

All landscapes water towers

Shapefile dataset, WGS84, based on HydroBasins-Level 12, for the WWF/USAID Asian High Mountains Project. 2017

Summary:

Covers all six priority snow leopard landscapes. Each column represents the amount of local runoff (LRO) for each of the months in millimeters. Negative values can be reclassified to zero for display purposes.

Description:

Local runoff is the difference between monthly precipitation (P) and actual evapotranspiration (AET). Monthly precipitation and AET are downloaded and, through a simple GIS command, summarized by their watershed 'mean', using HydroBASINS level 12 watersheds. The mean values were multiplied by each of the watershed areas in order to convert from millimeters to cubic meters. Next, mean actual evapotranspiration was subtracted from mean precipitation (P – AET) for each month. Local runoff values that were less than zero were displayed and flagged as being zero. Inside the sub-basin, those watersheds that drain the snow leopard landscape were also flagged to summarize run-off contribution from the landscape alone.

Data Sources:

Guardians of the Headwaters, Vol. 2: Mapping Biodiversity, Water, and Climate in Six Snow Leopard Landscapes., (Forrest et al, 2017) www.thirdpolegeolab.org Summary:
<http://www.thirdpolegeolab.org/files/resources/websnowleopard.pdf>

Current Mean Monthly Temperatures, based on historic WorldClim, 30s resolution (Hijmans et al. 2005)

Current Mean Monthly Actual Evapotranspiration, based on historic Global Soil-Water-Balance, CGIAR, 30s resolution (Trabucco and Zomer 2010)

HydroBASINS, level 12, ~100 km² watershed outlines (Lehner and Grill 2013)
www.hydrosheds.org

Technical detail and analysis:

Bhutan	http://www.thirdpolegeolab.org/files/resources/bhutan_landscape_lowres.pdf
Sikkim	http://www.thirdpolegeolab.org/files/resources/sikkim-landscape_lowres.pdf
Eastern Nepal	http://www.thirdpolegeolab.org/files/resources/eastern-nepal-landscape_lowres.pdf
Karakoram-Pamir	http://www.thirdpolegeolab.org/files/resources/pamir-karakoram-landscape_lowres.pdf
Central Tien Shan	http://www.thirdpolegeolab.org/files/resources/central-tien-shan-landscape_lowres.pdf
South Gobi	http://www.thirdpolegeolab.org/files/resources/south-gobi-landscape_lowres.pdf