

## **Climate Change Document**

### **References and support materials**

ACIA 2006, Impacts of a Warming Arctic, Fact Sheet 1: What is happening to the Arctic climate? ([Report](#))

ACIA, 2004. Impacts of a Warming Arctic: Arctic Climate Impact Assessment. Key Finding # 2 ([Report](#))

AMAP, 2012. Arctic Climate Issues 2011: Changes in Arctic Snow, Water, Ice and Permafrost. SWIPA 2011 Overview Report. AMAPs 2011 assessment of the Arctic Cryosphere (the SWIPA assessment) updates information presented in the 2004/5 Arctic Climate Impact Assessment.  
<http://www.apam.no/swipa>

An Iterative Reference List of Climate Change Science, Policy & Related Information. World Association of Zoos and Aquariums, Botanic Gardens Conservation International, Zoological Society of London and IUCN's Conservation Breeding Specialist Group and Climate Change Specialist Group.  
<http://www.waza.org/en/site/conservation/climate-change>

Arctic Focus, 2008. NOAA Studies Melting Greenland Ice Sheet. ([Website](#))

Arendt et al. 2002. Rapid Wastage of Alaska Glaciers and Their Contribution to Rising Sea Level *Science* 297 no. 5580, pp. 382 – 386. ([Abstract](#))

Arnell N. 2005. Implications of climate change for freshwater inflows to the Arctic Ocean, *J. Geophys. Res.*, 110. ([Abstract](#))

Bachelet D. 2004. Climate Change Could Doom Alaska's Tundra. *EurekAlert* ([Bachelet D. 2004](#))

Bell R. 2008. The role of sub-glacial water in ice-sheet mass balance, *Nature Geoscience* 1, p 297 – 304 ([Abstract](#))

Bentley C.R. 1998. Geophysics: Ice on the fast track. *Nature* 394, pp 21-22. ([Abstract](#))

BLUNDEN, J. & ARNDT, D. S. (Eds) (2012): State of the climate in 2011. Bulletin of the American Metrological Society 93 (suppl.): S1–S264.

Cazenave et al. 2008. Sea level budget over 2003-2008: A reevaluation from GRACE space gravimetry, satellite altimetry and Argo. *ScienceDirect* ([Abstract](#))

Connor S. 2008, Has the Arctic melt passed the point of no return? *The Independent*. ([Article](#))

Connor S. 2008a. Exclusive: The methane time bomb. *The independent*. ([Article](#))

Convention on Biological Diversity, 2007. Biodiversity and Climate Change. ([Report](#))

Daimaru, H. and H. Taoda, 2004. Effect of Snow Pressure on the Distribution of Subalpine Abies mariesii Forests in Northern Honshu Island, Japan. *Journal of Agricultural Meteorology* 60: 253-261. ([Abstract](#))

EPA 2008. Coastal Zones and Sea Level Rise. ([Website](#))

Greenpeace 1999a. Climate Change and Arctic Sea Ice. ([Report](#))  
FODEN, W. B., MACE, G. M., VIÉ, J.-C., ANGULO, A., BUTCHART, S. H. M., DEVANTIER, L., DUBLIN, H. T., GUTSCHE, A., STUART, S. N. & TURAK, E. (2008): Species and case studies. *Conservation Biology* 24: 63–69.

Wendy B. Foden, Stuart H. M. Butchart, Simon N. Stuart, Jean-Christophe Vié, H. Resit Akçakaya, Ariadne Angulo, Lyndon M. DeVantier, Alexander Gutsche, Emre Turak, Long Cao, Simon D. Donner, Vineet Katariya, Rodolphe Bernard, Robert A. Holland, Adrian F. Hughes, Susannah E. O'Hanlon, Stephen T. Garnett, Çagan H. Sekercioğlu, Georgina M. Mace (2013) Identifying the World's Most Climate Change Vulnerable Species: A Systematic Trait-Based Assessment of all Birds, Amphibians and Corals. *PLoS ONE* 8(6): e65427. doi:10.1371/journal.pone.0065427

Hallegatte, S., Green, C., Nicholls, R.J. and Corfee-Morlot, J. (2013) Future flood losses in major coastal cities. *Nature Climate Change* 3, 802–806 (2013) doi:10.1038/nclimate1979  
<http://www.nature.com/nclimate/journal/v3/n9/full/nclimate1979.html#ref3>

Hansen, J., Ruedy, R., Sato, M., and Lo, K., 2010: Global surface temperature change, *Rev. Geophys.* 48, RG4004. <http://pubs.giss.nasa.gov/abs/ha00510u.html>

Hansen 2012 A New Age of Risk: Presentation given at Columbia University 2 September 2012  
<http://www.columbia.edu/~jeh1/>

Hansen, J., P. Kharecha, and Mki. Sato, 2013: Climate forcing growth rates: Doubling down on our Faustian bargain. *Environ. Res. Lett.*, 8, 011006, doi:10.1088/1748-9326/8/1/011006.  
<http://iopscience.iop.org/1748-9326/8/1/011006/>

Hoegh-Guldberg, O.; Mumby, P.J.; Hooten, A.J.; Steneck, R.S.; Greenfield, P.; Gomez, E.; Harvell, C.D.; Sale, P.F.; Edwards, A.J.; Caldeira, K.; Knowlton, N.; Eakin, C.M.; Iglesias-Prieto, R.; Muthiga, N.; Bradbury, R.H.; Dubi, A.; Hatziolos, M.E. (2007) Coral reefs under rapid climate change and ocean acidification. *Science* 2007, 318, 1737–1742.

HOEGH-GULDBERG, O. & BRUNO, J. F. (2010): The impact of climate change on the world's marine ecosystems. *Science* 328: 1523–1528.

International Arctic Science Committee 2008. Ocean processes of climatic importance in the Arctic. *Encyclopedia of Earth*. ([Article](#))

IPCC Fourth Assessment Report: Climate Change 2007. Synthesis Report. ([Report](#))

IPCC fourth assessment report: Climate Change 2007. Working Group I Report “The Physical Science Basis”, Ch 10: Global Climate Projections. ([Report](#))

IPCC fourth assessment report: Climate Change 2007. Working Group I Report “The Physical Science Basis”, Ch 2: Changes in Atmospheric Constituents and in Radiative Forcing. ([Report](#))

IPCC fourth assessment report: Climate Change 2007. Working Group I Report “The Physical Science Basis”, Ch 4 Observations: Changes in Snow, Ice and Frozen Ground. ([Report](#))

IPCC Fourth Assessment Report: Climate Change 2007. Working Group II Report “Impacts, Adaptation and Vulnerability” Ch 1: Assessment of Observed Changes and Responses in Natural and Managed Systems. ([Report](#))

IPCC Fourth Assessment Report: Climate Change 2007. Working Group II Report “Impacts, Adaptation and Vulnerability” Ch 19: Assessing Key Vulnerabilities and the Risk from Climate Change. ([Report](#))

IPCC fourth assessment report: Climate Change 2007. Working Group II Report “Impacts, Adaptation and Vulnerability” Ch 15: Polar regions (Arctic and Antarctic). ([Report](#))

IPCC Fourth Assessment Report: Climate Change 2007. Working Group II Report “Impacts, Adaptation and Vulnerability”. Ch 6: Coastal Systems and Low-Lying Areas. ([Report](#))

IPCC Technical Paper VI – 2008: Climate Change and Water. Ch 2: Observed and projected changes in climate as they relate to water. ([Report](#))

IPCC Third Assessment report: Climate Change 2001. Working Group II Report “Impacts, Adaptation & Vulnerability”, Ch 16: Polar Regions (Arctic and Antarctic) ([Report](#))

IPCC, 1997. Special Report: The Regional Impacts of Climate Change: An Assessment of Vulnerability. Ch 6: Regional Vulnerability to Global Climate Change ([Report](#))

IUCN (2009) Species and climate change: More than just the Polar Bear

King, M. A. et al. (2012) Lower satellite-gravimetry estimates of Antarctic sea-level contribution. Nature 491, 586–589

<http://www.nature.com/nature/journal/v491/n7425/nature11621/metrics/citations>

Kitchen, D.E. (2014) Global Climate Change Turning Knowledge into Action. Pearson ISBN – 10:0-321-86695-9

KORT, E. A., WOFSY, S. C., DAUBE, B. C. & DIAO, M. (2012): Atmospheric observations of Arctic Ocean methane emissions up to 82° north. Nature Geoscience 5: 318–321.

<http://www.nature.com/ngeo/journal/v5/n5/abs/ngeo1452.html>

Larter R.D. et al 2007. West Antarctic Ice Sheet Change since the Last Glacial Period. *EOS. Vol 88, No.17 pp 189-190* ([Paper](#))

Lawrence et al. 2008. Accelerated Arctic land warming and permafrost degradation during rapid ice loss. NCAR/C GD ([Paper](#))

LENTON, T. M. (2011): Early warning of climate tipping points. *Nature Climate Change 1: 201–209.* [http://www.nature.com/nclimate/journal/v1/n4/full/nclimate1143.html?WT.ec\\_id=NCLIMATE-201107](http://www.nature.com/nclimate/journal/v1/n4/full/nclimate1143.html?WT.ec_id=NCLIMATE-201107)

LENTON, T. M., HELD, H., KRIEGLER, E., HALL, J. W., LUCHT,W., RAHMSTORF, S. & SCHELLNHUBER, H. J. (2008): Tipping elements in the earth’s climate system. *Proceedings of the National Academy of Sciences of the United States of America 105: 1786–1793* <http://www.pnas.org/content/105/6/1786.full.pdf>

Meier, W.N., J.C. Stroeve, and F. Fetterer. 2006. Whither Arctic sea ice? A clear signal of decline regionally, seasonally and extending beyond the satellite record. *Annals of Glaciology 46:* 428-434 <http://www.the-cryosphere.net/7/699/2013/tc-7-699-2013.html>

Millenium Alliance for Humanity and the Biosphere (2013) Scientific Consensus on maintaining Humanity's Life Support Systems in the 21 Century <http://mahb.stanford.edu/>

Meier et al. 2007. Glaciers Dominate Eustatic Sea-Level Rise in the 21st Century. *Science* ([Abstract](#))

Met Office Hadley Centre (2008) Avoiding dangerous climate change. UK Met Office <http://www.metoffice.gov.uk/media/pdf/0/m/cop14.pdf>

Miles, B. W. J. Stokes, C. R., Vieli, A. & Cox N. J. (2013) Rapid, climate-driven changes in outlet glaciers on the Pacific coast of East Antarctica. *Nature* 500, 563–566  
<http://www.nature.com/nature/journal/v500/n7464/full/nature12382.html>

NASA/GSFC Scientific Visualization Studio 2008. Temperatures trends in Antarctica([Website](#))

NERC-BAS 2006. Antarctic Krill Provide Carbon Sink In Southern Ocean. ([Website](#))

NERC-BAS 2007. Science Briefing – Antarctica and Climate Change. ([Website](#))

NERC-BAS 2007a. Climate Change – Our Research. ([Website](#))

NERC-BAS 2007b. Biodiversity, evolution and ecosystems – Our Research. ([Website](#))

NOOA (2012) 2012 Arctic Report Card <http://www.climate.gov/news-features/features/2012-arctic-report-card>

NSIDC 2008a. State of the Cryosphere. ([Website](#))

NSIDC 2009. Arctic Sea Ice Down to Second-Lowest Extent; Likely Record-Low Volume. ([Website](#))

NSIDC 2009. Glossary: the cryosphere. ([Website](#))

NSIDC Notes. Fall 2008, Issue No. 65 ([Website](#))

Pearce F. 2006. Global meltdown. *The Guardian*. ([Article](#))

PARMESAN, C. & YOHE, G. (2003): A globally coherent fingerprint of climate change impacts across natural systems. *Nature* 421: 37–42.

Pearce-Kelly, P., Khela, S., Ferry, A.C. & Field, D. (2013) Climate-change impact considerations for freshwater-fish conservation, with special reference to the aquarium and zoo community. *Int. Zoo Yb.* (2013) 47: 81–92 DOI:10.1111/izy.12016 <http://onlinelibrary.wiley.com/doi/10.1111/izy.12016/abstract>

PENNING, M., REID, G. McGREGOR., KOLDEWEY, H., DICK, G., ANDREWS, B., ARAI, K., GARRATT, P., GENDRON, S., LANGE, J., TANNER, K., TONGE, S., VAN DEN SANDE, P., WARMOLTS, D. & GIBSON, C. (Eds) (2009): Turning the tide: a global aquarium strategy for conservation and sustainability. Bern: World Association of Zoos and Aquariums.

Pfeffer W. et al. 2008. Kinematic Constraints on Glacier Contributions to 21<sup>st</sup>- Century Sea-Level <http://www.sciencemag.org/content/321/5894/1340.full>

Pritchard, H. D., Arthern, R. J., Vaughan, D. G. & Edwards, L. A. (2009) Extensive dynamic thinning on the margins of the Greenland and Antarctic ice sheets. *Nature* 461, 971–975  
<http://www.nature.com/nature/journal/v461/n7266/abs/nature08471.html>

Rahmstorf, S., Cazenave, A., Church, J. A., Hansen, J. E., Keeling, R. F., Parker, D. E. and Somerville, R. C. J. (2007) Recent climate observations compared to projections. *Science* 316: 709.  
<http://pubs.giss.nasa.gov/abs/ra04500f.html>

Rignot E. 2006, Changes in ice dynamics and mass balance of the Antarctic ice sheet. *The Royal Society*. Vol 364, No. 1844 p.1637-1655  
<http://rsta.royalsocietypublishing.org/content/364/1844/1637.full.pdf>

Rignot E. 2008. Changes in West Antarctic ice stream dynamics observed with ALOS PALSAR data. *J. Geophys. Res.*, 35 <http://www.ess.uci.edu/researchgrp/erignot/files/RignotGRL2008.pdf>

Rignot, E. et al. (2008) Recent Antarctic mass loss from radar interferometry and regional climate modelling. *Nature Geosci.* 1, 106–110  
<http://www.nature.com/ngeo/journal/v1/n2/abs/ngeo102.html>

Rignot,E., Velicogna,I., van den Broeke,M.R., Monaghan, A. and Lenaerts, J. (2011) Acceleration of the contribution of the Greenland and Antarctic ice sheets to sea level rise  
[http://igitur-archive.library.uu.nl/phys/2012-0315-200618/rignot\\_etal\\_grl2011.pdf](http://igitur-archive.library.uu.nl/phys/2012-0315-200618/rignot_etal_grl2011.pdf)

Nick, F. M., Vieli, A., Howat, I. M. & Joughin, I. (2009) Large-scale changes in Greenland outlet glacier dynamics triggered at the terminus. *Nature Geosci.* 2, 110–114 (2009).  
<http://www.nature.com/ngeo/journal/v2/n2/full/ngeo394.html>

Romanovsky & Osterkamp 2001. Permafrost Response on Economic Development, Environmental Security and Natural Resources. Ch: Permafrost: Changes and impacts. Pp: 297-316 ([Book](#))

Romanovsky V. et al. 2008, Thermal state and fate of permafrost in Russia; first result of IPY. ([Abstract](#))

Schliebe S. 2001. What has been happening to polar bears in recent decades? *NOAA Arctic*. ([Article](#))

Schuur, E.A.G., BockheimJ., Canadell.G., EuskirchenE., FieldC.B., GoryachkinS.V., Hagemann, S., KuhryP., Lafleur, P.M., Lee, H., Mazhitova, G., Nelson, F.E., Rinke, A., Romanovsky, V.E., Shiklomanov, N., Tarnocai, C., Venevsky, S., Vogel, J.G. & Zimov, S.A. (2008) Vulnerability of Permafrost Carbon to Climate Change: Implications for the Global Carbon Cycle. *Bioscience* 58 (8): 701-714  
<http://www.bioone.org/doi/abs/10.1641/B580807>

Serreze M. and Stroeve J. 2008, Standing on the brink. *Nature*. ([Article](#))

Shepherd, A. et al (2012) A reconciled estimate of ice-sheet mass balance. *Science* 338, 1183–1189 (2012). <http://www.sciencemag.org/content/338/6111/1183>

SKVORTSOV, V., VINCENT, W., CLARK, R., DEMPSON, B., LEAN, D., LEHTONEN, H., PERIN, P., PIENITZ, R., RAUTIO, M., SMOL, J., TALLMAN, R. & ZHULIDOV, A. (2010): Freshwater fisheries and ecosystems. 8.5.3. Climate change effects on arctic freshwater fish populations. In *Encyclopaedia of earth: arctic climate impact assessment*. Cutler, J. (Ed.). Washington, DC: Environmental Information Coalition,

National Council for Science and the Environment. Available at  
[www.eoearth.org/article/Climate\\_change\\_effects\\_on\\_arctic\\_freshwater\\_fish\\_populations](http://www.eoearth.org/article/Climate_change_effects_on_arctic_freshwater_fish_populations)

Sommerkorn M. 2008. A Closing Window of Opportunity - Global Greenhouse Reality 2008. WWF.  
(Report)  
[http://assets.wwf.org.uk/downloads/cop\\_science\\_background\\_19nov08\\_full\\_logo.pdf](http://assets.wwf.org.uk/downloads/cop_science_background_19nov08_full_logo.pdf)

Strom R. 2007. Hot House. Ch 10: The melting Earth. Pp:151-180. *Copernicus Books*  
<http://www.springer.com/life+sciences/book/978-0-387-34179-8>

The Montana Climate Action Project 2009. Learn about climate. ([Website](#))

Thompson A. 2009. Antarctica Is Warming: Climate Picture Clears Up. *LiveScience*. ([Article](#))

Titus J. and Barth M. 1984. Greenhouse effect and sea level rise: a challenge for this generation. Ch 1. An overview of the causes and effects of the sea level rise. *EPA*. ([Book](#))

UNEP 1997. Global environment Outlook-1. Ch 2: Regional perspectives. *UNEP/GRID-Arendal*  
(Report)

UNEP 1997. Global Environment Outlook-1.. CH 2: Regional Perspectives. ([Report](#))

UNEP/GRID-Arendal 2003. Antarctica, overview. ([Website](#))

UNEP/GRID-Arendal 2007a. The Cryosphere, world map. ([Website](#))

UNEP/GRID-Arendal 2008. Ecoregions in Antarctica. *UNEP/GRID-Arendal*. ([Website](#))

UNEP-WCMC 2000. Biodiversity and climate change: Ecosystems. ([Website](#))

UNEP (2009) Climate Change Science Compendium 2009.

[http://www.unep.org/pdf/ccScienceCompendium2009/cc\\_ScienceCompendium2009\\_full\\_en.pdf](http://www.unep.org/pdf/ccScienceCompendium2009/cc_ScienceCompendium2009_full_en.pdf)

UNFCCC website: Projected impacts of climate change on IPCC world regions (based on the IPCC 2007 reports)

[http://unfccc.int/essential\\_background/the\\_science/climate\\_change\\_impacts\\_map/items/6448.php](http://unfccc.int/essential_background/the_science/climate_change_impacts_map/items/6448.php)

University of Cambridge, 2006. The tundra-taiga interface. ([Website](#))

Veron, J.E.N.,(2008). Mass extinctions and ocean acidification: biological constraints on geological dilemmas. *Coral Reefs* 27, 459–472.

[http://vkc.library.uu.nl/vkc/darwin/knowledgeportal/Lists/Conferences/Attachments/15/Bijma\\_Veron\\_2008\\_Coral%20Reefs.pdf](http://vkc.library.uu.nl/vkc/darwin/knowledgeportal/Lists/Conferences/Attachments/15/Bijma_Veron_2008_Coral%20Reefs.pdf)

Veron, J.E.N., Hoegh-Guldberg, O, Lenton, T.M, Lough, J.M., Obura D.O., Pearce-Kelly, P., Sheppard, C., Spalding M., Stafford-Smith, M.G. and Rogers, A.D. (2009). The coral reef crisis: The critical importance of <350 ppm CO<sub>2</sub>. *Marine Pollution Bulletin* 58 (2009) 1428–1436

<http://icriforum.org/sites/default/files/Veron%20et%20al%20Coral%20reef%20crisis%20CO2%20MPB%202009.pdf>

Veron, J. E. N. (2011): Ocean acidification and coral reefs: an emerging big picture. *Diversity* 3: 262–274. <http://www.mdpi.com/1424-2818/3/2/262>

VESPA, M. (2009): Why 350? Climate policy must aim to stabilize greenhouse gases at the level necessary to minimize the risk of catastrophic outcomes. *Ecology Law Currents* 36: 185–194. [http://www.biologicaldiversity.org/publications/papers/Why\\_350.pdf](http://www.biologicaldiversity.org/publications/papers/Why_350.pdf)

Walsh, J.E., 1995. Long-term observations for monitoring of the cryosphere, *Climatic Change* 31: 369–394. ([Abstract](#))

WAZA (2012): Resolution 67.2. Emergency resolution on avoiding disastrous and unmanageable climate change and ocean acidification impacts by returning atmospheric CO<sub>2</sub> concentrations to below 350 parts per million while it is still possible to do so. Gland, Switzerland: World Association of Zoos and Aquariums. Available at [http://www.waza.org/files/webcontent/1.public\\_site/5.conservation/climate\\_change/RES%2067.2%20Climate%20Change.pdf](http://www.waza.org/files/webcontent/1.public_site/5.conservation/climate_change/RES%2067.2%20Climate%20Change.pdf)

Whiteman, G., Hope, C. and Wadhams, P. (2013) Vast costs of Arctic change. *Nature* 499, 401–403 <http://www.nature.com/nature/journal/v499/n7459/full/499401a.html>

World Bank 2008, Retracting Glacier Impacts Economic Outlook in the Tropical Andes ([Website](#))

World Bank (2010) Turn down the Heat. Why a 4 degree centigrade warmer world must be avoided. [http://climatechange.worldbank.org/sites/default/files/Turn\\_Down\\_the\\_heat\\_Why\\_a\\_4\\_degree\\_cenitgrade\\_warmer\\_world\\_must\\_be\\_avoided.pdf](http://climatechange.worldbank.org/sites/default/files/Turn_Down_the_heat_Why_a_4_degree_cenitgrade_warmer_world_must_be_avoided.pdf)

WORLD BANK (2010): Convenient solutions to an inconvenient truth: ecosystem-based approaches to climate change. Washington, DC: The International Bank for Reconstruction and Development/The World Bank. [http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2009/11/25/000334955\\_20091125041105/Rendered/PDF/518380PUB0Clim101Official0Use0Only1.pdf](http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2009/11/25/000334955_20091125041105/Rendered/PDF/518380PUB0Clim101Official0Use0Only1.pdf)

WWF (2012): Living Planet Report 2012. Biodiversity, biocapacity and better choices. Gland, Switzerland:

WWF International. [http://wwf.panda.org/about\\_our\\_earth/all\\_publications/living\\_planet\\_report/](http://wwf.panda.org/about_our_earth/all_publications/living_planet_report/)

WWF 2008, Arctic Climate Impact Science – an update since ACIA. ([Report](#))

WWF 2007a. Marielandia Antarctic tundra. *Encyclopedia of Earth*. ([Website](#))

Zachos, J.C.; Röhl, U.; Schellenberg, S.A.; Sluijs, A.; Hodell, D.A.; Kelly, D.C.; Thomas, E.; Nicolo, M.; Raffi, I.; Lourens, L.J.; McCarren, H.; Kroon, D. Rapid acidification of the ocean during the Paleocene-Eocene thermal maximum. *Science* 2005, 308, 1611–1615. <http://www.sciencemag.org/content/308/5728/1611.abstract>

Zwally, H. J. & Giovinetto, M. B. (2011) Overview and assessment of Antarctic ice sheet mass balance estimates: 1992–2009. *Surv. Geophys.* 32, 351–376

[http://icesat4.gsfc.nasa.gov/cryo\\_data/publications/Zwally-Giovinetto\\_SurveysInGeophysics\\_2011-1.pdf](http://icesat4.gsfc.nasa.gov/cryo_data/publications/Zwally-Giovinetto_SurveysInGeophysics_2011-1.pdf)