

Agenda

Presented by Dr. Thomas H. Meyer, Ph.D.

Why Use the SPCS

- Local (*ad hoc*) coordinates are mutually incompatible
- When we want to stitch ad hoc maps together, we discover problems
- Maps cannot depict Earth's surface without distortion

Geodesy

- Latitude and longitude
- Earth's shape
- Reference ellipsoids
- Heights: gravity, the geoid, and Gauss
- The Inferno: distances (slope, geodesic, horizontal, topographic enlargement)

Map Projections

- Rectangular, Plate Carree
- Conformal and authalic
- Distortions in distances and directions
- State Plane Coordinates

How to Map in the SPCS

- Directly from geodetic: USACE CORPSCON, NGS State Plane Tool
- From total-station observations
 - Reductions
 - The forward problem
- Worked-out examples
 - Using total-station data
 - Some interesting case studies

Summary Comments



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Using the State Plane Coordinate System

Live, Interactive Webinar - Thursday, August 8, 2024

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Learning Objectives

You'll be able to:

- Discuss** the benefits of using the State Plane Coordinate System (SPCS).
- Explore** the fundamentals of geodesy, including reference ellipsoids, heights, and distances.
- Examine** map projections, including rectangular and plate carree.
- Get tips on** mapping in the SPCS directly from geodetic and from total station.



HalfMoon Education Inc.,
Your LIVE Education Leader Presents

Using the State Plane Coordinate System

Live, Interactive Webinar - Thursday, August 8, 2024



- Discuss** the many benefits of using the State Plane Coordinate System (SPCS)
- Explore** map projections of using the State Plane Coordinate System (SPCS)
- Get tips on** mapping in the SPCS
- Discuss** geodesy fundamentals

Continuing Education Credits

- | | |
|---|--|
| Professional Engineers
6.5 PDHs | Practicing Institute of Engineering
6.5 PDHs |
| Land Surveyors
6.5 PDHs | |



Webinar Information

Online - Thursday, August 8, 2024

Log into Webinar 8:30 - 9:00 am CDT	Break 12:15 - 12:45 pm CDT
Morning Session 9:00 am - 12:15 pm CDT	Afternoon Session 12:45 - 4:30 pm CDT

Tuition
\$339 for individual registration.
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Faculty



Dr. Thomas H. Meyer, Ph.D. *University of Connecticut*
Dr. Meyer is a professor in the Department of Natural Resources and the Environment at UConn's College of Agriculture, Health and Natural Resources (CAHNR). He is a member of the American Society of Civil Engineers and the American Society for Photogrammetry and Remote Sensing, and he is a fellow and past president (2016, 2019) of the American Association for Geodetic Surveying. Dr. Meyer is a past president (2006-2007) of the Geomatics Society of New England (previously known as the New England Section ACSM) and a member of the editorial boards of the *Journal of Surveying Engineering* and *Surveying and Land Information Science*. Dr. Meyer earned his Ph.D. degree from Texas A&M University (College Station, 1998) where he was a research associate in the Mapping Sciences Laboratory. He was named a UConn Teaching Fellow (2015), and he has taught geomatics courses at the graduate and undergraduate levels in geodesy, geographic information science, digital terrain modeling, spatial statistics, and global navigation satellite system surveying. Dr. Meyer has authored an undergraduate-level geodesy textbook and numerous peer-reviewed papers about surveying and mapping, and he teaches professional education seminars for surveyors throughout New England and the United States.

Credit Information

This webinar is open to the public and is designed to qualify for 6.5 PDHs for professional engineers and land surveyors in most states; please refer to specific state rules to determine eligibility.

HalfMoon Education is an approved continuing education sponsor for engineers in Florida (Provider License No: CEA362), Indiana (License No. CE21700059), Maryland, New Jersey (Approval No. 24GP00049300) and North Carolina (S-0130). HalfMoon Education is deemed an approved continuing education sponsor for New York engineers and land surveyors via its course approval from the Practicing Institute of Engineering. Most other states do not preapprove continuing education providers or courses.

This webinar has been evaluated for compliance with NYS Mandatory Continuing Education requirements for professional engineers and land surveyors by the Practicing Institute of Engineering, and has been approved for 6.5 PDHs.

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Attendance will be monitored, and attendance certificates will be available after the webinar for those who attend the entire course and score a minimum 80% on the quiz that follows the course (multiple attempts allowed).

On-Demand Credits
The preceding credit information only applies to the live presentation. This course in an on-demand format may not be eligible for the same credits as the live presentation; please consult your licensing board(s) to ensure that a structured, asynchronous learning format is appropriate.

Additional Learning

Using the U.S. Public Land Survey System
Online | Friday, July 26, 2024 | 9:00 am - 1:30 pm CDT

Credits: Land Surveyors: 4.0 PDHs | Professional Engineers: 4.0 PDHs (this course is not approved for New York Land Surveyors and Engineers)

Agenda Topics:

- Metes and Bounds and What Came Before the US Public Land Survey System (PLSS)
- Basics of the U.S. Public Land Survey System (PLSS)
- Describing and Locating Lands in the PLSS

Presented by
Russell W. Olsen, PLS, PS, RPLS *Engineering Design Source, Inc*

24 SWUSPLSS 7 26 WEBR WL

Understanding Colonial Surveys
Online | Wednesday, July 31, 2024 | 2:00 - 3:00 pm CDT

Credits: Land Surveyors: 1.0 PDHs | Professional Engineers: 1.0 PDHs (this course is not approved for New York Land Surveyors and Engineers)

Agenda Topics:

- Land Grants and Transfers in the "13 Original Colonies"
- Rectangular Land Systems Before the Public Land Survey System
- The Training of Colonial Surveyors
- Instruments and Measurements
- Maps and Descriptions - Following the Footsteps

Presented by
Wendy Lathrop, PLS, CFM, CFS *President and Owner of Cadastral Consulting, LLC*

24 SWCOLNLS 7 31 WEBR WL

Working with Old Deeds and Descriptions
Online | Monday, August 5, 2024 | 12:00 - 3:15 pm CDT

Credits: Land Surveyors: 3.0 PDHs | Professional Engineers: 3.0 PDHs
Practicing Institute of Engineering (PIE): 3.0 PDHs

Agenda Topics:

- Determining what interest was conveyed, and why it matters
Recognizing historical context for measurements
- Finding information about abutting landowners
- Overlaps and gaps
- When we can apply the Hierarchy of Evidence, and when we shouldn't
- When lines of possession don't match deed lines
- The Surveyor's Report – what it is and why prepare one

Presented by
Wendy Lathrop, PLS, CFM, CFS *President and Owner of Cadastral Consulting, LLC*

24 SWOLDEED 8 5 WEBR WL