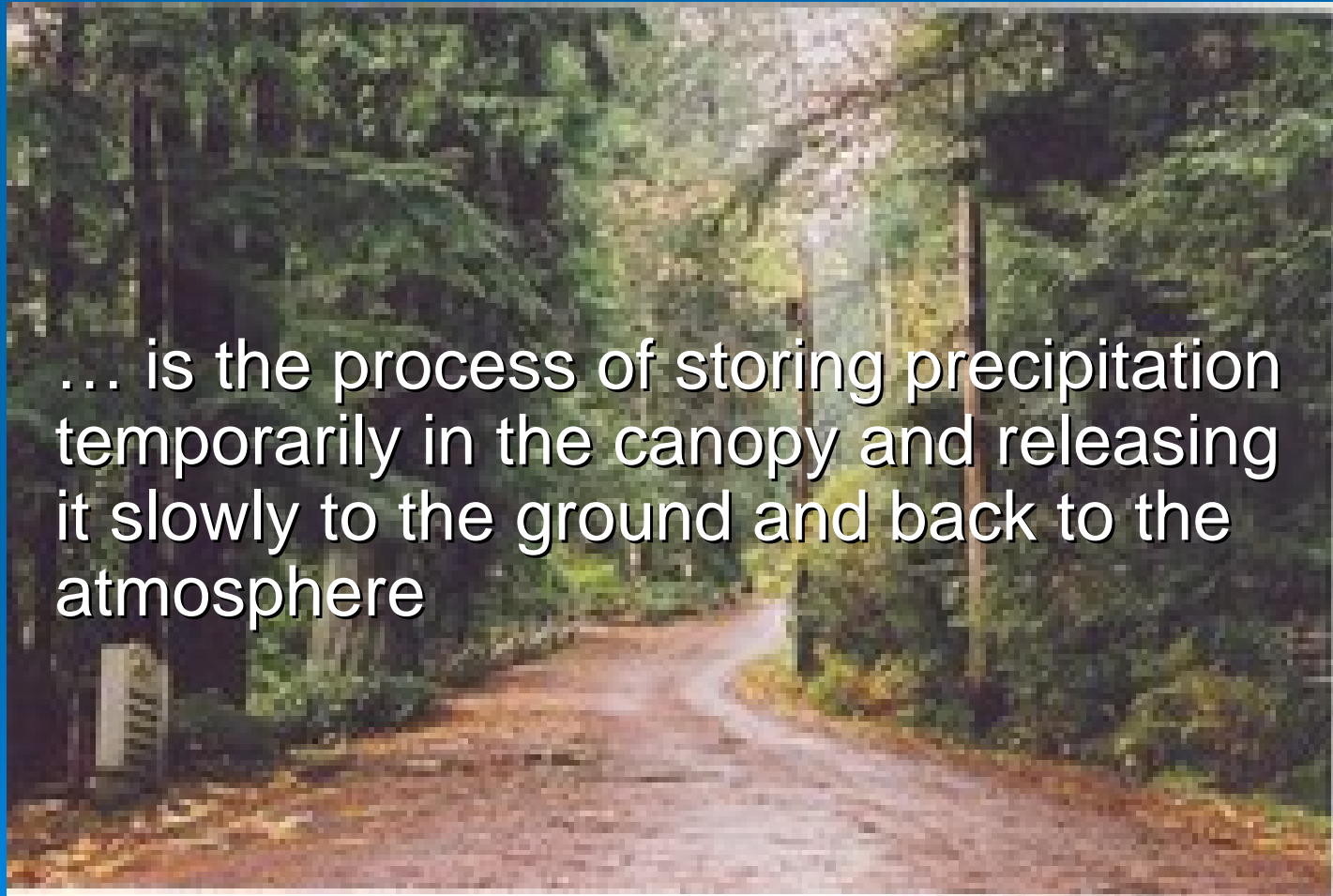




# **UBC Tree Canopy Interception Research Project:**

**Bringing Rainwater Management  
Science into the Community**

# Tree canopy interception ...



... is the process of storing precipitation temporarily in the canopy and releasing it slowly to the ground and back to the atmosphere

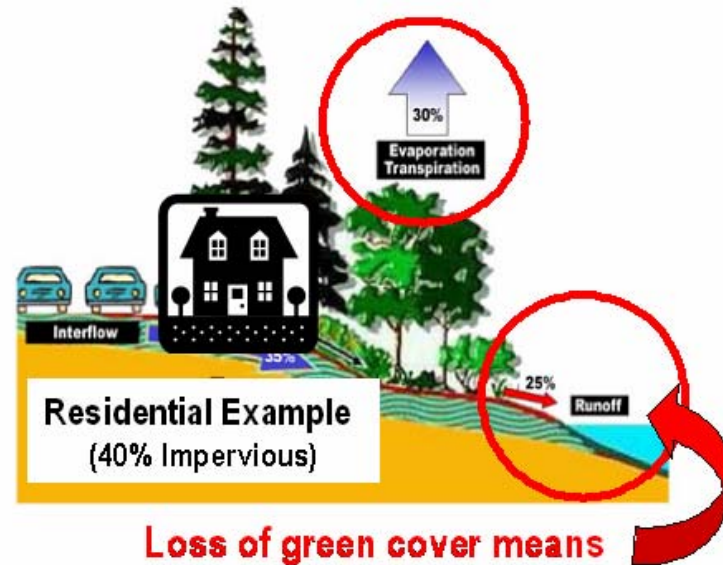
# When the tree canopy is removed, there is more rainwater volume to manage on the ground

**Natural Forest**  
Annual Runoff = 1 to 10 % of Rainfall Volume



**Rainwater infiltrates and moves through the ground as 'interflow'**

**After Residential Development**  
Annual Runoff = >25% Rainfall Volume



**Loss of green cover means more runoff volume to manage**

**The project is precedent-setting because...**



...it will quantify the proportion of rainfall intercepted by the tree canopy in an urban forest

# The three North Shore municipalities are collaborating as part of a broad-based partnership





**The UBC team is led  
by Dr. Hans Schreier  
and Dr. Markus Weiler**



# **A network of 60 *Tree Canopy Climate Stations* has been established across the North Shore ....**

... to investigate the effects of tree density, tree structure and tree species on rainfall interception



# The project has a human interest dimension because ...

... the North Shore Mentally Handicapped Association mass produced the support structures for the Tree Canopy Climate Stations





# The project has engaged community volunteers in the Clovelly-Caulfeild neighbourhood of West Vancouver





# The right trees in the right places

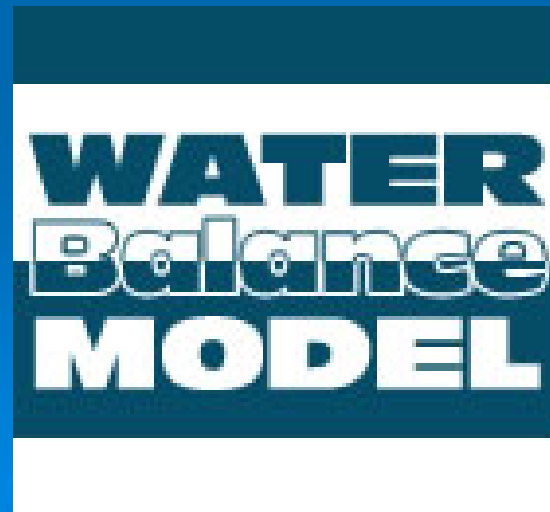
“...very little research has been done in an urban setting anywhere in North America. One of our research interests is to determine the effectiveness of a single tree versus that for a cluster of trees.”



Dr. Markus Weiler  
Chair of Forest Hydrology  
University of British Columbia

**The research results will be incorporated in the Water Balance Model, a web-based tool for calculating annual runoff volumes under different combinations of:**

- Building coverage
- Rainfall
- Soil type and depth
- Tree canopy coverage
- Source controls



**The UBC Tree Canopy Interception  
Research Project will enable  
municipalities to make informed  
decisions about ‘designing with nature’**

