Agenda 2020 Project

Introduction to surficial deposits in the IFTNC database

Agenda 2020 Research

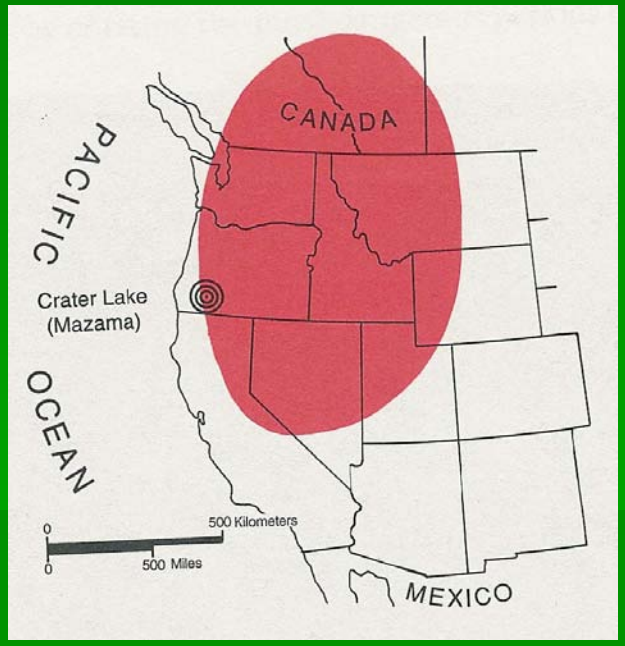
- Joint venture between DOE-IT and the AF&PA, with FS R&D sponsoring the Sustainable Forestry Component
- Funding of scientific research geared towards ensuring forest resources and sustainable forest management into the future
- Competitive grant process, with a funding level of up to $50,000 over a three-year period
- IFTNC was successful in applying for a grant to study ash cap effects on soil characteristics and forest productivity

Common Parent Materials

- Rock Type
  - Basalt
  - Granite
  - Mixed (glacial, alluvial, lacustrine)
  - Metamorphic/Metasedimentary
- Deposited Materials
  - Ash cap
  - Tertiary-era sediments
  - Loess
  - Glacial
  - Alluvial/lacustrine

Project Focus: Ash Cap

- Reasonably homogenous across a wide geographic area
- Recognizable
- Known to have some influence on forest productivity



Ash Cap

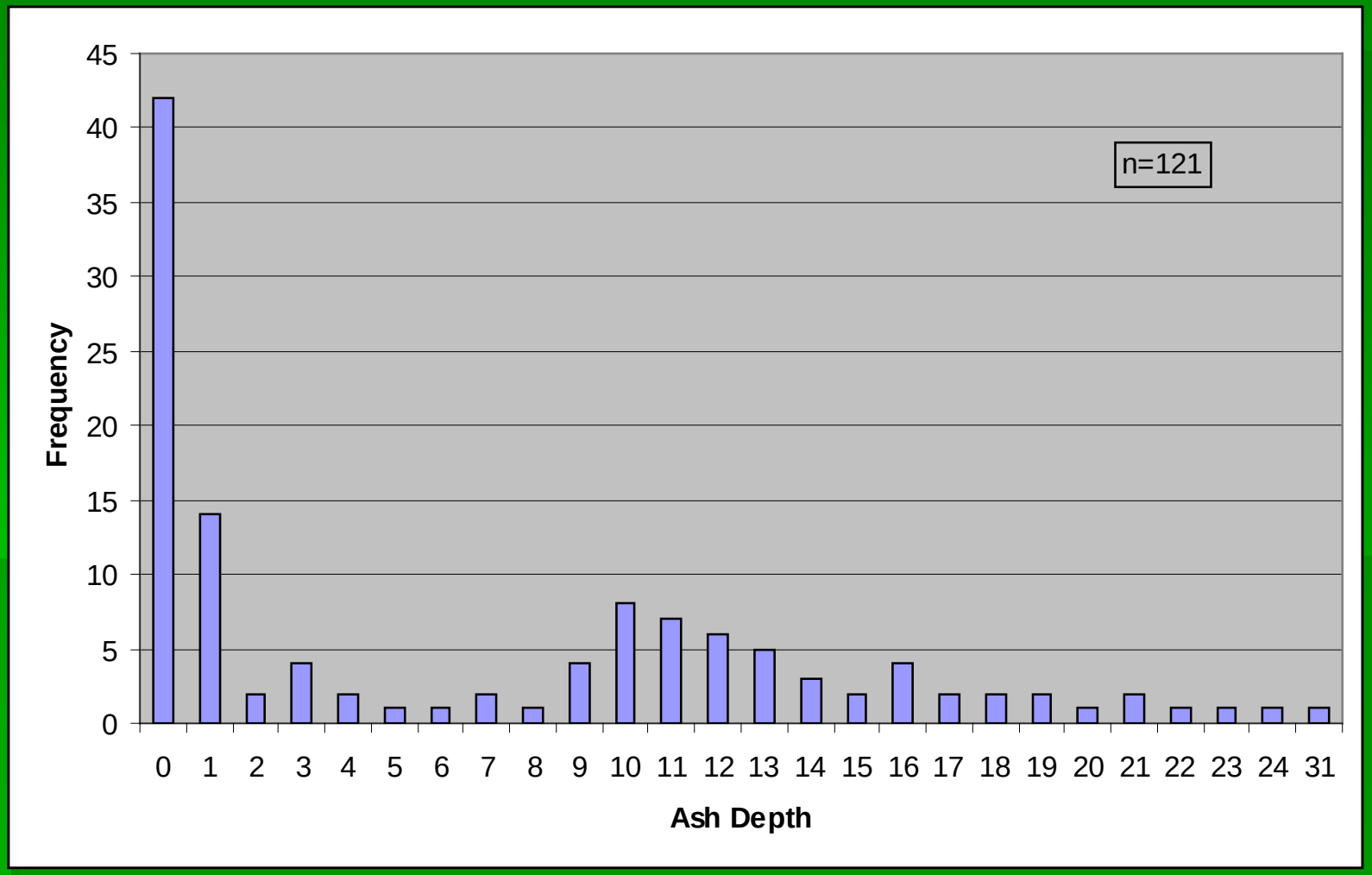
Two-Phase Project: Phase I

- Compilation of region-wide data set
- Regression analysis to determine effect of site characteristics (including ash depth) on soil properties, forest productivity and fertilization response (N, N+K)
- Focus on differences between sites with and without ash cap
- Detect general trends and identify sites which do not seem to follow general trends

Two-Phase Project: Phase II

- Six sites selected for intensive field analysis: case studies
  - Two rock types
  - Three sites per rock type
  - Three sites ranging from no ash cap to deep ash cap
- Additional refinement of regression model based on field results

Existing data (DF and FH Only)



Site Selection

- Vegetation series
  - THPL sites tend to have deep ash caps
  - PSME sites tend to have lower productivity indices and fertilization responses
  - Vegetation series likely ABGR
- Rock types
  - Good range of ash cap depths on mixed rocks, but concerns about variability on these rocks
  - Rock types likely basalt and metasedimentary; granites also a possibility

Fieldwork 2005-2007

- Soil pits (4-6 per site)
- Conventional soil tests
- Ion-exchange resins
- Soil physical properties
- Mineralogical determination
- Nutrient adsorption and desorption isotherms

Timeline

- June 2005
  - Data compilation and preliminary regression analysis; select first three field sites
- September 2005
  - Detailed field work begun on first three sites
- November 2005
  - Present results of Phase I analysis at Ash Cap Symposium
- June 2006
  - Select second three field sites
- September 2006
  - Initiate field work on second three sites; collect final data from first three sites
- September 2007
  - Collect final data from second three sites
- December 2007
  - Report final results