PROJECT IDENTIFICATION FORM (PIF)

PROJECT TYPE: MEDIUM-SIZED PROJECT
TYPE OF TRUST FUND: GEF TRUST FUND

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PART I: PROJECT INFORMATION

Project Title:	Protected Areas Planning in the Era of Climate Change (PAPEC)		
Country:	Global	GEF Project ID:	5810
GEF Agency:	World Wildlife Fund, Inc.	GEF Agency Project ID:	G0004
Other Executing Partner(s):	Conservation International, Luc Hoffmann Institute, WCMC, University of Washington	Submission Date:	29 April 2014
GEF Focal Area:	Biodiversity	Project Duration (Months)	48
Name of parent program	N/A	Project Agency Fee ($):	162,438

A. INDICATIVE FOCAL AREA STRATEGY FRAMEWORK:

Focal Area Objectives	Trust Fund	Indicative Grant Amount ($)	Indicative Co-financing ($)
BD-1: Improve Sustainability of Protected Area Systems	GEFTF	1,804,862	2,467,000
Total Project Cost		1,804,862	2,467,000

B. INDICATIVE PROJECT DESCRIPTION SUMMARY

Project Objective: Make the global protected areas network more robust to climate change by providing high priority countries with the assessments and data needed to improve national planning and management of terrestrial protected areas[1].

Project Component	Grant Type	Expected Outcomes	Expected Outputs	Trust Fund	Indicative Grant Amount ($)	Indicative Cofinancing ($)
1. Scenario analyses of protected area vulnerability to climate change	TA	1.1 Protected area planners and managers in the Neotropics, Indo-Malayan tropics and Afrotropics make more effective and efficient decisions about how to reduce vulnerabilities to climate change, as the result of access to standardized scenario analyses that define, in a spatially explicit fashion, the context of expected large-scale species range shifts and ecosystem change.	1.1.1 Improved framework for national-level decision making about protected area management and planning for climate change, providing the context of continental/regional species and ecosystem changes needed for efficient and effective national decisions 1.1.2 Scenario reports for each ecozone, produced with country stakeholders, assessing the resilience, gaps, and opportunities for improving protected area networks given the projected impacts of climate change and other major threats to protected area effectiveness. 1.1.3 Ranking of countries in each ecozone, prioritized by the vulnerability of their protected area networks to the projected impacts of climate change (vulnerability defined as the loss of biodiversity by 2030, 2050,	GEFTF	755,466	863,450

[1] Freshwater and Marine protected area networks are beyond the scope of this proposal.

			and 2100, under a" business as usual" approach), are in use in national and trans-boundary efforts to fund and implement protected area adaptation plans. 1.1.4 A consistent set of data layers is in use by planners and decision makers as a data-backbone for country-level assessments of climate change adaptation for protected areas.			
		1.2 Protected area planners in 83 countries have explicit, comparative information on the degree to which national vs. multi-national actions are required to compensate for the vulnerabilities of species and ecosystems to climate change.	1.2.1 Ranked list of critical multi-country zones within each ecozone, defined as areas where significant progress to enhance protected area effectiveness in the face of climate change will require cooperation among two or more countries, are in use in national and international efforts to fund and implement protected area adaptation plans. 1.2.2 A consistent set of data layers in use by planners and decision makers as a data-backbone for multi-country collaboration and multi-country assessments of climate change adaptation for protected areas.			
2. Country and multi-country action plans	TA	2.1 National-level actions for reducing protected area vulnerabilities to climate change are defined and acted on in at least 5 high priority countries in each region (15 countries in total), as well as in other high-priority countries.	2.1.1 Research briefs that define the technical issues and opportunities for protected areas planners and managers in each priority country, based on the regional context provided by the assessments of Component 1. 2.1.2 Stakeholder-driven action plans that define socially and politically feasible steps to respond to the technical issues and challenges defined in the research briefs are used	GEFTF	847,884	1,233,500
		2.2 Multi-country collaboration to reduce protected areas vulnerability to climate change is catalyzed for 3 critical multi-country zones in each region (9 zones in total)	2.2.1 Research briefs defining the technical issues and opportunities associated with species and ecosystem changes that span the territories of multiple countries. 2.2.2 Action plans that define socially and politically feasible multi-country collaborations to respond to the technical issues			

			and challenges defined for the critical multi-country zones in each region.			
3. Monitoring and Evaluation		3.1 Participatory M&E framework and an informative and proactive feedback mechanism integrated at all levels of project cycle management. 3.2 Adaptive implementation of ecozone scenario modeling axercise based on learning from previous ecozone, linked through a global framework, providing consistency, and improving knowledge transfer	3.1.1. Project monitoring system operating and systematically providing information on progress in meeting project output and outcome targets 3.2.1. Multiple knowledge-mapping products defining portable knowledge gained from each ecozone, and mapping knowledge flow and information products for each ecozone.		37,434	123,350
Subtotal					1,640,784	2,220,300
Project Management Cost (PMC)[2]				GEFTF	164,078	246,700
Total Project Cost					1,804,862	2,467,000

C. INDICATIVE CO-FINANCING FOR THE PROJECT BY SOURCE AND BY NAME IF AVAILABLE, ($)

Sources of Cofinancing	Name of Cofinancier	Type of Cofinancing	Amount ($)
GEF Agency	WWF	Cash	430,000
GEF Agency	CI	In-kind	350,000
CSO	WCMC	In-kind	250,000
Other	Luc Hoffmann Institute	Cash	522,000
Other	Luc Hoffmann Institute	In-kind	340,000
Other	University of Washington	In-kind	175,000
Other	To be confirmed	In-kind	400,000
Total Cofinancing			2,467,000

D. INDICATIVE TRUST FUND RESOURCES ($) REQUESTED BY AGENCY, FOCAL AREA AND COUNTRY

GEF Agency	Type of Trust Fund	Focal Area	Country Name/Global	Grant Amount ($) (a)	Agency Fee ($) (b)[2]	Total ($) c=a+b
WWF	GEFTF	Biodiversity	Global	1,804,862	162,438	1,967,300
Total Grant Resources				1,804,862	162,438	1,967,300

[2] Indicate fees related to this project.

E. PROJECT PREPARATION GRANT (PPG)

	Amount Requested ($)	Agency Fee for PPG ($)
• (upto) $50k for projects up to & including $1 million	30,000	2,700

PART II: PROJECT JUSTIFICATION[3]

[2] To be calculated as percent of subtotal.

A. Project Overview.

A .1.1 Problem statement

The single most common strategy for conserving biodiversity is the establishment of protected areas. The Convention on Biological Diversity (CBD) has supported protected areas as a conservation tool since its inception and calls for the expansion of the global conservation estate under the Aichi targets 11. The GEF-recipient countries, GEF agencies, and co-financing partners are among the largest investors in protected area creation and management. However, these investments are placed at risk by climate change.

Biodiversity, and threats to biodiversity, will be changing in response to climate change[4], affecting the context of success for protected areas. Many species' ranges will move to track suitable conditions that protected areas systems have been built to conserve[5]. The location of species will not only shift within national territories, they will move in ways that involve multiple countries. About half of all plant species are believed to be multi-country endemics, while roughly 80% of the world's birds are resident in two or more countries[6]. Even among restricted range birds with high levels of endemism, about one third are found in multiple countries[3]. In addition, "Mobile threats", such as agricultural zones, development corridors, invasive species, and diseases will further impact protected areas effectiveness. Human land uses, such as crop production, are distributed within climate gradients, and these uses will also shift among multiple countries[7].

As a result, evidence-driven recommendations for actions that will increase the effectiveness of national protected area networks in the face of climate change will require a regional perspective that includes the movement of key species groups that reserve networks focus on, as well as the movement of threats to biodiversity. This knowledge is critical for efficient planning and management of protected areas, as it provides the basis for understanding what national actions can be taken independently, and what actions are contingent on the actions of neighbouring countries. Without this information, countries may not invest in climate change adaptation due to a lack of certainty, lack of knowledge of biodiversity and threat trajectories, the scattered nature of required information, and the technical difficulties of assembling scenarios at the geographic scale of likely change. These limitations are particularly acute in the tropics, most affecting precisely the high biodiversity countries most at risk.

This proposal focuses on constructing scenarios of change in the three highest diversity continental tropical regions, to better understand threats from disrupting climates and opportunities for adaptation of terrestrial protected area networks[8]. Specifically, the project has two components: In **component 1**, we provide scenario analyses in three ecozones spanning 83 countries in the Neotropics, Indo-Malayan tropics and Afrotropics, focusing on the vulnerability of protected area networks to climate change**.** In **component 2**, we work with stakeholders to create country and multi-country research briefs and action plans, enabling more effective and efficient planning processes informed by analyses of climate-induced changes in biodiversity, as well as changes in the major threats to biodiversity. In **component 3**, we establish a project monitoring framework and prepare knowledge products to share the recommendations emanating from the project. In all, this work will allow more efficient prioritization

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[4] Dawson, Terence P., et al. "Beyond predictions: biodiversity conservation in a changing climate." *science* 332.6025 (2011): 53-58.

[5] M Krosby, J Tewksbury, NM Haddad, J Hoekstra; Ecological connectivity for a changing climate, Conservation Biology 24 (6), 1686-1689; Hannah, Lee, et al. "Protected area needs in a changing climate." *Frontiers in Ecology and the Environment* 5.3 (2007): 131-138.

[6] Pitman, Nigel CA, and Peter M. Jørgensen. "Estimating the size of the world's threatened flora." *Science* 298.5595 (2002): 989-989; Stattersfield, A. J., et al. "Endemic Birds of the world: Priorities for bird conservation. Cambridge, UK: BirdLife International." *BirdLife Conservation Series* 7 (1998).

[7] Turner, Will R., et al. "Climate change: helping nature survive the human response." *Conservation Letters* 3.5 (2010): 304-312.Hannah, Lee, et al. "Climate change, wine, and conservation." *Proceedings of the National Academy of Sciences* 110.17 (2013): 6907-6912.

[8] Freshwater and Marine protected area networks are beyond the scope of this proposal.

of investments through the expansion and better management national protected areas networks in a time of shifting biodiversity and threats.

A.1.2 The baseline scenario

Component 1: Scenario analysis: The current global-scale gap analysis for protected areas does not account for the impacts of climate change[9], and our most comprehensive analyses of vulnerability of biodiversity-rich areas to climate change[10] do not include protected area coverage, they do not account for the movement of biodiversity itself, and they fail to account for changes in land use and invasive species, which will constrain options for reducing the vulnerability of protected area networks. At the regional level, integration has been slightly better[11] but these efforts are largely uncoordinated and lack a consistent methodology. The most comprehensive review of protected areas effectiveness for the Indo-Malayan tropics, Afrotropics and Neotropics was written in the 1980's[12], and no comparable analysis of actions needed to address climate change exists for these regions. The lack of integrated analyses of the most important threats and opportunities for protected area network enhancement in the face of climate change slows national and coordinated action.

Component 2: country and multi-country research briefs: The baseline for national protected area planning consists of independent national efforts[13], loosely coordinated under CBD targets and addressing climate change as national resources permit. Research briefs and action plans assessing and responding to the impact of climate change on protected areas at the national level is sporadic, uncoordinated, and lacks a consistent methodology. Providing it on a country-by-country basis is not cost-effective or efficient since parallel regional analyses may duplicate efforts. Opportunities to collaborate with neighbouring nations may also be overlooked. The situation is especially acute in the tropics, where agencies are budget-constrained and resources for sophisticated or broad-scale planning are limited.

In the absence of large-scale context, comparable regional scenarios, and guidance on dealing with uncertainty, planning for protected area resilience to climate change may be delayed or ineffective in biodiversity-rich areas throughout the tropics. National planning efforts are likely to address climate change only when impacts are acute and costs are large relative to other threats. Waiting until climate change impacts are well underway will miss low-cost, long lead-time opportunities and may entail expensive urgent fixes rather than careful long-term adaptation.

A.1.3 The proposed alternative scenario, components of the project and expected outcomes

This project will create scenarios of climate change impacts on the efficacy of terrestrial protected area networks at scales sufficiently large to create effective context for national planning and deliver stakeholder-developed action plans that will improve the sustainability of protected area systems (GEF-

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[9] Rodrigues, Ana SL, et al. "Effectiveness of the global protected area network in representing species diversity." *Nature* 428.6983 (2004): 640-643.

[10] Watson, James EM, Takuya Iwamura, and Nathalie Butt. "Mapping vulnerability and conservation adaptation strategies under climate change."*Nature Climate Change* (2013); Iwamura, Takuya, et al. "How robust are global conservation priorities to climate change?." *Global Environmental Change* (2013).

[11] Hole, David G., et al. "Projected impacts of climate change on a continent-wide protected area network." *Ecology Letters* 12.5 (2009): 420-431.; also see the PARCC project in west Africa: http://www.parcc-web.org/ for a regional effort.

[12] MacKinnon, John, and Kathy MacKinnon. *Review of the protected areas system in the Indo-Malayan realm*. International Union for Conservation of Nature and Natural Resources, 1986. MacKinnon, John. *Review of the Protected Areas System in the Afrotropical Realm.* International Union for Conservation of Nature and Natural Resources, 1986. MacKinnon, John Ramsay, and Kathy MacKinnon, eds. *Managing protected areas in the tropics*. IUCN, 1986.

[13] Zhang, Yuguang, et al. "The impact investigation and adaptation strategy analysis of climate change on nature reserve in China." *Acta Ecologica Sinica*34.2 (2014): 106-109; Wise, Russell M., et al. "Costs of Expanding the Network of Protected Areas as a Response to Climate Change in the Cape Floristic Region." *Conservation biology* 26.3 (2012): 397-407; Willis, Stephen G., et al. "Assessing the impacts of future climate change on protected area networks: A method to simulate individual species' responses."*Environmental management* 43.5 (2009): 836-845.

5 Biodiversity Objective 1).

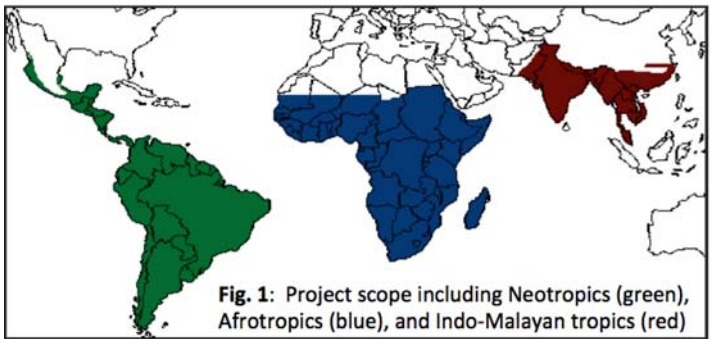


Fig. 1: Project scope including Neotropics (green), Afrotropics (blue), and Indo-Malayan tropics (red)

Using a common global framework, the PAPEC will assess climate change impacts on protected areas across 83 countries in the three continental biogeographic ecozones where terrestrial biodiversity is highest (Neotropics Afrotropics, and Indo-Malayan tropics [fig. 1]). Across these ecozones, we will provide outputs focused on two components: 1) scenarios of projected impacts of climate change on the distribution of biodiversity, combined with shifts in land use change and invasive species impacts, at planning scales appropriate for providing context for efficient and cost-effective national planning; 2) action plans for 15 priority countries and 9 critical multi-country zones where efforts to enhance and manage terrestrial protected area networks and their surrounding habitats will be critical for protecting tropical biodiversity in the face of climate change.

Component 1: Scenario analyses of protected areas vulnerability to climate change

Scenario analyses of protected area climate vulnerability will be conducted in each of three high-biodiversity ecozones [Fig. 1]. These ecozone assessments will allow the identification of priority countries and multi-country focal areas for the production of action plans (component 2). Each ecozone analysis will address: 1) The spatial relationship of current protected areas to patterns of movement of priority species due to climate change. 2) Current and projected changes in habitat due to changes in temperature and precipitation, and the resulting changes in vegetation. 3) Connectivity of existing protected areas in relation to projected patterns of species and habitat movement. 4) Current land use patterns and projected changes in major mobile threats, due to shifts in agricultural zones and development pressures. 5) Projected changes in the status and impact of known biological threats, such as invasive species, ecosystem engineers, disease and pathogens. These analyses will provide a common framework for national decision making processes and discussions between nations on collaborative actions (Output 1.1.1), and they will be summarized in ecozone scenario reports that will assess the resilience, gaps, and opportunities for improving protected area networks given the projected impacts of climate change and other major threats to protected areas effectiveness (Output 1.1.2). These reports will be disseminated broadly through the networks established during stakeholder meetings and through participatory modelling exercises. Based on the results of each regional assessment, we will produce and disseminate a ranked list of countries within each ecozone, ranked by the vulnerability of their protected area networks to the projected impacts of climate change (Output 1.1.3). In addition, we will also define and highlight a series of “critical multi-country zones” within each ecozone where coordinated action by more than one country is necessary to ensure the efficacy of national protected area networks (Output 1.2.1). In all, this work will make it possible for planners and decision makers to work from a common set of principles, data layers, and analyses (Output 1.2.2).

To accomplish this work, we will form a core team consisting of 3 lead scientists, a project manager, 2 postdoctoral researchers and a technician. The core team will be advised by a Science Advisory Panel, representing leading climate-impact and protected area planning scientists, with strong representation from our three ecozones. This group will provide advice regarding methods to use for biodiversity, threat and protected areas planning assessment. The project manager will oversee monitoring and evaluation to ensure standardization among regions as well as production and dissemination of components in a timely manner. Each regional assessment will be conducted by the same core team team, following a common participatory modelling framework involving regional stakeholder meetings, data availability assessments, scenario analysis and in-region validation. The same core team will conduct assessments in the three ecozones consecutively, providing methodological consistency.

The assessment in each ecozone will open with a stakeholder meeting to identify data sources, modify methods in response to regional context, establish the participatory modelling framework, and identify countries interested in self-selecting as candidates for country action plans. The main body of each assessment then unfolds under this guidance, resulting in an ecozone scenario report (Output 1.1.2), as well as ranked lists of country and multi-country zones where the vulnerability of the current terrestrial protected area network to climate change is highest (Outputs 1.1.3 and 1.1.4).

Component 2: Country and multi-country research briefs and action plan

Using the country self-selection criteria, as well as the ranked list of country and multi-country zone vulnerability, the core team will also prepare research briefs for 5 countries and 3 multi-country zones in each ecozone (15 countries and 9 multi-country zones in total; Outputs 2.1.1 and 2.2.1). Our process in each ecozone concludes with stakeholder meetings, where national representatives from each of the countries featured in our research briefs meet with climate advisors and our core team to turn the research briefs into country action plans (Outputs 2.1.2 and 2.2.2). Action plans will combine the scenario-analyses produced by our core team, which will detail gaps, opportunities, and threats within nations and along shared boarders, with stakeholder knowledge of political and social constraints and opportunities to produce actionable strategies for national actions for adaptation of protected areas to climate change.

Action plans will emphasize: 1) 'no regrets' actions that have benefits in all future scenarios, 2) Incremental resilience-building that can be factored into long-range management and network design plans to help build effective responses to climate change with limited annual budgetary impact, 3) Identification of adaptive management decision points that can be used to determine which future scenarios most closely correspond to the unfolding of real events (climate and other), and 4) Guidance for dealing with uncertainty, including building human resources to assess and manage in the face of uncertainty.

Multi-country action plans (Output 2.2.2) are outward-looking additions to national action plans. They define the collaborative actions necessary between neighbours and near-neighbours to effectively manage species and ecosystem change driven by climate change. The countries implicated in a multi-country plan are determined by the critical multi-country zones identified through ecozone analyses. These zones are areas in which individual country actions cannot conserve one or more species or maintain desired ecosystem representation in protected areas. They are areas in which uncoordinated, independent national actions will be inefficient – for instance where species populations are changing between countries and joint planning can conserve the species in less area than would be required if each country planned in isolation.

Multi-country plans will emphasize 1) Conservation of globally or regionally threatened species as climate changes, 2) Prevention of species becoming threatened due to climate change, 3) Maintenance of the seasonal habitat needs of migratory species as phenology changes, 4) Joint planning of management of threats whose distribution is altered by climate change (e.g., major plantation crops, invasive species).

Data Layers: The following data layers are illustrative of the data available for scenario assessment: Terrestrial Protected Areas (WDPA data, managed by WCMC); changing climate(projected changes in physical climate under IPCC 5th assessment report (AR5) scenarios; measures of changing climate-space (climate change velocity, novel climates, biophysical refugia, novel and disappearing climates; land cover(current vegetation distributions and land cover from the Global Land Cover; changes in conservation target distributions (Species distribution models). These global databases will be augmented by regional resources specific to each ecozone.

A.1.4 Incremental cost reasoning and expected contributions from the baseline, the GEFTF, LDCF/SCCF and Co-financing

Climate change imposes a significant, growing, and uncertain additional cost of managing protected

areas. It is in nation's interests to help meet these additional costs of management to conserve their biodiversity. At the same time, a portion of the benefits of ensuring biodiversity conservation accrue globally and it is appropriate that a share of costs of additional management for resilience to climate change be born internationally.

Inefficiencies result when countries plan for climate change in isolation, because of possible duplication in regional scenario planning necessary to provide the context for national plans but also because opportunities for cost-effective collaboration are missed. For instance, it is not cost-effective for one country to invest heavily in maintaining declining populations of a species within its borders, when the range of the species is shifting, causing populations to increase in another country. Shifting the management burden from one country to another is more cost-effective in this case, but that solution may not be recognized in the absence of regional planning.

This project provides that regional context. It thus returns gains in efficiency both to individual countries and to global conservation efforts. Countries will provide baseline national planning and management efforts, and much of the resources needed for adaptation. The GEF support to this project adds regional efficiency to these national efforts. The project overcomes high transaction costs of establishing collaboration among countries and provides critical information to enable countries to make more effective national decisions.

A.1.5 Global environmental benefits (GEFTF, NPIF) and adaptation benefits (LDCF/SCCF)

The synthesized data and scenario analysis produced from the PAPEC project (component 1) and the research briefs and action plans for countries and multi-country zones (component 2) will allow countries in the Neotropics, Indo-Malayan tropics and Afrotropics to 1) assess their potential for changing and expanding protected lands; 2) react to predicted changes in the disruptions of species and changes in the threats posed by invasive species, pests and diseases; and 3) integrate projections of human land use into protected area planning. This will improve the status of biodiversity by safeguarding ecosystems, species and genetic and increase the resilience of countries in these regions to climate change.

By increasing the efficiency of national planning, the project in effect increases resources for conservation of biodiversity, by allowing existing resources to do more. By identifying the regional needs for increasing protected area resilience to climate change, the project helps inform an ongoing international debate about the costs of adaptation and the scale of resources needed to address the issue.

A.1.6 Innovativeness, sustainability and potential for scaling up

The core products of component 1 will provide a standardized approach to scenario assessment of climate change vulnerability for protected areas. No such methodology currently exists. The PAPEC project framework can be replicated for marine protected areas and freshwater ecosystems in the tropics and other ecozones. In addition, the research briefs and action plans we provide to priority countries and multi-country zones (component 2) can be replicated: By building off the central scenario modelling exercises performed in component 1, additional country action plans can be created from the same core resource, allowing component 2 to be scales up to include additional stakeholders.

The data produced by the project will allow countries to assess the resilience of protected areas to climate change within their national borders, with the confidence of knowing that this analysis is grounded in a regional context that will allow them to collaborate more efficiently with neighbouring countries.

A.2. Stakeholders. Identify key stakeholders (including civil society organizations, indigenous people, gender groups, and others as relevant) and describe how they will be engaged in project preparation:

The PAPEC Project will involve a wide range of stakeholders in all its phases and components. Leading climate-impact scientists from the Neotropics, Afrotropics, and Indo-Malayan tropics will interact with

a range of stakeholders drawn from GEF agencies, civil society, international organizations, government ministries and representatives of local communities that are directly affected by protected area management effectiveness. These scientists and stakeholders from key countries will work with the core team responsible for the coordination and execution of the programme and advise on methodology development for each ecozone. These stakeholder groups will thus be directly embedded into the planning in each ecozone and will take part in the translation of research briefs into action plans (component 2). During the PPG phase, we will contact these stakeholders and use their input to build the full proposal. In addition, consultation with the PARCC and the GEF Mexico project will help us gain knowledge from their approaches in incorporating climate change into conservation planning.

A.3 Risk. Indicate risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and, if possible, propose measures that address these risks to be further developed during the project design (table format acceptable):

The table below summarizes some of the main risks assessed that might hinder the achievement of project objectives, together with strategies to overcome such risks, which will be further explored during detailed project design.

Risk	**Rating**	**Risk Management Strategy**
Gaps in information/data needed for the assessments and difficulty in downscaling data layers for regional and national assessment	High	Existing gaps are identified early in the process and overcome through partnership with relevant organization resulting in sharing of data/knowledge and information.
Methodologies for assessment are not agreed upon scientists	Low	A transparent decision-making process and feedback mechanism will develop ownership and help reach consensus on methodologies.
Limited impact of the project's results on stakeholder behaviors, as methodologies are not applied.	Medium	Research briefs that include the technical findings from our analysis will be distilled into action plans through stakeholder engagement workshops with relevant country representatives

A.4. Coordination. Outline the coordination with other relevant GEF financed and other initiatives:

National and sub-national efforts to integrate climate change into protected area management and planning are underway in Mexico and other countries. The effort in Mexico targets 17 protected areas and is supported by the GEF project (UNDP) '*Strengthening Management Effectiveness and Resilience of Protected Areas to Safeguard Biodiversity Threatened by Climate Change*'. National and sub-national vulnerability assessments have included consideration of protected areas, without focusing uniquely on them, and these efforts include those in Madagascar and the Galapagos.[14] The far north of the Neotropical ecozone in this project intersects with Mexico, allowing methods and lessons from that project to be scaled up and incorporated into the analyses of the PAPEC project.

At the regional level, the World Conservation Monitoring Centre (WCMC) in partnership with the United Nations Environment Programme has been active in efforts to promote resilient ecosystems in light of future climate scenarios. With support from the GEF, WCMC is currently implementing a project on '*Protected Areas Resilient to Climate Change'* in West Africa (PARCC). PARCC partners with 5 national governments including Mali, Chad, Gambia, Togo and Sierra Leone with an additional 3 countries (Ghana, Burkina Faso and Ivory Coast) expected to be involved in some of the transboundary pilot sites. This project aims to assess the vulnerability of protected area networks in West Africa to the impacts of climate change and to enhance their resilience by improving the effectiveness of their management. PARCC is completing a gap analysis to identify and advise on the establishment of future protected areas in the region by evaluating connectivity attributes in the existing landscape and where species of interest are projected to have difficulty traversing and dispersing. WCMC will be a key partner in executing the PAPEC Project.

WWF and CI also have strongly contributed to baseline understanding. The '*Protected Areas for a Living Planet*' (*PA4LP)* project of WWF has focused on the assessment of protected area effectiveness across 5 ecoregions (Altai Sayan, Caucasus, Carpathian, Dinaric Arc in the Mediterranean and coastal Africa) and uses a range of methodologies and tools, including the *Rapid Assessment and Prioritization of Protected Area Management* (RAPPAM), *The Management Effectiveness Tracking Tool* (METT) and the WWF/CATIE methodology. Likewise, the '*Implementing Climate Adaptation Strategies in the World's Most Outstanding Natural Places'* project is developing a methodology to help stakeholders (in particular protected area managers, politicians and rural communities) to identify and implement the measures necessary to build climate resilience in protected areas. This methodology is being tested in six protected areas in Colombia, Madagascar and the Philippines, and the lessons learned from this work will form an important part of the baseline for PAPEC efforts. CI's country efforts and Vital Signs and the Tropical Monitoring and Assessment (TEAM) network provide excellent regional data, but they do not have continental scale coverage; while CI's global gap analysis addressed protected areas in a global context, it did not include planning for climate change. A key output relevant to the present baseline was a gap analysis of 12.7% of the terrestrial surface of the planet and an assessment of protected area effectiveness in 10 countries. PA4PL, Vital Signs and TEAM provide rich regional data on climate change, natural habitats and threats, but do not explicitly synthesize these factors for the purpose of continental-scale protected areas planning.

These efforts can be knit together to provide depth of insight for PAPEC, but none come close to providing the global context that PAPEC will uniquely provide. Without this new effort to standardize, synthesize and apply large-scale climate-smart protected area planning, the effectiveness of conservation planning can be expected to decline in the face of growing climate impacts, reducing the ability to meet CBD and GEF protected area goals.

[14] Hannah, Lee, et al. "Climate change adaptation for conservation in Madagascar." *Biology Letters* 4.5 (2008): 590-594. Trueman, Mandy, and Noémi d'Ozouville. "Characterizing the Galapagos terrestrial climate in the face of global climate change." *Galapagos Research* 67 (2010).

B.1 National strategies and plans or reports and assessments under relevant conventions, if applicable, i.e. NAPAs, NAPs, NBSAPs, national communications, TNAs, NCSAs, NIPs, PRSPs, NPFE, Biennial Update Reports, etc.:

The PAPEC project will contribute to accomplishment of the CBD Strategic Plan for Biodiversity 2011-2020 by supporting CBD's Parties in achieving Aichi Target Strategic Goal C and Aichi Target 19. Further, the project will contribute to implementation of international agreements and frameworks with relevance to the establishment and maintenance of protected areas and to climate change adaptation such as commitments made through the Ramsar Convention, the World Heritage Convention and the UNFCCC.

B.2. GEF focal area and/or fund(s) strategies, eligibility criteria and priorities:

The proposed project is consistent with the GEF-5 Biodiversity Focal Area, and is specifically well aligned with BD Objective 1: *Improve sustainability of Protected Area Systems* and Outcome 1.1: *Improved management effectiveness of existing and new protected areas.* As a global targeted research project, the proposal aims to address the GEF-5 priority of developing climate-resilient protected area systems by empowering protected area managers with a better scientific understanding and technical basis for informed decision-making on adaptation or resiliency measures. The proposed project will assist countries overcome technical challenges and better inform decision making with targeted research deliverables, including frameworks, tailor-made research reports, and data layers for specific countries and ecoregions. Project results will support the development and integration of adaptation and resilience management measures for improved protected area management as identified by BD Results Framework, Indicator 1.1: *Protected area management effectiveness score as recorded by Management Effectiveness Tracking Tool.*

B.3 The GEF Agency's comparative advantage for implementing this project:

The comparative advantage of World Wildlife Fund Inc. as GEF Project Agency rests in the extensive experience of over 50 years of field implementation of conservation programs throughout the WWF's Global Network: supported by over 5 million members worldwide, working in 80 offices across over 100 countries, supporting around 1,300 conservation and environmental projects led by 13 Global Initiatives and WWF's programmatic pillars of Species Conservation, Forest Conservation, Climate Change and Energy, and Freshwater, as well as crossing cutting issues, especially on Social Inclusion and Sustainable Livelihoods.

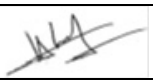
WWF International, based on Geneva Switzerland, hosts the Luc Hoffmann Institute. LHI was created by WWF with a mission to connect critical conservation research needs with knowledge communities around the world. The institute focuses on knowledge co-creation, smart convening, and strategic collaborative research and synthesis, and it was set up to connect major initiatives across the WWF network and resource these initiatives with the best possible science. LHI will be the lead executing partner for the project. All project execution responsibilities will be the responsibility of LHI. The WWF GEF Agency, based in WWF US, will have no additional role in this project beyond its responsibilities for all GEF projects within its portfolio.

PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES)

A. **RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S):** (Please attach the Operational Focal Point endorsement letter(s) with this template. For SGP, use this OFP endorsement letter).

NAME	POSITION	MINISTRY	DATE *(MM/dd/yyyy)*

B. **GEF AGENCY(IES) CERTIFICATION**

This request has been prepared in accordance with GEF/LDCF/SCCF/NPIF policies and procedures and meets the GEF/LDCF/SCCF/NPIF criteria for project identification and preparation.					
Agency Coordinator, Agency name	**Signature**	**DATE**	**Project Contact Person**	**Telephone**	**Email**
Herve Lefeuvre, WWF Inc		04/29/2014	Herve Lefeuvre	202-495-4442	herve.lefeuvre@wwfus.org