State of scientific knowledge on water and forest

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Water & forests: facts

• More than **one in six people** do not have access to safe drinking water

• **80% of the global population** lives in areas where water resources are insecure

• By the year 2025, **1.8 billion people** will be living in regions with absolute water scarcity

• Forested watersheds supply **¾ of the world’s accessible fresh water**
Water & forest interactions

The relationship between water and forests depends on:

- climatic zones
- time of the year
- geological situation
- tree species composition
- plant density, forest “quality”
- forest management practices
Water & forest interactions

Source: Kuczera 1987, de Paula Lima 2010
Forests & water quantity

Forests influence the water cycle by:

- **intercepting** precipitation
- capturing **transpiration** of soil moisture
- capturing **evaporation** from vegetative surfaces
- using water through **evapotranspiration**
- maintaining soil **infiltration**
Forests & water quality

Forests contribute to high water quality by:

- **stabilizing** soils
- **minimizing** surface erosion
- **reducing sedimentation** in watercourses
- **filtering sediments** and pollutants from upstream activities
Water & forests in drylands

- Forests **consume water**
- Forests **reduce water availability** for other uses
- Water use by trees depends on **tree type** and **species**
Water & forests in drylands

- Forests prevent **desertification** and **salinization**
- Forests & trees provide **shade**
- Forests & trees improve **water infiltration**
- Forests & trees protect against **soil erosion** and **flash floods**
- **Economic significance!**
Water & forests in drylands

- **Climate change** scenarios in drylands

- **Water-related environmental benefits** of trees / forests get more important

- Forests support **adaptation and mitigation efforts** to climate change

- **Vitality** of forests / trees is affected by increased aridity
Recommendations

- Improve knowledge, bridge science and policy
- Share lessons learned
- Harmonise interests, weigh trade-offs, balance solutions
- Dialogue across administrative boundaries
- Innovative institutional mechanisms
- Value water-related environmental services
- Develop planning, policy and legal instruments
Join us in Durban!

International Forests and Water Dialogue (8-9 September 2015)
Thank you for the opportunity!