

# Too Hot To Handle

## Exposing the Polar Bear Catastrophe That Never Happened

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SEPTEMBER 4, 2000

PUTIN EXPOSED  
THE VIRTUES OF KOFI ANNAN



September 2000

www.time.com AOL Keyword: TIME

APRIL 3, 2006

www.time.com AOL Keyword: TIME

# SPECIAL REPORT GLOBAL WARMING TIME

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BE **VERY**  
WORRIED.

Climate change isn't some vague future problem—it's already damaging the planet at an alarming pace. Here's how it affects you, your kids and their kids as well

EARTH AT THE **TIPPING POINT**

HOW IT THREATENS YOUR **HEALTH**

HOW **CHINA & INDIA** CAN HELP  
SAVE THE WORLD—OR DESTROY IT

THE CLIMATE **CRUSADERS**

April 2006

www.time.com AOL Keyword: TIME

# IUCN Polar Bear Specialist Group



2008 – Vulnerable (VU)

2006 – Vulnerable (VU)

1996 – Lower Risk/conservation dependent (LR/cd)

1994 – Vulnerable (V)

1990 – Vulnerable (V)

1988 – Vulnerable (V)

1986 – Vulnerable (V)

1982 – Vulnerable (V)

1973 International protection

**Red List status changes**





# Experts: Polar bears, hippos on extinction path

Global survey also warns of overfishing, decline in wetlands

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2006

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**GENEVA** — Polar bears and hippos have joined the ranks of species threatened with extinction from climate change, unregulated hunting, habitat destruction and other man-made dangers, leading researchers said Tuesday in a listing of the world's wildlife.

The World Conservation Union, or IUCN, said more than 16,000 species of animals and plants are at risk of disappearing, including one in three amphibians, one in four mammals and one in eight birds.

The IUCN added 530 species to its "Red List" of endangered species since the last version released two



Mike Hutchings / Reuters file

For the first time ever, hippos were listed as a threatened species by the World Conservation Union.



## USGS Science Strategy to Support U.S. Fish and Wildlife Service Polar Bear Listing Decision



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# Scientists: Most Polar Bears Dead By 2050

SEPTEMBER 7, 2007 / 5:02 PM / AP



# 2007

# Preparing for the ESA decision



## NEWS NATURE, 22 May 2008

## Polar bear numbers set to fall

In a long-anticipated decision hailed as a victory by environmental groups, the United States last week declared the polar bear (*Ursus maritimus*) a 'threatened' species. But this heightened protection status may have little bearing on the animals' ultimate fate.

The listing, announced by secretary of the interior Dirk Kempthorne on 14 May, connects the continuing retreat in Arctic sea ice due to global warming with large potential reductions in the polar-bear population. Last autumn, the US Geological Survey concluded that the animals are likely to lose 42% of their summer sea ice habitat by mid-century, cutting the world's polar-bear population — estimated at 25,000 — by two-thirds.

Despite this dramatic projection, researchers note that polar bears range across a variety of nations, each with its own conservation approaches, and a variety of habitats, each of which will be affected differently by climate change. Their fates may vary from place to place, too. "I don't believe the polar bear will go extinct, but in some areas they will be heavily reduced and may disappear," says veterinary biologist Christian Sonne of the National Environmental Research Institute in Roskilde, Denmark. Factors other than global warming compound stress on the bears, including the accumulation in fat of polychlorinated biphenyls and other pollutants that lower reproductive capacity and weaken the immune system.

Projecting the fate of a creature that ranges

## POLAR BEARS THE WORLD ROUND

Populations of *Ursus maritimus* are hard to pin down, but an International Union for Conservation of Nature group has compiled data on their latest numbers. The year(s) the data were recorded are given in parentheses.



SOURCES: IUCN/SSC Polar Bear Specialist Group; US Geological Survey

Discover Magazine  
12 December 2008

FROM THE JANUARY 2009 ISSUE

## #55: Polar Bears (Finally) Make the Endangered Species List

At long last, the government acknowledges the species is threatened.

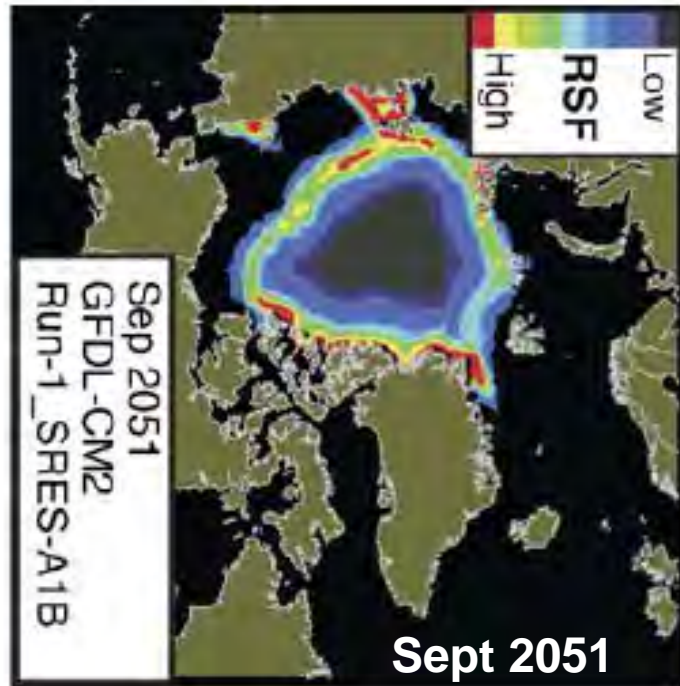
By Jane Bosveld | Friday, December 12, 2008

RELATED TAGS: [ENDANGERED SPECIES](#), [GLOBAL WARMING](#), [ENVIRONMENTAL POLICY](#), [ARCTIC & ANTARCTIC](#), [TOP 100 STORIES OF 2008](#)

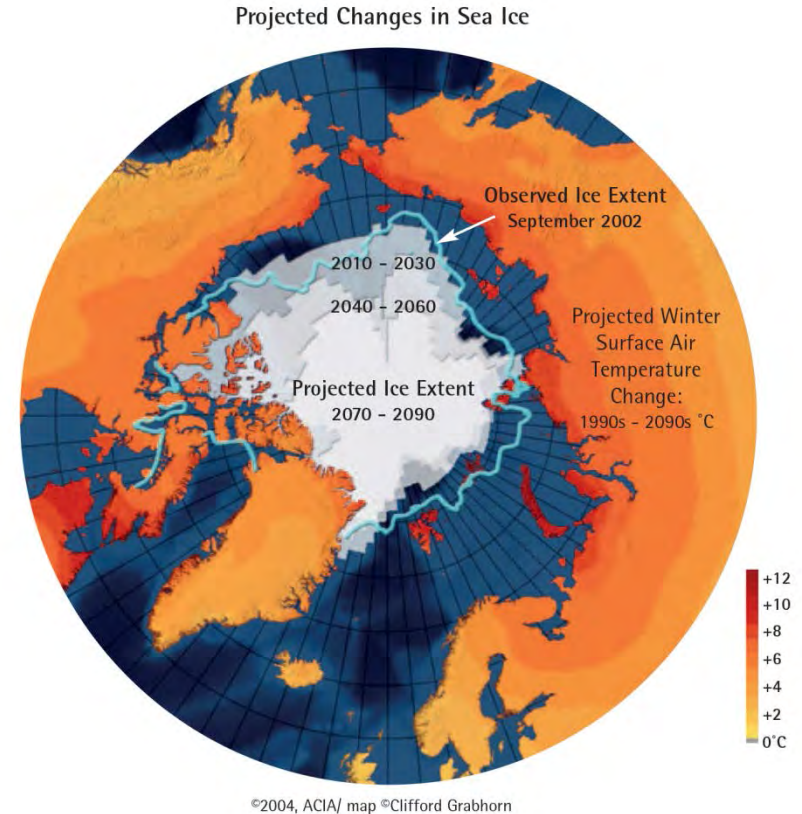


In May the U.S. Department of the Interior [classified polar bears as threatened](#) under the Endangered Species Act. Documented declines in sea ice and anticipation of massive melting that threatens the bears' habitat prompted the action.

# Sea ice predictions for 2050



Durner et al. 2007, USGS report, Fig 9c

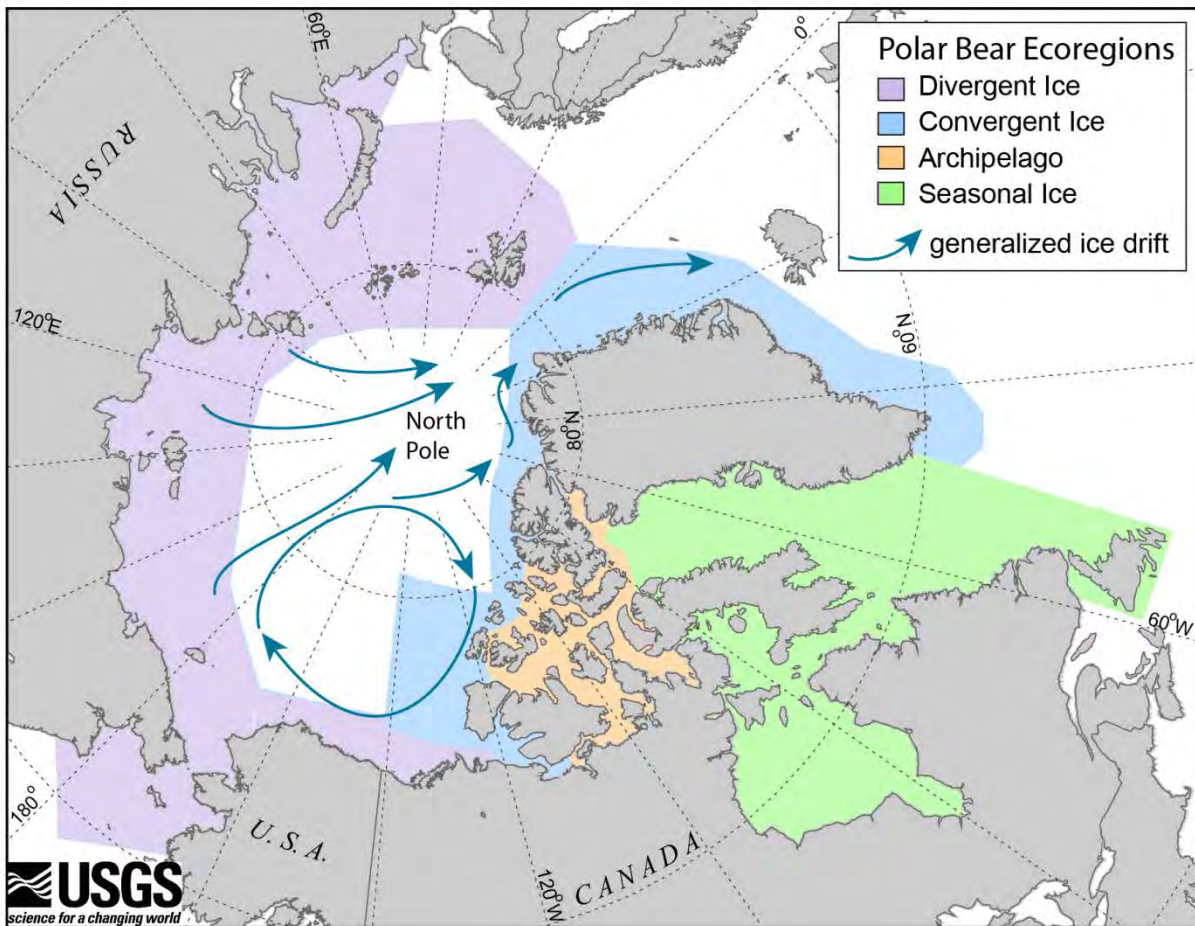


# USGS Polar bear survival prediction:

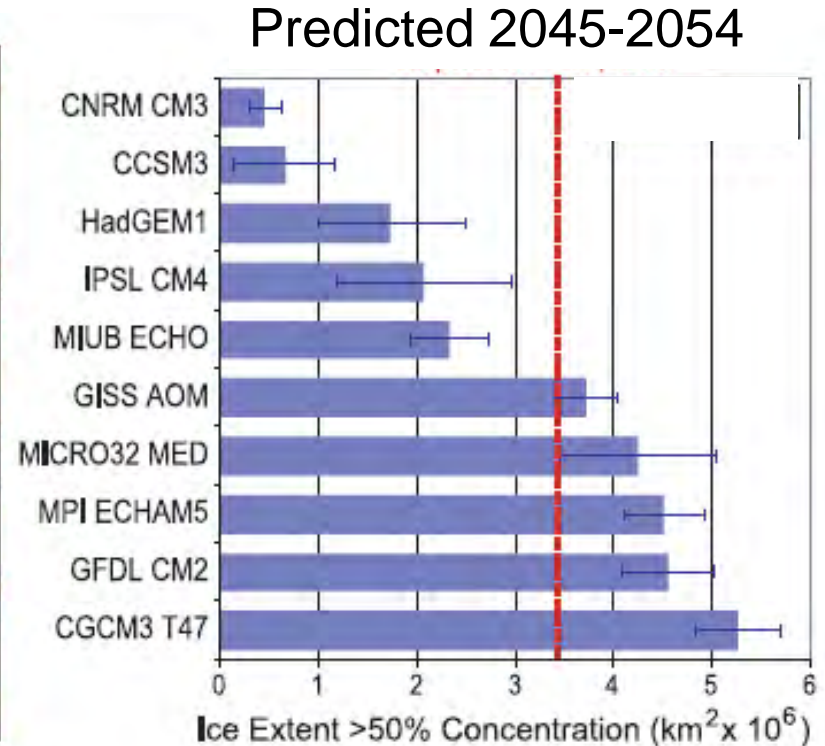
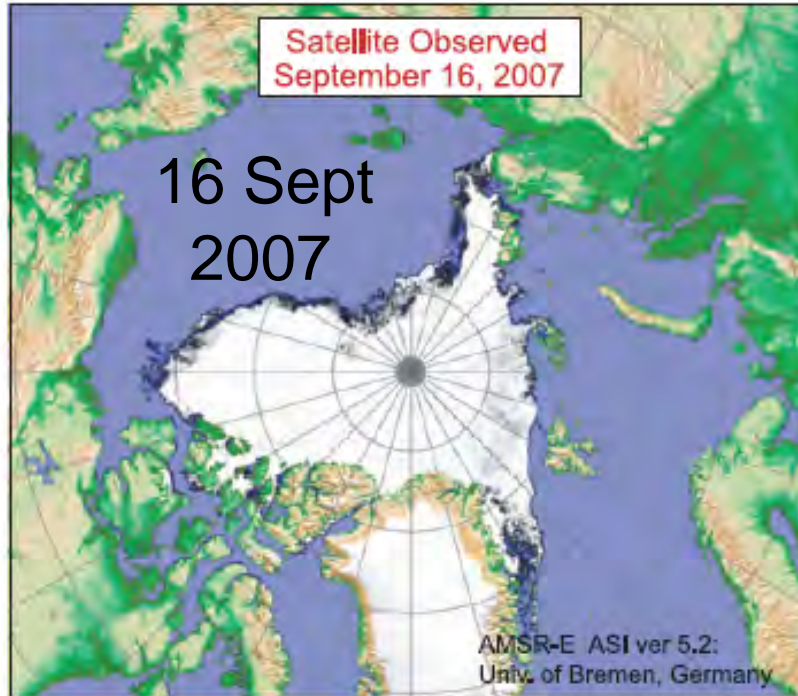
Rapid sea ice decline = polar bear population decline

- ❖ 2/3 of the world's polar bears were predicted to disappear when sea ice declined about 42% from 1979 levels
- ❖ All of the bears in Hudson Bay, Alaska, Russia and Norway – as well as the bears off Labrador – were expected to be GONE entirely



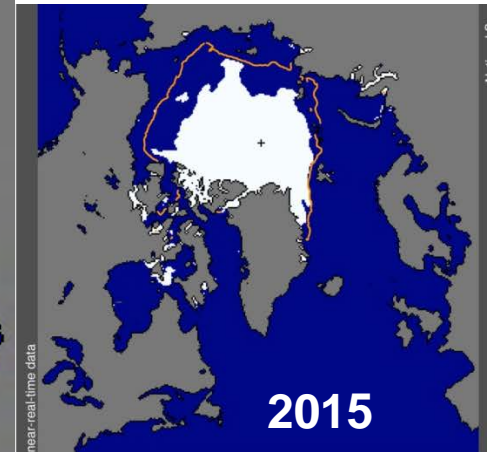
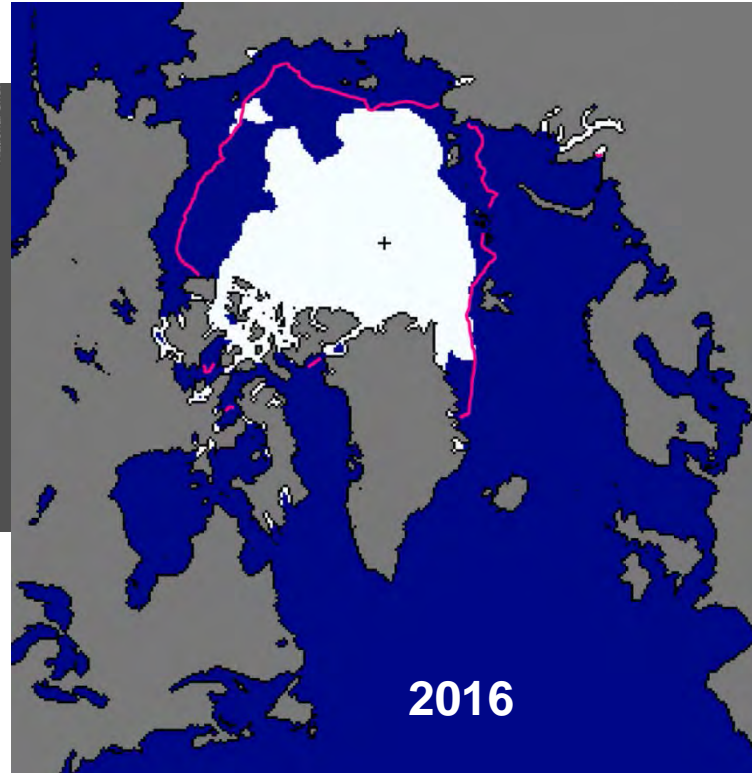


# The problem: Ice at September 2007 was lower than any of the five “best” predictions for 2050



Amstrup et al. 2008 [peer reviewed paper]

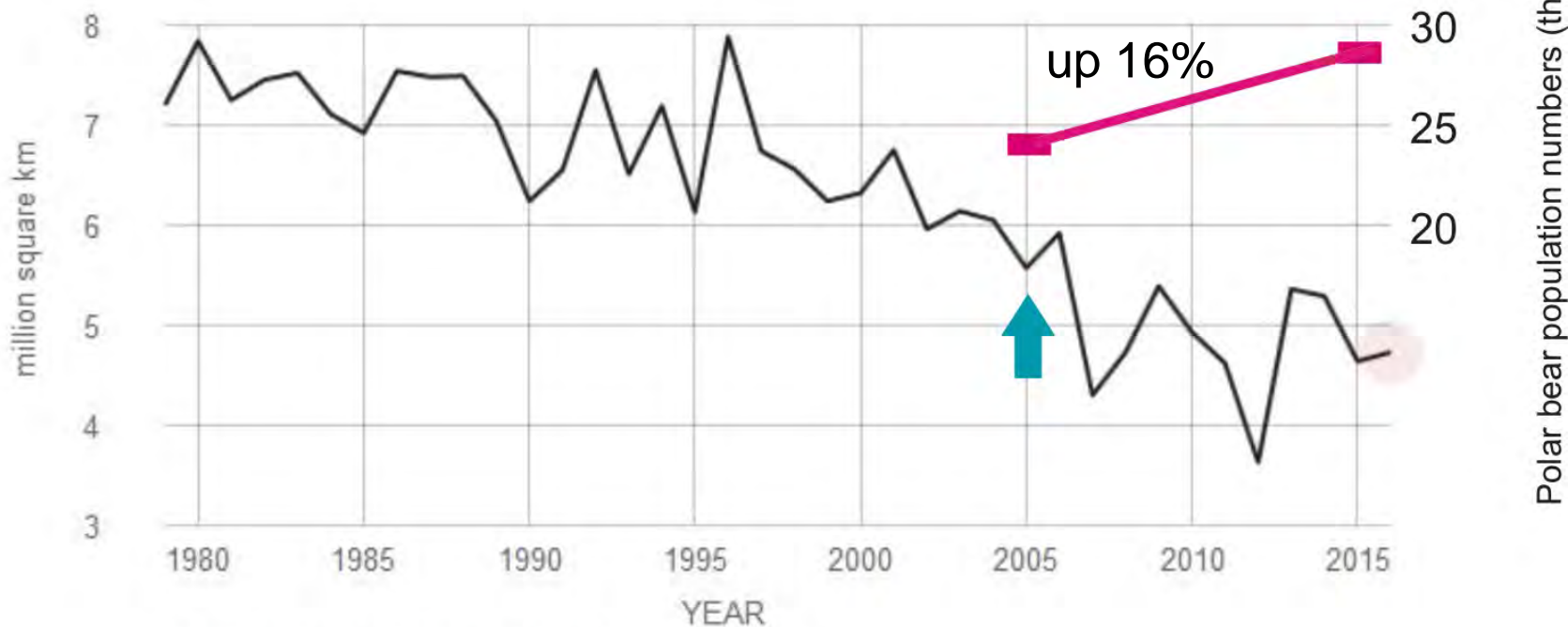
# Sea ice extent 2007–2016 (~3–5 mkm<sup>2</sup>) at 2050 levels





# Summer sea ice vs. polar bear numbers since 2005

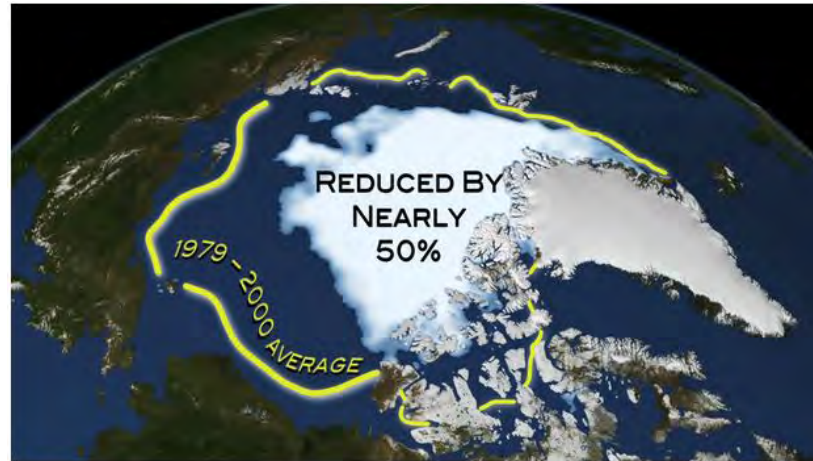
Sea ice down, polar bear numbers up



September ice extent NSIDC/NASA

# Models were spectacularly wrong

Current conditions



# Why were the models so wrong?



Summer hunting much less important



Less ice was a benefit to seals



Spring hunting much more important



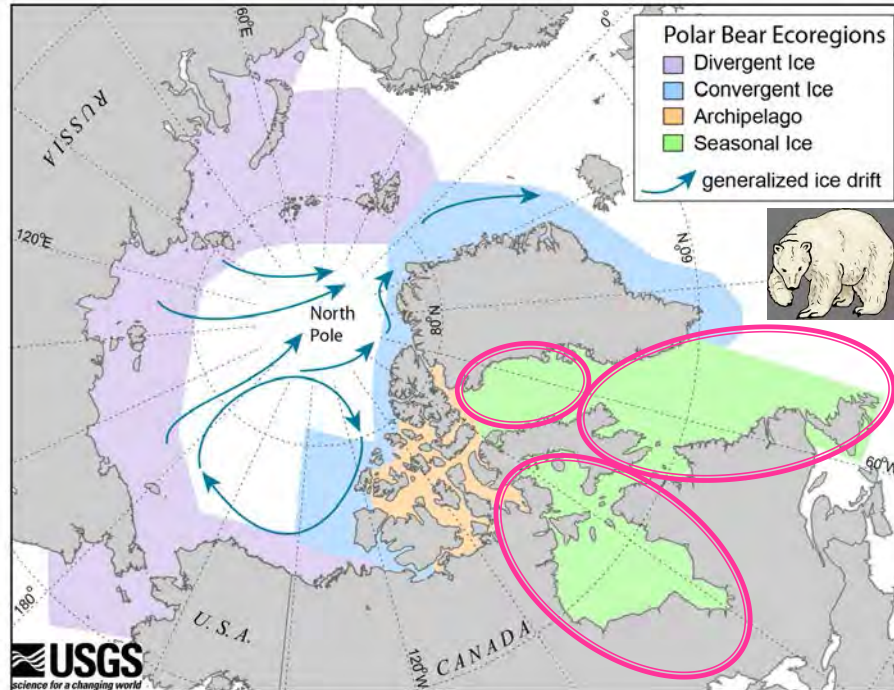
Spring sea ice conditions much more important



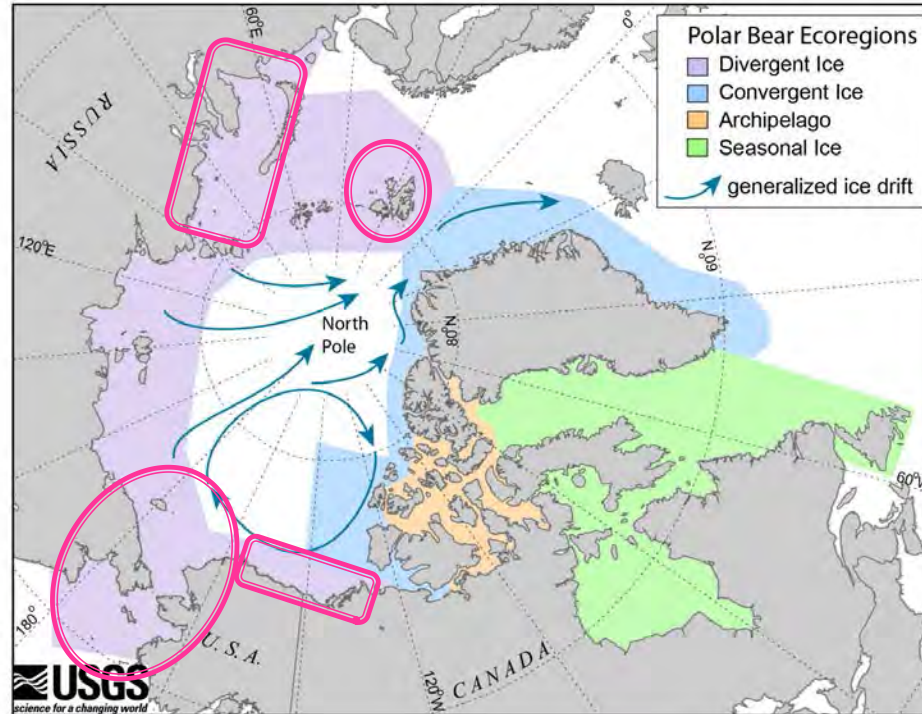


# Fate of some 'high-risk' subpopulations predicted to be gone at sea ice levels routinely $\leq 5$ mkm<sup>2</sup>

Seasonal  
Ecoregions  
(green):



# Divergent Ecoregions (purple):





**When conditions are good,  
more females raise triplets to weaning**

Information on this unique gathering has been passed to the international scientific group that monitors Chukotka and Alaska's population of polar bears. Picture: A Gruzdev



# My scientific paper: March 2017

Testing the hypothesis that routine sea ice coverage of 3-5 mkm<sup>2</sup> results in a greater than 30% decline in population size of polar bears (*Ursus maritimus*).

*PeerJ Preprints* 3 March 2017.

Doi: 10.7287/peerj.preprints.2737v3

Open access.

# Hypothesis testing is an appropriate format for presenting scientific criticism



You don't have to put a collar on a polar bear to assess whether a prediction published in 2007 matches up with documented observations

29 November 2017: I woke up  
to find this paper hitting media  
outlets worldwide



# **Internet Blogs, Polar Bears, and Climate-Change Denial by Proxy**

JEFFREY A. HARVEY, DAPHNE VAN DEN BERG, JACINTHA ELLERS, REMKO KAMPEN, THOMAS W. CROWTHER,  
PETER ROESSINGH, BART VERHEGGEN, RASCHA J. M. NUIJTEN, ERIC POST, STEPHAN LEWANDOWSKY,  
IAN STIRLING, MEENA BALGOPAL, STEVEN C. AMSTRUP, AND MICHAEL E. MANN



# Newspapers worldwide carried the story

## Study says UVic zoologist cited on many climate change denier blogs

**CHEK**

Posted By: Andy Neal on: November 29, 2017 In: News, Top Stories



A study says blogs that question climate change ignore science on polar bears and sea ice. Photo courtesy CBC.

**NATIONAL POST**

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## 'Bit of an echo chamber:' Study finds climate denier blogs ignore science



Science | Nature

# Nearly all climate-change denial blogs exactly the same dubious research

Internet becomes haven for websites which deny man-made global warm

By Staff Reporter

November 30, 2017 12:39 GMT



Wed, Mar 13, 2019

## TECH & SCIENCE

# POLAR BEAR BLOGS DENYING CLIMATE CHANGE ARE BEING USED TO SPREAD CONSPIRACY THEORIES AROUND THE GLOBE

BY SYDNEY PEREIRA ON 11/30/17 AT 12:31 PM EST





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Adopt

Get Involved



A new paper probes patterns of disinformation on social media.  
© Downs Matthews/Polar Bears International

11/29/2017 4:46:17 PM

## News Release: Polar Bears and Climate-Change Denial

(Bozeman, MT - November 29, 2017) - Polar bears are often associated with the words "global warming" and "climate change." They have become a favorite target of climate change denial. But does climate change loss isn't happening or does not pose

The New York Times

## Climate Change Denialists Say Polar Bears Are Fine. Scientists Are Pushing Back.



Illustration by The New York Times; photo by Josh Haner/The New York Times

By Erica Goode

April 10, 2018



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# This was an attempt to silence legitimate scientific criticism



## **TWENTY GOOD REASONS**

*Not to worry about polar bears: an update*

Susan J. Crockford



# The media attention backfired

Dear Susan,

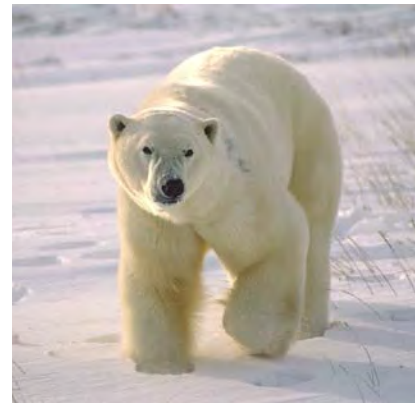
Happy new year! After crunching our stats for 2017 we have some great news - your article was one of the most viewed in its subject areas:

Now 3500 downloads

## Top 5 most viewed

**Climate Change Biology, Conservation Biology, Ecology, Environmental Sciences and Zoology** article published in 2017 with **6,493 views**

Testing the hypothesis that routine sea ice coverage of 3-5 mkm<sup>2</sup> results in a greater than 30% decline in population size of polar bears (*Ursus maritimus*)



# An Arctic researcher's confidential comments to me about my paper:

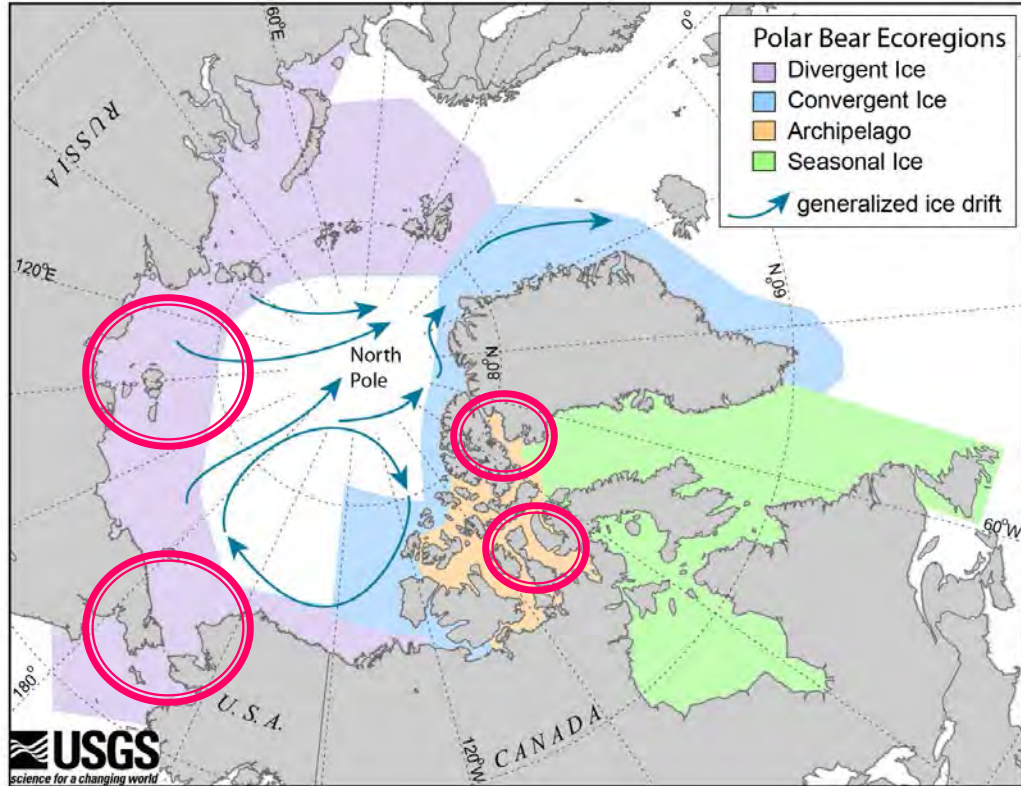
- ▶ The first thing that I noticed was the message 'NON PEER REVIEWED'. [but he read it anyway]
- ▶ I can imagine why: you are probably not popular among polar bear scientists these days. If they would review your article, they probably would do everything to stop it.

- ▶ Nevertheless, I really liked your very detailed and concise analyses of the predictions about a polar bear population crash as a result of diminished sea ice, that never happened.
- ▶ You also come up with explanations: bears are much better at fasting than assumed and their prey benefits from less summer sea ice.



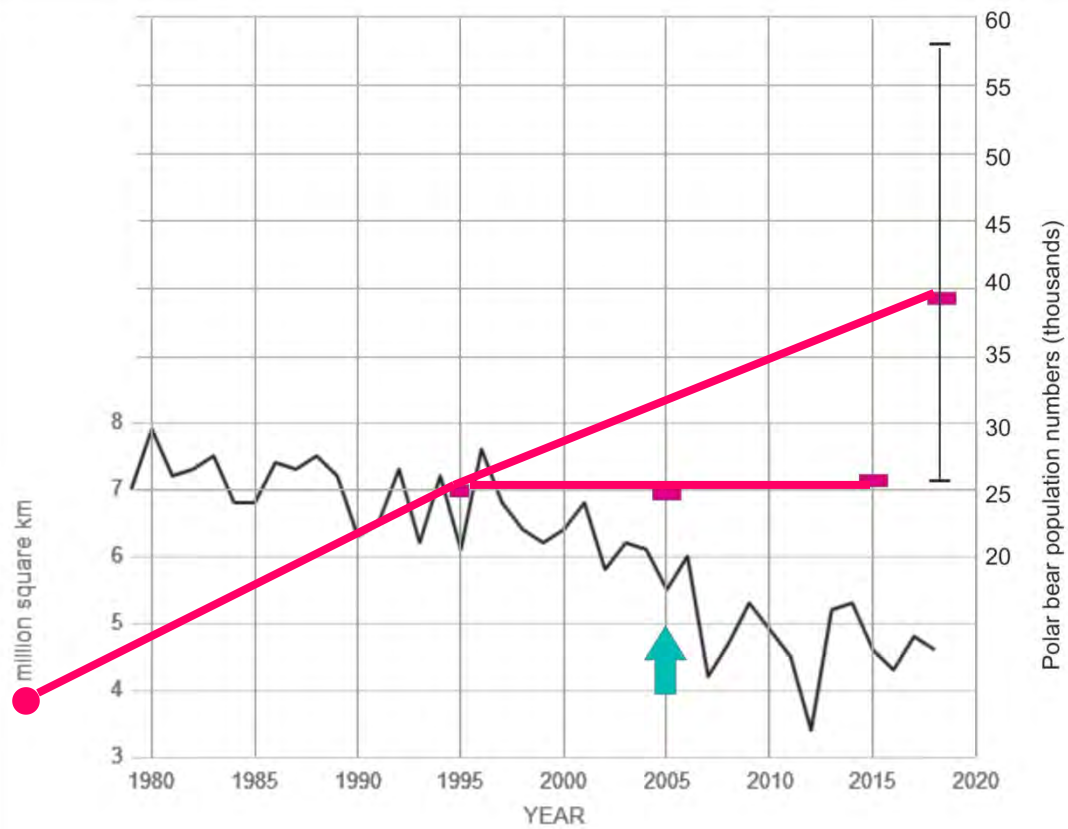
- ▶ For me, this is all a bit shocking.
- ▶ Polar bear scientists don't want to discuss and debate your review, using solid scientific arguments, but they use the strategy of ignoring you.
- ▶ That is unethical, unscientific and highly unfair.
- ▶ To me, your analyses seems very thorough and is convincing.
- ▶ I think you are very, very brave to write this paper.

# How many polar bears are really out there?



A plausible scientific estimate  
of the global total at 2018

**39,000 (26,000-58,000)**



Source: climate.nasa.gov



# What this means for Arctic residents



# Bears are now a danger year round

**January-March, Southern Labrador  
2016-2019**



**Coastal Russia,  
February 2019**



Aggressive: A polar bear at a playground on the Novaya Zemlya archipelago in northern Russia, with parents left worried about sending their children to schools and kindergartens



**Arviat, Hudson  
Bay April 2018**



## Polar bear attack injures hiker in Labrador park



Injured man was member of hiking party at Torngat Mountains National Park

CBC News · Posted: Jul 26, 2013 6:12 AM NT | Last Updated: July 26, 2013



A hiker was attacked by a polar bear in Torngat Mountains National Park early Wednesday morning. (Parks Canada)

**Northern Labrador, July 2013**

## News

News

## Hunters forced to guard friend's body for three days while polar bears circle camp



**Foxe Basin, August 2018**

# Points to remember

- ❖ Summer sea ice is not crucial for polar bear health and survival
- ❖ Less ice in summer is beneficial to ringed and bearded seals, the primary prey of polar bears
- ❖ Since 2005, even though sea ice dropped to levels not predicted to occur until 2050, polar bear numbers did not plummet as expected



- ❖ Polar bear populations are now the highest they've been in 50 years
- ❖ Since 2005, polar bear specialists have repeatedly underestimated the global population size
- ❖ Current global number is probably about 39,000 (range 26,000–58,000)
- ❖ Thriving polar bear populations put the safety of Arctic residents at risk

# The Polar Bear Catastrophe That Never Happened



Susan J Crockford



## Polar Bear Facts & Myths



Kids 7 and up

A Science Summary for All Ages

Susan J. Crockford

Susan J Crockford

# EATEN

A novel





Thank you