

# Communicating climate change to a young audience

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- **Publishing landscape and the communication challenge**
- **What do young people want?**
- **How else to communicate climate change?**



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# CLIMATE CHANGE

WHAT YOU CAN DO ABOUT IT  
AT WORK • AT HOME • AT SCHOOL



PAUL HOLPER and SIMON TOROK



# Time to feel Earth's pulse

IS man's pollution of the air changing the climate of the Earth? And if so, is it getting hotter or colder? Is our punishment to be frizzled or frozen?

Scientists are not sure, but they are curious and anxious enough to urge the need for more sophisticated observation and analysis of the upper atmosphere.

Oddly enough, some consequences of man's activities could lead to a general warming and others to a world-wide cooling of his environment.

In addition, there is a danger of an increased level of harmful ultra-violet radiation penetrating a pollution-weakened upper atmosphere.

These intriguing questions, and how to answer them, will be among the subjects to be discussed at an important international scientific conference in Melbourne this week and next.

Some 400 scientists from more than 25 countries will gather today for the first special assemblies of the International Association of Meteorology and Atmospheric Physics (IAMAP) and the International Association for the Physical Sciences of the Ocean (IAPSO).

Indicative of the close international collaboration is the arrival

**CLAUDE FORELL** gives the background to one of the questions confronting an international scientific conference opening in Melbourne today: has man's pollution changed the Earth's climate?

of a strong Soviet delegation in a Russian oceanographic research vessel, the *Dmitri Mendelaev*.

Several American and Australian scientists, including Dr. John Garratt, of the CSIRO, joined the ship in Adelaide 10 days ago for a combined experiment to improve weather forecasting.

One of the obstacles to more accurate and longer-range forecasting in the southern hemisphere has been the difficulty of gathering data from the vast expanses of empty ocean.

A number of buoys have been set adrift from the Russian ship to measure sea surface temperatures and barometric pressures. This information can be relayed to forecasters through American space satellites.

This pilot scheme is a forerunner of GARP — the Global Atmospheric Research Programme — planned for 1977-78. It will be the world's biggest international co-operative effort yet in any field of science.

The plan is to position four sta-

tionary satellites which, from a height of 22,300 miles, will be able to scan the entire globe with highly sensitive monitoring equipment and thus survey, more intensely than ever before, the mysterious forces that influence the world's weather.

The distinguished scientists at the conference will not only be talking about the weather; they will be seriously concerned about the future of the Earth's climate.

Dr. C. H. B. Priestley, vice-president of IAMAP and chairman of CSIRO's Environmental Physics Research Laboratories, said there were three ways in which man could be interfering with the climate to his possible detriment and even danger.

One is the potential impact of high-flying, supersonic aircraft. Some scientists fear that their exhaust gases may reduce the ozone in the stratosphere which protects life on Earth from the damaging effects of ultra-violet radiation from the Sun.

Another fear is that their discharge of water vapor at high levels may create more clouds which would reflect more of the Sun's radiation and so possibly lead to a global cooling.

The second problem is that the amount of carbon dioxide in the atmosphere has measurably increased over the past 30 years, possibly as a result of industrial emission.

Here the anxiety is that this could trap the radiation of heat from the Earth's surface and perhaps lead to a general warming.

Thirdly, there has been an increase in fine dust particles suspended in the atmosphere, probably because more and more of the Earth's surface is being brought into cultivation, and, to a lesser extent, because of industrial pollution.

This could have a cooling influence.

How serious are these dangers? Dr. Priestley said: "If we knew all the answers, we wouldn't be meeting to discuss these problems and others affecting the atmosphere and the oceans."

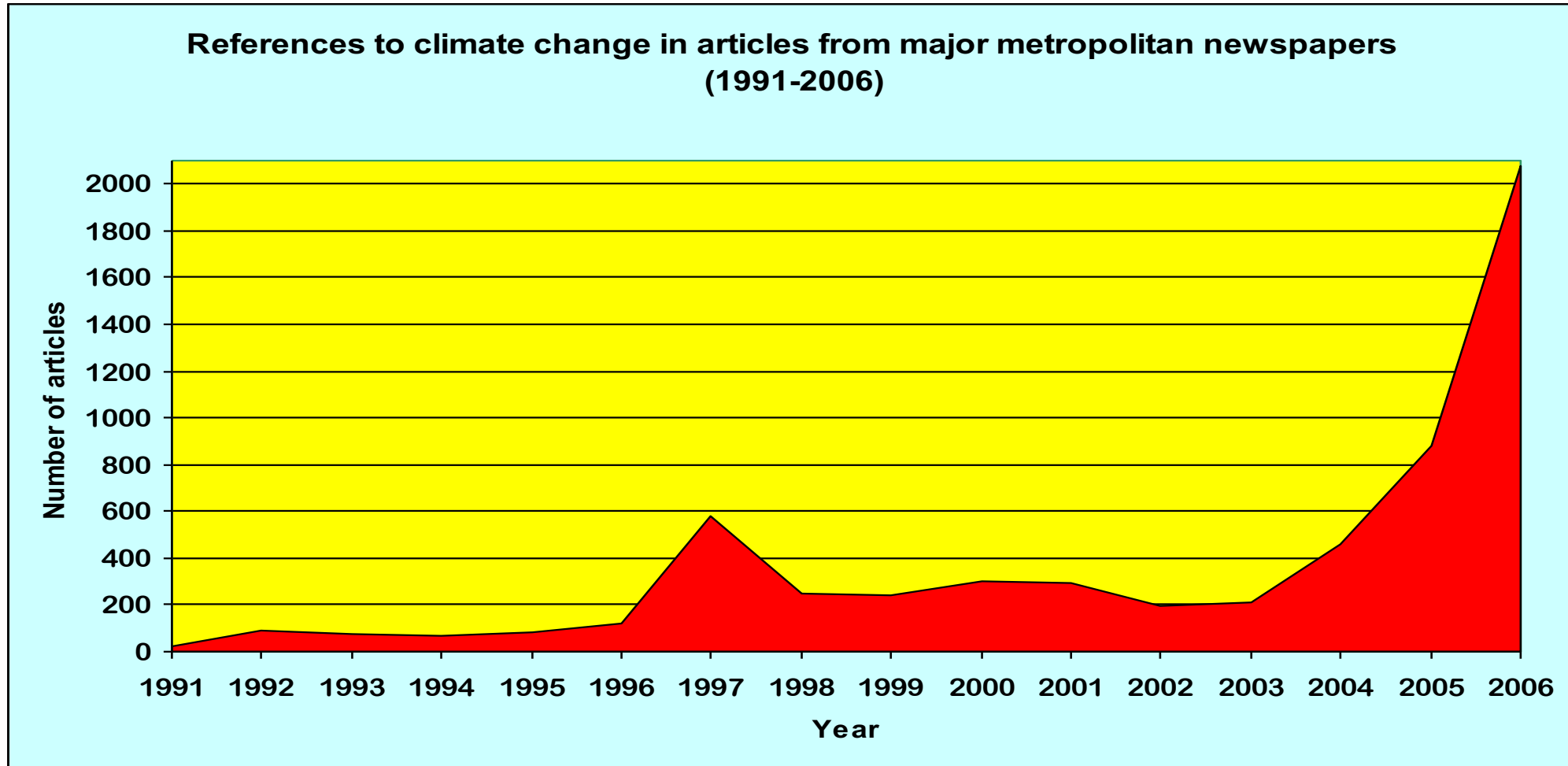
"But we all agree on the need for more research on a global scale. We also realise that man must learn to manage his total environment and live in reasonable balance with it."

The amount of carbon dioxide in the atmosphere has measurably increased over the past 30 years, possibly as a result of industrial emission. This could trap the radiation of heat from the Earth's surface and perhaps lead to a general warming.

Age 14/1/74

# Climate change in the media

In Australia, there was a ten-fold increase in the number of media reports about climate change from 2003 to 2006 2007: > 6000



Power et al., 2009

# Advertising



# Denial to despair

- A survey in 2007 of 600 young people aged 10 to 14 in Australia found 44% are nervous about the future impact of climate change, and 27% are so troubled about the state of the world they believe it will end in their lifetime.
- Climate change is reported in an increasingly alarmist and urgent language, with extreme weather events blamed on climate change
- The scale of the problem can be overwhelming for many and therefore lead to inaction through a belief that individual actions will be ineffective against such a vast, global problem.
- This can be compounded by the common messages of simple individual actions that are provided.

# Confusion with other atmospheric problems

- Climate change/ozone depletion/air pollution
- Greenhouse effect/enhanced G.E./global warming/climate change
- Clarify subtle messages about weather, climate variability and climate change
- Illustrate magnitudes: Millions, billions and trillions; Long timescales over which climate acts



# Communicating climate change to a young audience

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- **What do young people want?**
- Grabbing attention
- How else to communicate climate change?

# What do young people want?

- Good writing for young people should be similar to good writing for adult audiences.
- Young people are more sophisticated than we think (or remember), so we need to treat them with respect

So, in general, write for yourself:

- Cover topics that interest you, in a language that you find engaging. If it doesn't excite you, it won't excite the reader;
- Tell a story, don't simply impart knowledge;
- Describe science in progress, unsolved problems, and challenges that young readers can play a part in solving – to enable young people to dream.

# Grabbing attention

- Open with a bang: for example a story about an amazing discovery, fascinating facts;
- Write about weird science, mysteries, and record-breaking stories (for example the first, biggest, oldest, and most dangerous).
- Use common sense to keep an eye on the language and analogies you use (for example, don't refer to driving a car, alcoholic drinks), and avoid jargon and acronyms;
- Introduce new words by using tautologies; use the new word, then repeat the concept using a synonym, and then maybe use another term to define clearly its meaning.

# Grabbing attention

- First write about your own area of scientific expertise and contacts: this enables you to explain the science adequately, and also to have a feel for which concepts need to be introduced to a young reader;
- Be accurate;
- Develop your own style;
- Ensure you have a strong voice in your head that is relaxed and unique to you.

# Don't:

- Talk down or be condescending;
- Try to use trendy terms;
- Refer to young people as children or kids (use young people or students);
- Educate: aim to entertain, then any education is a bonus (and learning is more likely if subject entertains);
- Try too hard to use humour;
- Publish untested work: ask your own child, a relative or friends in the appropriate age group to read your draft (they'll be proud to have an acknowledgement inside the book).

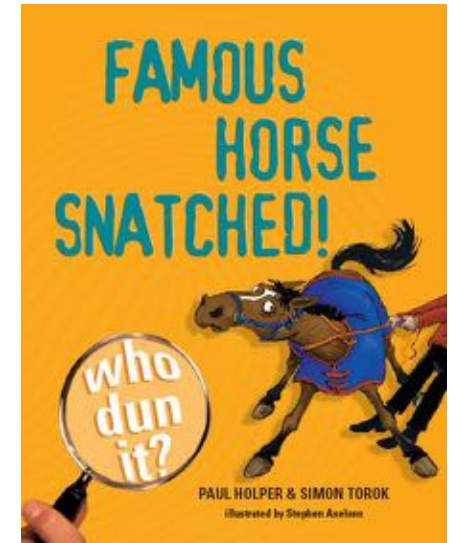
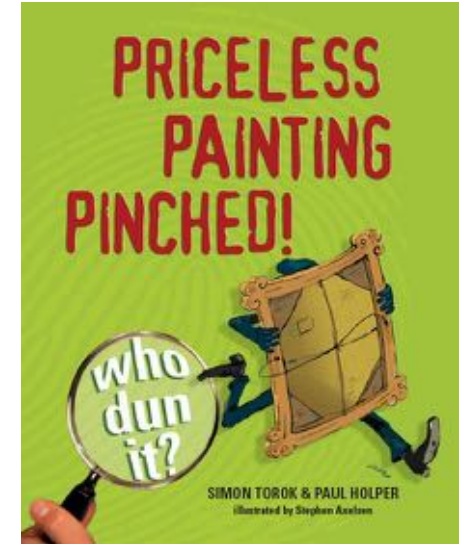
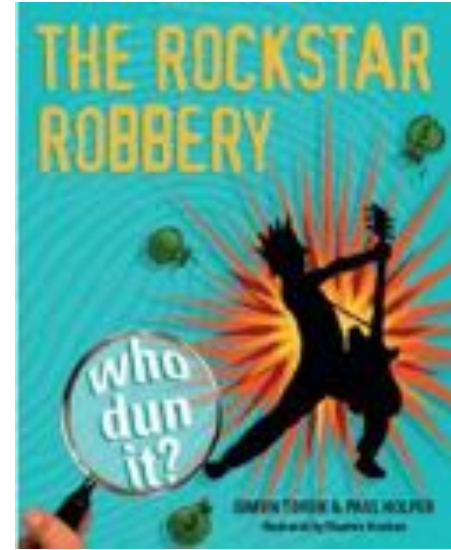
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# Grabbing attention

‘Faction’: combination of fact and fiction.

- Entertaining, fictional story to carry non-fiction, factual information;
- ‘Trojan horse’ enables learning to occur in an entertaining and subtle way through information absorption;
- enables exaggeration, contraction of time, or the creation of hypothetical situations that can better illustrate facts and information.



# Web soap



The team are back together after the field trip, but their mood is now a little more sombre.

And for some, things are about to get a lot worse...



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## ANTHROPOCENE

Every being living affects its surroundings, but humanity is now influencing every aspect of the Earth on a scale akin to the great forces of nature.

There are now so many of us, using so many resources, that we're disrupting the grand cycles of biology, chemistry and geology to which elements like carbon and nitrogen circulate between land, sea and atmosphere. We're changing the way water moves around the globe as never before. Almost all the planet's ecosystems bear the marks of our presence.

Our species' whole recorded history has taken place in the geological period called the Holocene — the final interval stretching back 10,000 years. But our collective actions have brought us into uncharted territory. A growing number of scientists think we've entered a new geological epoch that needs a new name — the Anthropocene.

Probably the best known aspect of our newfound influence is what we're doing to the climate. Atmospheric carbon dioxide may be at its highest level in 10 million years. But this is just one part of the story: we're changing the planet in countless ways. Fisheries have collapsed much of fields and forest fires, creating patches of area where nothing grows except coal-ash toxins, desertification means vast quantities of soil are being eroded and swept away. Rich grasslands are turning to desert, ancient ice formations are melting away, species everywhere are vanishing.

These developments are all connected, and there's a lot of us everywhere, cascades of changes leading us into a future that's probably different from anything we've known before. It's the future, every creature is facing.

## CONTEXT

### A World of Cities

Within a human lifetime, the face of Earth has been transformed. Cities now dominate the landscape, and even if people disappeared tomorrow, cities would remain one of the Anthropocene's most visible and enduring legacies.

### The Great Acceleration

We've been changing the world around us for millennia, but the scale and speed of change in the last 50 years have been incredible, leading scientists to coin terms since the 1990s: the Great Acceleration.

### The Dawn of Agriculture

The first modern humans appeared on the African plains 200,000 years ago. As our ancestors spread across the globe, they changed their environment, wiping out more of the large animals in their paths.

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# Hands-on

“I hear and I forget. I see and I remember. I do and I understand.”

*Confucius*

- Use activities that are clearly explained – and safe.

# In conclusion . . .

- Young people – as influencers of their families, and also as the next generation of decision makers – are an important way to reach the wider community.
- Young people are a key player in influencing behavioural change, so although the volume of media coverage of climate change has increased, we need to be more effective to inspire behavioural change.
- Writing for young people should be like writing for yourself, with some modifications regarding language, analogies, and integrating elements into the writing such as activities.
- Use a range of communication methods to reach young people.



Thank you

Questions?

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