation - Discrete

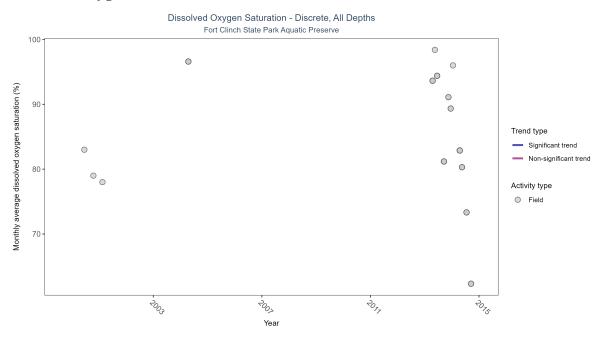
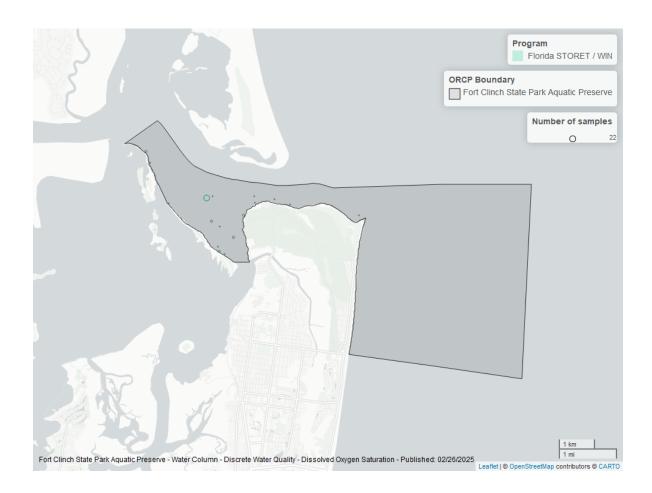


Table 4: Seasonal Kendall-Tau Results for - Dissolved Oxygen Saturation

| Activity Type | Statistical Trend | Sample Count | Years with Data | Period of Record | Median Result Value | Tau | Sen Intercept | Sen Slope | P |
|---------------|--------------------------------------|--------------|-----------------|------------------|---------------------|-----|---------------|-----------|----|
| Field | Insufficient data to calculate trend | 48 | 5 | 2000 - 2014 | 85.45 | - | - | - | NA |



Salinity - Discrete

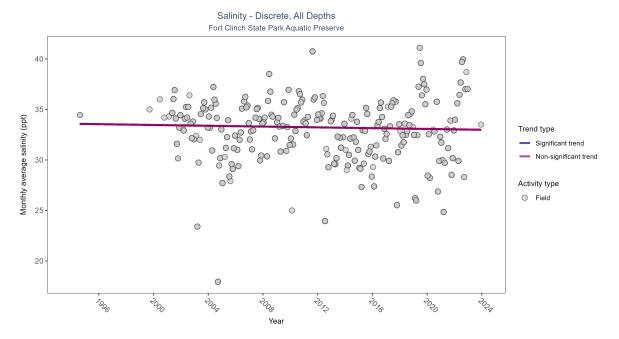
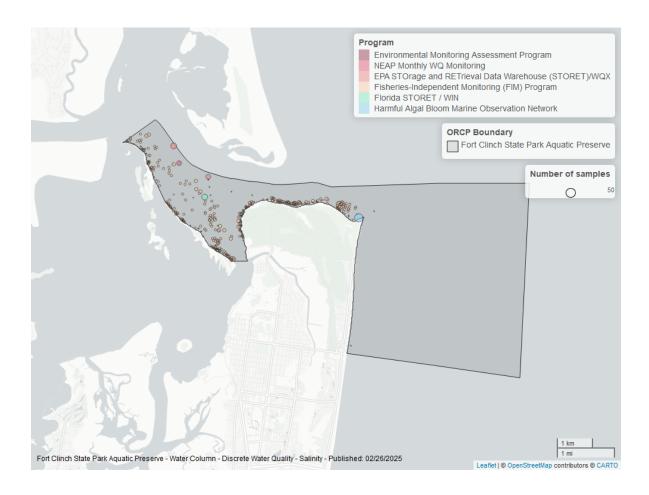


Table 5: Seasonal Kendall-Tau Results for - Salinity

| Activity Type | Statistical Trend | Sample Count | Years with Data | Period of Record | Median Result Value | Tau | Sen Intercept | Sen Slope | P |
|---------------|----------------------|--------------|-----------------|------------------|---------------------|----------|---------------|-----------|---|
| All | No significant trend | 1638 | 26 | 1994 - 2023 | 33.5 | -0.03841 | 33.58155 | -0.01974 | 0.39121284769775682699233243511116597801446914673 |



Water Temperature - Discrete

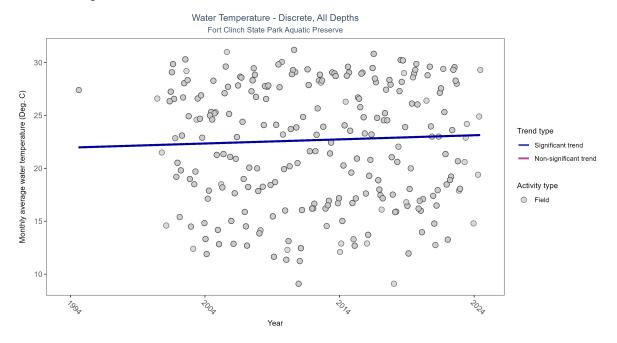
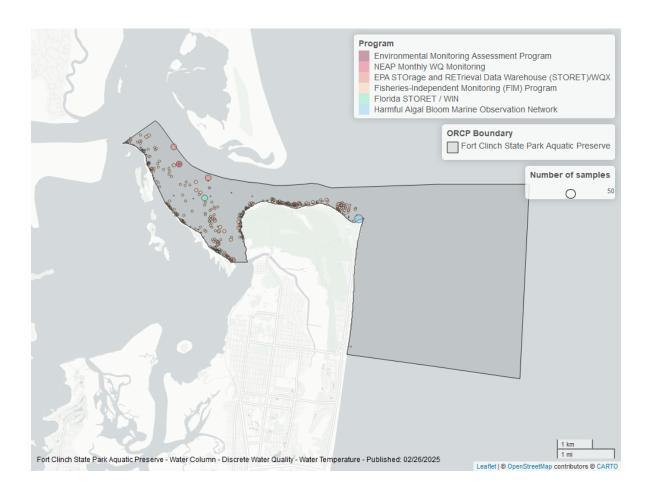


Table 6: Seasonal Kendall-Tau Results for - Water Temperature

| Activity Type | Statistical Trend | Sample Count | Years with Data | Period of Record | Median Result Value | Tau | Sen Intercept | Sen Slope | P |
|---------------|--------------------------------|--------------|-----------------|------------------|---------------------|---------|---------------|-----------|----------------------|
| Field | Significantly increasing trend | 1662 | 26 | 1994 - 2024 | 23.2 | 0.08897 | 21.96099 | 0.03893 | 0.039480888455193673 |



pH - Discrete



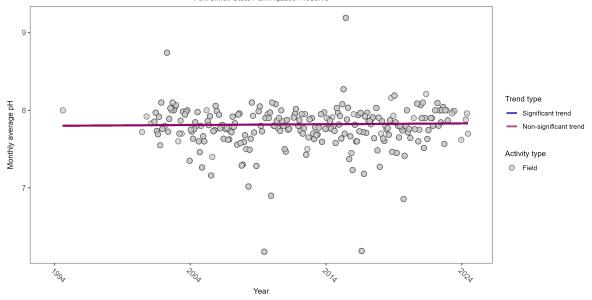
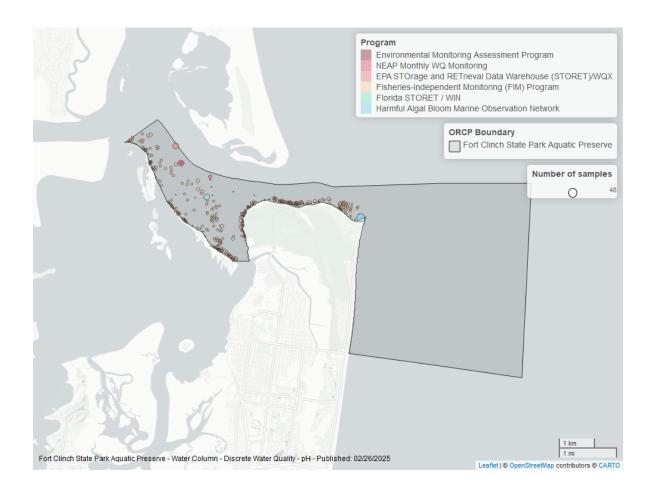


Table 7: Seasonal Kendall-Tau Results for - pH $\,$

| Activity Type | Statistical Trend | Sample Count | Years with Data | Period of Record | Median Result Value | Tau | Sen Intercept | Sen Slope | P |
|---------------|----------------------|--------------|-----------------|------------------|---------------------|--------|---------------|-----------|---|
| Field | No significant trend | 1631 | 26 | 1994 - 2024 | 7.8 | 0.0303 | 7.80065 | 0.00102 | 0.55608984863439947510244110162602737545967 |



Water Clarity

Turbidity - Discrete

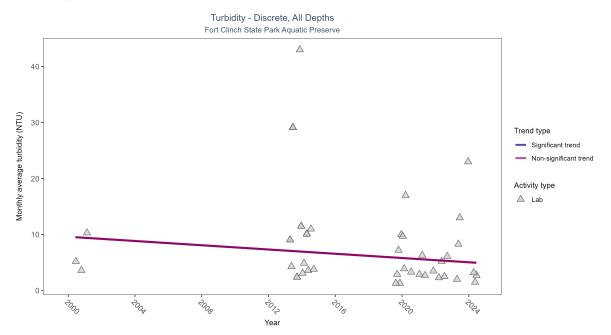
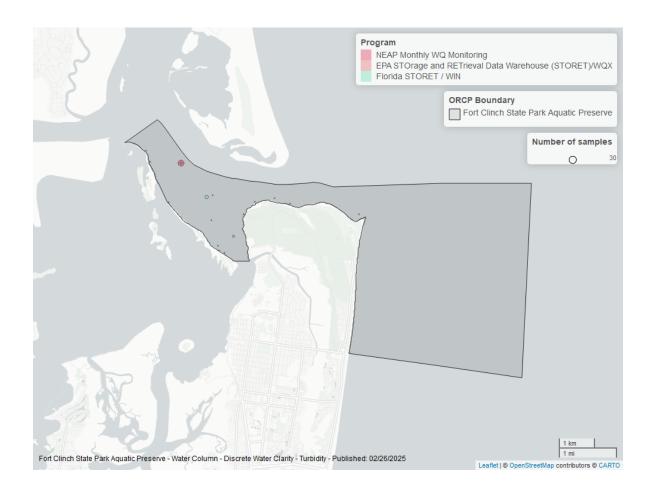


Table 8: Seasonal Kendall-Tau Results for - Turbidity

| Activity Type | Statistical Trend | Sample Count | Years with Data | Period of Record | Median Result Value | Tau | Sen Intercept | Sen Slope | P |
|---------------|----------------------|--------------|-----------------|------------------|---------------------|----------|---------------|-----------|------------------------|
| Lab | No significant trend | 49 | 10 | 2000 - 2024 | 5 | -0.22105 | 9.61579 | -0.19 | 0.30610346625699913492 |



Total Suspended Solids - Discrete

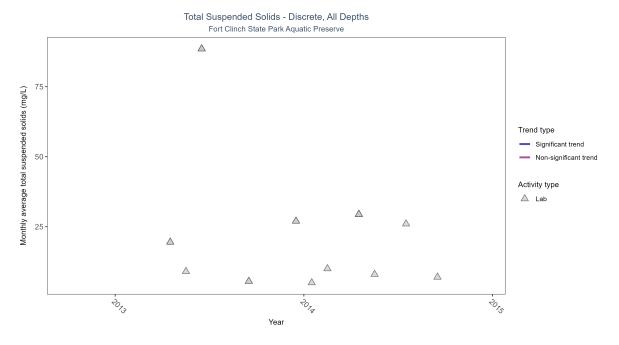


Table 9: Seasonal Kendall-Tau Results for - Total Suspended Solids

| Activity Type | Statistical Trend | Sample Count | Years with Data | Period of Record | Median Result Value | Tau | Sen Intercept | Sen Slope | P |
|---------------|--------------------------------------|--------------|-----------------|------------------|---------------------|-----|---------------|-----------|----|
| Lab | Insufficient data to calculate trend | 22 | 2 | 2013 - 2014 | 17.5 | - | - | - | NA |



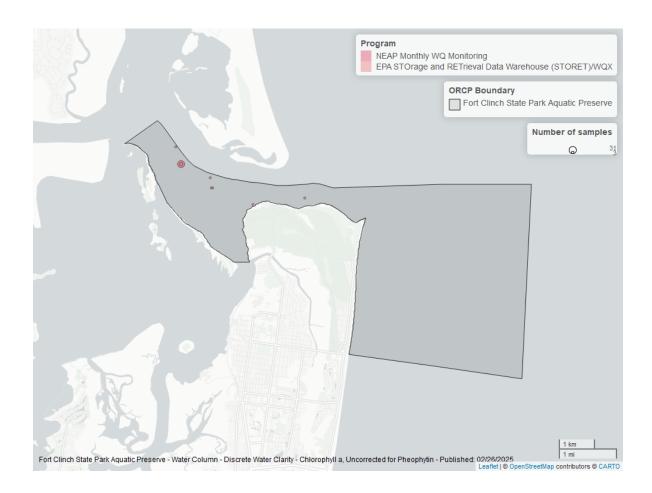
Chlorophyll a, Uncorrected for Pheophytin - Discrete

Chlorophyll a, Uncorrected for Pheophytin - Discrete, All Depths Fort Clinch State Park Aquatic Preserve Monthly average chlorophyll a, uncorrected for pheophytin (ug/L) 12.5 \triangle $\triangle\!\!\!\triangle$ 10.0 -Trend type Significant trend Non-significant trend 7.5 Activity type \triangle \triangle △ Lab \triangle \triangle 5.0 \triangle \triangle 2.5 + PO/2 700x 7000 12020 20% 202

Table 10: Seasonal Kendall-Tau Results for - Chlorophyll a, Uncorrected for Pheophytin

Year

| Activity Type | Statistical Trend | Sample Count | Years with Data | Period of Record | Median Result Value | Tau | Sen Intercept | Sen Slope | P |
|---------------|--------------------------------------|--------------|-----------------|------------------|---------------------|-----|---------------|-----------|----|
| Lab | Insufficient data to calculate trend | 56 | 9 | 2004 - 2024 | 4.95419 | - | - | - | NA |



Chlorophyll a, Corrected for Pheophytin - Discrete

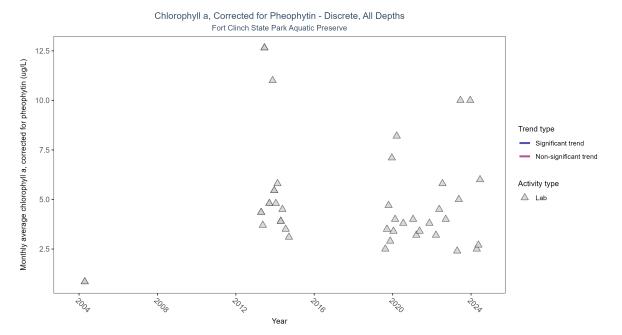


Table 11: Seasonal Kendall-Tau Results for - Chlorophyll a, Corrected for Pheophytin

| Activity Type | Statistical Trend | Sample Count | Years with Data | Period of Record | Median Result Value | Tau | Sen Intercept | Sen Slope | P |
|---------------|--------------------------------------|--------------|-----------------|------------------|---------------------|-----|---------------|-----------|----|
| Lab | Insufficient data to calculate trend | 48 | 9 | 2004 - 2024 | 4.1 | - | - | - | NA |



Secchi Depth - Discrete

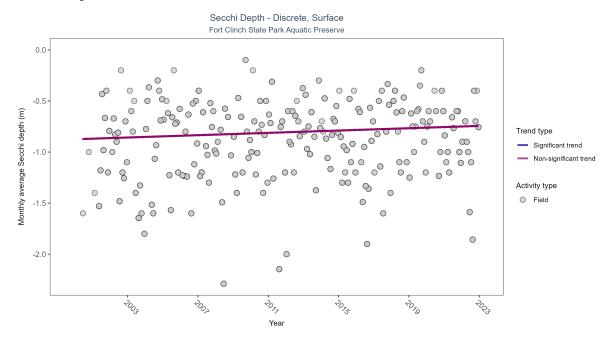


Table 12: Seasonal Kendall-Tau Results for - Secchi Depth

| Activity Type | Statistical Trend | Sample Count | Years with Data | Period of Record | Median Result Value | Tau | Sen Intercept | Sen Slope | P |
|---------------|----------------------|--------------|-----------------|------------------|---------------------|---------|---------------|-----------|-----------------------------------|
| Field | No significant trend | 1511 | 23 | 2000 - 2022 | -0.9 | 0.06468 | -0.875 | 0.00568 | 0.1556145710321055475322538086402 |

