

[www.globalcogo.com/Datums2022.pdf](http://www.globalcogo.com/Datums2022.pdf)

# Impact of 2022 Horizontal and Vertical Datums Defined by NGS

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The National Geodetic Survey (NGS) is in the process of redefining the horizontal and vertical datums in the United States. Those changes will have a direct impact on the use of state plane coordinates.

A link to NGS web site that provides extensive information is:

- [www.ngs.noaa.gov/web/science\\_edu/webinar\\_series/2019-webinars.shtml](http://www.ngs.noaa.gov/web/science_edu/webinar_series/2019-webinars.shtml)
- Deadlines for certain input (user preferences) to NGS:
- Public comment on Federal Register Notice of 18 April 2018.  
(Deadline of 31 August 2018 is already passed)
- Request from stakeholders on zone options, 31 March, 2020, slide 61.  
(Defaults will be implemented if lacking stakeholder feedback.)
- NGS Advisor, William (Bill) Stone, is available to discuss various options.

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NGS webinars – see link on previous slide.

- 2017 Blueprint for 2022, Part 1: Geometric Coordinates - Smith
- 2018 Blueprint for 2022, Part 2: Geopotential Coordinates - Smith
- 2018 The SPC System: History, Policy, and Future Directions – Dennis
- 2018 Building a State Plane Coordinate System for the Future - Dennis
- 2018 Geodesy Fundamentals - Zenk
- 2019 State Plane Coordinate System Update - Dennis

NGS software (search ‘SPC’ on NGS web site – not a complete list. )

- [\*\*NGS Coordinate Conversion and Transformation Tool \(NCAT\)\*\*](#)
- [\*\*NGS Geodetic Tool Kit, Part II: The On-line Positioning\*\*](#)
- [\*\*NGS Geodetic Toolkit, Part 7: Computing State Plane\*\*](#)

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NGS is the only game in town, but can the GSDM be a substitute for SPC?

- Spatial data & GSDM 3-D but map projections are only 2-dimensional.
- Surveyors prefer to work with ground (not grid) distances.
- GIS professionals prefer a 'unique' 1-zone system statewide.
- GSDM accommodates both preferences with full geometrical integrity.
- GSDM is already proven and in place – but not a product of NGS.
- GSDM equations - public domain & less complicated than map projections.
- GSDM supports expressions of both network & local spatial data accuracy.
- GSDM fully compatible with 2022. Can be used when X/Y/Z's are published.
- Articles & books on the GSDM are readily available – see [www.tru3d.xyz](http://www.tru3d.xyz)
- Personal input to NGS - [www.globalcogo.com/NewDatum2022.pdf](http://www.globalcogo.com/NewDatum2022.pdf)