



Consultancy for update of the Global Mangrove Watch Extent and Change maps

Terms of Reference

Background

Within the framework of the “Save Our Mangroves Now!” (SOMN) initiative, funded by the Federal Ministry for Economic Cooperation and Development (BMZ), Wetlands International is awarding a contract for updating the Global Mangrove Watch extent and change maps.

The Save our Mangroves Now! (SOMN) Initiative

Wetlands International, as part of a consortium with WWF Germany and the International Union for the Conservation of Nature (IUCN), in collaboration with the German Federal Ministry for Economic Cooperation and Development (BMZ), is implementing an international initiative for the protection of mangroves. Now in its third phase (SOMN3), the four partners are working together to stop global mangrove loss under the title “Save Our Mangroves Now!” (SOMN).

The overall project goal is to ensure that the conservation and restoration of mangroves are accelerated and scaled up in the Western Indian Ocean (WIO) region for the benefit of people, biodiversity, and climate through the implementation of existing national and regional commitments.

SOMN3 builds on the achievements, findings and lessons learnt from the first two phases of the initiative (SOMN1 & SOMN2), which focused on developing knowledge products, capacity-building, advancing policy at the various levels from international to regional (WIO) and national (Kenya, Madagascar, Mozambique, Tanzania), as well as accelerating partnerships related to mangrove conservation and restoration. In its third phase, SOMN focuses on further supporting the implementation of the commitments made by Mozambique and Kenya towards mangroves protection, aims to support the WIO region in unlocking additional finance, and build capacity on international best practice tools, knowledge and initiatives.

The project is designed as a WIO regional contribution to the Global Mangrove Breakthrough, which aims to unlock USD 4 billion to secure the future of 15 million hectares of mangroves globally by 2030 through collective action on halting mangrove loss, restoring half of recent losses, doubling protection of mangroves globally and ensuring sustainable long-term finance for all existing mangroves. To achieve this in the Western Indian Ocean region, SOMN aims to reduce barriers to effective mangrove conservation and restoration in the Western Indian Ocean region. These barriers are regularly identified as lacking policies, limited capacities and limited financial resources. The project therefore has the following sub-objectives: (1) National and local policy frameworks on mangroves restoration and conservation are enhanced; (2) Government representatives, practitioners and community representatives working in mangrove management have the knowledge and capacity to successfully implement restoration activities at scale; (3) Additional finance options for upscaling mangrove restoration are initiated.



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Context

Wetlands International is the only global not-for-profit organisation fully dedicated to the conservation and restoration of wetlands. Our vision is a world where wetlands are treasured and nurtured for their beauty, the life they support and the resources they provide.

Mangroves are unique and vital coastal ecosystems that harbor incredible biodiversity and provide food, shelter, and livelihoods. These ecosystems stabilize coastlines and help coastal communities adapt to climate change. Additionally, healthy mangroves and their underlying soils sequester carbon at up to four times the rate of terrestrial forests on a per hectare basis, making them indispensable allies in the race to a net zero world. Despite the many benefits they provide, the world's mangroves are highly threatened and poorly protected.

Remote sensing data plays a major role in changing the fate of the world's rapidly declining mangrove forests. Without easily accessible, up-to-date information on mangrove conditions and threats, it is a challenge for governments and conservation groups to plan effective mangrove conservation and restoration efforts.

The Global Mangrove Watch (GMW) platform supports practitioners and policy makers to address this issue and is being continually updated with new datasets. Because of a consistent mapping approach it allows for direct comparisons between regions and through time. The GMW maps are highly accessible and free to use for all policy-makers, investors, researchers, land managers and conservationists. With high-resolution maps and information on a large range of parameters, the GMW serves as the first point of entry to understand the state of mangroves across our planet.

The current version of the GMW dataset, version 3, consists of a timeseries of 11 years in the period 1996 – 2020 and as such is now slightly outdated. Also, as described in Bunting et al. (2022) this dataset suffers from a non-linear mis-registration in JAXA's L-band PALSAR, ALOS1 and ALOS2 data which affects the accuracy of the change analysis.

A new baseline for the year 2020 has already been produced, based on Sentinel-2 data at 10 meters resolution.

Objectives & scope

The geographic scope of this assignment is the global mangrove habitat and the temporal scope consists of the years 1996, 2007 – 2010, 2015 – 2023. The main objectives are:

1. Fill gaps in mangrove coverage in the existing GMW dataset
2. Redo the mangrove extent and change timeseries analysis based on the newly corrected JAXA L-Band SAR data using the new GMW 2020 baseline
3. Update the Global Mangrove Watch timeseries by producing new annual updates for the period 2021 – 2023

Expected deliverables

1. Updated mangrove mask
2. Mangrove extent and change layers for the years 1996, 2007 – 2010, 2015 – 2023
3. Summary statistics for:
 - a. Countries
 - b. Protected areas
 - c. Marine ecoregions
4. Peer-reviewed paper
5. Scripts published in GitHub GMW repository



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Requirements

1. The mangrove extent and change timeseries is to be based on change from the existing GMWv4 10m baseline for 2020
2. Mangrove change is to be analysed using JAXA's newly corrected L-band SAR data from the JERS and ALOS missions
3. The mangrove extent and change have minimum 25 meters resolution
4. The mangrove extent and change data have an accuracy, as measured by kappa, of >90%
5. The data outputs are to be made available under a CC-BY-4 license
6. The peer-reviewed paper is published as open-access
7. Any scripts / software developed for the analysis are published under an open-source license in the GMW GitHub repository (access will be provided)

Profile of consultant

The consultant/organisation will have:

- Expertise in mangrove ecosystems
- Expertise in earth observation and GIS with proven experience in using satellite imagery to map and monitor mangrove extent and change
- Familiarity with existing mangrove datasets and published literature
- Proven track record in scientific publishing
- Other relevant skills needed to perform this consultancy

Available budget and payment structure

Wetlands International has a maximum available budget of 66,000 euros for this consultancy, including all taxes.

Payments will happen on an invoice basis with the final 25% being paid after delivery and acceptance of the final deliverables.

Timing and duration

The work will take place between June 24th 2024 and December 31st 2024

Technical and Financial Proposal

A technical and financial proposal must be submitted to Wetlands International, including the proposed methodology, work plan, timelines and a detailed cost breakdown for the achievement of the deliverables. It must be accompanied with the following minimum supporting documentation:

1. CVs (establishing competence and demonstrating qualifications/skills relevant to the ToR) of the personnel proposed to work on the consultancy.
2. Profile of the organisation, including the mission of the organisation and date of founding.
3. Evidence of previous relevant experience that qualifies the organisation/consultant to undertake this work.



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Evaluation Criteria

Wetlands International will conduct a fair and transparent process to select successful consultants/ organizations. Below is the scoring that will be used to rank the proposals:

Technical Evaluation:

Criteria	Points
1. Expertise and Experience of the Organisation/ consultant	35
2. Proposed Methodology, Approach and Implementation Plan	35
3. Understanding of the ToR	15
TOTAL	85
Only proposals which receive a minimum of 65 points will be considered further.	

Financial evaluation:

The total amount of points allocated for the price component is **15**. The maximum number of points will be allotted to the lowest price proposal. All other price proposals will receive points in inverse proportion to the lowest price, as follows:

Score for price proposal X = $(15 * \text{Price of lowest priced proposal}) / \text{Price of proposal X}$

The contract will be awarded to the offer scoring the highest combined scores for the technical and financial components.

Contact

Proposals should be sent to Wetlands International **by June the 21st 2024**, to the attention of

Ana Colorado McEvoy, SOMN3 Project Manager, at the following e-mail address:

ana.colorado@wetlands.org



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