

# ProClim– Flash

No 60, July 2014



## Wir allein können ohnehin nichts ändern – wahr und falsch zugleich

Editorial, französische Übersetzung anschliessend



Prof. Renate Schubert  
Associate Vice President ETH Zürich  
Professur für Nationalökonomie  
Mitglied des OcCC

Mittlerweile sind die Zusammenfassungen für Entscheidungsträger aus allen drei Arbeitsgruppen des Weltklimarats IPCC veröffentlicht; sie beziehen sich auf den fünften Sachstandsbericht dieses Gremiums. Mit mehr Sicherheit als in den vorhergehenden Berichten können nun die unangenehmen Folgen eines globalen Temperaturanstiegs von über 2 °C abgeschätzt werden. Mit mehr Sicherheit als zuvor kann man aber auch sagen, dass wir es schaffen könnten, die globale Temperatur nicht wesentlich über 2 °C hinaus steigen zu lassen und dass die Kosten dafür nicht sehr dramatisch ausfielen, wenn wir umgehend mit nennenswerten Reduktionen der

Treibhausgasemissionen beginnen würden. Wer aber ist eigentlich gemeint mit dem «wir»? «Wir» alle auf dem Planeten? «Wir» alle in der Schweiz? Oder auch jeder und jede Einzelne von uns?

Die Frage nach dem «Wir» scheint eine der zentralen Fragen im Zusammenhang mit der Klimapolitik zu sein. Dies vor allem deswegen, weil «Klimaschutz» ein sogenanntes globales öffentliches Gut ist. Unabhängig davon, wo auf der Welt und durch wen Treibhausgasemissionen vermindert werden, profitieren alle weltweit davon. Da Emissionsreduktionen mindestens kurzfristig mit Kosten verbunden sind, stellt sich natürlich die Frage, wieso einzelne Individuen und Gruppen

## Contents

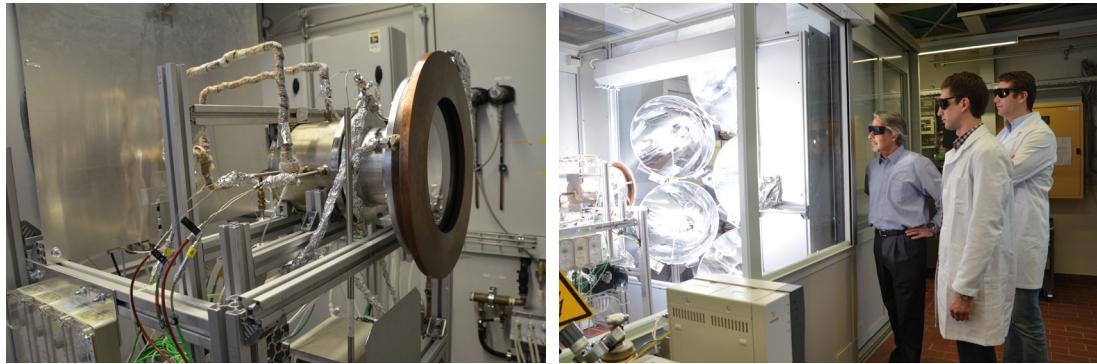
- 1 Editorial
- 4 News
- 6 Meeting Reports
- 10 Publications
- 12 CCES News
- 14 Human Dimensions Research
- 15 Pilot program Adaptation to climate change
- 16 C2SM News
- 17 OCCR Flash
- 18 Conferences and Events



Science and Policy  
Platform of the Swiss Academy of Sciences  
ProClim–  
Forum for Climate and Global Change

### Editor:

Gabriele Müller-Ferch | gabriele.mueller@scnat.ch  
ProClim–, Forum for Climate and Global Change  
Schwarztorstr. 9 | 3007 Bern | Switzerland  
Tel. +41 (0) 31 328 23 23  
[www.proclim.ch](http://www.proclim.ch)



**Innovative Technologie für den Klimaschutz – Flugzeugtreibstoff aus Sonnenenergie:** Im Rahmen des EU-Projekts Solarjet haben Wissenschaftler zum ersten Mal die gesamte Produktionskette von flüssigem Treibstoff aus Wasser und CO<sub>2</sub> mit Hilfe von Sonnenenergie experimentell nachgewiesen. Kernstück des Herstellungsprozesses von nachhaltigem «solarem Kerosin» ist ein Hochtemperatur-Solarreaktor, der in der Gruppe von Aldo Steinfeld, Professor für Erneuerbare Energieträger an der ETH Zürich und Leiter des Labors für Solartechnik am Paul Scherrer Institut, entwickelt wurde. Photos: Peter Rüegg, ETH Zürich

**Une technologie pour la protection du climat – du carburant pour avions tiré de l'énergie solaire:** Dans le cadre du projet Solarjet de l'UE, des scientifiques ont réalisé la première démonstration expérimentale de toute la chaîne de production de carburant liquide à partir d'eau et de CO<sub>2</sub> à l'aide d'énergie solaire. La pièce maîtresse de ce processus permettant d'obtenir du «kérosène solaire» de façon durable est un réacteur solaire à haute température développé dans le groupe d'Aldo Steinfeld, professeur pour les agents énergétiques renouvelables à l'EPF de Zurich et directeur du Laboratoire de technique solaire à l'Institut Paul Scherrer. Photos: Peter Rüegg, EPF de Zurich

oder auch einzelne Länder solche Kosten auf sich nehmen sollen, wenn doch nicht nur sie selbst, sondern auch viele andere dadurch Vorteile haben, und zwar ohne dass sie dafür Kosten aufwenden müssen. Solange man nicht sicher ist, ob andere auch etwas tun, schiebt man den schwarzen Peter gerne weiter.

Das Ganze lässt sich dann gut mit dem Argument kaschieren, als kleines Land (wie die Schweiz) oder als einzelner kleiner Akteur könne man ja ohnehin nichts an der globalen Situation ändern. Man trüge nicht sehr viel zu den weltweiten Emissionen bei, und selbst wenn man die eigenen Treibhausgasemissionen auf null herunterfahren würde, wäre das global kaum spürbar.

Auf den ersten Blick scheint diese Argumentation zutreffend zu sein. In der Tat haben die Emissionen einzelner Akteure oder kleiner Länder für den Planeten insgesamt keine wesentlichen direkten Auswirkungen. Doch dies greift zu kurz. Zwei wichtige indirekte Effekte dürfen nicht übersehen werden. Erstens haben Anstrengungen zur Emissionsminderung einen *Vorbildeffekt*. Das Einsparen von Energie oder Emissionen kann Anerkennung im Freundeskreis oder in sozialen Netzwerken bringen und damit die

Bereitschaft verstärken, sich im eigenen Bereich für Emissionsminderungen zu engagieren. Und auch auf Länderebene sind Vorbilder wichtig. Die Tatsache etwa, dass in skandinavischen Ländern hohe CO<sub>2</sub>-Steuern nicht zum wirtschaftlichen Zusammenbruch führen, mag andere Länder ermutigen, mehr für den Klimaschutz zu tun.

Zweitens kann Klimaschutz auch zum gewinnbringenden *Geschäftsmodell* werden. Dies gilt vor allem für Länder und Firmen, die für innovative Technologien, z.B. bei der Erzeugung und Speicherung regenerativer Energien, rasch Absatz finden dürften. Aber auch neuartige Strategien im Haushaltsbereich, wie etwa sogenannte ESCOs (Energy Service Companies), die für individuelle Hauseigentümer den hohen Investitionsbedarf effizienter Heiz- oder Kühlsysteme übernehmen und diesen in monatliche Raten umwandeln, könnten interessante Renditen abwerfen.

**Fazit:** Auch wenn die Schweiz ein kleines Land ist und auch wenn die Emissionsreduktionen einzelner Akteure auf globaler Ebene keinen erkennbaren direkten Effekt haben, gibt es angesichts der indirekten Folgen unseres Handelns erhebliche Anreize, etwas für den Klimaschutz zu tun. Trittbrettfahren der anderen hin oder her.

## Seuls nous ne pouvons de toute manière rien changer – c'est à la fois vrai et faux

**Professeure Renate Schubert, vice-présidente associée de l'EPF de Zurich, chaire professorale d'économie nationale, membre de l'OcCC**

Les résumés à l'intention des décideurs, synthèses des résultats des trois groupes de travail du GIEC, le Conseil mondial du climat, ont été publiés dans le sillage de son cinquième Rapport sur l'état du savoir. Les conséquences désagréables d'un réchauffement planétaire de plus de 2 °C peuvent être évaluées maintenant de façon plus sûre que dans les rapports antérieurs. Mais avec une plus grande certitude qu'avant, on peut affirmer aussi que nous serions en mesure d'éviter une hausse de la température globale dépassant sensiblement ces 2 °C et que les coûts pour y parvenir ne seraient pas exorbitants, si nous commençons tout de suite à réduire substantiellement les émissions de gaz à effet de serre. Mais que signifie ce «nous»? «Nous» tous sur la planète ? «Nous» tous en Suisse ? Ou chacune et chacun de nous ?

Le sens de ce «nous» semble être une question centrale en rapport avec la politique climatique. Ceci surtout du fait que la protection du climat se réfère à ce qu'on appelle un bien public mondial. Indépendamment de qui réalise des réductions d'émission et de l'endroit du globe où cela se passe, tous en profitent, dans le monde entier. Vu que les réductions d'émission entraînent des coûts, du moins à court terme, la question se pose de savoir pourquoi des personnes, groupes ou pays isolés devraient assumer de telles dépenses, alors qu'ils ne sont pas seuls à en obtenir des avantages, mais que beaucoup d'autres en tirent aussi profit, et ceci sans rien payer. Tant que l'on n'est pas sûr que les autres feront aussi quelque chose, on cherche volontiers à se défiler.

Un bon prétexte pour se dérober est qu'un petit pays (comme la Suisse) ou un petit acteur isolé ne peut de toute façon rien changer à la situation générale, que sa contribution aux émissions mondiales n'est pas bien grande et que même s'il abaissait à zéro ses rejets de gaz à effet de serre, ça ne se remarquerait pratiquement pas au niveau planétaire.

Au premier abord, cette argumentation semble pertinente. Car il est indéniable que les émissions d'acteurs isolés ou de petits pays n'ont pas d'impact direct substantiel sur l'ensemble du globe. Toutefois, elle ne va pas au fond des choses. Car il ne faut pas ignorer deux importants effets indirects. Premièrement, les efforts de réduction des émissions ont *un effet d'exemple*. Les économies d'énergie ou d'émissions peuvent susciter de l'estime dans le cercle des amis ou dans les réseaux sociaux et renforcer ainsi la disposition d'autres acteurs à s'engager dans leur propre domaine pour la diminution des émissions. Les exemples sont importants aussi au niveau des pays. Ainsi, le fait que des taxes élevées sur le CO<sub>2</sub> dans des pays scandinaves n'y entraînent pas un effondrement de l'économie peut encourager d'autres pays à faire davantage pour la protection du climat.

Deuxièmement, la protection du climat peut devenir *un modèle commercial rentable*. C'est le cas avant tout pour des pays et des entreprises en mesure de trouver rapidement des débouchés pour des technologies innovantes, p.ex. dans le domaine de la production et du stockage d'énergies renouvelables. Des nouvelles stratégies dans le secteur domestique pourraient également générer des rendements : les ESCOs (Energy Service Companies), par exemple, assument pour des propriétaires de maison le financement élevé de systèmes efficaces de chauffage et de climatisation et recouvrent ensuite ces investissements sous forme de mensualités.

**Pour conclure :** Même si la Suisse est un petit pays et que les réductions d'émission d'acteurs isolés n'ont pas d'effet direct notable au niveau planétaire, il existe de fortes incitations à faire quelque chose pour la protection du climat, étant donné les conséquences indirectes de nos actes. Indépendamment de savoir si d'autres en tirent aussi profit.

# News

## First globally complete glacier inventory created

An international group of scientists – more than 70 scientists from 18 countries – have mapped all of the world's glaciers. Glaciologists can now study with unprecedented accuracy the impacts of a changing climate on glaciers worldwide and determine their total extent and volume on a glacier-by-glacier basis. Overall, glaciers cover an area of about 730 000 km<sup>2</sup> and have a volume of about 170 000 km<sup>3</sup>. Each of the nearly 200 000 glaciers in the new inventory is represented by a computer-readable outline, making precise modelling of glacier-climate interactions much easier. The main reason for completing the inventory was the recently published Fifth Assessment of the Intergovernmental Panel on Climate Change



Elephant foot Glacier in Northeast Greenland from space.  
Image data: Landsat ETM+; Image processing: Tobias Bloch (UZH/TUD)

(IPCC). Several studies that relied on earlier versions of the so called Randolph Glacier Inventory (RGI) were essential sources for that assessment. Further information: [www.proclim.ch/News?3227](http://www.proclim.ch/News?3227)  
You can find the link to the Randolph Glacier Inventory at: [www.glims.org/RGI](http://www.glims.org/RGI)

Source: Dresden University of Technology

## Bundesrat verabschiedet Aktionsplan Anpassung an den Klimawandel

### Adaptation aux changements climatiques: le Conseil fédéral adopte le plan d'action

(Deutsch) Der Aktionsplan, den der Bundesrat im Frühjahr 2014 verabschiedet hat, ist der zweite Teil der Strategie des Bundesrates zur Anpassung an den Klimawandel. Der Aktionsplan beinhaltet bereits geplante oder zu entwickelnde Mass-

nahmen in neun Sektoren: Wasserwirtschaft, Umgang mit Naturgefahren, Landwirtschaft, Waldwirtschaft, Energie, Tourismus, Biodiversitätsmanagement, Gesundheit und Raumentwicklung. Der Aktionsplan zielt ferner auf eine Verbesserung der sektorenübergreifenden Wissensgrundlagen sowie auf die Koordination und die Zusammenarbeit auf dem Gebiet der Anpassung an den Klimawandel ab. Unter anderem sollen die Bereitstellung von Klimaszenarien und hydrologischen Szenarien für die Schweiz sichergestellt werden. Zudem werden die Chancen und Risiken des Klimawandels schweizweit analysiert. Die Zusammenarbeit bei der Umsetzung der Anpassungsstrategie von Bund, Kantonen, Städten und Gemeinden muss auch verbessert werden. Mit einem Pilotprogramm werden Anpassungsaktivitäten in den Regionen initiiert und gefördert.

Der Aktionsplan setzt den Rahmen für die Umsetzung der Anpassungsstrategie in den Jahren 2014–2019. Die Fortschritte bei der Umsetzung der Massnahmen und die damit erzielte Wirkung werden regelmäßig überprüft. Spätestens 2019 wird über das weitere Vorgehen bei der Anpassung an den Klimawandel entschieden. Quelle: BAFU

Das Dokument «Anpassung an den Klimawandel in der Schweiz – Aktionsplan 2014–2019» kann unter [www.proclim.ch/News?3205](http://www.proclim.ch/News?3205) heruntergeladen werden.

(français) Le plan d'action, que le Conseil fédéral a adopté au printemps 2014, est le second volet de la stratégie du Conseil fédéral pour l'adaptation aux changements climatiques. Ce plan d'action regroupe des mesures déjà planifiées ou à développer dans neuf secteurs: gestion des eaux, gestion des dangers naturels, agriculture, gestion des forêts, énergie, tourisme, gestion de la biodiversité, santé et développement territorial.

L'amélioration des connaissances transversales ainsi que la coordination et la collaboration dans le domaine des changements climatiques font aussi partie des objectifs du plan d'action. Il s'agit notamment d'élaborer des scénarios climatiques et hydrologiques pour la Suisse et d'analyser, pour l'ensemble de la Suisse, les risques mais aussi les opportunités découlant des changements climatiques. La collaboration entre la Confédération, les cantons et les communes doit elle aussi être améliorée, notamment en coordonnant les activités entre les différents niveaux. Un programme pilote a été lancé pour initier et encourager la

mise en œuvre d'activités d'adaptation dans les régions.

Le plan d'action fixe le cadre dans lequel la stratégie d'adaptation doit être mise en œuvre durant la période de 2014–2019. L'évolution de l'application des mesures et les effets escomptés sont régulièrement examinés. Les prochaines étapes seront décidées au plus tard en 2019. *Source: OFEV*

Télécharger le document «Adaptation aux changements climatiques en Suisse – Plan d'action 2014–2019» sur: [www.proclim.ch/News?3206](http://www.proclim.ch/News?3206)

Auch weitere seit den 1990er-Jahren getroffene Massnahmen trugen das Ihre zur Verminderung der Emissionen bei. Zu erwähnen sind unter anderem die Steigerung der Energieeffizienz, die Förderung des öffentlichen Verkehrs, die Verlagerung der Gütertransporte von der Strasse auf die Schiene, die Unterstützung naturnaher Methoden in der Landwirtschaft und die Reglementierung synthetischer Gase. Zusatzdokumente können unter [www.proclim.ch/News?3212](http://www.proclim.ch/News?3212) heruntergeladen werden.

*Quelle: Medienmitteilung BAFU*

### **Kyoto-Protokoll: Die Schweiz hat ihre Verpflichtungen 2008–2012 erfüllt**

### **Protocole de Kyoto: la Suisse a rempli l'engagement pour 2008–2012**

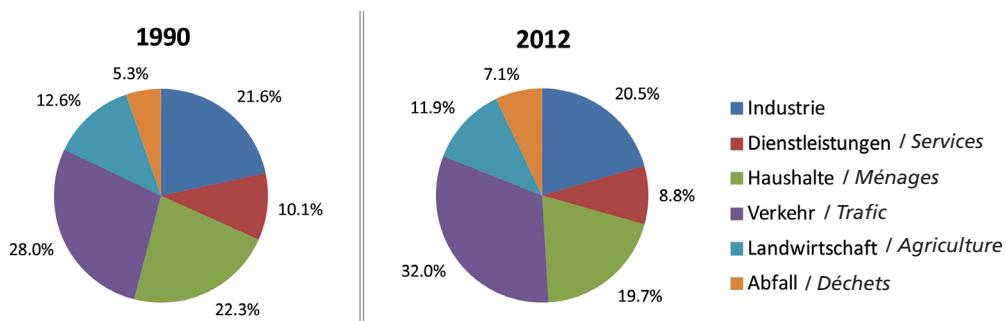
(Deutsch) Die Schweiz hat das im Kyoto-Protokoll festgelegte Ziel für den Zeitraum 2008–2012 erfüllt, und zwar mehrheitlich dank Reduktionsmassnahmen im Inland. Auch im Ausland erworbene Emissionsreduktionszertifikate sowie die CO<sub>2</sub>-Senkenleistung der Schweizer Wälder wurden mitberücksichtigt. Das Reduktionsziel für 2013–2020 ist jedoch wesentlich höher gesteckt und nur mit gemeinsamen Anstrengungen aller betroffenen Sektoren erreichbar.

Mit der Ratifizierung des Kyoto-Protokolls im Jahr 2003 verpflichtete sich die Schweiz, die Treibhausgasemissionen im Zeitraum 2008–2012 gegenüber 1990 um 8 % zu vermindern. Der Grossteil der Reduktionsmassnahmen – namentlich die CO<sub>2</sub>-Abgabe, das Gebäudeprogramm und die CO<sub>2</sub>-Emissionsvorschriften für Personenwagen – erfolgte im Rahmen des CO<sub>2</sub>-Gesetzes.

(français) La Suisse a atteint l'objectif 2008–2012 fixé dans le Protocole de Kyoto, majoritairement grâce aux mesures de réduction prises sur son territoire. L'achat de certificats à l'étranger et l'effet de puits de CO<sub>2</sub> des forêts ont aussi été pris en compte. L'objectif pour 2013–2020 est plus ambitieux et demande un engagement de tous les secteurs concernés.

En ratifiant le Protocole de Kyoto en 2003, la Suisse s'est engagée à réduire les émissions de gaz à effet de serre de 8 % par rapport à 1990 entre 2008 et 2012. L'essentiel des mesures de réduction a été mis en place dans le cadre de la loi sur le CO<sub>2</sub>, notamment la taxe CO<sub>2</sub> sur les combustibles, le Programme Bâtiments et les prescriptions sur les émissions des véhicules de tourisme. D'autres mesures appliquées à partir des années 1990, telles que l'augmentation de l'efficacité énergétique, la promotion des transports publics, le transfert des marchandises de la route au rail, des méthodes plus proches de la nature dans l'agriculture ou la réglementation des gaz synthétiques ont aussi contribué à diminuer les émissions. Données supplémentaires pour télécharger sur [www.proclim.ch/News?3213](http://www.proclim.ch/News?3213)

*Source: Communiqué aux médias OFEV*



Anteile der einzelnen Sektoren an den Treibhausgasemissionen der Jahre 1990 und 2012 in der Schweiz. Quelle: BAFU  
Quotes-parts des différents secteurs aux émissions de gaz à effet de serre en Suisse pour l'année 1990 et 2012. Source: OFEV

# Meeting reports

## Forum IPCC Climate Change 2014 – Meeting report

*Fifth Assessment Reports AR5 on Impact, Adaptation, Vulnerability and Mitigation (WGII and WGIII)*

On 12 May 2014 Swiss researchers who have been engaged in the elaboration of the IPCC report presented an overview and key messages of the Summary of Policymakers and of the chapters they were involved. About 220 participants attended the forum organized by ProClim, OFEV and the University of Fribourg. It was a follow-up of the event at the University of Zurich on April 15 and the event in Bern where the first IPCC volume «The Physical Science Basis» had been presented.

After the welcome of **Guido Vergauwen**, rector of the University of Fribourg, an insight into the report of **Working Group II about Impacts, Adaptation and Vulnerability** was chaired by **G.K. Plattner** from the University of Bern.

**Andreas Fischlin** from ETH Zurich summarized the report and pointed out the following key messages in his introduction:

- The contribution by WGII to the AR5 mostly confirms previous findings from AR4.
- Risks result from a combination of hazard, exposure and vulnerability.
- Generally: The warmer it gets the more negative impacts dominate and the higher the risks become.
- Risks differ among social groups, regions, and sectors.
- Adaptation can reduce risks, but may encounter limitations.
- Depending on the mitigation pathway, limits to adaptation may vary.

**Philippe Thalmann** from the EPF Lausanne talked about the costs of climate change and their insurance. For most economic sectors, climate change is not a central concern for the next few decades. Future trends in the insurance system show an increase of losses from flooding, cyclones, winter storms and hailstorms.

Does climate change hit the poor hardest? **Etienne Piguet** from the University of Neuchâtel showed that climate change is never the only factor that affects poverty dynamics. It is a threat multiplier at the intersections of policies, power structures, gender, age, class, ethnicity and so on.



Key messages of the IPCC Fifth Assessment Reports AR5 on Impact Adaptation, Vulnerability and Mitigation (WGII and WGIII) were presented in the Aula Magna of the University of Fribourg. Photo: C.Ritz

**Anthony Patt** from ETH Zurich discussed the challenges of the work within chapter 14 about «Adaption Needs and Options». The separation of this issue from the chapters «Adaptation Planning and Implementation» as well as «Adaptation Opportunities, Constraints and Limits» required supplementary efforts from authors and reviewers.

**Christian Huggel** from the University of Zurich focused on observed impacts, attribution to climate change and associated key risks. In natural and human systems climate impacts are increasingly observed and their quantification in relation to emissions is still difficult. Adaptation can substantially reduce the risks, but for some systems it is virtually impossible to adapt and losses are the inevitable consequence.

**Martin Beniston** from the University of Geneva presented the multiple impacts of climate change in Europe. Extreme events will increase the likelihood of systemic failures affecting multiple sectors. Human health is likely to be affected by climate change.

**Christian Hauck** from the University of Fribourg chaired the second session about the report of **Working Group III dealing with the aspects of Mitigation**.

**Anthony Patt** from ETH Zurich talked about framing the climate mitigation problem. Economic growth is driving a continued rise in greenhouse gas emissions. Decoupling growth from emissions is technically and economically feasible. There is no single policy change that is necessary or sufficient, but rather many are required.

Emission drivers, trends and transformation pathways were presented by **Joeri Rogelj** from ETH Zurich. A delay in emission reductions significantly increases the mitigation challenge with consequences like higher costs, higher technological dependency and a possible missing of the 2 °C goal.

**Carmenza Robledo** from HELVETAS and ETH Zurich showed that around 25 % of the yearly GHG emissions come from the AFOLU (Agriculture, Forestry, and Other Land Use) sector (about 9–12 GtCO<sub>2</sub>e/yr), where good governance is central for reducing most mitigation barriers.

In his talk, **Axel Michaelowa** from the University of Zurich, focused on the performance of international and national climate policies to date. On the national level co-benefits like energy security or a decrease of local pollution augment the attractiveness of emission reductions.

Sectoral policies are easier to implement than economy-wide ones. Some direct regulation policies, especially efficiency standards for buildings and household appliances, are cost-effective.

The role of preferential trade agreements for climate change mitigation and adaptation was the issue presented by **Thomas Cottier** from the University of Bern. Mirroring its limited role in the WTO, climate change mitigation and adaptation has not played a significant role in preferential and regional trade agreements except the EU.

After the closing words with great thanks to all scientists working for IPCC expressed by **José Romero** from the Federal Office for the Environment FOEN, there was enough time for discussions and networking at the apéro riche.

You can download all presentations at:  
[www.proclim.ch/News?3231](http://www.proclim.ch/News?3231)

### Die Kernaussagen des neuen IPCC Klima-Berichts aus erster Hand

62. Parlamentarientreffen der Gruppe «Klimaänderung» vom 4. März 2014

Das monumentale Standardwerk des IPCC «Klimaänderung 2013: Die wissenschaftlichen Grundlagen» wurde nach 5-jähriger Arbeit Ende 2013 vorgestellt. Prof. Thomas Stocker hat die Erarbeitung des über 1500-seitigen Berichts mit weltweit über 250 Autoren geleitet. Er hat die wichtigsten Erkenntnisse aus den Berichten kurz am Treffen zusammengefasst.

Einige Kennzahlen des Berichtes:

- Jedes der letzten drei Jahrzehnte war an der Erdoberfläche sukzessive wärmer als alle vorangegenden Jahrzehnte seit 1850.
- In der Nordhemisphäre war 1983–2012 wahrscheinlich die wärmste 30-Jahr-Periode der letzten 1400 Jahre.
- Von 1901–2010 ist der mittlere Meeresspiegel um 190 mm angestiegen.
- Der Anstieg von CO<sub>2</sub> hat zu einer Aufnahme von Energie im Klimagesystem geführt.
- Die Ozeane haben seit 1970 70 Mio TWh aufgenommen.
- Die Beschränkung des Klimawandels erfordert beträchtliche und dauerhafte Reduktionen der Treibhausgas-Emissionen.



Thomas Stocker, Professor für Klima und Umwelphysik, Physikalisches Institut der Universität Bern und seit 2008 Co-Chair IPCC Working Group I.

Photo: Johannes Frandsen, IPCC WG I

- Zur Erreichung einer Stabilisierung bis Ende des Jahrhunderts auf 2 °C dürfen weltweit nur noch 940 Mia t CO<sub>2</sub> emittiert werden (heute: 36 Mia t CO<sub>2</sub> pro Jahr).

Die Erwärmung in der Schweiz ist rund das 1.5-fache der mittleren globalen Erwärmung:

- +2 °C Ziel (gegenüber 1870): Schweiz ~3 °C; Schneefallgrenze +500m
- Weiter wie bisher: Global + 4.5 °C, Schweiz ~5.2 °C; Schneefallgrenze +870m

## 15<sup>th</sup> Swiss Global Change Day – Meeting Report

On 2<sup>nd</sup> April the Swiss global change science community met for the 15<sup>th</sup> time on the annual Swiss Global Change Day. About 260 participants attended the event, which offered scientific highlights presented by distinguished researchers as well as a broad overview over current global change research in Switzerland depicted on 65 posters. Furthermore, the Swiss Global Change Day serves Swiss researchers to get and stay in contact – the programme provides enough time for discussion and networking.

**Heinz Gutscher**, chair of the ProClim steering committee, welcomed the participants and speakers. Following his introduction, six key note speakers presented highlights and challenges in the broad field of global environmental research:

In her talk, **Jennifer Francis** from the Institute of Marine and Coastal Sciences in Rutgers, U.S., explored the relation between Arctic climate and extreme weather in Europe: Are changes in European climate extremes triggered by Arctic climate change? She showed that in the Arctic the climate is warming much faster than in the rest of the world, which affects the jet stream. Its wavelength increases and, consequently, the speed of the jet stream slows down. As a result, in Europe weather patterns seem to become more persistent, which raises the probability of more extreme weather events.

**Markus Stoffel** from the University of Geneva showed how climate change affects the risks due to rockfall and debris flow. His research focuses on the documentation of rockfall and debris flow frequency in past centuries, for which there is very few information until now. The impact of climate change is visible in periglacial environments, but not at lower elevations. Stoffel's results show that the frequency of rock fall is clearly driven by temperature, whereas there is no clear relation between warming and the number of debris flows. The latter will not necessarily occur more frequently, but with larger magnitudes.

**Martin Claussen** from the Max Planck Institute for Meteorology, Germany, elaborated on the question whether vegetation is a global or regional player in the climate system. He calls the vegetation with its small mass and vast area the «big



The «surprise»: Esther Hasler provided a welcome break between scientific highlights. Photo: C. Ritz

flyweight». This flyweight, however, is an important player in the earth system with regard to the energy, water and carbon cycles. Consequently, vegetation can be assumed to have an effect on the climate. According to modelling results, tropical forests tend to have a cooling effect, whereas boreal forests warm the climate. However, these effects are regional rather than global.

What are the benefits and costs of managing the risks of climate extremes in vulnerable countries?

**Joanne Linnerooth-Bayer** from the International Institute for Applied Systems Analysis, Austria, showed that, according to studies, investments into disaster prevention do pay off. However, disaster prevention is still mostly neglected. With climate change the benefit-cost-ratio will increase, that is, disaster prevention becomes even more beneficial. Linnerooth-Bayer concluded that global risk management for extreme climate events would support risk transfer and cost effective risk reduction and could reduce loss and damage.

**Bernhard Truffer** from EAWAG focused on industry dynamics in the energy transition, in particular on the interrelation of regional and global processes. Truffer showed the challenges with regard to the transformation of the energy sector. These are, among others: implementation barriers, resistance of users, and short-sightedness of investors. He suggests taking advantage of local ingenuity

to anticipate globalization dynamics in industry formation and to think in the long run. In order to achieve the transition of the energy sector a major socio-technical transformation process is required.

**Reto Knutti** from ETH Zurich gave an insight into the world of models and climate modelling with a particular focus on the progresses made by the latest generation of models. Improvement in modelling may be achieved by aggregation, by doing a larger number of model runs and by considering more parameters. This results in more robust projections as well as in improvements in regional modelling. On the other hand, uncertainty ranges have not decreased, which is largely due to the fact that natural variability puts limits to model evaluation and uncertainty quantification.

In the poster session the best posters in the fields of WCRP, IGBP and IHDP\* were selected by a jury and honored with a travel award of CHF 1000.- each. The following posters were awarded:

**WCRP** (awards are sponsored by the ACP, the Commission for Atmospheric Chemistry and Physics, SCNAT):

- Alexander Haumann: Freshening of the Southern Ocean through enhanced sea-ice transport
- Niklaus Merz: North Atlantic eddy-driven jet in interglacial and glacial winter climates
- Peter Stucki: A catalog of high-impact windstorms in Switzerland since 1859

**IGBP** (awards are sponsored by the Swiss IGBP Committee, SCNAT):

- Marina Morlock: Can water fleas (*Daphnia*) provide insights into lake water methane concentrations?
- Marco Plebani: Protist diversity along temperature gradients: a study in a subarctic geo-thermal stream network

**IHDP** (the award is sponsored by the SAGW, the Swiss Academy of Humanities and Social Sciences):

- Dominikus Vogl: Fukushima Effect on Environmental Attitudes

You can download all presentations and posters at: [www.proclim.ch/News?3199](http://www.proclim.ch/News?3199)

\* WCRP: World Climate Research Programme  
 IGBP: International Geosphere Biosphere Programme  
 IHDP: International Human Dimensions Programme on Global Environmental Change

## Erfolgreicher erster Sustainable University Day

Welche Rolle kommt den Universitäten in der gesellschaftlichen Transformation hin zu einer nachhaltigen Entwicklung zu? Wie nehmen sie diese wahr, und: Wie sehen die entsprechenden Beiträge ganz konkret aus? Diesen und ähnlichen Fragen geht der Sustainable University Day nach, die Jahrestagung des 4-jährigen SUK-Programms «Sustainable Development at Universities» (sd-universities Programm), welches vom Netzwerk für transdisziplinäre Forschung der Akademien der Wissenschaften Schweiz (td-net) geleitet wird.



Am interaktiven Forschungsmarkt wird rege über die Bedeutung wissenschaftlicher Erkenntnisse für das Verstehen und Anpacken von Nachhaltigkeitsproblemen diskutiert.  
 Photo: Stiftung Mercator Schweiz, Jonas Jäggy

Rund 200 Forschende, Studierende, PolitikerInnen sowie Vertretende von NGOs und Verwaltung kamen am 28. März 2014 zur ersten Durchführung der Tagung an der Universität Bern zusammen. Sie diskutierten über Bedeutung und Interpretationen der gesellschaftlichen Leitidee und überlegten, welche Kompetenzen an Hochschulen vermittelt werden müssen, damit ihre Abgänger zum nötigen gesellschaftlichen Wandel beitragen können. Interaktiv ging es am Forschungsmarkt zu: WissenschaftlerInnen der verschiedenen Fakultäten der Universität Bern machten ihre Erkenntnisse zum Thema erlebbar – von der Rolle der Kirchen in Nachhaltigkeitsprojekten über Möglichkeiten eines konfliktfreien Zusammenlebens mit Elefanten dank Smartphonetechnologie bis zur Einsparung von 50 000 Seiten Papier in sechs Jahren Medizinstudium.

Neben dem Austausch über konkrete Projekte wurde auch über die strategische Verankerung

des Anliegens der nachhaltigen Entwicklung auf der Ebene von Universitätsleitungen nachgedacht. Ein Highlight bildete die entsprechende Podiumsdiskussion, die unter anderem der Frage nachging, wie die nachhaltige Entwicklung Eingang in Kernfächer findet und wie die problemorientierte Forschung zu gesellschaftlich relevanten Themen durch das Wissenschaftssystem honoriert werden kann. «Der rege Austausch hat deutlich gezeigt, wie wichtig diese Diskussionen für das Vorankommen der Universitäten, aber

auch für die Sichtbarkeit ihrer Bemühungen nach aussen sind», fasst die für nachhaltige Entwicklung verantwortliche Vize-Rektorin der Universität Bern, Prof. Dr. Doris Wastl-Walter, den Tag zusammen. Der Sustainable University Day findet 2015 in St. Gallen, 2016 in Lausanne und 2017 in Basel statt.

#### **Kontakt:**

Gabriela Wülser, td-net, Leitung sd-universities Programm,  
[gabriela.wuelser@scnat.ch](mailto:gabriela.wuelser@scnat.ch), Tel: +41 (0) 31 310 40 94

#### **Das sd-universities Programm**

Um den Beitrag der Universitäten an die nachhaltige Entwicklung möglichst effektiv zu stärken, finanziert das mit rund 4,7 Millionen ausgestattete sd-universities Programm die Entwicklung neuer und die Weiterentwicklung bestehender Kurse auf Bachelor-, Master- und Doktoratsstufe. Es fördert Projekte von Studierenden und den Aufbau von Unterstützungsplattformen für studentische Projekte. Das Programm ermöglicht zudem die Erarbeitung von inter- und transdisziplinären Forschungsanträgen sowie den Aufbau einer schweizweiten Plattform für Nachhaltigkeitsforschung. Diese Förderbereiche entsprechen den Bedürfnissen, die in einem zweijährigen partizipativen Prozess von Forschenden, Lehrenden und Studierenden definiert wurden. [www.sd-universities.ch](http://www.sd-universities.ch)

## Publications

### **IPCC Working Group II report «Impacts, Adaptation, and Vulnerability»**

*The full contribution of Working Group II to the 5<sup>th</sup> Assessment Report (AR5) of IPCC published online*

The Working Group II contribution to the Fifth Assessment Report considers the vulnerability and exposure of human and natural systems, the observed impacts and future risks of climate change, and the potential for and limits to adaptation. The chapters of the report assess risks and opportunities for societies, economies, and ecosystems around the world.

Further information and download of the full report WGII (Final Draft) and the Summary for Policy Makers at: [www.proclim.ch/News?3185](http://www.proclim.ch/News?3185)

### **IPCC Assessment Report WG III «Mitigation of Climate Change»**

*Working Group III 5<sup>th</sup> Assessment Report (AR5) published online*

The report shows that global emissions of greenhouse gases have risen to unprecedented levels despite a growing number of policies to reduce climate change. Emissions grew more quickly between 2000 and 2010 than in each of the three previous decades.

Scenarios show that limiting the increase in global mean temperature to 2 °C with a likely chance, means lowering global greenhouse gas emissions by 40 to 70 % compared with 2010 by mid-century, and to near-zero by the end of this century. Ambitious mitigation may even require removing carbon dioxide from the atmosphere. Scientific literature confirms that even less ambitious temperature goals would still require similar emissions reductions.

Download of the full report WGIII (Final Draft) and the Summary for Policy Makers at:

[www.proclim.ch/News?3201](http://www.proclim.ch/News?3201)

### **Human Progress within Planetary Guardrails: a Contribution to the SDG Debate**

*WBGU Policy Paper 8, Berlin 2014*

The year 2015 has special importance for the transformation towards sustainable development. New Sustainable Development Goals (SDGs) are then supposed to replace the Millennium Development Goals (MDGs). The aim is to offer a new orientation for political action in the coming decades. The WBGU recommends orienting the new catalogue of goals towards the key message of the 1992 Earth Summit: that development and environmental protection must be considered

together and do not contradict each other. The SDGs should not be reduced to poverty eradication, but must address all dimensions of sustainable development. In particular, global environmental change must be incorporated, otherwise even poverty eradication will become impossible. Up to now, too little attention has been paid to this link in the ongoing discourse on SDGs. Although many reports mention the concept of planetary guardrails or planetary boundaries, they do not back this up with specific targets. The WBGU presents recommendations on how guardrails for global environmental problems should be incorporated in the SDG catalogue and operationalized by means of corresponding targets.

Download of Policy Paper 8 at:

[www.wbgu.de/en/policypaper](http://www.wbgu.de/en/policypaper)

Source: WBGU

### A Focus on Fracking (Factsheet) – now available in English

Potentials, Opportunities and Risks

In collaboration with experts this factsheet has been compiled by ProClim and the Platform Geosciences of the Swiss Academies of Sciences. It has been published in German and French in February 2014 and is now available in English as PDF file at: [www.proclim.ch/News?3253](http://www.proclim.ch/News?3253)

### Soil Erosion in the Alps

Experience gained from case studies (2006–2013)

This publication of the Federal Office for the Environment FOEN «Environmental studies» series gives an overview of the knowledge gained on soil erosion in the Alps during several case studies between 2006–2013. Many Alpine areas experience an increase in soil erosion, which is demonstrated for three sites in the cantons Uri, Valais and Ticino. Potential causes for the increased erosion susceptibility as well as controlling factors in general are analysed and suitable methods for soil erosion assessment in Alpine areas evaluated. You can download the publication at: [www.proclim.ch/News?3250](http://www.proclim.ch/News?3250)

Source: FOEN

### Swiss climate policy at a glance

Status and perspectives on the basis of Switzerland's 2014 report to the United Nations Climate Change Secretariat

> **Swiss climate policy at a glance**

*Status and perspectives on the basis of Switzerland's 2014 report to the United Nations Climate Change Secretariat*



**Swiss climate policy at a glance**  
Status and perspectives on the basis of Switzerland's 2014 report to the United Nations Climate Change Secretariat

Schweizerische Eidgenossenschaft  
Confédération Suisse  
Confederazione Svizzera  
Confederaziun svizra  
Swiss Confederation  
Federal Office for the Environment FOEN

Switzerland has met its obligations under the Kyoto Protocol of 1997, as this brochure and the underlying comprehensive report of the Federal Office for the Environment to the UN prove. It is also one of the countries that in 2012 committed to reducing their greenhouse gas emissions by 20 percent by 2020. Switzerland will need to step up its efforts to meet this commitment. Download of the full report at: [www.proclim.ch/News?3220](http://www.proclim.ch/News?3220). The full report is also available in German and French.

Source: FOEN

### Klimabericht Urschweiz 2013

Fachbericht MeteoSchweiz Nr. 246

Verschiedene Studien haben gezeigt, dass die Klimaerwärmung auch auf europäischer und nationaler Ebene messbar ist. Wie dieser Bericht zeigt, ist die Klimaänderung auch im Gebiet der Urschweiz (Kantone Uri, Schwyz, Nidwalden, Obwalden) feststellbar. Die Auswirkungen sind vielfältig und sind nicht nur in der Temperatur, sondern auch im Niederschlag und beim Schnee identifizierbar. Herunterladen des Fachberichtes unter: [www.proclim.ch/News?3204](http://www.proclim.ch/News?3204)

Quelle: MeteoSchweiz

## CCES News 13

### CCES Annual Reporting to the ETH Board now available

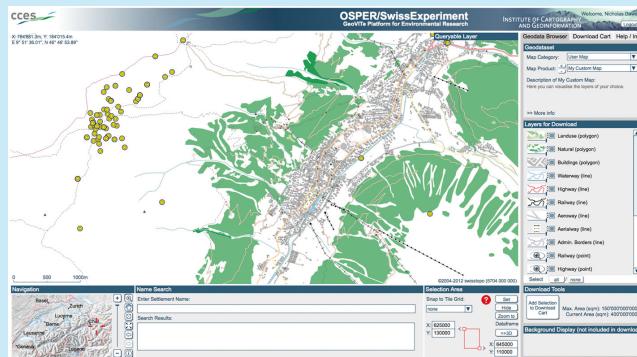
The CCES Annual Reporting 2013 to the ETH Board (extract) is now available on:  
[www.cces.ethz.ch/downloads/index](http://www.cces.ethz.ch/downloads/index).

## Research

### A solution for the long-term fate of environmental data

While data from standard meteorological networks are usually curated and secured by the national weather services and are internationally organized by the World Meteorological Organization WMO (which has been crucial to successfully monitor global climate change), this is not the case for environmental data and

at [www.swiss-experiment.ch](http://www.swiss-experiment.ch) and will further be developed to increase user friendliness and operation speed. A follow-up project «EnviDat.ch» has been launched to increase usage and activate existing databases across environmental research and monitoring agencies in the ETH Domain.



Tools are under development for in-depth investigation of spatial data and its temporal dependence.

Figure: SwissExperiment / OSPER

observations in general. The ETH Domain has therefore invested in a platform which allows heterogeneous environmental data to be permanently stored and kept alive.

The backbone of the system allows both real-time and completed datasets to be stored along with detailed metadata, designed to allow future re-use of the data. The platform is accessible

It is expected that the platform will boost new collaboration and interdisciplinary science and assist in discoveries of environmental change processes.

#### Contact:

Michi Lehning, [lehning@slf.ch](mailto:lehning@slf.ch), phone: +41 (0) 81 417 01 58, or Konrad Steffen, [konrad.steffen@wsl.ch](mailto:konrad.steffen@wsl.ch), phone: +41 (0) 44 739 22 24

## Outreach

### The climate audio-trail «Gletscherblüte und Zeitreise» in Göschenen, Uri

The audio-trail was developed in 2013 in collaboration with myclimate and Wasserwelten Göschenen to bring the results of the BigLink project to a wider audience. The trail leads around the Göschenenalpsee and the Damma glacier forefield, and has nine stations with audio clips. The clips are written as a dialogue and aim at promoting the

awareness to climate and environmental change through the presentation of results from the different sub-disciplines. Two audio versions are available: one for adults and another for children. A brochure for the general public based on the results from the BigLink and the EU-funded follow up project SoilTrEC will be ready by end of June.

#### Contact:

Juna Shrestha, [juna.shrestha@erdw.ethz.ch](mailto:juna.shrestha@erdw.ethz.ch), phone: +41 (0) 44 632 26 60

For more information:

[www.myclimate-audio-adventure.ch/audio-adventures/goescheneralp/?l=2](http://www.myclimate-audio-adventure.ch/audio-adventures/goescheneralp/?l=2)

[www.wasserwelten.ch/content/index.php/wassererlebnis/klimahoerpfad](http://www.wasserwelten.ch/content/index.php/wassererlebnis/klimahoerpfad)

Flyer including map, description, and riddle:

[www.myclimate-audio-adventure.ch/fileadmin/standorte/goescheneralp/RZ-Broschuere-mycAA-Goescheneralp-web.pdf](http://www.myclimate-audio-adventure.ch/fileadmin/standorte/goescheneralp/RZ-Broschuere-mycAA-Goescheneralp-web.pdf)



Julia Hofstetter and Gerhard Furrer label station 5 at the ice front of the Damma glacier.  
Photo: Josef Zeyer

## Scientific Events

### Conclusions CCES mid-term review of February 26/27, 2014

The CCES Advisory Board concluded in its mid-term review of February 26/27, 2014 that the topics covered by the CCES projects of the second phase continue to be of utmost relevance and generally of highest scientific merit as they are addressing key questions in the field of environment and sustainability. CCES projects substantially contribute to scientific advancement and practical solutions at the local, national, and the international level. The Advisory Board recognizes that CCES has succeeded in providing a

unique platform to facilitating a lively exchange and yielding scientific results defined by high levels of quality and intensity. Since its establishment in 2006, CCES has created a visible and measureable added value with regards to science, capacity building and interdisciplinary work that should and also could absolutely be maintained through other funding avenues.

**Contact:** Nikolaus Gotsch, [nikolaus.gotsch@sl.ethz.ch](mailto:nikolaus.gotsch@sl.ethz.ch),  
phone: +41 (0) 44 632 48 29

## IHDP Closure Announcement

With the new Future Earth initiative taking shape, IHDP will be the first of the four global environmental change programmes to close its doors on June 30th, 2014, after 24 years of operation.

All of IHDP's core and joint science projects will become part of Future Earth and have already begun the transitioning process. The ten-year international research initiative for global environmental change will build on decades of social sciences research excellence of IHDP.

To find out more about Future Earth, subscribe to their newsletter or get involved with the initiative's activities, please consult:

[www.futureearth.info/get-involved](http://www.futureearth.info/get-involved)

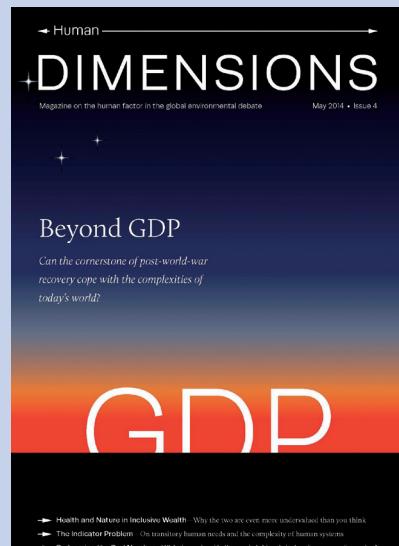
In order to make IHDP knowledge available for future generations, the IHDP office has been developing a comprehensive database that will be publicly accessible. It will contain activities, projects, publications and other relevant information from the programme's lifetime and thus offer a valuable platform for global environmental change knowledge from the past two and a half decades. The database will be available at: [www.ihdp.org](http://www.ihdp.org).

The following IHDP core and joint science projects are summarized at [www.proclim.ch/News?3215](http://www.proclim.ch/News?3215):

- Earth System Governance (ESG)
- Global Environmental Change and Human Security (GECHS)
- Global Land Project (GLP)
- Integrated History of People on Earth Project (IHOPE)
- Land-Ocean Interactions in the Coastal Zone (LOICZ)
- Urbanization and Global Environmental Change (UGEC)
- Global Water System Project (GWSP)
- Global Carbon Project (GCP)

### Dimensions Issue May 2014 – Beyond GDP

At last year's Rio+20 summit, one of the main outcomes was a request to develop new indicators that provide a more accurate, holistic picture of a country's societal progress. The final issue of



The final edition of IHDP's Dimensions magazine has been published. Its focus is on human well-being beyond GDP.

Dimensions – the magazine of IHDP – provides an overview of the debate and highlights some of the current initiatives underway around the world that may deliver key insights in the movement towards new such indicators.

You can download the magazine at:  
[www.proclim.ch/News?3232](http://www.proclim.ch/News?3232)

### Urban Transitions and Transformations: Science, Synthesis, Policy

The 2<sup>nd</sup> International conference in Taipei, Taiwan on November 6–8, 2014, will synthesize the knowledge of the bidirectional interactions between urbanization and global environmental changes and to reflect on the key lessons learned. It will identify transformative pathways for a future urban world that is increasingly complex and uncertain. Further information at:

<http://ugec2014.squarespace.com>

Source: [www.ihdp.org](http://www.ihdp.org)

## Pilot program Adaptation to climate change

The pilot program «Adaptation to climate change» is co-ordinated by the Federal Office for the Environment (FOEN). The projects within the program are characterised by a promising approach: Based on problems and questions of practical relevance they aim at translating existing and acquired knowledge into concrete measures. The success of this approach in research will depend on the possibility of participation, the interdisciplinarity of the projects and their solution orientation.

### Science and practice work hand in hand

The starting point of most pilot projects is an analysis of today's state of the system and the question, how the system could change as a consequence of climate change, e.g. the damage potential of crop pests as a result of the changing climate. Target and transformation knowledge shall be acquired by actively involving those who are affected and their visions: What do they strain for? How can they adapt? Based on the



The management of pest control measures for the European corn borer (*Ostrinia nubilalis*) is particularly difficult. Two races which differ in number of generations per year are varying as a function of climatic conditions. A collaboration of science and practice is essential for a successful control.

answers to these questions it will be possible to gain insights about the feasibility of measures. For instance, an efficient early warning system on the cantonal level may help to control the pests just mentioned. Some of the projects even go a step further: Scientists and practitioners will work hand in hand to implement and evaluate specific adaptation measures.

### Successful collaboration

This is a challenge to research and practice which involves new opportunities. The finalised project CCWasserkraft (see [www.hydrologie.unibe.ch/projekte/ccwasserkraft.html](http://www.hydrologie.unibe.ch/projekte/ccwasserkraft.html)) is a successful example for the collaboration of the two «worlds». Prof. Rolf Weingartner brought it to the point in the editorial of the ProClim Flash No. 55 (2012): «The insights regarding the use of water power were developed in close collaboration with representatives of water power companies. Even more importantly, the questions answered by the project CCWasserkraft were raised by the waterpower sector. In order to achieve solution-oriented and relevant statements, climate impact research has to involve the people responsible for implementation.»

### Getting involved

By acting as a 'scientific sounding board', ProClim supports the pilot program and its projects. ProClim integrates the scientific perspective and enables the exchange with concerned researchers.

Are you interested as a scientist in the pilot projects, particularly in the integral approach of the pilot program and the networking approach including science and practice?

Please contact Gabriele Müller-Ferch, ProClim, [gabriele.mueller@scnat.ch](mailto:gabriele.mueller@scnat.ch).

For further details on the pilot program and adaptation to climate change in Switzerland, please visit the FOEN information platform at: [www.bafu.admin.ch/klimaanpassung](http://www.bafu.admin.ch/klimaanpassung).

**Contact:** Thomas Probst, Climate division FOEN, phone: +41 (0) 58 464 35 64, [thomas.probst@bafu.admin.ch](mailto:thomas.probst@bafu.admin.ch)



Schweizerische Eidgenossenschaft

Confédération suisse

Confederazione Svizzera

Confederaziun svizra

Swiss Confederation

Federal Office for the Environment FOEN

Federal Office for Civil Protection FOCP

Federal Office of Public Health FOPH

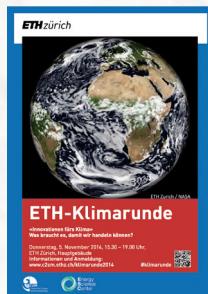
Federal Office for Agriculture FOAG

Federal Office for Spatial Development ARE

Federal Food Safety and Veterinary Office FSVO

## C2SM News – July 2014

### «Klimarunde 2014»: Innovations for climate



C2SM and the Energy Science Center (ESC) of ETH Zurich are jointly organizing the second edition of Klimarunde. Following the release of the IPCC synthesis report, this year's topic addresses «innovations for the climate». On Wednesday November 5, 2014, leading experts will discuss emerging innovations for a transition towards a world addressing climate mitigation. Confirmed speakers and panelists include: Ottmar Edenhofer (PIK Potsdam), Jasmin Staiblin (CEO Alpiq), Walter Steinmann (Director Bundesamt für Energie), Patrick Hofstetter (WWF), Toni Patt and

### Science Highlights

#### Hot temperature extremes keep increasing during the global warming «hiatus»

The increase of hot extremes over land has continued during the so-called global warming «hiatus» since the year 2000. C2SM member Sonia Seneviratne and colleagues from Australia and Canada showed in a commentary in *Nature Climate Change* that this tendency is greater for the most extreme events (95<sup>th</sup> percentile of the maximum temperature over land) and more relevant for impacts than observed and simulated changes in

Kees Christiaanse (both ETH Zurich). Complete program and registration:

[www.c2sm.ethz.ch/klimarunde2014](http://www.c2sm.ethz.ch/klimarunde2014)

#### Visualization Tool for CarboCount Data

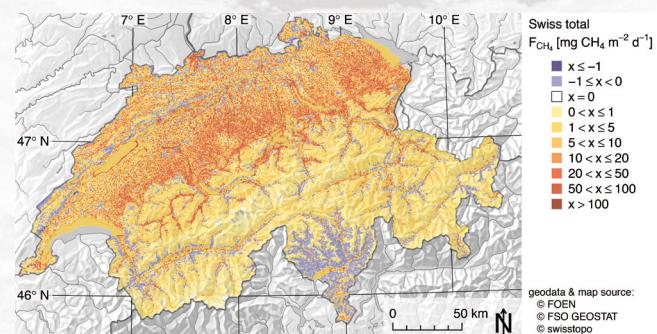
The project CarboCount recently released a data browser for visualizing measurements of carbon dioxide, carbon monoxide and methane concentrations. Measurements at the Swiss sites Gimmiz, Beromünster, Früebüel and Lägern now can be displayed from an annual to a daily time-scale. They are also related to the footprint area of the potential emission sources.

Find an example and more information here:

[http://carbocount.empa.ch/StationDetails.aspx?dataSet=carbocount&station=Beromuenster\\_45m](http://carbocount.empa.ch/StationDetails.aspx?dataSet=carbocount&station=Beromuenster_45m)

#### Spatially explicit inventory of methane fluxes in Switzerland

Methane ( $\text{CH}_4$ ) is an important greenhouse gas. C2SM members Nina Buchmann and Dominik Brunner have contributed to the first high-resolution methane emission inventory for Switzerland. It is based on 90 percent of the national emission totals reported to the United Nations Framework Convention on Climate Change (UNFCCC) and the latest Swiss  $\text{CH}_4$  flux studies. In addition to anthropogenic emissions, natural and semi-natural  $\text{CH}_4$  fluxes, i.e., emissions from lakes and reservoirs, wetlands, wild animals as well as uptake by forest soils are included. The new inventory will provide valuable input for regional-scale atmospheric modelling and inverse source estimation.



Hiller R. V. et al. (2014), *Biogeosciences*,  
 DOI: 10.5194/bg-11-1941-2014

**Contact:** Isabelle Bey ([isabelle.bey@env.ethz.ch](mailto:isabelle.bey@env.ethz.ch))

## OCCR Flash – News from the Oeschger Centre

**The Oeschger Centre wants to bring scientific information where the people need it. Be it insurance companies that need to know about hail climatology, farmers who worry about the availability of water in the Swiss climate of the future or tourists in the Jungfrau area who want to learn about the effects of climate change in an Alpine region.**

### Huge interest in hail research

More than 100 researchers and representatives from insurance, business and agriculture attended the 1<sup>st</sup> European Hail Workshop on 25–27 June, 2014 at the University of Bern. The conference was organized by the *Mobiliar Lab for climate risks and natural hazards*, a research institution created by the OCCR and Swiss Mobiliar insurance company in 2013. The huge interest from scientists and practitioners clearly showed the strong need for research on hail. Details of the conference can be found on [>veranstaltungen>hagel](http://www.mobiliarlab.unibe.ch)

### The OCCR is part of the University of Bern's Science Night

On 6 September 2014, the University of Bern is organizing its second *Science Night*. The first edition of this science festival was attended by more than 7000 visitors in 2011. The Oeschger Centre will be part of this major outreach event. Activities include an exhibition on 50 years of polar expedition including the University of Bern, a hands-on demonstration of the work with marine sediments and a show on MICADAS, the state of the art radio-carbon dating facilities recently installed at the OCCR. [>](http://www.nachtd erforschung.unibe.ch)

### CH2014-Impacts for practitioners

Results from the report *CH2014-Impacts – Toward Quantitative Scenarios of Climate Change Impacts in Switzerland* that was initiated and coordinated by the OCCR were extensively quoted by Swiss an international media after it was launched in March. The report produced quantitative impact projections from diverse fields, including climate indices, the cryosphere, hydrology, biodiversity, forests, agriculture, energy and health. Now, the OCCR wants to make these results accessible to practitioners in these fields. The project is called *CH2014 für die Praxis*, it should produce a series of fact sheets that give an easy to read overview over the most relevant findings. *CH2014-Impacts* can be downloaded from [>](http://www.ch2014-impacts.ch) or a free printed copy can be ordered by sending a message to [>](mailto:ch2014@oeschger.unibe.ch)

### Jungfrau Climate Guide re-launched

In 2009, the OCCR has developed the so-called Jungfrau Climate Guide, a comprehensive outreach project that was realized on the occasion of the 175<sup>th</sup> birthday of the University of Bern. The aim of this innovative project was to provide facts and research results on the spot in the Jungfrau area, where the effects of climate change can clearly be seen. For this purpose, an early form of an application for iPhones was developed. Now, we have re-launched the *Climate Guide 2.0* as an (almost) free app. [>](http://www.jungfrau-klimaguide.ch)



Learn about climate change on the spot and follow one of the seven climate paths in the Jungfrau area. All you have to do is download the Jungfrau Climate Guide app.

### Bicentenary of the great Tambora eruption

Two hundred years after the eruption of the Tambora volcano in April 1815, an event that changed global climate, the OCCR organizes the international conference 'Volcanoes, Climate, and Society'. It takes place from 7–11 April 2015 at the University of Bern. The conference will revisit the event from different scientific perspectives and it will explore how our ancestors managed the crisis that followed the eruption. Questions to be discussed include: What is the state of knowledge on the 1815 eruption and its aftermath? And: What have science and society learned from the event? [> events > conferences](http://www.oeschger.unibe.ch)

For an overview of OCCR activities and events see

[>](http://www.oeschger.unibe.ch)

**Contact:** Kaspar Meuli, meuli@oeschger.unibe.ch

## Conferences and Events in Switzerland

14–15 July 2014

### **PrepCom1: The Third UN World Conference on Disaster Risk Reduction**

Location: Palais des Nations, Geneva

Info: [http://events.scnat.ch/proclim/index\\_en.php?id=18255](http://events.scnat.ch/proclim/index_en.php?id=18255)

22–24 August 2014

### **100 Jahre Gletscher-Klima Studien am Clariden**

Weltweit längste Gletscher-Massenbilanz-Serie

1914–2014

Location: ETH Zürich

Info: [http://events.scnat.ch/proclim/index\\_en.php?id=18246](http://events.scnat.ch/proclim/index_en.php?id=18246)

24–28 August 2014

### **5<sup>th</sup> International Disaster and Risk Conference IDRC Davos 2014 – From Thoughts to Action**

Location: Congress Centre, Davos

Info: [http://events.scnat.ch/proclim/index\\_en.php?id=18075](http://events.scnat.ch/proclim/index_en.php?id=18075)

25–28 August 2014

### **13<sup>th</sup> International Conference on Sustainable Energy Technologies**

Location: hepia, Geneva

Info: [http://events.scnat.ch/proclim/index\\_en.php?id=18013](http://events.scnat.ch/proclim/index_en.php?id=18013)

9 September 2014, 09:30–16:30

### **Wasserversorgung und Uferfiltration – ein System unter Druck?**

Location: Eawag, Überlandstrasse 133, Dübendorf

Info: [http://events.scnat.ch/proclim/index\\_en.php?id=18251](http://events.scnat.ch/proclim/index_en.php?id=18251)

Registration: 29 August 2014

18–19 September 2014

### **ScienceComm'14**

Location: KKL, Beromünster / Sursee

Info: [http://events.scnat.ch/proclim/index\\_en.php?id=18171](http://events.scnat.ch/proclim/index_en.php?id=18171)

25 September 2014, 17:30–19:30

### **durchzug – Eine Gesprächsreihe zu Energie und Mobilität**

Die Zukunft des Autos – Nutzen statt Besitzen?

Location: Chur

Info: [http://events.scnat.ch/proclim/index\\_en.php?id=18243](http://events.scnat.ch/proclim/index_en.php?id=18243)



**27 August 2014, 13:15–18:00**

### **6. Symposium Anpassung an den Klimawandel**

**Gesellschaftliche Herausforderungen und Handlungsmöglichkeiten für die Schweiz**

**Location: Uni-S, Bern**

**[www.proclim.ch/Media?3216](http://www.proclim.ch/Media?3216)**

25–26 September 2014

### **Congrès annuel de la SCNAT «Jusqu'où protéger la nature?»**

**Jahreskongress der SCNAT «Wie viel Schutz(gebiete) braucht die Natur?» /**

Location: Lausanne

Info: [http://events.scnat.ch/proclim/index\\_en.php?id=17960](http://events.scnat.ch/proclim/index_en.php?id=17960)

21–22 October 2014

### **5. Umweltbeobachtungskonferenz**

Macht und Ohnmacht der Daten –

Umweltbeobachtung für Politik, Öffentlichkeit und Verwaltung

Location: Kursaal, Bern

Info: [http://events.scnat.ch/proclim/index\\_en.php?id=18239](http://events.scnat.ch/proclim/index_en.php?id=18239)

Registration: 3 October 2014

30 October 2014, 17:30–19:30

### **durchzug – Eine Gesprächsreihe zu Energie und Mobilität**

Olten, Pendelst du auch?

Location: Bahnhof Olten

Info: [http://events.scnat.ch/proclim/index\\_en.php?id=18244](http://events.scnat.ch/proclim/index_en.php?id=18244)

17–18 November 2014

**PrepCom2: The Third UN World Conference on Disaster Risk Reduction**

Location: Palais des Nations, Geneva

Info: [http://events.scnat.ch/proclim/index\\_en.php?id=18256](http://events.scnat.ch/proclim/index_en.php?id=18256)

Registration: 15 September 2014

21–22 November 2014

**12th Swiss Geoscience Meeting**

Location: Campus Péralles 2, Fribourg

Info: [http://events.scnat.ch/proclim/index\\_en.php?id=18218](http://events.scnat.ch/proclim/index_en.php?id=18218)

Registration: 31 October 2014

The image shows the logo for the Swiss Energy and Climate Summit (SwissECS) at the top. Below it is a stylized illustration of a red fuel canister with a solar panel on its side, connected to a fuel pump. To the left of the canister, there is a vertical list of three main themes: "Innovative Technologien", "Konkrete Lösungen", and "Globale Benchmarks". At the bottom of the illustration, the text "3./4. SEPTEMBER, KURSAAL BERN" is visible.

**Highlight of the conference:**

Keynotes by the IPCC Co-Chairs T. Stocker, Ch. Field, Y. Sokona

**Special offer:**

Reduced fees for conference tickets (without networking dinner):

PhD-Students: 150 CHF

Scientists: 390 CHF (instead of 740 CHF)

To get the corresponding code, please contact the ProClim office [proclim@scnat.ch](mailto:proclim@scnat.ch)

**Programm and registration:**  
[www.proclim.ch/Media?3262](http://www.proclim.ch/Media?3262)

## International Conferences

18–21 August 2014

**Climate Engineering Conference**

Location: Berlin, Germany

Info: [http://events.scnat.ch/proclim/index\\_en.php?id=18259](http://events.scnat.ch/proclim/index_en.php?id=18259)

25–27 August 2014

**Adapting to Change: From Research to Decision-making**

Third Nordic International Conference on Climate Change Adaptation

Location: Copenhagen, Denmark

Info: [http://events.scnat.ch/proclim/index\\_en.php?id=18257](http://events.scnat.ch/proclim/index_en.php?id=18257)

17–18 September 2014

**Second Annual International Conference on Sustainable Development Practices**

Location: Columbia University New York City, USA

Info: [http://events.scnat.ch/proclim/index\\_en.php?id=18260](http://events.scnat.ch/proclim/index_en.php?id=18260)

22–26 September 2014

**13th IGAC Science Conference on Atmospheric Chemistry**

Location: Natal Convention Center, Natal, Brazil

Info: [http://events.scnat.ch/proclim/index\\_en.php?id=18046](http://events.scnat.ch/proclim/index_en.php?id=18046)

24–26 September 2014

**2014 Asia Global Land Project Conference**

Location: Taipei, Taiwan

Info: [http://events.scnat.ch/proclim/index\\_en.php?id=18095](http://events.scnat.ch/proclim/index_en.php?id=18095)

24–26 September 2014

**Deltas in Times of Climate Change International Conference**

Location: Rotterdam, Netherlands

Info: [http://events.scnat.ch/proclim/index\\_en.php?id=18096](http://events.scnat.ch/proclim/index_en.php?id=18096)

28 September –1 October 2014

**Hydrologische Prozesse im Hochgebirge im Wandel der Zeit**

Tri-nationaler Workshop

Location: Obergurgl, Austria

Info: [http://events.scnat.ch/proclim/index\\_en.php?id=18195](http://events.scnat.ch/proclim/index_en.php?id=18195)

13–17 October 2014

**The Climate Symposium 2014**

Location: Darmstadt, Germany

Info: [http://events.scnat.ch/proclim/index\\_en.php?id=17632](http://events.scnat.ch/proclim/index_en.php?id=17632)

22–24 October 2014

**Global Challenges: Achieving Sustainability**

IARU Sustainability Science Congress

Location: Copenhagen, Denmark

Info: [http://events.scnat.ch/proclim/index\\_en.php?id=17553](http://events.scnat.ch/proclim/index_en.php?id=17553)

6–8 November 2014

**2<sup>nd</sup> International Conference on Urban Transitions and Transformations: Science, Synthesis and Policy**

Urbanization and Global Environmental Change

Location: Taipei, Taiwan

Info: [http://events.scnat.ch/proclim/index\\_en.php?id=17728](http://events.scnat.ch/proclim/index_en.php?id=17728)

17–21 November 2014

**One Planet, One Ocean: 2<sup>nd</sup> International Ocean Research Conference**

Location: Barcelona, Spain

Info: [http://events.scnat.ch/proclim/index\\_en.php?id=18261](http://events.scnat.ch/proclim/index_en.php?id=18261)

## Impressum

**Published and distributed three times a year:**

ProClim-, Forum for Climate and Global Change  
Swiss Academy of Sciences (SCNAT)  
Schwarztorstr. 9 | 3007 Bern | Switzerland

**Editor:** Gabriele Müller-Ferch, ProClim-

**Contributing authors for News, Publications and Meeting Reports:**

Gabriele Müller-Ferch, Christoph Ritz,  
Esther Volken, ProClim-

**Layout:** Gabriele Müller-Ferch, Hannah Ambühl,  
ProClim-

**French translation Editorial:**

Jean-Jaques Daetwyler, sciencepress.ch

**Circulation:**

1500 | pdf version, distributed by e-mail  
1200 | hard copy, printed by Druckzentrum  
Vögeli AG, Langnau, Switzerland

**Deadline for contributions:**

Flash No 61: 15 October 2014

Contributions can be sent to:

Gabriele Müller-Ferch, ProClim-,  
Schwarztorstr. 9, 3007 Bern

E-mail: [gabriele.mueller@scnat.ch](mailto:gabriele.mueller@scnat.ch)

If you are interested to get regularly the ProClim-Flash Newsletter, ProClim- News or Events Mail, please send your request to: [info-proclim@scnat.ch](mailto:info-proclim@scnat.ch).

The emissions by printing this Newsletter are compensated by [swissclimate.ch](http://swissclimate.ch)

All Events are updated weekly on the  
ProClim website:

[www.proclim.ch/Events.html](http://www.proclim.ch/Events.html)

You can find recent News at:

[www.proclim.ch/News.html](http://www.proclim.ch/News.html)