

Summary of NGS Response to WSR2022 Letter of August 15, 2019

Veregin, Oct 6, 2019

The NGS response is dated Sept 20, 2019 and was received Oct 3, 2019.

Our letter of August 15 requested the following:

1. We will request, through the online request and proposal form, that NGS design a statewide single-zone layer which is a Transverse Mercator projection with its central meridian at 270° east longitude and has a false easting significantly different from those of WTM 27 and WTM 83.
2. We will request, through the online request and proposal form, that NGS design a default three-zone layer for Wisconsin.
3. We will request that, if the NGS design must have a central meridian at a longitude other than 270° east to better fit the topographic surface, then the longitude difference be taken into account when selecting the false easting to be significantly different from those of WTM 27 and WTM 83 (for the single-zone layer) and those of SPCS 27 and SPCS 83 (for the three-zone layer).
4. We seek an exception to any NGS specification that conflicts with WISCRS.
5. We seek an exception to the requirement for completion of the fully detailed online design submittal form.
6. We seek exception to SPCS2022 Policy 2.a. that only one multi-zone layer can provide complete coverage of an entire state.

The NGS responded as follows:

1. No exception is required for our requested statewide single-zone layer.
2. Three-zone layer not relevant given NGS's other decisions.
3. The NGS's preliminary design for Wisconsin's statewide single-zone layer does not include grid origins, but if specified by NGS, the resulting coordinates will differ by at least 10,000 m from those for SPCS 83 and 27 zones, and any other SPCS2022 layer. If Wisconsin desires specific projected coordinate values (for example, that differ from the Wisconsin WTM 83 and 27 statewide zones), those can be requested by completing an SPCS2022 Zone Request and Proposal Form (<https://geodesy.noaa.gov/SPCS/policy.shtml>).
4. a) WISCRS zones are in conflict with SPCS2022 procedures for a minimum zone width of 50 km. However, because of the long established use of WISCRS, this exception request is granted. The small zones of WISCRS are allowed.

b) WISCRS uses 59 projection definitions for 72 zones. Thus projection definitions are not unique, which is in conflict with SPCS2022 policy and procedures. All zones in the LDP layer must have unique parameters, meaning that there will be 59 rather than 72 zones for WISCRS.

c) Using existing WISCRS zone parameters without modification is not allowed, since it will result in small changes in coordinates, which would cause confusion.

d) Modifying WISCRS zone parameters such that 2022 WISCRS coordinates are the same as current WISCRS coordinates is not allowed, since it presents serious technical challenges that would impact the accuracy of the resulting coordinates.

e) Modifying zone parameters to satisfy all SPCS2022 policies and procedures (other than minimum zone size) is the only alternative permitted by NGS.

5. The requested exception to not submit a detailed design package is not granted. Wisconsin must submit a detailed design package for each zone including a single coordinate and linear distortion for each zone.
6. The request for three statewide zones is not granted. Only a single-zone statewide layer and a 59-zone LDP layer are permitted.