Landscape processes

The production of Form, Space and dynamics
How to know about processes

- Is there any order to what we see?
- Can we get an intuitive grasp of it?
- Can we provide more sensitive solutions?

The answer to these questions is:

- YES
Objectives about processes

- Order can be found in the world
- Intuitive knowledge can be gained that helps to explain existing and future landscape form and spaces
- A systematic approach helps in collecting, ordering and interpreting information from the environment
- Site analysis is dynamic and creative
Interpretation of landscapes

- Raw materials
- Basic building elements
- Forces: events that modify the raw materials and elements and produce the landscape that we see
  - Physical
  - Biological
  - Time
Raw materials and processes

Geological
   Surface geology and rock types
   Stratigraphy and structures

Landform history

Biological
   Available plants and animals

Pedological
   Soil parent material (e.g. in situ, alluvial, colluvial, aeolian)

Hydraulic
   Surface water
   Ground water

Atmospheric
   Gas
   Moisture

Energetic
   Solar energy
   Weather
Ecological processes

External factor

Ecological response factor

Regional weather

Microclimate, frost, micro inversions, cold air
drainage, short term stresses

Geology

Landform structures, micro topography,
microclimate, micro hydrology

Geological structures

Macrotopography, landform, climatic modification, hydrology, soil distribution

Soil parent material

Soil type, physical and chemical fertility

Time

Colonisation, succession, selection, migration, evolution

Flora and Fauna

Populations, communities, habitats, ecosystems,

Humans

Diversion of successions and evolution

Pollution, New environments, urban landscapes
Forces that shape the landscape

Forces: Action, Weather.

Weather: Precipitation and evaporation, water form, temperature, extremes.

Weathering: Physical and chemical changes to landscape, buildings, rocks, soils.

Erosion and deposition: Changing landform, movement of material (vectors: wind, water, ice, gravity, animals, us).

Soil formation: Soil type and biology, mediated by animals, plants, and microorganisms.

Hydrology: Movement of materials in water, flooding, erosion, deposition.

Ecosystem development: Colonisation, succession and migration, selection and evolution.

Design: Varies from benign to destructive. Agriculture, engineering, urbanisation.
Natural hazards in the landscape

Geophysical Geomorphic Biological Snow Avalanche Disease
Down to the habitat scale

- Terrain
- Drainage
- Soil type
- Vegetation
- Land use
- Settlement pattern
- Human habitats

- Landform, slope, texture
- Creeks, ponds, floodways
- Vegetation, land use
- Vegetation type
- Urban, farming, reserves
- Towns, villages, suburbs
- Streetscapes, town centres, neighbourhood