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Research needs expressed in the Decisions of the Conference of the Parties to the Convention on Biological Diversity: Cross-Cutting Issue: Climate Change and Biological Diversity

Climate change is defined as a variation either in the mean state of the climate or in its variability, persisting for an extended period, typically decades or longer. It encompasses temperature increases, sea-level rises, changes in precipitation patterns, and increases in the frequency of extreme weather events. Biodiversity and climate change are closely linked, and each impacts upon the other: biodiversity is threatened by human-induced climate change, but biodiversity resources can reduce the impacts of climate change on population and ecosystems (http://www.cbd.int/climate/default.shtml).

Cited Decisions that express research needs are VII/15, VIII/30, IX/16, X/33, XI/20, XI/21, XIII/4 ,XIII/14 and XIV/5, also checked were Decisions V/3, V/4 and XII/20. The respective paras of VII/15 were retired at COP 11 (2012) and therefore are no longer shown.

Direct research needs

Decision	**Paragraph**	**Chapeau / Heading**	**Text**	**Source** http://www.cbd.int/decisions/
VIII/30	Para 2	The Conference of the Parties	*Encourages* Parties, other Governments, relevant organizations and research institutions to **develop rapid assessment tools for the design and implementation of biodiversity conservation and sustainable use activities which contribute to adaptation to climate change**, particularly in vulnerable countries and regions, including small island developing States.	cop-08.shtml?m=COP-08&id=11044
VIII 30	Para 5	The Conference of the Parties	*Invites* Parties, other Governments, relevant organizations and research institutions, to **address**, as appropriate, **the research gaps outlined in the report of the Ad Hoc Technical Expert Group on Biodiversity and Adaptation to Climate Change** and summarized in paragraph 3 of recommendation XI/14 of the Subsidiary Body on Scientific, Technical and Technological Advice and to **promote research on climate change response activities related to biodiversity**, in the context of the ecosystem approach and sustainable use, and **in order to further facilitate the incorporation of biodiversity considerations into the design, implementation and monitoring of activities aimed at the mitigation and adaptation of the impacts of climate change**,	cop-08.shtml?m=COP-08&id=11044

			including on indigenous peoples and local communities.	
VIII 30	Para 6		*Invites* Parties, other Governments, relevant organizations and research institutions to develop, support, and review, as appropriate, pilot and/or ongoing projects involving joint actions within the objectives of the three Rio conventions, the Ramsar Convention on Wetlands, the World Heritage Convention, the Convention on Migratory Species, and other relevant multilateral environmental agreements in order to promote better understanding and functioning of synergy among these.	
IX/16	Para 4	The Conference of the Parties	***Urges* Parties** to enhance the integration of climate-change considerations related to biodiversity in their implementation of the Convention with the full and effective involvement of relevant stakeholders and considering changing consumption and production models, including: **Enhancing scientific tools, methodologies, knowledge and approaches to respond to the impacts of climate change**, **and both the positive and negative impacts of climate change mitigation and adaptation activities on biodiversity,** including socio-economic and cultural impacts; **Enhancing the methodology and the knowledge needed to integrate biodiversity considerations within climate change response activities, such as baseline information, scenarios, potential impacts on and risks to biodiversity, and resilience and resistance of ecosystems and selected species populations and communities/assemblages;**	cop/?id=11659
IX/16	Annex II, Para 20		Conduct, as appropriate, national and local assessments of climate-change impacts on biodiversity and desertification/land degradation;	cop/?id=11659
IX/16	Annex II, Para 23		Encourage additional **research on the impacts of climate change on oceans and marine biodiversity;**	cop/?id=11659
IX/16	Annex II, Para 24		Encourage additional **research and monitoring on the impacts of increased frequency and intensity of extreme weather events** on biodiversity and associated resources;	cop/?id=11659
IX/16	Annex II, Para 26		**Identify the impacts of climate change on ecosystem services**;	cop/?id=11659
IX/16	Annex II, Para 27		**Harmonize temporal and spatial scales in data collection** and analysis considering climate change and biodiversity status and trends;	cop/?id=11659

X/33	Para 11	The Conference of the Parties	*Invites* Parties and other Governments and relevant organizations to **develop down-scaled climate change models that combine temperature and precipitation information with multi-stressor biological models** in order **to better predict the impacts of drought and increased climate variability on biodiversity**	cop/?id=12299
XI/20	Paras 7 and 9	The Conference of the Parties	*Notes* [Para 7] that there **remain significant gaps in the understanding of the impacts of climate-related geoengineering on biodiversity**, including: a) **How biodiversity and ecosystem services are** likely to be **affected by and respond to geoengineering** activities at different geographic scales; b) The intended and unintended **effects of different possible geoengineering techniques on biodiversity**; c) The socio-economic, cultural and ethical **issues associated with possible geoengineering techniques**, including the unequal spatial and temporal distribution of impacts; *Invites* [Para 9] Parties to **address the gaps identified** in paragraph 7	cop/default.shtml?id=13181
XI/21	Para 6	The Conference of the Parties	*Encourages* Parties and other Governments to: e) Support the strengthening of **inventorying and monitoring of biodiversity and ecosystem services at appropriate scales** in order **to evaluate the threats and likely impacts** of climate change and both positive and negative impacts of climate-change mitigation and adaptation **on biodiversity and ecosystem services**;	cop/default.shtml?id=13182
XIII/4	Chapeau	The Conference of the Parties	*Recognizes* the need for improved scientific information concerning the climate change adaptation of the protected areas networks, their functionality and connectivity,	decisions/cop/?m=cop-13
XIII/14	Para 5	The Conference of the Parties	*Notes* that **more transdisciplinary research** and sharing of knowledge among appropriate institutions **is needed in order to better understand the impacts of climate-related geoengineering on biodiversity and ecosystem functions and services, socio-economic, cultural and ethical issues and regulatory options**;	decisions/cop/?m=cop-13
XIV/5	Annex, para 30, key actions b)		ii) Conduct socioeconomic and ecological field surveys to identify vulnerabilities[to climate change] in both communities and ecosystems (including ecosystems that provide critical functions and services for climate change adaptation or Disaster Risk Reduction	decisions/cop/?m=cop-14

			iii) Assess the drivers of current risks and vulnerability and, if possible, future risks based on climate change projections or scenarios that are at the appropriate scale, e.g. downscaled to the local level, where appropriate	
XIV/5	Annex, para 30, key actions d)		Develop hazard and risk maps, such as through the use of participatory 3-D modelling of risks.	decisions/cop/?m=cop-14
XIV/5	Annex, para 33, key actions g)		Analyse the costs, benefits, impacts and trade-offs of different risk management scenarios, and the costs of inaction, to capture gains or losses in ecosystem functions and services provisioning that have an impact on adaptation and disaster risk reduction and resilience (e.g. consideration for wetlands);	decisions/cop/?m=cop-14
XIV/5	Annex, para 33, key actions h)		Consider the sustainable use of local ecosystems, services and/or materials in Ecosystem based Approaches/Eco-Disaster Risk Reduction options that could bring additional local benefits and reduce carbon emissions from transport, rather than outsourced labour and materials.	decisions/cop/?m=cop-14

Indirect research needs

Decision	Paragraph	Chapeau / Heading	Text	Source http://www.cbd.int/decisions/
IX/16	Para 4	The Conference of the Parties	***Urges* Parties** to enhance the integration of climate-change considerations related to biodiversity in their implementation of the Convention with the full and effective involvement of relevant stakeholders and considering changing consumption and production models, including **Identifying**, within their own countries, **vulnerable regions, subregions and, where possible, ecosystem types, including vulnerable components of biodiversity** within these areas **Assessing the threats and likely impacts of climate change and both the positive and negative impacts of climate change mitigation and adaptation activities on biodiversity** Identifying and **adopting**, within their own countries, **monitoring and modelling programmes for regions, subregions and ecosystems affected by climate change** and promote international cooperation in this area;	cop/?id=11659

IX/16	Part D, Para 4	The Conference of the Parties	*Requests* the Executive Secretary, in collaboration with the Secretariat of the Ramsar Convention, and subject to available resources, to **conduct an analysis of the potential of incentive measures and funding mechanisms under climate-change adaptation and mitigation in supporting biodiversity conservation and sustainable use in wetlands,**	cop/?id=11659
X/33	Para 8	The Conference of the Parties	*Invites* Parties and other Governments to **Identify,** monitor and address **the impacts of climate change and ocean acidification on biodiversity and ecosystem services**, and assess the future risks for biodiversity and the provision of ecosystem services using the latest available vulnerability and impact assessment frameworks and guidelines; **Assess the impacts of climate change on biodiversity and biodiversity-based livelihoods**, particularly with regard to livelihoods within those ecosystems that have been identified as being particularly vulnerable to the negative impacts of climate change with a view to identifying adaptation priorities; **Assess,** implement and monitor a range of **sustainable activities in the agricultural sector that may result in the maintenance and potential increase of current carbon stocks** and, at the same time, the conservation and sustainable use of biodiversity; **Develop** [ing] **ecosystem and species vulnerability assessments**;	cop/?id=12299
X/33	Para 9	The Conference of the Parties	*Requests* the Executive Secretary to Collaborate with relevant international organizations to **collect scientific knowledge** and case-studies **and identify knowledge gaps on the links between biodiversity conservation and sustainable use and organic carbon stock conservation and restoration**; Collaborate with relevant international organizations to **expand and refine analyses identifying areas of high potential for the conservation and restoration of carbon stocks**;	cop/?id=12299
XI/21	Para 5	The Conference of the Parties	*Encourages* Parties, other Governments and relevant organizations to further mobilize resources [...] in order to **fill biodiversity and ecosystem services data gaps in the context of climate change, and to undertake research studies at spatial scales from local scales to larger landscapes**;	cop/default.shtml?id=13182

XIII/4	Para 8g	The Conference of the Parties	*Encourages* relevant organizations to **develop and implement ecosystem-based approaches to climate change adaptation, mitigation and disaster risk reduction that are based on available science** and take into account the traditional knowledge and practices of indigenous peoples and local communities;	decisions/cop/?m=cop-13
XIII/4	Para 8i	The Conference of the Parties	*Encourages* relevant organizations to **systematically assemble and analyse evidence** to assess the effectiveness of ecosystem-based approaches to climate change adaptation and mitigation, and disaster risk reduction, including **through development of improved monitoring and evaluation methods,** noting that such methods are best developed and applied early in the planning phase;	decisions/cop/?m=cop-13
XIII/14	Para 6	The Conference of the Parties	*Recognizes* **the importance of taking into account sciences for life** and the knowledge, experience and perspectives of indigenous peoples and local communities when addressing climate-related geoengineering and protecting biodiversity.	decisions/cop/?m=cop-13
XIV/5	Para 4	The Conference of the Parties	*Encourages* Parties To identify regions, ecosystems and components of biodiversity that are or will become vulnerable to climate change at a geographic scale and assess the current and future risks and impacts on biodiversity and biodiversity-based livelihoods, considering the use of biodiversity models and scenarios, as appropriate, while taking into account their important contribution to climate change adaptation and disaster risk reduction.	decisions/cop/?m=cop-14