

New Concepts in Bioinspired Engineering from extracted tree root principles

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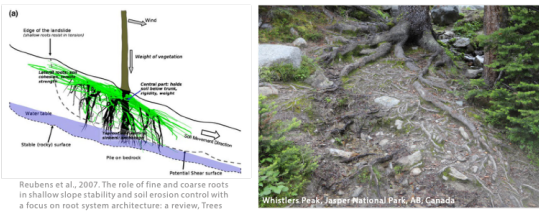
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BIOLOGY

Tree Roots System Architecture

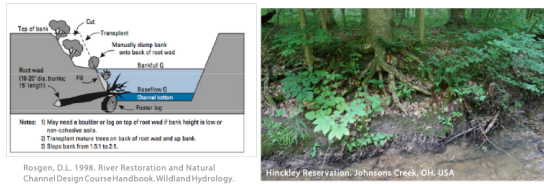
Slope Stability



Reubens et al., 2007. The role of fine and coarse roots in shallow slope stability and soil erosion control with a focus on root system architecture: a review, Trees

Whistlers Peak, Jasper National Park, AB, Canada

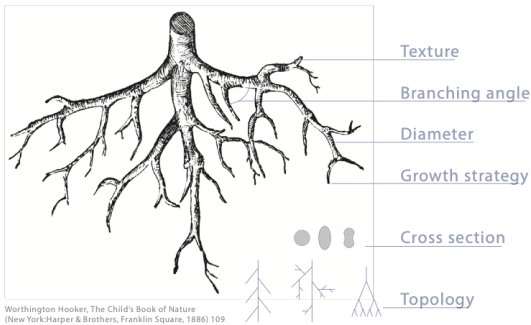
Coastal / Riverine Erosion Control



Rosgen, D.L. 1998. River Restoration and Natural Channel Design Course Handbook, Wildland Hydrology.

Hinckley Reservation, Johnsons Creek, OH, USA

Root Parameters of Interest

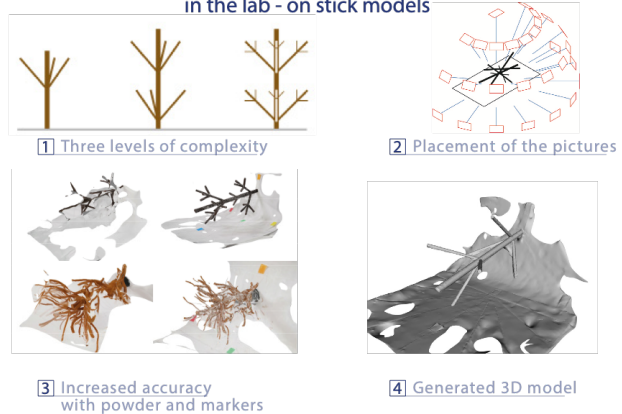


Worthington Hooker, The Child's Book of Nature (New York:Harper & Brothers, Franklin Square, 1886) 109

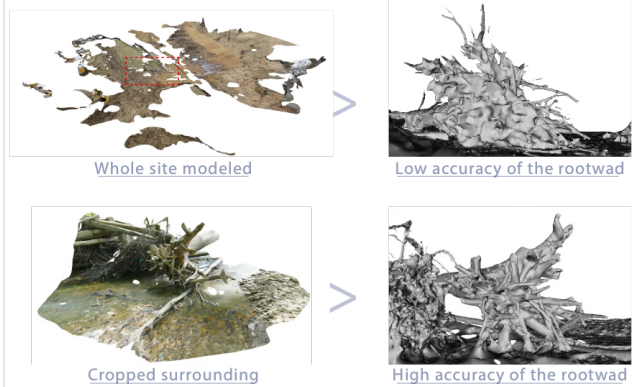
ANALYSIS

Photogrammetry Modeling Technique

Preliminary Tests
in the lab - on stick models



Adapted Technique for Root Systems
in the field - on found/provided rootwads



APPLICATION

Coastal Infrastructure and Building Foundations

Coastal Infrastructure
manufacturing abstracted scaled models

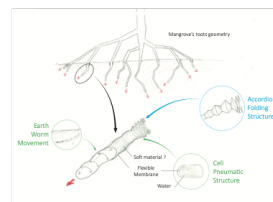


1 Existing Mangrove Adapted Seawall Prototype



2 Potential Manufactured Rootwad Prototype

Foundation Design
abstracted principles of roots



- 1 Soil Insertion
- 2 Topology
- 3 Morphology
- 4 Texture

