

# American Society Of Civil Engineers

Cold Regions Engineering Division (CRED)

Presented at the USSD Conference on “The Challenges of Dams in  
Cold Climates” September 20, 2017 in Girdwood Alaska

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## Cold Regions Engineering Division (CRED) - Charge

- The Cold Regions Engineering Division was established in 1979 to assess and report effects of cold regions environments upon engineering design, construction and operations.
- Originally called the Technical Council On Cold Regions Engineering (TCCRE)
- Currently one of 10 Divisions operating under ASCE's Committee on Technical Advancement (CTA)

- Executive Committee – oversees the activities of the Division
- Awards Committee – recommends the recipients for society awards – CRED
- Programs Committee – plan and publicize sessions for national meetings, specialty conferences and regional meetings
- Publications Committee – Review submittals to the Cold Regions Journal and oversee publication of Cold Regions Monographs and Specialty Books
- Environmental and Public Health Committee – Identify, compile, summarize and disseminate information and research needs
- Frozen Ground Committee – Encourage the development of new scientific and engineering knowledge of freezing and thawing of soil-water systems and permafrost
- Hydrology and Hydraulics Committee – Identify, compile, evaluate, summarize and disseminate information and research needs
- Structures and Foundations Committee – Focused on design and construction structures in Cold Regions
- Transportation and Infrastructure Committee – Provide a forum for developing and sharing engineering research results found relevant to sustainable transportation infrastructure

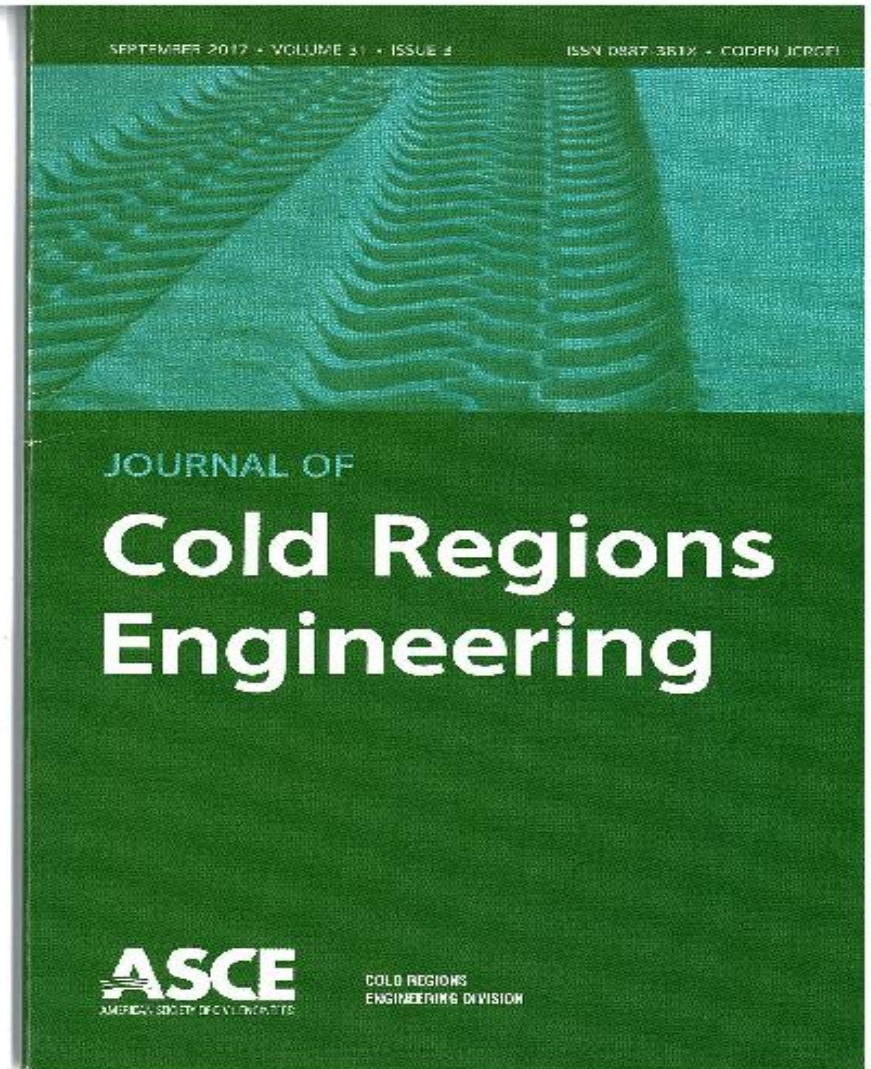
- Harold R Peyton Award for Cold Regions Engineering – This award is a memorial to the outstanding professional accomplishments of Harold R. Peyton, F.ASCE, and to stimulate awareness and interest in the challenges of cold regions engineering. Established in 1988.
- Can-Am Civil Engineering Amity Award – The objective of the award is to give recognition to those civil engineers who have made outstanding and unusual contributions toward the advancement of professional relationships between the civil engineers of the United States of America and Canada. Established in 1972 with cooperation from ASCE and CSCE.
- Eb Rice Memorial Lecture Series. Endowed by the University of Alaska Fairbanks as a memorial to Eb Rice. Normally presented at the ASCE Cold Regions Engineering Specialty Conference (2 year cycle)

- 2017 Congress on Technical Advancement – Duluth, Minnesota – September 10-13. Complete Cold Regions Tract through the conference.
- 2015 16<sup>th</sup> International Conference on Cold Regions Engineering – Salt Lake City, Utah.
- 2013 ASCE 10<sup>th</sup> International Symposium on Cold Regions Development (ISCORD) Conference – Anchorage, Alaska
- 2012 15<sup>th</sup> International Conference on Cold Regions Engineering – Quebec City, Canada

- Journal Of Cold Regions Engineering – Quarterly publication
- Cold Regions Engineering Monograph Series – manuals of practice
- Proceedings of the International Cold Regions Specialty Conferences – case studies, research advancement, lessons learned
- Cold Regions Books
- ASCE Standards

**ASCE**<sup>®</sup>

■ Journal



**ASCE**<sup>®</sup>

■ Monographs

Technical Council on  
Cold Regions Engineering Monograph

THERMAL DESIGN  
**CONSIDERATIONS IN  
FROZEN GROUND  
ENGINEERING**



Edited by  
Thomas G. Krzewinski and Rupert G. Tart, Jr.



**ASCE**<sup>®</sup>

■ Monographs

Technical Council on Cold Regions Engineering Monograph

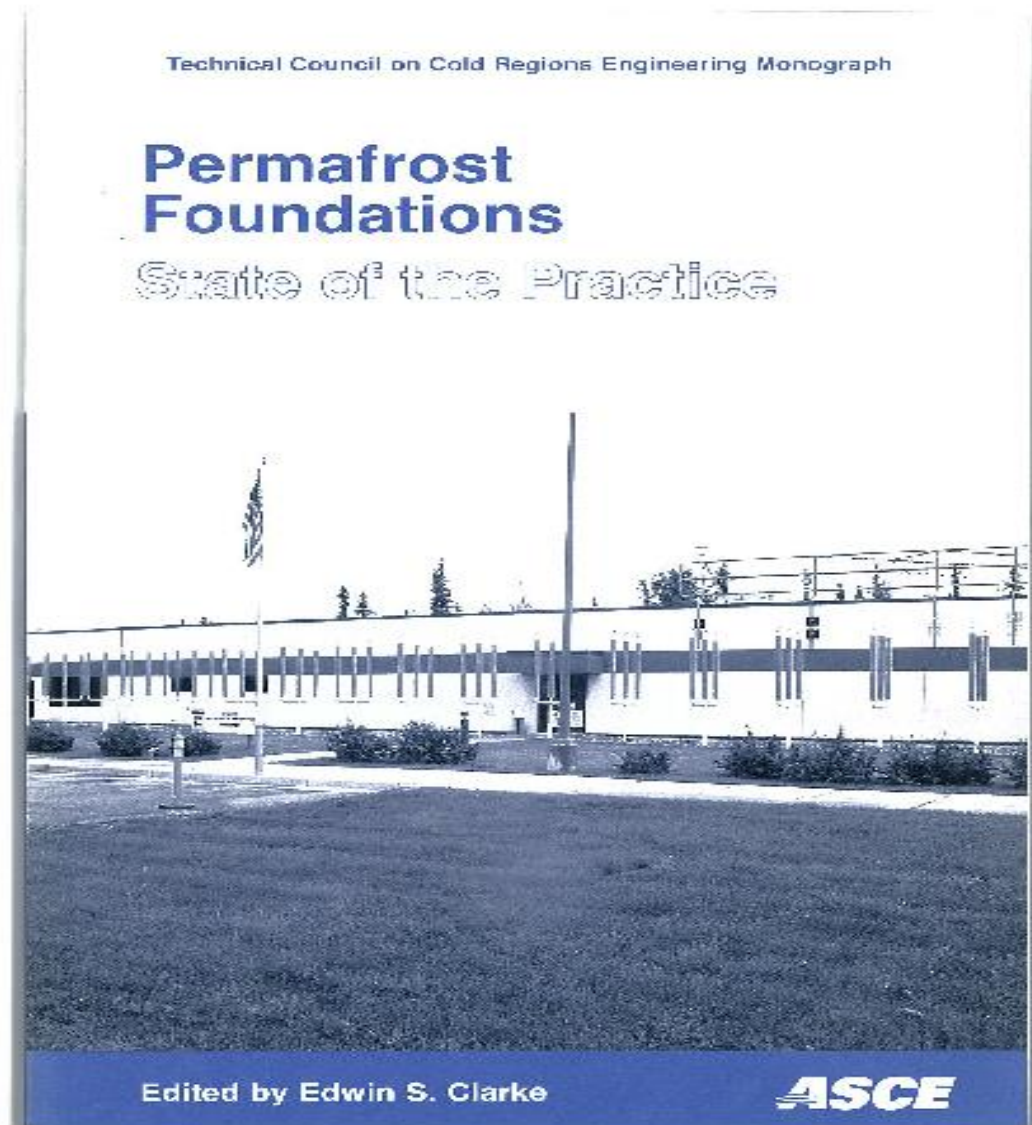
Arctic Coastal  
Processes  
**and Slope  
Protection Design**



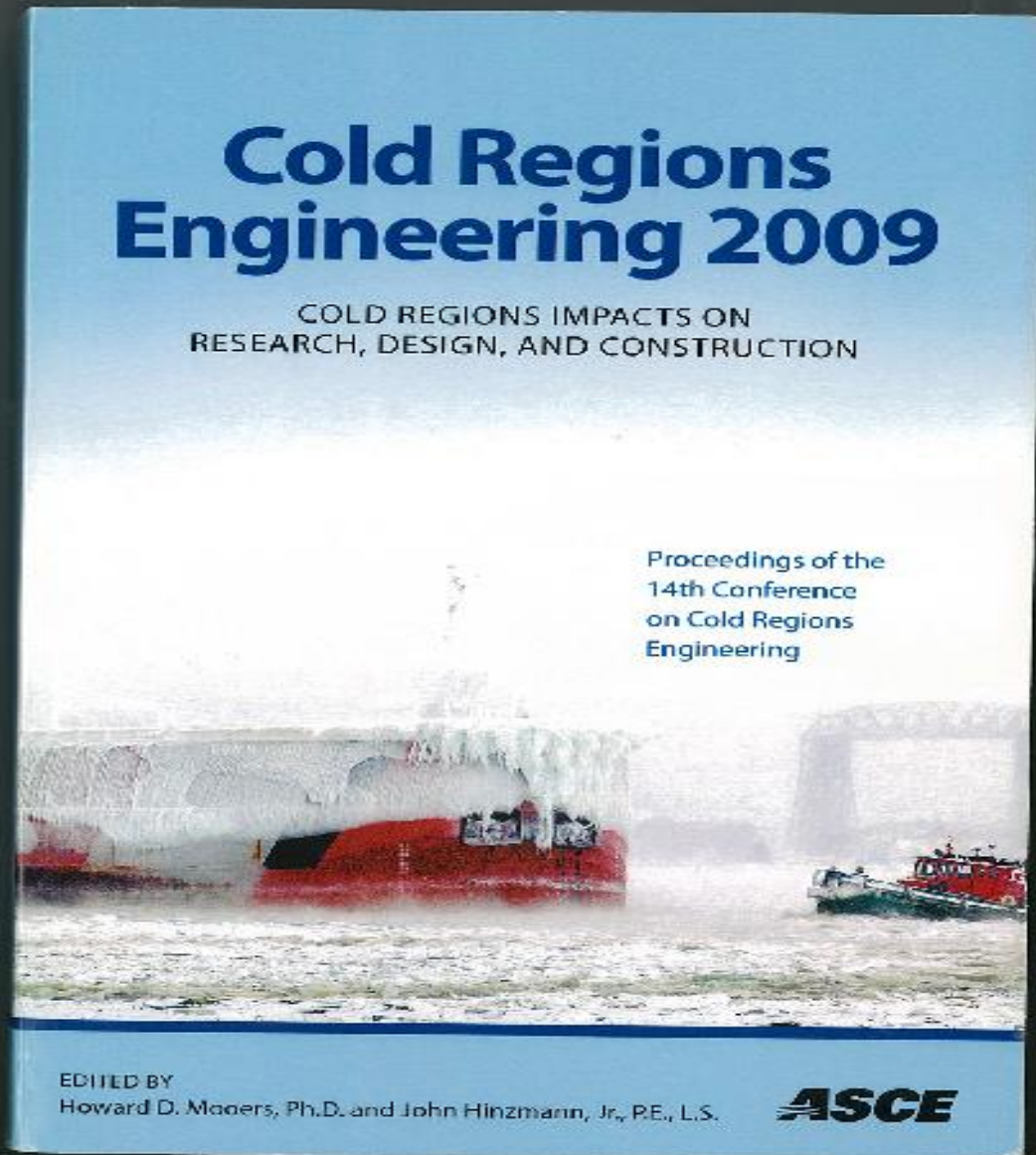
Edited by Andrie T. Chen and Craig B. Leidersdorf



- Monographs



- Proceedings





- Standards

SEI/ASCE 32-01

# ASCE STANDARD

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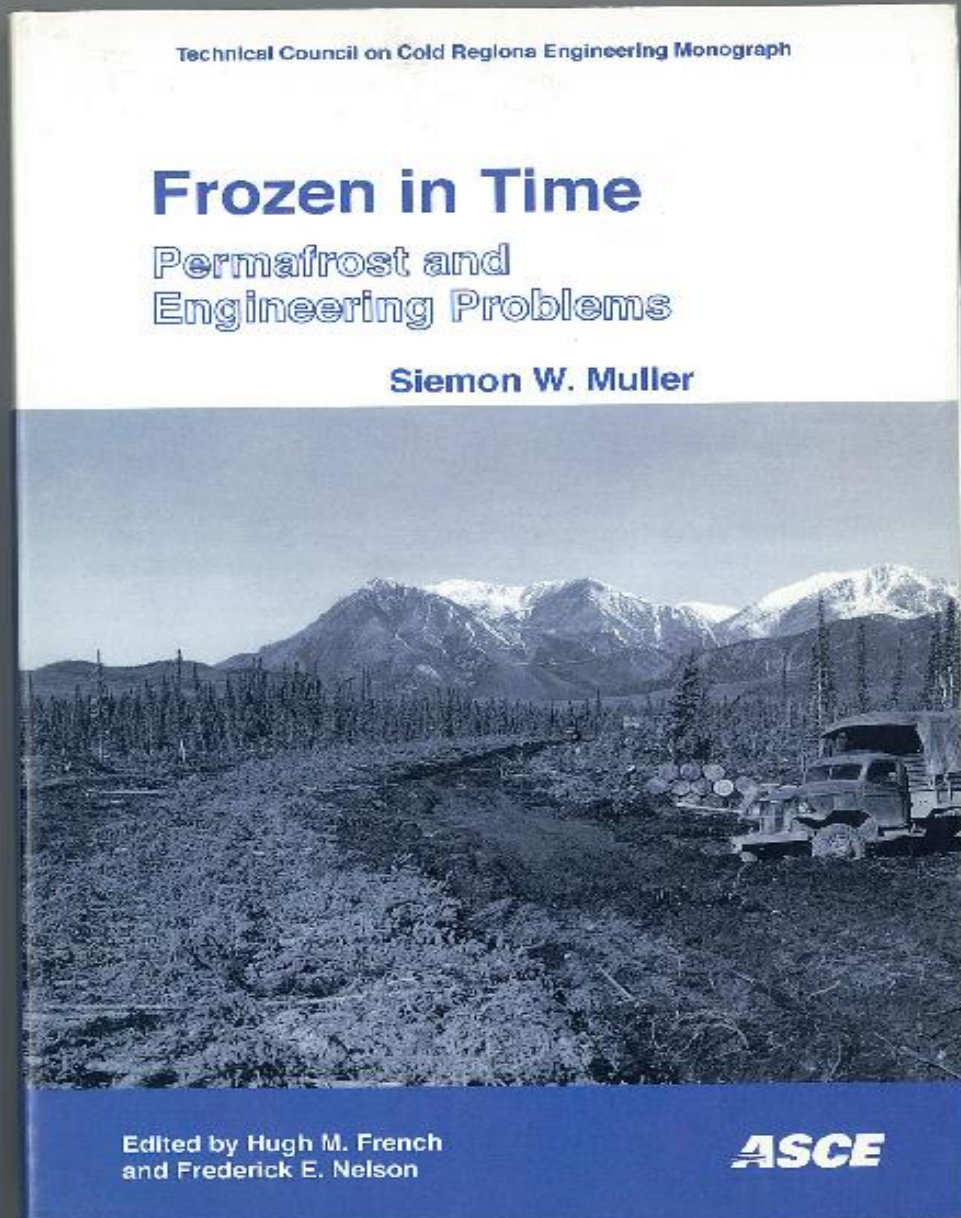
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## Design and Construction of Frost-Protected Shallow Foundations



**ASCE**<sup>®</sup>

■ Specialty Books





## Cold Regions Engineering Division Tasks/Activities Completed in FY2016

- Excom and Committee Meetings
- Journal publications strong and six months of backlog
- Provide Program Planning & Attend Arctic Technology Conference (ATC) in St. John's
- Provide Program Planning and Represent CRED at the ISCORD 2016 Conference in Korea – Co sponsorship offered to Finland (RIL) for ISCORD 2019 in Oulu
- Represent CRED and the USPA at the IPA 2016 in Potsdam, Germany
- Hired a Technical Editor for the Frost Action Monograph (Manual of Practice)
- Worked on release of Frost Action DVD with MnDOT
- Editorial Group have met for the Updating of the Cold Region Utility Monograph
- Editorial Group has met on the Permeable Pavements Monograph
- Provide CRED members as technical experts on the review of the ASCE Frost Protected shallow Foundations Standard (Standard 32)
- Advanced efforts to Update the Permafrost Frontier Movie (starring Harold R Peyton) to include successes associated with the Design and Construction of the Trans Alaska Pipeline System (TAPS)

- CTA congress for Technical Advancement – ■ **Barriers and Challenges**
  - Getting the conferences Dept. to work well with the Volunteers
  - Incorporating the work of the Adaptation to Climate Change
  - Maintain the high standards to assess and report effects of cold regions environments upon engineering design, construction and operations
  - Protection of valuable CR technical data collections at institutions and libraries
  - Engaging younger members to get involved.
- Duluth September 10 – 13, 2017
- Complete the Frost Action Monograph – July
- Complete the Cold Region Utility Monograph - November
- Update H & H Monograph – December
- Complete Permeable Pavements Monograph – November
- Continue Interface and Interaction with other Cold Regions Organizations such as the USPA, IPA, IACORDS, CRREL, ATC (Arctic Technology Conference), RIL etc.



## Questions – ASCE’s CRED – 3 clicks

- [www.ASCE.org](http://www.ASCE.org)
- Technical Areas
- Cold Regions





## ASCE's CRED

- Applications for CRED Committee Assignments available on line