Call for submission on indicators of adaptation and resilience at the national and/or local level or for specific sectors[1]

We thank you in advance for filling out this template with concise, evidence-based information and for referencing all relevant sources. As you will see on the last page of the document, more detailed information on case studies, tools/methods and other knowledge resources for dissemination through the Adaptation Knowledge Portal is welcome, but optional.

Name of the organization or entity:

Climate Change Initiative (www.climatechangebahamas.org)

Type of organization/entity:

Please choose as appropriate:

- ☐ Local government/ municipal authority
- ☐ Intergovernmental organization (IGO)
- ☐ National/public entity
- ☒ Non-governmental organization (NGO)
- ☐ Private sector
- ☐ Regional center/network/initiative
- ☐ Research institution
- ☐ UN and affiliated organization
- ☐ University/education/training organization

Scale of operation:

- ☐ Local
- ☒ National

Specific sectors addressed:

- ☐ Adaptation finance
- ☐ Agriculture
- ☒ Biodiversity
- ☒ Community-based adaptation
- ☒ Disaster risk reduction
- ☐ Ecosystem-based adaptation
- ☐ Ecosystems
- ☒ Energy
- ☐ Food security
- ☐ Water resources
- ☒ Gender
- ☐ Health
- ☐ Heavy industry
- ☒ Human settlements
- ☒ Indigenous and traditional knowledge
- ☐ Infrastructure
- ☐ Services
- ☒ Tourism
- ☒ Urban resilience
- ☐ Other (Please specify below)

[1] FCCC/SBSTA/2016/2, paragraph 18.

City(ies)/Country(ies)/Region(s) of operation (if appropriate):

The Bahamas
The Caribbean; and
Small Island Developing States

Description of relevant activities/processes or research:

The Climate Change Initiative (CCI) is a group of experts that conduct research on climate change in the Caribbean. We are committed to fostering collaborative, interdisciplinary research on the topic of climate change as well as conducting public outreach and supporting student education about environmental change. With Caribbean states being some of the most vulnerable countries in the world to climate change, it is essential that researchers from within and outside of the region are integrally involved in exploring the impacts of climate change and effective ways to adapt. The CCI has already begun research that explores the climate-induced displacement and migration, management strategies for loss and damage in SIDS, as well as the impacts of international agreements on both Pacific and Caribbean SIDS. The following provides a snapshot of the recent publications by the CCI:

1.'Perceptions of climate change risk in The Bahamas' by Adelle Thomas and Lisa Benjamin, Journal of Environmental Studies and Sciences (2017) pp 1-10: This article provides analysis of how climate change is perceived broadly in The Bahamas and potential links with how these perceptions can guide policymaking and risk communication strategies. The study also has implications for other small island developing states, as it contributes to an understanding of the needs for localized data and public education in vulnerable states such as these;

2. 'Management of loss and damage in small island developing states: implications for a 1.5°C or warmer world; by Adelle Thomas and Lisa Benjamin Regional Environmental Change (2017) pp 1-10: This article assesses the state of loss and damage management in SIDS, provides an assessment of loss and damage already being experienced in SIDS and the status of existing mechanisms to actively monitor and evaluate loss and damage and the existence of policies and mechanisms in SIDS to address loss and damage;

3. Policies and Mechanisms to address climate-induced migration and displacement in Pacific and Caribbean Small Island Developing States' by Adelle Thomas and Lisa Benjamin International Journal of Climate Change Strategies and Management (forthcoming 2017): This study assesses policies and mechanisms in small island developing states (SIDS) in the Caribbean, Pacific and AIMS region, that address climate-induced migration and displacement. The migration of communities away from vulnerable regions is highly likely to be an adaptation strategy employed in low-elevation SIDS as the impacts of climate change are likely to result in significant loss and damage, threatening their very territorial existence. SIDS must ensure that residents relocate to less vulnerable locations and may need to consider international movement of residents. Ad hoc approaches to migration and displacement may result in increased vulnerability of residents, making the development and enforcement of comprehensive national policies that address these issues a necessity.

4. 'Climate change impacts and research in the Caribbean: constraints, opportunities and the role of tertiary institutions' by Lisa Benjamin and Adelle Thomas (forthcoming 2017) Universities and Climate Change: The Role of Climate Change Research and Projects in Fostering Climate Action: This article explores the relationship between capacity constraints in Caribbean SIDS and research gaps in climate

change and provides a brief analysis of current activities of tertiary institutions in the region in relation to climate change, and provides remarks on how research efforts in the region can be further co-ordinated and improved by bridging existing capacity constraints.

Description of relevant tools/methods:

1.'Perceptions of climate change risk in The Bahamas' by Adelle Thomas and Lisa Benjamin, Journal of Environmental Studies and Sciences (2017) pp 1-10: In this article participants for an online survey aimed at assessing the perceptions of Bahamian residents on climate change were recruited through emails, social networking sites and mailing lists. The survey was advertised as focusing on understanding how Bahamian residents perceive changes to the environment. The survey was designed to provide policy makers with guidance on how to craft appropriate policy and risk management communications, based on perceptions of climate change of Bahamian residents
The survey instrument consisted of 24 questions and was designed to assess the general perceptions of Bahamian residents on impacts of climate change in The Bahamas and on a global scale. Respondents were also asked to provide their views on the relationships between climate change, flooding and hurricanes, as inland and coastal flooding along with hurricanes have caused significant damage in recent years (Thomas, 2016). IBM SPSS Statistics was used to provide descriptive statistics of responses, similar to other studies focused on risk perception. Cross-tabulations and the Pearson chi-square test were used to determine whether there were statistically significant differences between answers provided by different demographic groups. Using this methodology, a sense of how climate change risk is perceived on a broad scale by residents of The Bahamas was achieved.

2. 'Management of loss and damage in small island developing states: implications for a 1.5°C or warmer world; by Adelle Thomas and Lisa Benjamin Regional Environmental Change (2017) pp 1-10: Interviews with UNFCCC negotiators from AOSIS countries were conducted between November 2015 and June 2016. Countries from the African, Caribbean, Indian Ocean, Mediterranean, Pacific, and South China Seas regions are all included in the AOSIS membership. Negotiators were contacted using a snowball approach and were asked to take part in a study assessing impacts, policies, and mechanisms related to loss and damage in SIDS. Interviews consisted of 24questions and were focused on identification of both existing and expected loss and damage impacts and associated financial costs. Questions about the types of data that are used and needed to assess loss and damage impacts were also posed to participants. Interviewees were asked about how incidents of loss and damage have been addressed by governments and by affected communities and the existence of loss and damage issues in current policies. The Intended Nationally Determined Contributions (INDC) of AOSIS member states were analyzed to determine the inclusion of loss and damage issues. Using qualitative content analysis, INDCs of AOSIS countries were reviewed to determine inclusion of (i) past incidents of loss or damage, (ii) policies or mechanisms in place or planned that were related to loss and damage, (iii) incurred or projected costs of loss and damage, and (iv) how loss and damage were related to extreme events or slow onset events.

3. 'Policies and Mechanisms to address climate-induced migration and displacement in Pacific and Caribbean Small Island Developing States' by Adelle Thomas and Lisa Benjamin International Journal of Climate Change Strategies and Management (forthcoming 2017): Semi-structured interviews with

UNFCCC negotiators for member states of AOSIS were conducted between November 2015 and June 2016. Many of the AOSIS negotiators hold senior governmental positions in their respective countries and are aware of domestic policies and actions related to climate change. Participants were asked to take part in as tudy focused on investigating the impacts of climate change on migration and displacement of people and policies and mechanisms in place to address loss and damage. Participants were asked scripted questions about existing or potential impacts of climate change on migration patterns and the existence of any institutions or policies in place to facilitate relocation of people owing to loss and damage. Questions were also asked about the inclusion of loss and damage issues in existing national climate change plans or policies. In addition to interviews, the INDCs of AOSIS member states were also analysed. INDCs are documents that were submitted to the UNFCCC by Parties in advance of COP 21 in December 2015. Using qualitative content analysis, INDCs and transcriptions of the interviews were reviewed to determine any discussion of the following topics:

_ past or future climate-induced displacement or migration;

_ climate change as an existential threat to SIDS;

- current or future gathering of geospatial, migration or displacement data or studies;

and

_ formal or informal policies and mechanisms that focus on relocation or that integrate disaster risk reduction with climate change adaptation.

4. 'Climate change impacts and research in the Caribbean: constraints, opportunities and the role of tertiary institutions' by Lisa Benjamin and Adelle Thomas (forthcoming 2017) Universities and Climate Change: The Role of Climate Change Research and Projects in Fostering Climate Action: To assess the current activities of tertiary institutions in the Caribbean in relation to climate change research, an extensive search of peer-reviewed literature was conducted. First, a list of all tertiary institutions in the Caribbean was compiled. Next, the search term "climate change" was used to search for literature that has been published since 2000 and where the author(s) listed their affiliation as a tertiary institution in the region. This allowed for identification of individual researchers that are active in climate change research. After identifying researchers, further details on their associated institutions, including research groups within these institutions, was collected using official information available on the webpages of these organizations.

Key outcomes of the activities/processes undertaken:

1.'Perceptions of climate change risk in The Bahamas' by Adelle Thomas and Lisa Benjamin, Journal of Environmental Studies and Sciences (2017) pp 1-10: Key outcomes were high awareness of climate change and scale of climate change risk, varying awareness of the impacts in The Bahamas, specific responses on ranking of risks including flooding and extreme events, and feedback on levels of activity and environment versus economic drivers. Given high levels of awareness, the development and implementation of climate change policies is likely to be supported. Given the high awareness of general risks of climate change, nationally scaled communication that focuses on the particular, locally scaled risks of climate change for The Bahamas may be helpful. This locally specific risk communication may aid in improving the understanding of residents about climate change impacts for the nation, and address the spatial optimism bias of respondents who see The Bahamas as less at risk to climate change than other places in the world. Contextualizing how sea level rise will impact coastal zones may also assist in increasing the understanding of how the majority of Bahamian residents will be affected.

2. 'Management of loss and damage in small island developing states: implications for a 1.5°C or warmer world; by Adelle Thomas and Lisa Benjamin Regional Environmental Change (2017) pp 1-10: From the interviews with AOSIS negotiators and analysis of INDCs, three areas of concern appear to be common for SIDS: lack of data relating to loss and damage, gaps in financial assessments of loss and damage, and

a lack of policies or mechanisms targeted directly at loss and damage.

3. 'Policies and Mechanisms to address climate-induced migration and displacement in Pacific and Caribbean Small Island Developing States' by Adelle Thomas and Lisa Benjamin International Journal of Climate Change Strategies and Management (forthcoming 2017):

Description of lessons learned and good practices identified:

Please consider the following points when describing lessons learned and good practices: (a) effectiveness/impacts of the activities/processes (including measurability of the impacts), (b) efficiency in the use of resources, (c) replicability (e.g. in different locations, at different scales), (d) sustainability (i.e. meeting the current economic, social and environmental needs without compromising the ability to address future needs).

1.'Perceptions of climate change risk in The Bahamas' by Adelle Thomas and Lisa Benjamin, Journal of Environmental Studies and Sciences (2017) pp 1-10: the use of resources was both effective and efficient as students at The University of The Bahamas carried out the survey online and almost 600 responses were received. The study is therefore replicable across SIDS and provides key information to policy makers on public receptiveness for further policies on climate change.

2. 'Management of loss and damage in small island developing states: implications for a 1.5°C or warmer world' by Adelle Thomas and Lisa Benjamin Regional Environmental Change (2017) pp 1-10: loss and damage is an issue that SIDS are not adequately prepared to address currently, a situation which will be exacerbated in a 1.5 °C or warmerworld where impacts of climate change, and loss and damage, will be intensified. Current methodologies used to monitor and evaluate loss and damage are mostly limited to assessing damages from extreme events, stemming from existing methodologies. While the collection of records of loss and damage from extreme events is ongoing, lack of baseline data will mean that recording and assessing the cumulative impacts of loss and damage, particularly for slow onset events, will be difficult and will also be problematic to attribute to climate change. The lack of robust policies and mechanisms focused on loss and damage has also resulted in limited financial assessment of the costs of loss and damage and a sectoral and fragmented understanding of the holistic impacts of loss and damage for SIDS. There is a need for significant capacity building for SIDS in the areas of data collection, policies, and mechanisms to aid in assessment, monitoring, and responses to loss and damage, areas which map almost directly on to the WIM's thematic areas.

3. 'Policies and Mechanisms to address climate-induced migration and displacement in Pacific and Caribbean Small Island Developing States' by Adelle Thomas and Lisa Benjamin International Journal of Climate Change Strategies and Management (forthcoming 2017): While displacement and migration owing to environmental change in SIDS is already taking place, interviewees intimated a lack of studies that have been conducted to capture best practices and lessons learned. However, to develop comprehensive frameworks to address climate-induced migration and displacement, SIDS should also take into consideration their past experiences with these issues. Learning from these past experiences will aid in developing locally sensitive, culturally appropriate and evidence-based migration and displacement plans. SIDS should also take into account the desires of the public to facilitate public buy-in, and including stakeholder-based priorities within national frameworks also strengthens the position of countries when engaging with development partners. Although climate change is stressed as being an existential threat in many of the INDCs of AOSIS countries, climate-induced migration and displacement has not yet been elevated to an issue of significant policy concern for many SIDS. The general trend found from interviews and INDCs is that few countries have formal, implemented migration or displacement policies.

4. ‘Climate change impacts and research in the Caribbean: constraints, opportunities and the role of tertiary institutions’ by Lisa Benjamin and Adelle Thomas (forthcoming 2017) Universities and Climate Change: The Role of Climate Change Research and Projects in Fostering Climate Action: The main lessons is that capacity constraints, and in particular a lack of human and financial resources, are hampering research on climate change in the region. While some tertiary institutions are conducting research on climate change, the broad research agendas of these units, combined with lack of support and data for focused climate change research, is hampering policy formation efforts. This gap provides opportunities for tertiary institutions to scale up and better co-ordinate efforts, and to put more emphasis on national and regional research on climate change. This would require increased funding for national and regional organisations dedicated to climate change research.

Description of key challenges identified:

Please describe the key challenges associated with those activities/processes or the use of those tools/methods, that policy-makers, practitioners and other relevant stakeholders should know about.

1.’Perceptions of climate change risk in The Bahamas’ by Adelle Thomas and Lisa Benjamin, Journal of Environmental Studies and Sciences (2017) pp 1-10: While the study does provide important insights on the perception of Bahamian residents to climate change risk, there are a few limitations to the study. Firstly, the average age, gender distribution and education of participants did not directly correlate to the general Bahamian population. Respondents to the survey were younger, predominantly female and more highly educated than the general Bahamian population. A lack of human and financial resources inhibited broader dissemination of the survey.

2. ‘Management of loss and damage in small island developing states: implications for a 1.5°C or warmer world; by Adelle Thomas and Lisa Benjamin Regional Environmental Change (2017) pp 1-10: The study largely relied on analysis of NDCs and some interviews with UNFCCC negotiators. Having a broader interviewee base including additional negotiators from AOSIS as well as other governmental representatives aware of policies that may be relevant to loss and damage would have improved the analysis. A lack of human and financial resources as well as limited access to policymakers and negotiators inhibited interviews with a broader group of stakeholders.

3. Policies and Mechanisms to address climate-induced migration and displacement in Pacific and Caribbean Small Island Developing States’ by Adelle Thomas and Lisa Benjamin International Journal of Climate Change Strategies and Management (forthcoming 2017): The study largely relied on analysis of NDCs and some interviews with UNFCCC negotiators. Having a broader interviewee base including additional negotiators from AOSIS as well as other governmental representatives aware of policies that may be relevant to loss and damage would have improved the analysis. A lack of human and financial resources as well as limited access to policymakers and negotiators inhibited interviews with a broader group of stakeholders.

4. ‘Climate change impacts and research in the Caribbean: constraints, opportunities and the role of tertiary institutions’ by Lisa Benjamin and Adelle Thomas (forthcoming 2017) Universities and Climate Change: The Role of Climate Change Research and Projects in Fostering Climate Action: While the methodology used facilitated identification of tertiary institutions within the region that are affiliated with active researchers, the methodology could have been improved by the inclusion of interviews or surveys of the researchers. This would have allowed for a more in-depth analysis of the particular constraints facing researchers at different institutions and allow for comparisons between organizations,

which may provide further avenues for research in this area.

Planned next steps (as appropriate):

Based on this experience or research, have next steps been planned to address/study some of the identified challenges, scale up or scale out such activities/processes?

1.'Perceptions of climate change risk in The Bahamas' by Adelle Thomas and Lisa Benjamin, Journal of Environmental Studies and Sciences (2017) pp 1-10: Future studies may need to utilize representative sampling and a combination of paper based and electronic surveys in order to ensure a closer representation of the Bahamian population. Secondly, the survey did not enquire as to which island participants resided on. As an archipelagic nation, the populace of The Bahamas is spread unevenly over a number of islands, some of them being more urbanized than others. The perceptions of residents from lesser developed and populated islands may differ from those of the more developed islands. Subsequent studies should ensure that these perspectives are captured to ensure even geographical representation from across the country. If resources allow, this study could be replicated over time in The Bahamas to analyze progression of perceptions, and within other regional SIDS.

2. 'Management of loss and damage in small island developing states: implications for a 1.5°C or warmer world' by Adelle Thomas and Lisa Benjamin Regional Environmental Change (2017) pp 1-10: Further research on existing policy mechanisms developed by SIDS across a range of climate change arenas including mitigation, energy, biodiversity, as well as adaptation, loss and damage (where available) and sustainable development in order to assess synergies where and overlaps that could address the policy vacuums on loss and damage in SIDS.

3. Policies and Mechanisms to address climate-induced migration and displacement in Pacific and Caribbean Small Island Developing States' by Adelle Thomas and Lisa Benjamin International Journal of Climate Change Strategies and Management (forthcoming 2017): Further research on existing policy mechanisms developed by SIDS across a range of climate change arenas including mitigation, energy, biodiversity, as well as adaptation, loss and damage (where available) and sustainable development in order to assess synergies where and overlaps that could address the policy vacuums on climate-induced migration and displacement.

4. 'Climate change impacts and research in the Caribbean: constraints, opportunities and the role of tertiary institutions' by Lisa Benjamin and Adelle Thomas (forthcoming 2017) Universities and Climate Change: The Role of Climate Change Research and Projects in Fostering Climate Action: While the methodology used facilitated identification of tertiary institutions within the region that are affiliated with active researchers, the methodology could have been improved by the inclusion of interviews or surveys of the researchers. This would have allowed for a more in-depth analysis of the particular constraints facing researchers at different institutions and allow for comparisons between organizations, which may provide further avenues for research in this area.

Relevant hyperlinks:

1.'Perceptions of climate change risk in The Bahamas' by Adelle Thomas and Lisa Benjamin, Journal of

Environmental Studies and Sciences (2017) pp 1-10: https://link.springer.com/article/10.1007/s13412-017-0429-6

2. 'Management of loss and damage in small island developing states: implications for a 1.5°C or warmer world' by Adelle Thomas and Lisa Benjamin Regional Environmental Change (2017) pp 1-10: l https://link.springer.com/article/10.1007/s10113-017-1184-7

Further information:

Please do not hesitate to submit more detailed information on case study(ies), tool(s)/method(s) and/or other relevant knowledge resource(s) that are relevant to economic diversification. The latter will be shared through the Adaptation Knowledge Portal:

- Case study(ies)
- Tool(s)/method(s)
- Other knowledge resource(s) (online portals, policy briefs, training material, multimedia material, technical reports and scientific publications)