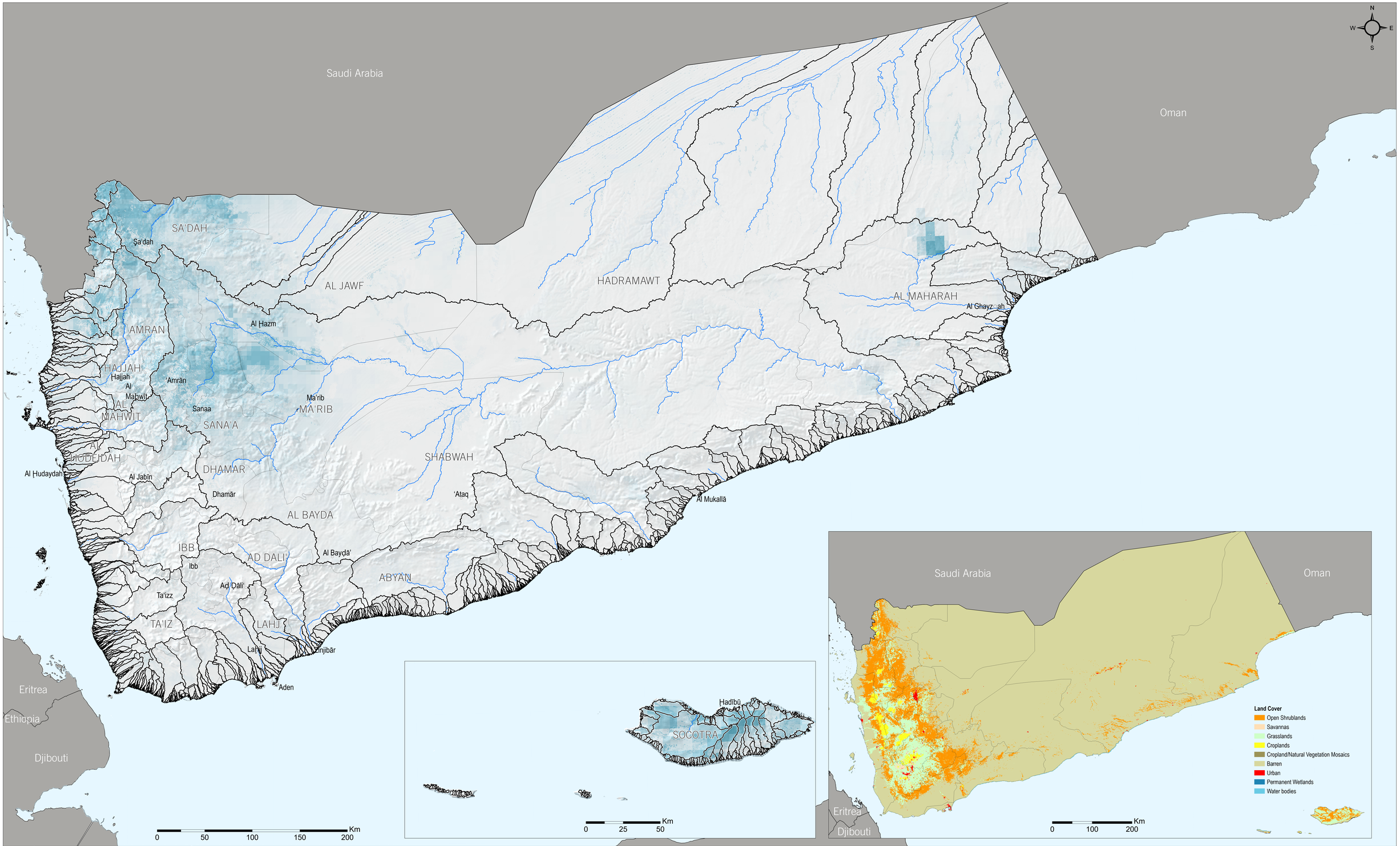
Shelter Cluster Yemen
ShelterCluster.org
Coordinating Humanitarian Shelter

YEMEN - Runoff Potential

Runoff volume for 20-year return period - May 2020

Intended for Exploratory Purposes
Version 1
Production date : 03 June 2020



Legend

- Governorate Capital City
- Governorate boundary
- Major Stream (Orders V, VI, VII)
- Watershed boundary
- Runoff volume (in cubic meters) for 20 year return period
  - 486.994
  - 0

Note: The results of this exploratory analysis are not to be used for strategic planning. Methods are unverified by hydrological experts. Data, designations and boundaries contained on this map are not warranted to be error-free and do not imply acceptance by the REACH partners, associated, donors mentioned on this map.

The map represents the surface runoff volume generated by an extreme rain intensity event which has a high probability of occurring in a timespan of 20 years. The boundaries of the catchments indicate the basin where runoff will flow.

Methodology:
The runoff potential was calculated using the SCS-Curve Number method, developed by the United States Department of Agriculture. The curve number is an empirical parameter deriving from soil hydrological properties and landcover types, and it is inversely related to the potential maximum soil retention.
The rain intensity return period takes into account daily rainfall data from 1984 to 2019, and it represents estimated maximum rainfall intensity occurring in a timespan of 20 years, with a duration of 24 hours. It was calculated through the generation of a generalized extreme event distribution (GEV).

Data sources:
Rainfall : CHIRPS Daily v2 (0.05°) (https://www.chc.ucsb.edu/data/chirps)
Curve Number: GCN250 (250m) (https://www.nature.com/articles/s41597-019-0155-x)
Elevation: NASA JPL (2020). NASADEM Merged DEM Global 1 arc second V001 [Data set]. NASA EOSDIS Land Processes (30m)
Land Cover: MODIS Land Cover Type Yearly MCD12Q1.006 (500 m)
Administrative boundaries, cities: OCHA

Coordinate System: WGS 1984 UTM Zone 38N
File: REACH_YEM_MAP_RunoffPotential20y_National_03June2020_A0_EN_V1.pdf
Contact: reach.mapping@impact-initiatives.org

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