Statement of Work
Climate Change Analyst for the Ararat Valley

Required Services: Short -term Climate Change Analyst
Duration: October 2018 – May 2019
Level of efforts: Up to 80 days

I. Background

The Advanced Science & Partnerships for Integrated Resource Development (ASPIRED) Project is a five-year initiative funded by the US Agency for International Development. The objective of the Project is to support sustainable water resource management and the sustainable practices of water users at the core of the water-energy nexus through the use of science, technology, innovation and partnership approaches. The goal is to reduce the rate of groundwater extraction in the Ararat Valley to sustainable levels.

Under the technical assistance provided to the RA Government, activities aimed at improved collection and analyses of data on water resources of the Ararat Valley are implemented. As a part of these works, customized tools that generate hydrologic, hydrogeologic, climate change, economic and environmental data are developed and calibrated for the Ararat Valley. Particularly, the Decision Support System (DSS) developed within the framework of the USAID Clean Energy and Water Program is calibrated for the Ararat Valley, including analysis of climatic elements and downscaling climate change projections for the Ararat Valley.

This Statement of Work defines the activities of the short-term Climate Change Analyst to be implemented according to the tasks provided below:

II. Scope of Work

Task 1: Compilation and review of meteorologic data

Task 2: Analysis of dynamics of change of climatic elements in the Ararat Valley

Task 3: Downscaling climate change projections for the Ararat Valley

Task 1: Compilation and review of meteorologic data

- Compiling, reviewing and ensuring data inter-operability/homogeneity for the relevant data of the 7 meteorologic stations in the Ararat Valley, namely Ararat, Artashat, Armavir, Urtsadzor, Ashtarak, Yerevan Agro, Yerevan Arabkir, as well as the Aragats high mountainous meteo-station. Providing time-series of the following data for 1961- 2016: (a) precipitation - in the form of snow and rain (daily); (b) monthly air temperature (maximum, minimum, average); (c) snow depth (daily); (d) density of snow cover (ten-day period); (e) wind direction and velocity (daily); and (f) relative and absolute air humidity (daily).

- Identifying and filling the gaps in datasets.

Task 2: Analysis of dynamics of change in climatic elements in the Ararat Valley

- Analyzing the trends of changes in climatic elements, including in average, maximum and minimum air temperatures, precipitation, relative humidity and winds, based on the time-series of data for 1961-2016 from the above-mentioned eight meteorologic stations in terms of baseline period (1961-1990) and analysis period (1991-2016).

Task 3: Downscaling projected climate change scenarios for the Ararat Valley

- Analyzing and assessing the climate change projections for Ararat Valley for 2030, 2070 and 2100, on monthly, seasonal and annual basis (against the average of 1961-1990), according to A2 and B2 emissions scenarios for the following parameters: (a) precipitation; (b) air temperature; and (c) natural river flow.

- Providing a description on the methodology used for the climate change projections downscaling, i.e. relevant global and regional climatic models applied and scenarios selected.

III. Deliverables and their format of submission:

1. Verified meteorologic datasets for the Ararat Valley for the period of 1961-2016;
2. Report on dynamics of change in climatic elements in the Ararat Valley;
3. Report on projected climate change scenarios for the Ararat Valley.

Format:
- Reports – in MsWord format, in Armenian and English languages
- Meteorologic data (for the period of 1961-2016) – in MsExcel spreadsheet format
- Maps and graphics – in .JPG or .TIFF format

IV. Schedule of work implementation

The tasks will be implemented according to the schedule provided below:

#	Task	Terms of implementation
1.	Compilation and review of meteorologic data	October 2018 – December 2018
2.	Analysis of dynamics of change in climatic elements	December 2018 – March 2019
3.	Downscaling of projected climate change scenarios	March 2019 – May 2019

V. Qualification and professional experience

- Higher education/academic degree (Master's degree or PhD) in hydrometeorology/ climatology or relevant field
- Minimum 3 years of work experience in systematic climate observations and climatic projections (work experience with international programs/projects is an asset);
- Analytical skills;
- Computer skills – knowledge of climatic models, as well as ability to work with and process large datasets;
- Knowledge of the English Language is highly desirable.

Applicants cannot be government employees or civil servants.