Dataset: Lena Delta habitat disturbance regimes

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File: GeoTIF

Projection: WGS 84

Band: Disturbance regime (0 – undisturbed, 1 – disturbed, -9999 masked)

Table 1: Habitat class and description of disturbance regimes and the component stand structure in form of contributions of vascular plants, and moss to total biomass. \* (Driscoll and Hauer, 2019; Stanford et al., 2005), \*\* (Lorang and Hauer, 2006).

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| --- | --- | --- |
| **Habitat class** | **Disturbance regime** | **Stand structure** |
| **Moist *Equisetum* and shrubs** | **High; regular (annually), predicted**  - spring floodings,  - shifting habitat \*  - advanced-stage regeneration \*\* | high vascular plant growth, low abundance of moss & lichens. |
| **Dry shrub communities** | **High; mixed disturbance types**:  -regular spring floodings  -rapid thaw processes (permafrost degradation)  - shifting habitat  - advanced-stage regeneration | high vascular plant growth, low abundance of moss. |
| **Polygonal tundra complex** | **Low; mixed disturbance types**  - low for most of the habitat, except for actively eroding shores of ponds and channels  - mature-state plant community | low vascular plant growth,  high abundance of moss. |
| **Dry grass to wet sedge communities** | **High; mixed disturbance types**:  - regular spring floodings  - rapid thaw processes (permafrost degradation)  - shifting habitat  - advanced-stage regeneration | high vascular plant biomass, low abundance of moss. |
| **Dry tundra communities** | **Low; mixed disturbance types**  - low for most of the habitat  - mature-state plant community | low vascular plant biomass  high abundance of moss. |
| **Moist to wet sedge communities** | **High; mixed disturbance types**:  - regular spring floodings  - rapid thaw processes (permafrost degradation)  - shifting habitat  - mid to advanced-stage regeneration | high vascular plant biomass Almost impossible to measure in-situ biomass (wet conditions and difficult access). |
| **Wet sedge communities** | **High; mixed disturbance types**:  - regular spring floodings  - rapid thaw processes (permafrost degradation)  - shifting habitat  - mid to advanced-stage regeneration | high vascular plant biomass. Almost impossible to measure in-situ biomass (wet conditions and difficult access). |
| **Dwarf shrub herb communities** | **Low; mixed disturbance types**  - low for most of the habitat  - mature-state plant community | low vascular plant biomass, high abundance of moss. |
| **Sparsely vegetated areas** | **Very high;** **mixed disturbance types**  - regular spring floodings  - rapid thaw processes (permafrost degradation)  - shifting habitat  - early-stage regeneration | lowest vascular plant biomass, no moss. |
| **Sand banks/barren** | **Very high: mixed disturbance types**  - regular spring floodings  - rapid thaw processes (permafrost degradation)  - shifting habitat  - no regeneration | Barren, constant shifting of sediments and movement of soils. |

Stanford, J. A., Lorang, M. S., and Hauer, F. R.: The shifting habitat mosaic of river ecosystems, SIL Proceedings, 1922-2010, 29, 123-136, 10.1080/03680770.2005.11901979, 2005.

Driscoll, K. P. and Hauer, F. R.: Seasonal flooding affects habitat and landscape dynamics of a gravel-bed river floodplain, Freshwater Science, 38, 510-526, 10.1086/704826, 2019.

Lorang, M. S. and Hauer, F. R.: Fluvial geomorphic processes, in: Methods in stream ecology, edited by: Hauer, F. R., and Lamberti, G. A., Academic Press/Elsevier, San Diego, 145–168, 2006