

Climate change

the biggest threat to human health

Smog and haze in Kuala Lumpur

'There is a new and potent argument for urgent action on climate change. If many have conveniently ignored the plight of other species on the planet then perhaps, just perhaps, their own doctors will help them pay attention. After a thorough review of the evidence, a commission by *The Lancet* concluded that 'climate change is the biggest global health threat of the 21st century.'

Climate change is increasing the frequency of weather-related disasters, contributing to water shortages and malnutrition. It acts as an amplifier for many major diseases. And slowly but surely the sea level is rising. The trouble is caused by the blanketing effect of the major greenhouse gases – CO₂, nitrous oxide, methane and the CFCs. The continuing rise of CO₂ is causing the greatest alarm.

The world's poor are suffering the worst health effects. Last year Cyclone Nargis killed 140,000 people in Myanmar and rendered 2.5 million homeless. Hurricane Ike, in the same year and of similar strength, killed approximately 240 in the USA. Whilst no individual storm can be blamed solely on climate change, the temperature gain by the planet is an important factor in

Dr Graham McAll speaking in Singapore



Dan Tay

their frequency and severity. Flash floods, storm surges and mudslides are all occurring more often. They take life, wreck infrastructure and wash pollutants into waterways.

Too much water or an unpredictable water supply in one area is a problem, and too little rain, or rains coming at the wrong time, is an issue for others. Climate change is causing increasing periods of drought, especially in sub-Saharan Africa and Australia, with resulting crop failures. Loss of glaciers and salt pollution of coastal aquifers is adding to the problem in coastal areas from the Mediterranean to Vietnam. The result is reduced access to food and clean water – the FAO (Food and Agriculture Organisation of the UN) estimates that one billion people are now calorie-deficient, an increase over the last two years.

At street level in hot cities, ozone concentrations rise. This, combined with microscopic particulate matter from diesel engines, forest burning or oil palm processing, is dangerous. It burns the lining of the lungs and causes increased clinic attendances, hospital admissions and deaths from allergies, lung diseases and strokes. (continued on p2)

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Rising temperatures, humidity and cloud cover affect mosquito-borne illnesses to varying degrees. In some areas, decreases in vector-borne diseases will be seen, but this is expected to be largely outweighed by the increasing range in latitude and altitude by the mosquitoes that carry malaria, dengue fever and other illnesses.

Sea-level rise will displace millions and migration will threaten to overwhelm health services in recipient nations. Population growth, at about 1.5 million per week, adds to the need for resources.

In the face of all this, is there hope? Yes, because urgent action now to reduce carbon emissions can affect the degree of climate change that we will see in the coming decades. For the first time in human history, we face a global mission in which everyone's help is needed, from the richest to the poorest, of every faith and none.

Christians, who should have understood that this is God's earth and that He calls us to good stewardship of it, are called to repent: of our sins of omission, commission and emission. But Christians also know that God is in the business of rescue, having themselves experienced the life-changing power of the Holy Spirit. We, of all people, should have hope and be willing to work alongside all who are keen to heal this ailing planet. When God wanted to warn Egypt of impending famine his chosen servant Joseph teamed up with the Pharaoh (who showed not a little faith and courage in acting on his dreams!).

There is much going on to give cause for hope. The Copenhagen summit in December will be a tremendous opportunity to hammer out the next treaty on comprehensive global carbon reduction. If you are a medical professional, consider signing the pledge at www.climateandhealth.org to support those politicians seeking strong action. In the UK we have ambitious targets and the Health Service is beginning the difficult work of reducing its carbon emissions nationwide. With a combination of personal change and technical fixes the first 10-20% shouldn't be too difficult, but after that it gets very tough. Check out www.stopclimatechaos.org for the latest news and ideas for action.

Dr Graham McAll is a member of the UK's Climate and Health Council. During leave from his regular work of training family doctors, he has recently been examining the health impacts of global climate change and the response of Christian clinicians. He lived in Malaysia for seven years when he worked as a lecturing surgeon in Universiti Sains, in Kota Bharu.



Melissa Ong opening the Singapore seminar

Dan Tay

What our teams are

Climate change challenges us all to begin thinking about actions we can take – big or small – that together will make an impact.

Here are just a few examples:

Encouraging awareness in New Zealand

A Rocha New Zealand is designing a questionnaire which will be sent to all their members, gauging their opinion about climate change: a controversial topic there, as in many other parts of the world. The results will shape their public policy. The team is hoping the questionnaire will help build a consensus that we should each reduce our own carbon footprint.

Shaping the future of their city

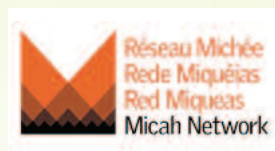
A Rocha South Africa organised an Environmental Leadership Summit for Pietermaritzburg. In August, a dozen environmental specialists met with over 50 leaders from the local government, business, education and civic society sectors to consider their ecological, social and economic stability. Climate change was just one of the workshop topics, along with sanitation, waste management and urban planning. Allen Goddard, A Rocha South Africa's Team Leader, said afterwards, "Like all great cities which are preparing for climate change, Pietermaritzburg needs to give immediate urgent attention to transforming itself to a low carbon economy... The 'City of Choice' is at a moment of choice."

Sponsoring the planting of native trees

A Rocha Netherlands celebrated A Rocha's 25th anniversary by sponsoring a tree for each of their members, planted by A Rocha South Africa.

Participating in the Micah Network's consultation on Creation Stewardship and Climate Change

The Micah Network is a worldwide movement of Christian relief, development and justice organisations, churches and individuals. In July, members gathered in Kenya for the 4th Triennial Global Consultation and amongst those involved in the discussions were Dr Stella Simiyu (A Rocha Trustee) Colin Jackson (Director of A Rocha Kenya) and Sara Kaweesa (leader of the new A Rocha Uganda Initiative). The event led to a declaration on Creation Stewardship and Climate Change for the church across the world; and a 'Statement to World Business Leaders – Our expectations for Copenhagen'.



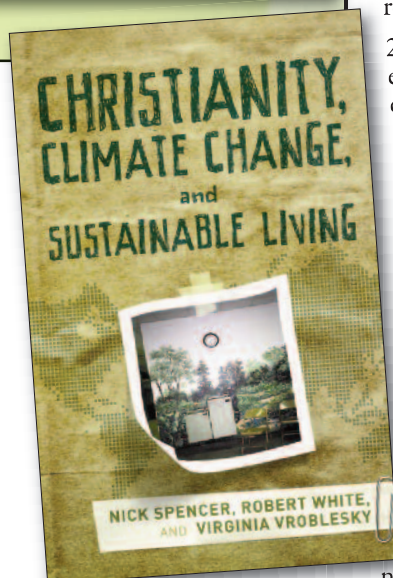
What we're doing...

Travelling well

Nearly three years ago, the UK team designed a new travel policy. They banned domestic flights, required car drivers to explain (on their expense claim) why they had not used public transport and introduced a mileage allowance for cyclists. They also decided to locate their supporter events at venues easily reached by public transport, providing bus and train information for all attendees. "It's really raised awareness," says Pete Hawkins, UK Operations Director. "People are planning journeys much more carefully and car-sharing whenever possible."



New book: Christianity, Climate Change, and Sustainable Living



A few years ago, A Rocha USA founding Director Ginny Vrobesky visited Croatia. There, a shopkeeper in Dubrovnik asked her what he should do about climate change. Realizing she had no good answer for him, she promised to investigate. In 2008, she made good on that promise, teaming up with UK authors Nick Spencer and Robert White to adapt their book, *Christianity, Climate Change, and Sustainable Living* for North American audiences. The experience, she says, "widened her life."

"I didn't really understand all the impacts that my everyday choices make," says Ginny. "Now, I do. Where I bank, what I buy, where my electricity comes from all really matter."

As but one example, Ginny tells of finding out that the electricity she depends upon comes mainly from coal-fired plants and why that is disturbing. "My mother comes from West Virginia. I've seen how our use of coal has cut down mountains, destroyed habitats, and polluted the waters. I now know that some banks finance coal-fired projects and others don't. My choices really matter."

Realizing that some American Christians remain confused about climate change and doubt the science behind it, Ginny says that important as climate change is, the real issue goes beyond that. "The real issue is how we as Christians live and relate to God's creation and each other."

This book helps by offering principles based on scripture that can guide our thinking and our way of living:

1. We should value and protect creation and view that as a joy rather than a burden, a way of fulfilling our proper relationship to God.
2. We should reflect the close bond between society and environment in our decisions. Renewal of society demands care for creation, and vice versa.
3. We should pursue justice for the vulnerable and marginalized. Given the disproportionate consequences of climate change on the global poor, this is particularly relevant.
4. We should not confuse wealth and value: our goal should be relational health rather than money or personal freedom.
5. We should favor regulated, market-based solutions that take account of natural, human and social capital.
6. We should express commitment to our immediate environment and favor local solutions.
7. We should aim to offer just and equitable access for all to natural resources.
8. We need to be serious about our choices and obeying God's commands. We also must remember that God has not abandoned creation to our corrupt and ineffective devices. He is still in charge.

"These principles really resonate with the work of A Rocha," says Ginny.

Tom Rowley, Director of A Rocha USA

Christianity, Climate Change, and Sustainable Living by Nick Spencer, Bob White, and Ginny Vrobesky. To be published December 2009, Price US \$16.95, ISBN-13: 9781598562293.

Climate change



How can we make a difference to climate change? It is caused by how we live. Its effects reach every part of the globe. Often the problem seems too deep-rooted and overwhelming.

Yet Jesus taught that transformation is brought about by starting small and growing big. The Kingdom of God, he said, is like a tiny seed that grows into a tree.

Climate Stewards is A Rocha's international climate programme. We are applying to climate action the blueprint given by Jesus – start small and grow. It's a recipe for hope that shows how everyone can begin where they are and be part of making a real difference.

In Africa, Climate Stewards and A Rocha Ghana help local people to plant new forest. As trees grow they absorb CO₂ from the air. Also trees protect the land from turning into desert, give shelter to crops and provide habitats for wildlife. Since 2007 we have planted about 40,000 trees on more than a dozen small sites. This is just the start. In Ghana our target is 400,000 trees to capture 150,000 tons of CO₂. We are also expanding into Peru and South Africa.

In Europe, Australasia and North America, the task is to change how our whole society lives. This isn't possible in one go, so we encourage people to take a first step. This could be offsetting CO₂ emissions through Climate Stewards, riding a bike, or turning off a TV instead of leaving it on standby. Such small savings add up – offsets fund our tree-planting – but by themselves do not change a way of life. Most importantly, each step must symbolise a commitment to further change, and be an invitation to others to join in.

Persuading others to join in is one of the best kinds of growth. To transform our society we need a crowd of humble change-seekers taking first steps together. Then governments and businesses will be encouraged to move forward too. To make a difference we need to be persuasive, not divisively radical.

The main tool for communicating Climate Stewards and fundraising is the website. It started small with one website in English. It is growing as new versions are created for Canada, France, The Netherlands, Norway, Sweden, Switzerland and the USA.

As Christians we regard prayer as vital. So Climate Stewards started publishing monthly climate prayer updates to a few supporters in English. The growth came as partner organisations, like the John Ray Initiative, syndicated it to their members or, like A Rocha Brazil, translated it into other languages. Our daily prayer updates are among the top 2% of sites on Twitter. Our following has grown to over 1800 in a few months.

Tackling climate change is a huge challenge for the whole world and a key part of our Christian witness. Climate Stewards believes God has put us into society to make a difference. As Jesus said, the Kingdom of God is like yeast that lifts the whole loaf.

Dr Martin Kaonga is A Rocha's interim Director of Science & Conservation. He says, "Climate Stewards always works with others. As well as colleagues in A Rocha we are privileged to have many diverse partners and supporters, such as the Baptists in the UK, the Korsvei movement in Scandinavia, development agencies like Food for the Hungry and international movements like IFES or the Bible Society. Tackling climate change is something we have to do together."

Start small	And grow
Support tree planting in Ghana by offsetting some or all of your CO ₂ emissions at www.climatestewards.net/cs-int-en/offset/offsetnow.html	Persuade family, friends, or people at church to offset their emissions. Or make a bigger donation. Or remember us in your will.
Pray about the climate using materials from www.climateprayer.net or www.twitter.com/climateprayer	Encourage others to pray by sharing our resources with friends, at church, on Facebook or on Twitter
Pull on a sweater instead of turning up the heating	Find out more about living lightly at http://arocha.org.uk/livinglightly
Explore our website at www.climatestewards.net	Contact brendan.bowles@arocha.org to find out how you can help by volunteering. We have a particular need for programmers, Facebookers or Twitterers, writers, translators.



How we can all make a difference

A parable for today

Elephants are big, but they take two years to have just one baby. In that time, a pair of tiny mice can produce more than 100 million offspring – over 2000 tons of mice! The moral is that multiplying matters more than how big you are to start with.

Brendan Bowles,
Director of Climate Stewards



Illustration by Sarah Young

www.climatestewards.net

Online now: A Rocha Conservation Science Review 2007-2009

A Rocha's third Conservation Science Review will be published in November 2009.

It summarises the wide range of research projects being undertaken by our teams around the world. Here are just a few short extracts – to see more, visit www.arocha.org and click on 'Our work', then on 'News publications', or ask the International Office to post you a copy.

Swallow ringing at a roost in the Vallée des Baux, France

In Provence, a reed-bed Barn Swallow *Hirundo rustica* roost, where each autumn hundreds of thousands of birds congregate, has been studied by A Rocha France since 2003. To better understand the function of this site and its importance to the survival of these migrants, swallows were counted every three days between mid August and early October. Swallows were also caught in mist nets for ringing and to take biometric measurements. Counts of swallows departing from the roost each morning were between 100,000 and 350,000 birds during the peak periods just before mid September. Turnover of birds is thought to be rapid, each bird staying only one to three days, so it is estimated that up to 2.4 million birds use the roost each year.



Surveying the Little Campbell River.



Brian Marek

Monitoring human impacts on the Little Campbell River, Canada

The Little Campbell River, A Rocha Canada's key study site in British Columbia, is a biologically important watershed on Canada's west coast. Five species of Pacific salmonids depend on the river for spawning and rearing. A Rocha has studied the impacts of development on water quality and the contribution of natural processes to improving it. In 2006, intern Rachel Krause assisted the BC Ministry of Environment with a study of fecal coliform contamination in urban runoff that suggested that urbanized areas of the watershed were a greater source of bacteriological contamination than areas with large numbers of livestock or failing septic systems. In 2007, intern Kristen Vinke studied the importance of a mid-watershed wetland complex for water quality. Vegetation along the river corridor has also been mapped to identify areas where vegetation restoration could mitigate the effects of runoff from development, reduce bank erosion and improve fish habitat.

Edmund Fellowes

Barn Swallow in flight



A Rocha Lebanon

Hima Ebel es-Saqi IBA is important for soaring birds of prey, storks, cranes and pelicans.

Identification and conservation of new Important Bird Areas in Lebanon

This was the most extensive bird research project ever undertaken in Lebanon. All data was submitted to BirdLife International and 10 new IBAs were found to satisfy BirdLife's rigorous criteria for designation, increasing the IBAs identified in Lebanon from 4 to 14, (with Jabal Moussa IBA following later, making 15).

- Nine new Global IBAs declared
- Two new Regional (Middle-eastern) IBAs declared
- Over 30 national sites assessed with a total of 320 site visits and over 3,000 hours of field monitoring
- A huge new national bird database established
- Site Management committees formed at each new designated IBA
- Over 70 local participants trained in bird identification and site monitoring

The butterflies of Mwamba, Kenya

A Rocha Kenya's Field Study Centre (Mwamba) occupies 3 ha near the coastal village of Watamu. The grounds rise gently from the edge of the Indian Ocean to an area of relatively undisturbed indigenous woodland. There are many butterflies and in 2006 and 2007 an attempt was made to identify the various species, little suspecting that more than 10% of all Kenya's butterfly species would be found on this tiny plot... The species count, over two seasons, reached a total of 108.



David Jenner

Gold-banded Forester *Euphaedra neophron*



A ROCHA

Christians in Conservation

International Office:

Barbara Mearns, A Rocha, 3 Hooper St,
Cambridge, CB1 2NZ, UK.
Tel/Fax +44 (0) 1387 710286
E-mail: international@arocha.org.
Web: www.arocha.org
Reg. Charity No. 288634

A Rocha is an international conservation organisation working to show God's love for all creation

The name "A Rocha" is Portuguese, and means "The Rock".

Visit www.arocha.org to read about A Rocha in 10 languages: Arabic, Chinese (Simplified and Traditional), Czech, Dutch, English, Finnish, French, Portuguese and Spanish.

A Rocha International is a member of IUCN, the International Union for the Conservation of Nature.



In all the countries where we work, A Rocha is identified by five core commitments and to a practical outworking of each:

- **CHRISTIAN** - Underlying all we do is our biblical faith in the living God, who made the world, loves it and entrusts it to the care of human society.
- **CONSERVATION** - We carry out research for the conservation and restoration of the natural world and run environmental education programmes for people of all ages.
- **COMMUNITY** - Through our commitment to God, each other and the wider creation, we aim to develop good relationships both within the A Rocha family and in our local communities.
- **CROSS-CULTURAL** - We draw on the insights and skills of people from diverse cultures, both locally and around the world.
- **COOPERATION** - We work in partnership with a wide variety of organisations and individuals who share our concerns for a sustainable world.

A Rocha works in 18 countries: Brazil, Bulgaria, Canada, Czech Republic, Finland, France, Ghana, India, Kenya, Lebanon, Netherlands, New Zealand, Peru, Portugal, South Africa, Switzerland, UK and USA, and a new group is beginning in Uganda.

Asian countries weekends themes

'Why Creation is Waiting for the Christians' and 'Climate change, Health and Faith' were the themes at a series of events in Singapore and Malaysia in July 2009. A Rocha's 'Asian tour' featured speakers Peter and Miranda Harris (the Founders of A Rocha) and Dr Graham McAll.

Partnering with A Rocha was the Biblical Graduate School of Theology (Singapore) and City Discipleship Presbyterian Church (Selangor).

SINGAPORE (10 - 11 July)

Following the lecture 'Why Creation is Waiting' was a lively Question & Answer session with Dr Quek Swee Hwa, Dr George Capaque and Dr Paul Woods, panellists from three theological institutions. Questions ranged from why biodiversity matters, to the possibility of hope, despite irrevocable climate change.

In 2004, when the first A Rocha seminar was held here, there was but a handful present. Five years later, 150 people turned out, including twenty undergrads and alumni from the National University of Singapore's Varsity Christian Fellowship. Speaking for the group, Grace Koh reflected, "This series of talks was a small but significant step in getting Singapore Christians thinking about creation care. Our country, being economically developed and exposed to the culture of accumulation has a very 'buy and throw away' mentality, and a utilitarian way of treating creation. Ever since hearing about the inspiring work of A Rocha, I've had the opportunity to re-examine my own lifestyle. The examples Dr McAll raised about changed communities around the world showed me how our calling as Christians to be counter-cultural can really make a difference. The journey ahead for both myself and our Fellowship has but begun, and it is both thrilling and humbling to have taken the first step."

Local A Rocha volunteer Deborah Lee said, "I felt the point made at both events, that the world's poor tend to live in the most environmentally degraded conditions, was particularly important because it demonstrated how Christians cannot and should not ignore the care of environment any longer. I was very encouraged by the audience size at both events because it highlights how the urgent need for Christian engagement with environmental action is gaining prominence in Singapore. I wait in eager anticipation for the future work of A Rocha in Southeast Asia."



Photos: Daniel Tay

Delegates from the Biblical Graduate School of Theology in Singapore



The team in Kuala Lumpur, from left to right, Rev Wong Fong Yang, Graham & Jenny McAll, Daniel Tay & Melissa Ong, Miranda & Peter Harris.

SUBANG JAYA, SELANGOR (18 July)

This was A Rocha's first ever event in Malaysia. The day conference allowed for more interactions and feedback from the 70 attendants, some from neighbouring states and even Australia. Rapid-fire brainstorms led by Alvin Ung yielded eco-friendly ideas which people voted for, including this crowd favourite: "Families to sleep in the same room once a week to conserve energy (by using less air conditioning)."

This was the first Christian environmental conference for Julie Chan, a member of the Malaysian Nature Society, who said, "For the past five years I have attended more environmental seminars by NGOs than heard about creation care from the pulpit. The conference was encouraging as I met with many like-minded Christians and A Rocha has further strengthened my conviction to share about creation care to as many as possible."

The organisers integrated stewardship into all aspects of the event. Tea and a vegetarian lunch were provided by a local organic farm and the diners met Yahqappu, the farmer, who took away the food scraps for composting. This year the church launched a 'Reduce our Wasteline' campaign by replacing styrofoam cups with ceramic mugs, and for the A Rocha event, invested in reusable plates and cutlery.

The senior pastor, Rev Wong Fong Yang, is keen to keep the momentum going, and has explained his reasons to us, "The A Rocha conference in Malaysia has deepened my theological understanding that the care of creation is integral to my Christian faith. The creation reveals and reflects the glory of God. Although sin has marred the creation, God is renewing the earth and he has called me to participate in its renewal and restoration. It is no less important than evangelism or mission. God's gift to us is to be treasured. We show our love for God by loving His creation. The conference has also opened my eyes to see that climate change affects everyone, but more so the poor people. CDPC is involved in ministry to the poor and so the link will compel us to take steps individually and corporately to reduce CO₂ emissions on a daily basis. My small individual change can make a difference. When the whole church changes, it can make a significant difference. We may not be able to change the world, but we certainly can change ourselves."

Melissa Ong is a member of the A Rocha International Communications Team, currently based in her home city of Singapore. She recently spent several years with the A Rocha teams in Canada, France, Kenya, Portugal and the UK, producing resources for web, print and video.

To see Mel's videos, go to the Resources section of the A Rocha website and click on 'Videos'.

To hear the talks given by Graham, Peter and Miranda, go to the Resources section of the A Rocha website and click on 'Audio talks'.