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CONVENTION RELATIVE A LA CONSERVATION DE LA VIE SAUVAGE ET DU MILIEU
NATUREL DE L'EUROPE

**Groupe d'experts
sur la Biodiversité et le Changement climatique**

Séville (Espagne), 13-15 mars 2008

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RAPPORT

*Document
préparé par
la Direction de la Culture et du Patrimoine culturel et naturel*

Le Comité permanent est invité à :

1. prendre note du rapport de la réunion ;
2. remercier la fondation Migres et le gouvernement régional andalou pour leur hospitalité et l'efficacité remarquable avec laquelle ils ont organisé la réunion.

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1. Ouverture de la réunion par la Présidente

M^{me} Caroline Cowan, de *Natural England* (Royaume-Uni), souhaite la bienvenue aux participants à la deuxième réunion du Groupe d'experts sur la Biodiversité et le Changement climatique (dont la liste figure à l'annexe 1). Elle donne un coup de projecteur sur le mandat du groupe et un aperçu des travaux menés depuis sa création.

2. Discours de M^{me} Fuensanta Coves, *Consejera de medio ambiente de la Junta de Andalucía*

M^{me} Fuensanta Coves, qui est à la tête de la Direction de l'environnement du Gouvernement régional andalou, souhaite la bienvenue aux participants à Séville et en Andalousie, et ouvre officiellement la réunion en prononçant devant le Groupe d'experts un discours qui met l'accent sur l'importance du problème du changement climatique et de ses effets sur la diversité biologique. M^{me} Coves évoque la stratégie régionale adoptée pour l'Andalousie en matière de changement climatique en 2002, stratégie composée de 39 mesures spécifiques. Cette région est la première d'Espagne à s'être engagée dans une action de ce type. M^{me} Coves mentionne aussi le rôle déterminant joué par les fondations créées de fraîche date pour coordonner l'action et concevoir des politiques et des stratégies environnementales efficaces mais aussi pour sensibiliser les citoyens à la question. Elle remercie la fondation Migres d'organiser des manifestations comme celle-ci et souhaite que la réunion soit productive et débouche sur des propositions spécifiques à présenter aux décideurs.

3. Adoption de l'ordre du jour

Le Secrétariat explique qu'en l'absence des représentants de la Convention sur la Diversité biologique (CBD) et de la Convention sur les espèces migratrices, qui sont dans l'incapacité d'assister à la réunion à Séville, les points 5.a et 5.b sont supprimés de l'ordre du jour. En revanche, deux exposés doivent y être ajoutés, l'un du GBIF (nouveau point 5.d) et l'autre de la fondation *Il Nibbio* (nouveau point 14). L'ordre du jour est adopté compte tenu de ces modifications (voir annexe 2).

4. Introduction par le Secrétariat

La représentante du Secrétariat rappelle brièvement que, pour accomplir son mandat, le Groupe d'experts doit informer et conseiller les Parties à la Convention de Berne en ce qui concerne le changement climatique et la biodiversité. Elle évoque ce qui a été fait pour partager des informations et coordonner les actions avec d'autres conventions sur la biodiversité et des organisations internationales travaillant sur la question, ainsi qu'avec d'autres institutions du Conseil de l'Europe également actives en la matière comme l'Assemblée parlementaire et le Congrès des pouvoirs locaux et régionaux. Par ailleurs, elle insiste sur la nécessité de maintenir des liens avec les autres groupes d'experts établis dans le cadre de la Convention de Berne de manière à faire jouer pleinement le principe de synergie.

La représentante du Secrétariat résume les objectifs de la réunion : i) poursuivre les échanges d'informations sur les répercussions du changement climatique sur la biodiversité avec d'autres conventions, entre parties contractantes et avec d'autres institutions du Conseil de l'Europe et des ONG ; ii) examiner plusieurs projets de rapports pour faire le point sur les informations dont on dispose concernant les effets du changement climatique sur les espèces et les habitats protégés par la Convention de Berne ; iii) convenir des prochaines étapes qui jalonnent l'activité du Groupe d'experts, notamment sous l'angle de ses rapports avec les autres groupes institués sous l'égide de la Convention de Berne.

5. Point sur les travaux réalisés dans d'autres cadres sur la biodiversité et le changement climatique

M. Atef Ouerghi, du Centre d'activités régionales du PNUE pour les aires spécialement protégées (CAR/ASP) installé en Tunisie, présente au Groupe d'experts un certain nombre d'études réalisées dans les années 90 sur les incidences du changement climatique sur les zones côtières de la Méditerranée, notamment sur les écosystèmes aquatiques et marins. Il cite aussi la Déclaration de Tunis sur la solidarité internationale face au changement climatique, adoptée en novembre 2007 lors de la Conférence internationale pour une stratégie face aux changements climatiques dans les régions africaine et méditerranéenne. M. Ouerghi indique que, lors la 15^e réunion des Parties à la Convention

de Barcelone, tenue en janvier 2008, il a été décidé de répertorier d'ici 2011 les espèces et les habitats côtiers et marins les plus sensibles aux changements susceptibles de se produire, conformément aux scénarios élaborés par le Groupe d'experts intergouvernemental sur l'évolution du climat (GIEC) et de prendre les mesures qui s'imposent pour créer un réseau méditerranéen des aires protégées marines et côtières d'ici 2012. Les Parties à la Convention de Barcelone sont également convenues de rédiger un rapport sur la situation de la biodiversité en Méditerranée et sur les effets constatés du changement climatique, rapport qui sera présenté lors des réunions des parties à la CBD et à la Convention de Barcelone.

M^{me} Karin Zaunberger, de la Commission européenne (DG Environnement), présente la perspective de l'Union européenne sur la biodiversité et le changement climatique, en accordant une place importante aux progrès réalisés dans la mise en œuvre de la communication et du plan d'action de la Commission ainsi qu'aux projets de recherche financés par l'UE. M^{me} Zaunberger informe le Groupe d'experts de la prochaine publication, à l'automne 2008, d'un livre blanc sur l'adaptation au changement climatique en Europe et le futur cadre d'action de l'UE, où la biodiversité et les écosystèmes seront traités dans une double optique générale et sectorielle. Le livre blanc portera non seulement sur l'adaptation de la biodiversité et des écosystèmes au changement climatique mais aussi sur le rôle de la biodiversité et des écosystèmes comme instruments d'adaptation. A moyen terme, l'UE prévoit d'élaborer un document de stratégie sur la biodiversité et le changement climatique qui présentera des moyens d'action visant à protéger la biodiversité face aux mutations tout en veillant à ce que les politiques adoptées pour lutter contre le changement climatique ne nuisent pas à la biodiversité. L'objectif de l'Union est de créer un cadre global qui tienne compte des rapports entre changement climatique et biodiversité, et de veiller à ce que ses autres politiques contribuent également à la conservation et à l'utilisation durable de la biodiversité.

M. Snorri Baldursson, Président du groupe d'experts sur les indicateurs des effets du changement climatique sur la biodiversité, établi dans le cadre du processus de rationalisation des indicateurs européens de la diversité biologique pour 2010 (SEBI 2010), informe le Groupe des travaux menés dans ce même cadre pour consolider les liens entre les 26 indicateurs définis par l'UE et préciser la définition de l'indicateur relatif au changement climatique et à la biodiversité. Le Groupe d'experts a tenu sa première réunion en février 2008 pour faire le point sur les indicateurs existants à partir de sources variées, qui ont été jugées insuffisantes. Le groupe se réunira en octobre 2008 pour étudier s'il est possible d'étendre à d'autres espèces telles que les papillons un indicateur existant des incidences du changement climatique sur les populations d'oiseaux communs en Europe. Il se penchera également sur l'élaboration d'indicateurs concernant les plantes alpines et alpestres et d'éventuels indicateurs relatifs aux plantes et espèces communes des aires protégées. Ce processus doit en principe prendre fin en 2009 : un indicateur principal sur le changement climatique et la biodiversité sera alors retenu, ainsi que deux ou trois indicateurs secondaires.

M. Francisco Pando, responsable du point nodal espagnol du Système mondial d'information sur la biodiversité, plus connu sous l'acronyme GBIF (*Global Biodiversity Information Facility*), axe son exposé sur l'utilisation de données relatives à la biodiversité et sur le rôle du GBIF dans la lutte contre les problèmes de climat. M. Pando présente brièvement le GBIF, organisation internationale créée en 2001 afin de mettre gratuitement à la disposition de tous, via Internet, des données globales sur la biodiversité et d'échanger les données scientifiques primaires sur la biodiversité pour en faire bénéficier la science et la société et construire un avenir durable. Le GBIF se compose de 45 pays membres et 38 organisations internationales ; il a 1 663 bases de données contenant 145 667 054 entrées (portail d'accès aux données : <http://data.gbif.org>). Selon M. Pando, il faut faire un bon usage des données sur la biodiversité mises à disposition par le GBIF dans le domaine du changement climatique et de la biodiversité, et notamment utiliser ces données pour mesurer l'impact du changement climatique sur la répartition des espèces. Il invite ouvertement la Convention de Berne et ses groupes d'experts à collaborer avec l'organisation qu'il représente.

6. Brefs rapports nationaux informant sur les activités et initiatives sur la biodiversité et le changement climatique

Des rapports « nationaux » de la Commission européenne et des pays suivants sont présentés : Albanie, Bulgarie, République tchèque, Danemark, France, Allemagne, Hongrie, Islande, Lettonie,

Norvège, Espagne, Suède, Tunisie, Turquie, Royaume-Uni (ci-joints à l'annexe 3). Le Secrétariat précise que la Serbie et l'Arménie ont aussi transmis des rapports nationaux qui figurent dans la même annexe. La Serbie sera le 46^e Etat partie à la Convention de Berne à compter du 1^{er} avril 2008. En Arménie, la procédure de ratification est en cours et le pays devrait devenir Partie à la convention cette année.

Les exposés montrent que non seulement les Etats parties s'emploient activement à mettre en œuvre la Convention-cadre des Nations Unies sur les changements climatiques (CCNUCC) mais qu'ils s'occupent aussi des rapports entre biodiversité et changement climatique, souvent en accordant une attention particulière aux écosystèmes forestiers. Les activités et initiatives des parties sur cette question portent pour l'essentiel sur le suivi des effets du changement climatique sur la biodiversité et les projets de recherche visant à améliorer les connaissances sur les relations entre la biodiversité et un climat en mutation. Certaines parties développent également des activités de communication et d'information sur le changement climatique et la biodiversité. Pour ce qui est de l'action des pouvoirs publics, beaucoup d'Etats ont mis au point des stratégies d'adaptation nationale et d'autres achèvent actuellement ce processus. Les stratégies d'adaptation existantes comprennent toutes des éléments relatifs à la biodiversité, en plus ou moins grand nombre.

7. Révision des informations disponibles sur les impacts directs et indirects du changement climatique sur la biodiversité et identification des espèces et habitats les plus vulnérables

M^{me} Pamela Berry, chargée de recherche au Centre pour l'environnement (*Environmental Change Institute*) de l'université d'Oxford, expose les principaux points de son projet de rapport sur le changement climatique et la vulnérabilité des espèces et habitats protégés par la Convention de Berne (« *Climate change and the vulnerability of Bern convention species and habitats* », T-PVS/Inf (2008) 6, du 26 février 2008), qui a été mis à la disposition des participants avant la réunion. M^{me} Berry centre son exposé sur le concept de vulnérabilité, tel qu'il est défini par le GIEC, et son application à la Convention de Berne. Elle soulève la question de savoir comment sera utilisé son rapport : comme un outil de communication ou comme un document d'information devant conduire les parties contractantes à agir ? M^{me} Berry informe le Groupe d'experts que l'UICN travaille sur une évaluation de la vulnérabilité et que, pour ce faire, cette organisation a besoin de davantage de données.

Les membres du Groupe d'experts font un bon accueil au rapport et soulignent la nécessité d'obtenir des contributions d'autres groupes d'experts relevant de la Convention de Berne pour fixer des priorités ou sélectionner les espèces et habitats les plus exposés sur lesquels concentrer l'action future. Il faut aussi conjuguer les efforts avec ceux de l'UE à l'égard de Natura 2000 et l'initiative de l'UICN.

8. Changement climatique et espèces exotiques envahissantes

M^{me} Laura Capdevila-Argüelles, du Groupe spécialisé dans les invasions biologiques (GEIB), présente son projet de rapport sur le changement climatique et les espèces exotiques envahissantes (« *A perspective on climate change and invasive alien species* », T-PVS/Inf (2008) 5, du 26 février 2008), également distribué aux participants avant la réunion. M^{me} Capdevila-Argüelles souligne le fait que le changement climatique est l'une des nombreuses mutations à l'échelle mondiale qui contribuent à la propagation d'espèces nuisibles. Avec prudence, elle prévient qu'il apparaît de plus en plus nettement que le changement climatique a une incidence sur les processus qui sous-tendent les invasions biologiques mais qu'il serait déraisonnable de faire des prévisions spécifiques en l'état actuel des connaissances. M^{me} Capdevila-Argüelles recommande qu'une grande attention soit portée à chaque élément qui influe sur le processus d'invasion et ses interactions avec le changement global, le changement climatique ayant la capacité de modifier l'impact des espèces envahissantes en modifiant les sources, les voies et les destinations de ces espèces. Elle explique en outre que, même si les traits des espèces ne constituent pas un facteur déterminant pour savoir si une espèce a le potentiel pour devenir un bon envahisseur ou pas, il est possible d'identifier certains traits qui pourraient jouer un rôle important pour « pronostiquer » le succès d'une future invasion. Elle tire, entre autres, deux conclusions importantes : premièrement, le fait d'identifier les espèces potentiellement envahissantes à haut risque, de les détecter suffisamment tôt et d'apporter des réponses rapides permet une gestion

plus efficace et, deuxièmement, les stratégies de biosécurité vont de plus en plus devoir tenir compte des projections en matière de changement climatique dans l'évaluation de la gestion des risques inhérents aux espèces exotiques envahissantes.

La discussion porte essentiellement sur plusieurs problèmes critiques tels que le rôle de la connectivité écologique et les manières de la gérer pour réduire le risque d'invasion, la définition des espèces indigènes et la nécessité de réexaminer les critères pertinents et de vérifier si le changement climatique risque de modifier le taux d'espèces indigènes qui deviennent envahissantes, actuellement de 1 %.

9. Brèves présentations des activités sur le changement climatique au Conseil de l'Europe

M^{me} Manuela de Melo, Vice-Présidente de la sous-commission du développement durable de l'Assemblée parlementaire du Conseil de l'Europe, met l'accent sur le travail accompli dans le domaine de l'environnement par le Conseil de l'Europe conformément aux priorités du Sommet de Varsovie de 2005. Elle informe le Groupe d'experts que le nouveau Président de l'Assemblée parlementaire, M. Luis Maria de Puig, a donné à l'Assemblée une nouvelle impulsion en matière d'environnement et de développement durable, notamment en mettant en valeur le lien entre droits de l'homme et changement climatique. Elle ajoute que neuf rapports sont en cours d'élaboration au sein de la commission de l'environnement. M^{me} Melo souhaite que les décideurs coopèrent avec les groupes d'experts qui travaillent pour la même organisation afin que chacun bénéficie de la diversité des méthodes et des points de vue.

M. Willy Borsus, membre de la commission du développement durable du Congrès des pouvoirs locaux et régionaux du Conseil de l'Europe et auteur du rapport « Pour une politique de la biodiversité en milieu urbain » présente au Groupe d'experts les priorités du Congrès telles que la consommation d'énergie renouvelable des collectivités locales et régionales et la nécessité de renforcer la capacité des pouvoirs locaux à faire face au changement climatique. M. Borsus évoque ensuite son rapport sur la biodiversité en milieu urbain, déjà adopté par la commission à laquelle il appartient et qui sera présenté au Congrès lors de sa prochaine session. Il insiste sur les tendances négatives qui se dégagent, concernant tant la biodiversité rurale qu'urbaine et la nécessité d'agir, notamment celle de faire le point sur la situation de la biodiversité urbaine et de concevoir des indicateurs pour le suivi des évolutions et l'évaluation quantitative des résultats des mesures prises. M. Borsus est favorable à des mesures spécifiques de consolidation des zones de biodiversité que sont les villes. A cette fin, il est très important de prendre en compte les objectifs de conservation de la nature dans l'aménagement du territoire.

10. Changement climatique et conservation des oiseaux migrateurs en Europe : identification des effets et priorités pour la conservation

M. Keith Bildstein, directeur scientifique de la réserve de Hawk Mountain, en Pennsylvanie, et coauteur du rapport sur le changement climatique et la conservation des oiseaux migrateurs en Europe (« *Climatic change and the conservation of migratory birds in Europe: identifying effects and conservation priorities* », T-PVS/Inf (2008) 1 rev, 26 février 2008), présente ce dernier au Groupe d'experts. Il insiste sur le fait que les oiseaux de proie sont de bons indicateurs de la biodiversité, même si tous n'appartiennent pas à des espèces migratrices. M. Bildstein évoque les risques que présente le changement climatique pour les migrations à longue distance. Par exemple, beaucoup d'espèces migrent plus tôt au printemps vers l'Europe et y restent plus longtemps. Il ajoute que le phénomène de migration lui-même risque d'être menacé. On sait également que les espèces de haute montagne sont particulièrement exposées au changement climatique – dangereux pour elles – et qu'elles sont de plus en plus nombreuses à être menacées et vulnérables. M. Bildstein souligne le rôle moteur des migrations pour la biodiversité et le fait que le vagabondage est révélateur des effets du changement climatique. Il est favorable à la protection de la migration, surtout en Europe du sud-est, et au lancement de nouveaux travaux de recherche. Son rapport recommande la création d'un réseau de surveillance et de suivi ainsi que d'un nouveau système d'aires protégées plus dynamique.

Lors de la discussion qui suit, certains font des remarques sur le choix des rapaces comme indicateurs, estimant que d'autres espèces d'oiseaux pourraient être plus représentatives des effets du changement climatique. Il est également proposé de réaliser un suivi des oiseaux nicheurs, notamment des espèces marines et de celles des zones humides et côtières. Des membres du Groupe d'experts proposent aussi d'ajouter des sites sur la liste des principaux sites faisant l'objet d'un suivi, notamment en Europe de l'Est, sur la côte de la mer Noire, dans le Bosphore et dans l'est de la Turquie. D'autres se disent préoccupés par la recommandation du rapport qui préconise de confier aux propriétaires privés le soin d'assurer la durabilité des espaces (on parle de *land custody* ou *land stewardship* dans les pays anglo-saxons) et se demandent si ce modèle venu d'Amérique du Nord serait adapté à l'Europe. Tous sont d'accord sur le fait qu'une telle formule pourrait s'ajouter au système existant et au réseau d'aires protégées mais en aucun cas le remplacer. Enfin, il est convenu de faire clairement référence aux accords existants tels que la Convention sur les espèces migratrices, également active dans ce domaine, et à un nouveau rapport sur les effets du changement climatique sur les oiseaux d'eau migrateurs que doit publier l'AEWA.

11. Impacts du changement climatique sur les espèces d'amphibiens et de reptiles

M. Klaus Henle, chef du Département de biologie de conservation au centre Helmholtz de recherche environnementale de Leipzig, expose les grandes lignes du rapport qu'il est en train d'élaborer et qui sera distribué aux membres du Groupe d'experts avant la prochaine réunion. M. Henle aborde les questions suivantes : i) la sensibilité des amphibiens et des reptiles aux facteurs climatiques ; ii) quelques exemples de modélisation de l'évolution de la répartition et iii) les conséquences de celle-ci en matière de conservation. Il explique en outre que certaines espèces de reptiles pourraient « bénéficier » du changement climatique mais qu'il faut évaluer soigneusement cet effet sur certaines espèces dont le changement climatique peut contribuer à l'expansion ou à la régression. De plus, il met en garde contre certaines contradictions entre la modélisation et les connaissances biologiques, et ajoute qu'il faut établir des priorités en fonction des besoins de recherche au moment où beaucoup d'espèces d'Europe de l'ouest, notamment de l'ouest de la Méditerranée, vont probablement être durement touchées par le changement climatique.

12. Changement climatique et zones protégées

M. Jan Plesnik, Vice-Président du Comité permanent de la Convention de Berne et Président du Groupe d'experts sur l'établissement du Réseau Émeraude de zones d'intérêt spécial pour la conservation, présente un exposé sur les aires protégées et le changement climatique. M. Plesnik affirme qu'il y a deux façons de répondre aux changements qui touchent à la biodiversité par l'intermédiaire des aires protégées : ajouter de nouvelles aires protégées à celles qui existent (ou étendre ces dernières) ou améliorer la connectivité du paysage de manière plus générale. Il invoque la littérature existante qui prétend que la création de nouvelles aires protégées peut nettement améliorer la probabilité de conservation des espèces face au changement climatique, et la nécessité d'étendre les aires protégées vers les pôles et/ou des altitudes plus élevées. M. Plesnik commente les concepts de liens biologiques, de connectivité du paysage et de réseaux écologiques, y compris dans leurs composantes physiques, et évoque le débat actuel sur les corridors. Il conclut qu'en ce qui concerne les mesures d'adaptation au changement climatique, il est préférable de développer des biotopes relais et la gestion du paysage global plutôt que de créer des corridors linéaires entre aires protégées. Ces dernières sont un outil de conservation nécessaire mais insuffisant face au changement climatique et il faut les compléter par des méthodes de gestion évolutives du paysage, tels sont les principaux messages de M. Plesnik.

13. Rapport de la RSPB « *Climate change - wildlife and adaptation* »

M. Olly Watts, de l'équipe chargée de la politique à l'égard du changement climatique de la *Royal Society for the Protection of Birds* (RSPB), présente une publication récente sur la vie sauvage et son adaptation au changement climatique (« *Climate change, wildlife and Adaptation* »), rédigée sous forme de questions-réponses. Ce document traite des effets du changement climatique sur la faune et la flore et des manières dont les espèces y répondent déjà et renvoie à un autre ouvrage : « *Climatic Atlas of European Breeding Birds* ». M. Watts souligne qu'il reste beaucoup d'incertitudes,

notamment en ce qui concerne les futures émissions et modèles, les réponses des espèces aux impacts et aux interactions qui en découlent et la vitesse avec laquelle on parvient à suivre les modifications du climat. M. Watts ajoute que nous pouvons réduire l'incertitude grâce à la recherche, au suivi et à l'amélioration des connaissances. De plus, les aires protégées sont, selon lui, un outil essentiel pour la conservation de la biodiversité et la gestion, la résilience et l'aménagement de ces aires doivent être adaptés au changement climatique. Le réseau d'aires protégées devra aussi être étendu pour tenir compte des changements d'espèces, réduire la fragmentation et accroître la connectivité. M. Watts conclut qu'en ce qui concerne l'adaptation, il importe d'apporter une réponse coordonnée au niveau gouvernemental dans différents domaines d'actions tels que l'agriculture, la sylviculture, la gestion des eaux et l'aménagement du territoire et ce, en abordant les problèmes de biodiversité dans une perspective intersectorielle.

14. Point de vue de *Il Nibbio* - Fondation Antonio Bana pour la recherche sur les migrations ornithologiques et la protection de l'environnement

M. Ferdinando Ranzanici, de la Fondation européenne Antonio Bana pour la recherche sur les migrations ornithologiques et la protection de l'environnement, évoque les travaux de recherche ornithologique de la fondation, ses activités scientifiques relatives aux oiseaux migrateurs ainsi que son action éducative et d'information en matière d'environnement. M. Ranzanici insiste sur la nécessité de reconnaître et de renforcer l'importance de la recherche et du suivi au niveau national et international, ainsi que de la gouvernance des paysages et des habitats naturels. Il mentionne en outre la nécessité de renforcer la coopération avec les groupes et les conventions déjà en place, afin qu'elle puisse servir de fondement au travail d'élaboration d'outils et d'indicateurs en matière de biodiversité et de changement climatique.

15. Prochaines étapes et projets pour la prochaine réunion

Sur proposition du Secrétariat, le Groupe d'experts décide de ce qui suit :

- les projets de rapport présentés seront finalisés en tenant compte des observations et des informations reçues ;
- le secrétariat se mettra en relation avec les groupes d'experts de la Convention afin d'identifier et de sélectionner les espèces en fonction des effets du changement climatique ;
- un nouveau rapport contenant des conseils et des principes relatifs aux stratégies d'adaptation, fondés sur l'examen de ceux qui existent, sera commandé et présenté lors de la prochaine réunion ;
- le secrétariat rédigera un projet de recommandation reposant sur les rapports et les débats ;
- il définira les domaines d'activités pour 2009, notamment en ce qui concerne l'élaboration de conseils plus détaillés à l'intention des parties sur la biodiversité et le changement climatique, dans la perspective de proposer au Comité permanent que ce groupe devienne un groupe d'experts « régulier » de la Convention de Berne.

Le Secrétariat indique que la prochaine réunion du Groupe d'experts se tiendra à Strasbourg en septembre 2008, à des dates qui seront confirmés sous peu.

16. Autres questions

Aucune.

17. Clôture

La Présidente rend hommage aux participants pour leur contribution active pendant les deux jours de réunion et remercie chaleureusement les organisateurs, le secrétariat et les interprètes. Elle clôt officiellement la réunion le vendredi après-midi.

Annexe 1**LIST OF PARTICIPANTS**
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LISTE DES PARTICIPANTS**I. CONTRACTING PARTIES / PARTIES CONTRACTANTES****ALBANIA/ ALBANIE**

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Annexe 2



**Groupe d'experts
sur la biodiversité et le changement climatique**

Séville, 13-14 mars 2008

ORDRE DU JOUR

Jeudi 13 mars

09h30 – 10h30 Accueil et ouverture

1. Ouverture de la réunion par le Président
2. Discours de Mme Fuensanta Coves, *Consejera de Medio Ambiente de la Junta de Andalucía*
3. Adoption de l'ordre du jour
4. Introduction par le Secrétariat (Mlle Carolina Lasén Díaz)

10h30 – 12h00 Biodiversité et changement climatique dans d'autres assemblées

5. Mises à jour des travaux sur biodiversité / changement climatique dans d'autres assemblées:
 - a. Convention de Barcelone (M. Atef Ouerghi, Centre d'activités régionales pour les aires spécialement protégées (CAR/ASP))
 - b. Union européenne (Mme Karin Zaunberger, Commission européenne, DG Environnement)
 - c. Agence européenne de l'Environnement (M. Snorri Baldursson, Président du SEBI 2010 Groupe d'experts sur les "*Indicators of impact of climate change on biodiversity*")
 - d. *Global Biodiversity Information Facility* (M. Francisco Pando, Co-ordinateur du noyau espagnol)

12h00 – 13h30 Rapports nationaux

6. Brefs rapports nationaux sur les activités et initiatives sur la biodiversité et le changement climatique

14h30 – 17h30 Projets de rapports pour discussion

7. **Révision des informations disponibles sur les impacts directs et indirects du changement climatique sur la biodiversité et identification des espèces et habitats les plus vulnérables** (Mme Pam Berry, *Environmental Change Institute, Oxford University Centre for the Environment*)
 8. **Changement climatique et espèces exotiques envahissantes** (Mme Laura Capdevila–Argüelles, *GEIB Specialist Group in Biological Invasions*)
-

Vendredi 14 mars**09h30 – 10h00 Changement climatique au Conseil de l'Europe**

9. **Brèves présentations des activités sur le changement climatique au Conseil de l'Europe**
 - a. Représentant de l'Assemblée parlementaire du Conseil de l'Europe (Mme Manuela Melo, Vice-Présidente de la Sous-Commission sur le Développement durable)
 - b. Représentant du Congrès des Pouvoirs locaux et régionaux (M. Willy Borsus, membre du Comité sur le Développement durable, rapporteur sur « Les politiques sur la biodiversité pour les zones urbaines »)

10h00 – 12h00 Projets de rapports pour discussion (cont.)

10. **Changement climatique et conservation des oiseaux migrateurs en Europe: identification des effets et priorités pour la conservation** (M. Keith Bildstein, Directeur scientifique, Sanctuaire de *Hawk Mountain*, Pennsylvanie)
11. **Impacts du changement climatique sur les espèces d'amphibiens et de reptiles** (M. Klaus Henle, *Helmholtz Centre for Environmental Research – UFZ*)

12h00 – 13h30 Questions diverses pour discussion

12. **Changement climatique et zones protégées** (M. Jan Plesnik, Président du Groupe d'experts sur le Réseau Emerald)
13. **Rapport de la RSPB sur "Climate change - wildlife and adaptation"** (M. Oly Watts, RSPB *Climate Change Policy Team*)
14. **Points de vue de Il Nibbio, Foundation Antonio Bana pour la recherche sur les migrations ornithologiques et la protection de l'environnement** (M. Ferdinando Ranzanici, Il Nibbio)

14h00 – 17h00 Travail de suivi pour préparer des projets de recommandations
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- 15. Question diverses y compris pour le plan d'action du Groupe d'experts**
 - 16. Prochaines étapes et projets pour la prochaine réunion**
 - a. Liaising with and input from other Groups of Experts under the Bern Convention
 - b. Finalisation des rapports
 - c. Préparation de projet de directive et recommandations
 - 17. Autres questions**
 - 18. Clôture**
-

Samedi 15 mars

Excursion au Parc national de Doñana

Départ et retour à l'Hôtel Occidental (retour à l'hôtel au plus tard à 17 heures)

Annexe 3

**RAPPORTS NATIONAUX SUR LES ACTIVITES EN MATIERE DE BIODIVERSITE ET DE
CHANGEMENT CLIMATIQUE**

1. Albania / Albanie
2. Armenia / Arménie.....
3. Bulgaria / Bulgarie
4. Czech Republic / République tchèque.....
5. Denmark / Danemark
6. France / France
7. Germany / Allemagne.....
8. Latvia / Lettonie.....
9. Norway / Norvège.....
10. Serbia / Serbie.....
11. Spain / Espagne
12. Sweden / Suède.....
13. Turkey / Turquie.....
14. United Kingdom / Royaume Uni.....

1. ALBANIA / ALBANIE

ALBANIA NATIONAL REPORT

Background

Albania is a Party to UNFCCC from January 1995, having the status of a non-Annex I Party. Albania also joined the Kyoto protocol on 16th December 2004.

As a coastal country with a fragile environment lying in the Mediterranean, Albania is vulnerable to global climate change. The future scenarios for Albania predict changes such as increased temperatures, decreased precipitation, reduction of water resources and loss of arable land.

In Albania, per capita emissions of GHG are relatively low due to the fact that 94 % of electric power is generated by hydro sources. However, emissions per GDP are relatively high. The main source of GHG emissions is the energy sector, which accounts for 44 % and forests (fuel wood) which contribute 21 % of the total. Based on the predictions for future emissions, it is expected that by 2020 total GHG emissions will rise from 7061.5 Gg in 1994 to a level of 37.653 Gg.

A national Climate Change Programme Unit is established from 1998 at the Ministry of Environment. A steering committee is also up and running.

Projects

➤ [Albania's First National Communication](#)

The project enabled Albania to prepare its First National Communication with the Conference of the Parties of the UN Framework Convention on Climate Change.

➤ [Technology Needs Assessment - Top up Phase](#)

Additional funds are requested from the Government of Albania under the Operational Guidelines for Expedited Financing of Climate Change Enabling Activities (EA) - Phase II.

➤ [Capacity Building for Improving the Quality of GHG Inventories \(Europe/CIS region\)](#)

The project has initiated a regional programmatic approach to build capacity for improving the quality of national GHG inventories, using the good practices guidance of the IPCC for cost-effectiveness.

➤ **Stocktaking exercise**

The main objective of the self-assessment exercise was to undertake a highly consultative and participatory process of needs assessment to identify and validate the critical priorities for UNFCCC implementation in Albania in general, and was considered as the first but *critical step* in preparing the Second National Communication project proposal.

➤ Albania's second national communication

This project *aims* at enabling Albania to prepare and report its Second National Communication with the Conference of the Parties (CoP) of the UN Framework Convention on Climate Change.

➤ [Article 6 Project \(Education, training & public awareness\)](#)

The project on Article 6 of UNFCCC (education, training and public awareness) funded by UNEP aims to enhance the level of public awareness on climate change in Albania in order to enable the country to comply with UNFCCC and Kyoto Protocol provisions and to mainstream climate change issues into national policies and strategies.

➤ [PDF B: Albania - Market Transformation for Solar Thermal Water Heating](#)

The project is seeking to accelerate the market development for solar water heating in Albania with the objective to achieve the level of 50,000 m² of installed solar water heating capacity by the end

of the project and facilitate the sustainable growth of the market at the average annual rate of 20% after the project has ended.

➤ **PDF A: Identification and implementation of adaptation response measures in Drini - Mati River Deltas**

Gef through the UNDP together with cost sharing from the Government of Albania have funded the project preparatory phase PDF A: "Identification and implementation of adaptation response measures in Drini - Mati Deltas" which aims to build adaptive capacities in the Dini - Mati River Delta areas in order to protect vulnerable ecosystems and local livelihoods.

➤ **Building Capacity to Access Carbon Finance in Albania**

The [project](#) will help the Government of Albania to develop its public and private sector capacities to access carbon finance in Albania by (i) creating a legal and institutional framework for carbon finance and (ii) building in-country capacities for identification, implementation of and resource mobilization for the greenhouse gas reduction projects eligible for Clean Development Mechanism and other carbon market mechanisms.

➤ **Crosscutting project**

The objective of the National Capacity Self Assessment is to assess capacity needs and priorities with respect to the global environment and within the context of sustainable development so that Albania can meet the requirements of the Global Environmental Conventions in a coordinated and strategic manner.

➤ Lately on 29 February 2008 a Training Workshop "Building Capacities for dealing with Carbon Financing in Albania" One-day training workshop on institutional and legal aspects of the carbon financing in Albania was organized by Climate Change Program

Policy development

- Review and updating of the National Biodiversity Strategy and Action Plan by 2010.
- Reducing emissions from deforestation – as agreed by parties at the 13th Conference of Parties (COP-13) in December 2007 to strengthen efforts to reduce emissions from deforestation and forest degradation
- [Development of successful mechanisms to reduce greenhouse gas emissions from deforestation in](#) a developing country like Albania, will increase the resources available to support forest conservation and sustainable use and also support people dependent on forest ecosystems. Efforts are being made each year by supporting the forestry services in order to better combat the illegal logging as Albania has still a negative figure between the forest cuts and reforestation.
- Windpower as a key renewable resource for electricity generation. This year for the first time in Albania two wind power projects have been approved and are taking place.
- Hydropower as a renewable energy resource developed at small and large scales. Albania still rely heavily on hydropower. In such regards projects for construction of hydropower plants are ongoing.

2. ARMENIA / ARMENIE

As it was reported in the First National Communication on climate change, the global climate change will have a significant impact on conditions for the existence of the majority of natural ecosystems of Armenia. More specifically, those conditions will shift up the mountain for 150-200 m. The report also indicated most vulnerable ecosystems threatened by transformation. Since the First National Communication, no other additional data have been generated. Instead, new scenarios for climate change will be developed, and on the basis of those scenarios new conclusions will be made concerning the vulnerability of natural ecosystems in various regions of the country. My understanding is that those conclusions are not likely to undergo significant changes.

Taking into consideration the above statement, the following is suggested for the purpose of the research to be made under the Second National Communication: single out those areas and ecosystems of Armenia, which are not included in specially protected areas, but have in their structure biodiversity species of global and/or national importance, and suggest adaptation measures aimed at those species in the form of management plans for those territories. These will be “Important plant areas” or areas important to the biodiversity as a whole included in the “Emerald” network.

The above areas will be inclusive of most important and vulnerable ecosystems such as salted swamps on the Ararat valley (the rarest plant species included in the Red Book of Armenia: *Linum barsegianii*, *Thesium compressum*, *Iris musulmanica*, *Reseda globulosa*, *Microcnemum coralloides*, etc.) threatened to become extinct (disappear) in the result of dry-out and overly salinization; subalpine meadows and meanders on the upper-river Argichi of the Sevan basin containing a number of rare species and threatened by aridization; some areas of steppes, subalpine meadows and tall grasses on other mid-high mountain ridges of Armenia, particularly the Shirak mountain ridge (where shift of conditions from steppes to semi-deserts is possible), as well as Bazum, Pambak, Bargushat, Meghri and Javakhet mountain ridges. The list will obviously include several small relic lakes (e.g. Chmoi-lich, Chili-lich and others) and will quite possibly include Arteni mountain, with a very rich and specific flora and fauna, whose ecosystem is endangered by aridization and intensive spread of semi-desert conditions.

It is worthwhile to note that some of those areas may be included both in “Important plant areas” and “Emerald” network, others – in “Important plant areas” only.

It should be noted that the above suggestions is the result of a very preliminary knowledge of the spread of rare species and ecosystems in Armenia. A detailed research and analysis is needed for the current conditions and spread of species and ecosystems in the country, supplemented with a forecasting research on the basis of the suggested scenarios of climate change.

Invasive and expansive species of plants that are a potential threat for natural ecosystems of Armenia

Species	Introduction	Status	Threat
<i>Acer ibericum</i>	Aborigine	Expansive species	Intensively spreading in arid and semi-arid communities
<i>Acer negundo</i>	Introduced	Potentially invasive species	Independently spreading in towns and settlements, more rarely in the disturbed habitats
<i>Acroptilon repens</i>	Aborigine	Expansive species	Plentiful on disturbed habitats, abandoned fields
<i>Ailanthus altissima</i>	Introduced	Invasive species	Intensively penetrates natural ecosystems
<i>Alliaria petiolata</i>	Aborigine	Potentially expansive species	Widespread in Armenian forests, but not plentiful and do not of an immediate threat
<i>Amaranthus retroflexus</i>	Aborigine	Invasive species	Widespread in Central Armenia, especially on disturbed areas and in the towns
<i>Ambrosia artemisiifolia</i>	Accidentally introduced	Potentially invasive species	Revealed at first in the north of Armenia in 1983 (Gabrielian & Tamanyan 1985, Avetisyan 1995), currently is spreading in Erevan city and Ararat valley
<i>Anemone fasciculata</i>	Aborigine	Expansive species	Intensively spreading in sub-alpine meadows

<i>Anthemis cotula</i> <i>Anthemis triumfettii</i>	Aborigine	Expansive species	Intensively spreading in meadows, abandoned fields and edges of forests
<i>Arctium palladinii</i>	Aborigine	Expansive species	Intensively spreading on disturbed habitats, especially on forest glades
<i>Artemisia vulgaris</i>	Aborigine	Expansive species	Intensively spreading on disturbed habitats
<i>Astragalus galegiformis</i>	Aborigine	Expansive species	Intensively spreading on forest edges, roadsides in North Armenia
<i>Caltha palustris</i>	Aborigine	Expansive species	Intensively spreading on wetlands in middle and upper mountain belts
<i>Cardaria boissieri</i> , <i>Cardaria draba</i>	Aborigine	Potentially invasive species	Intensively spreading on disturbed habitats, abandoned fields
<i>Carduus hamulosus</i> , <i>Carduus nutans</i>	Aborigine	Expansive species	Intensively spreading on disturbed habitats
<i>Centaurea behen</i>	Aborigine	Expansive species	Intensively spreading in steppe communities
<i>Centaurea diffusa</i>	Aborigine	Potentially invasive species	Weed in the cereals fields, penetrating into natural ecosystems (steppes)
<i>Centaurea iberica</i>	Aborigine	Expansive species	Intensively spreading in disturbed habitats in arid and semi-arid zones
<i>Centaurea solstitialis</i>	Aborigine	Potentially invasive species	Widespread in disturbed habitats
<i>Chamaesyce maculata</i>	Aborigine	Expansive species	Widespread in disturbed habitats in semi-desert
<i>Chenopodium botrys</i>	Aborigine	Expansive species	Widespread in disturbed habitats
<i>Chondrilla juncea</i>	Aborigine	Potentially invasive species	Widespread in disturbed habitats
<i>Circaea lutetiana</i>	Aborigine	Expansive and potentially invasive species	Intensively spreading in disturbed forest habitats
<i>Cirsium anatolicum</i> , <i>Cirsium arvense</i> , <i>Cirsium congestum</i> , <i>Cirsium incanum</i> , <i>Cirsium vulgare</i>	Aborigine	Expansive and potentially invasive species	Intensively spreading in disturbed habitats, especially on abandoned fields
<i>Clematis orientalis</i>	Aborigine	Expansive species	Intensively spreading along rivers of Ararat valley
<i>Conium maculatum</i>	Aborigine	Expansive species	Intensively spreading in disturbed habitats, the spread in sub-alpine communities is registered
<i>Consolida orientalis</i>	Aborigine	Expansive species	Intensively spreading in steppes, semi-deserts, very plentiful in abandoned fields
<i>Conyza canadensis</i>	Aborigine	Invasive species	Intensively spreading in forests, especially in disturbed areas
<i>Crupina vulgaris</i>	Aborigine	Expansive species	Intensively spreading in steppes
<i>Descurainia sophia</i>	Aborigine	Expansive species	Growing mainly in ruderal habitats, penetrating forest and meadows
<i>Erigeron acer</i> , <i>Erigeron annuus</i>	Aborigine	Expansive species	Intensively penetrating steppes and meadows
<i>Erodium cicutarium</i>	Aborigine	Expansive species	Intensively spreading in disturbed habitats in arid and semi-arid zones
<i>Euclidium syriacum</i> <i>Eichhornia crassipes</i> and <i>Eichhornia azurea</i>	Aborigine	Expansive species	Intensively spreading in disturbed habitats in arid and semi-arid zones
<i>Euphorbia seguieriana</i>	Aborigine	Expansive species	Intensively spreading in steppe pastures by first signs of overgrazing
<i>Galinsoga ciliata</i> , <i>Galinsoga parviflora</i>	Accidentally introduced	Potentially invasive species	Widespread in towns, settlements; not registered yet in natural ecosystems
<i>Geranium tuberosum</i>	Aborigine	Expansive species	Intensively spreading in abandoned fields
<i>Glechoma hederacea</i>	Aborigine	Expansive species	Intensively spreading in disturbed forest habitats
<i>Gleditschia triacanthos</i>	Introduced	Potentially invasive species	Spreading along irrigation channels in Ararat valley
<i>Helianthus tuberosus</i>	Introduced	Potentially invasive species	Are cultivated on small squares, rarely met on ruderal and disturbed habitats
<i>Heracleum antasiaticum</i> , <i>Heracleum schelkownikovii</i> , <i>Heracleum trachyloma</i>	Aborigine	Expansive species	Spreading in disturbed habitats in humid and semi-humid zones
<i>Impatiens glandulifera</i>	Accidentally (?)	Potentially invasive	Found in North Armenia, needs special control

	introduced	species	
<i>Iva xanthifolia</i>	Accidentally introduced	Potentially invasive species	Found in West Armenia, needs special control
<i>Leontodon hispidus</i>	Aborigine	Expansive species	Spreading in steppes and meadows
<i>Lepidium latifolium</i> , <i>Lepidium ruderales</i>	Aborigine	Expansive species	Spreading in disturbed habitats
<i>Leucanthemum vulgare</i>	Aborigine	Expansive species	Intensively spreading in abandoned fields, penetrates meadow and steppe communities
<i>Lythrum salicaria</i>	Aborigine	Potentially invasive species	Widespread on wetlands
<i>Onopordum acanthium</i>	Aborigine	Potentially invasive species	Spreading in disturbed habitats
<i>Papaver macrostomum</i>	Aborigine	Expansive species	Intensively spreading in steppe and meadow communities
<i>Peganum harmala</i>	Aborigine	Expansive species	Spreading in disturbed habitats
<i>Picris hieracioides</i>	Aborigine	Expansive species	Spreading in disturbed habitats
<i>Polygonum alpinum</i>	Aborigine	Expansive species	Intensively spreading in sub-alpine communities
<i>Populus alba</i>	Aborigine	Expansive species	Spreading on wetlands
<i>Rhynchosorys orientalis</i>	Aborigine	Expansive species	Intensively spreading in meadows
<i>Robinia pseudoacacia</i>	Introduced	Potentially invasive species	Rarely met in natural communities, do not of a threat yet
<i>Salix caprea</i>	Aborigine	Expansive species	Intensively spread in disturbed forest habitats
<i>Sanicula europaea</i>	Aborigine	Expansive and potentially invasive species	Intensively spread in disturbed forest habitats
<i>Scandix stellata</i>	Aborigine	Expansive species	Intensively spread in abandoned fields, penetrates meadow and steppe communities
<i>Siegesbeckia orientalis</i>	Aborigine	Expansive species	Spreading in steppes and semi-deserts
<i>Silybum marianum</i>	Aborigine	Expansive species	Enlarged a lot its area in South and North Armenia within last years
<i>Solidago virgaurea</i>	Aborigine	Potentially invasive species	Widespread in forest and meadow communities
<i>Sonchus oleraceus</i>	Aborigine	Expansive species	Spreading in wetlands
<i>Sphaerophysa salsula</i>	Accidentally introduced	Invasive species	Revealed first in Armenia in 1990 (Zakharian & Fayvush 1991); within those years is spread in Ararat valley
<i>Spinacia tetrandra</i>	Aborigine	Expansive species	Spreading in semi-deserts
<i>Tagetes minima</i>	Introduced	Invasive species	Was introduced as ornamental plant, now spread in disturbed ecosystems
<i>Tanacetum parthenium</i>	Aborigine	Expansive species	Spreading in steppes
<i>Tanacetum vulgare</i>	Aborigine	Potentially invasive species	Is distributed on disturbed areas in Central Armenia
<i>Tribulus terrestris</i>	Aborigine	Expansive species	Intensively spreading in disturbed habitats in arid and semi-arid zones
<i>Tripleurospermum caucasicum</i> , <i>Tripleurospermum transcaucasicum</i>	Aborigine	Expansive species	Intensively spreading in meadow and steppe communities, especially during overgrazing
<i>Veratrum album</i>	Aborigine	Expansive species	Intensively spreading in meadow associations during overgrazing
<i>Verbascum georgicum</i> , <i>Verbascum laxum</i>	Aborigine	Expansive species	Intensively spreading in abandoned fields and disturbed habitats
<i>Xanthium italicum</i> , <i>Xanthium spinosum</i> , <i>Xanthium strumarium</i>	Aborigine	Potentially invasive species	Widespread in disturbed habitats
<i>Xeranthemum squarrosum</i>	Aborigine	Expansive species	Intensively spread in steppes and semi-deserts, especially in disturbed habitats

3. BULGARIA / BULGARIE

NATIONAL REPORT – BULGARIA BIODIVERSITY AND CLIMATE CHANGE

A. Government level

The United Nations Framework Convention on Climate Change (UNFCCC) was ratified by the Parliament of Bulgaria in 1995.

Consecutively, the First National Action Plan for Climate Change was developed during the period 1996-1997 and adopted in 2000. The actions set in the Plan were implemented in the period 2000-2004. A 56 % decrease of greenhouses emission was reported in comparison with 1998.

The Kyoto Protocol was ratified in 2002.

The Second National Action Plan concerns the period 2005-2008.

Measures taken

- Since 01.01.2007 Bulgaria started implementing of Directive 2003/87/EC and introduced quotes for trade of greenhouse gases emissions.
- National Inventories on greenhouse gases emissions
- Reporting
- Joins implementations with The Netherlands, Denmark, Austria, Japan, France and Finland;
- Afforestation;
- Special measures for forest fire control in order to prevent losses of forest biodiversity.
- Monitoring on the biodiversity in selected sites.

The measures planned in the Progress Report issued by the Ministry of Environment and Waters include focusing on biodiversity conservation in the zones above 800 m in altitude, which are expected to be less affected by the climate change.

B. Research

A monograph was published "Drought in Bulgaria. A contemporary analogue of climate change" (Knight G., and Raev I., eds.).

Extensive climate studies were performed in the forests during the last 30 years. The studies are part of long-term monitoring process and include a periodic survey on the plant diversity.

The University of Forestry develop dendrochronological studies in order to reconstruct the climate regime in representative parts of the country. The studies are aimed to predict the status of the forests in relation to climate change. These predictions could serve as a base for decision making for future sustainable management.

The project "Evaluation of Sweet chestnut stands dynamics in the condition of global climate change" was completed in the Central Laboratory of General Ecology.

C. NGOs

British Chevening Scholarships Programme organized a seminar "Climate changes and NATURA 2000". (28 June 2007) with participation of more than 80 representatives of the municipal and state administration, NGOs and experts.

Bulgarian Biodiversity Foundation (BBF) organizes seminars with students on the problems of biodiversity conservation.

Bulgarian Society for the Protection of Birds (BSPB) BSPB has contributed to a number of international projects in cooperation with partners from more than 20 other countries. Some of the projects concern the effect of the climate change on bird migrations.

4. CZECH REPUBLIC / REPUBLIQUE TCHEQUE

BIODIVERSITY AND CLIMATE CHANGE – NATIONAL REPORT OF THE CZECH REPUBLIC

Ms. Zuzana Wicherova, LULUCF Expert, Ministry of the Environment, wicherova@env.cz

Within the National Biodiversity Strategy of the Czech Republic approved by the Government in May 2005 (www.chm.nature.cz), a special chapter deals with biological diversity and climate change. Its main aim shall be to elaborate synergies between biodiversity and climate policies when preparing and implementing various measures.

In 2004 the Ministry of the Environment of the Czech Republic released National Program to Abate the Climate Change Impacts in the Czech Republic (http://www.env.cz/AIS/web-en.nsf/pages/Climate_Change). The program includes main policies and measures for reducing greenhouse gas emissions as well as adaptation strategy. It has been evaluated in 2007 with a special view to the assessment of the effects brought by measures implemented since 2004. The evaluation should be approved by the Government soon.

The Climate Change team (the Ministry of Environment of the Czech Republic) has been working on a new Climate Protection Policy in the Czech Republic that includes both mitigation and adaptation strategy. When preparing the document we will go out from the results of the evaluation of the recent National program and we will also list a proposal of new measures that should be implemented. The impacts on biodiversity and the measures to protect it will be taken into account. The Climate Change Protection Policy should be finished till September 2008.

For example afforestation of unexploited agricultural land belongs among the mitigation measures, for adaptation measures that can positively influence biodiversity we can list: soil protection (against erosion and other land degradation), natural habitat and native species protection, supporting natural processes in ecosystems, measures against the expansion of invasive alien species or water courses restoration.

Measures to abate climate change and its impacts are also reflected in other documents dealing with the landscape management, such as National Forest Programme II (under preparation). In Key Action 6 we can see for example the need for support of semi-natural forest management with high species diversity or change in forest classification and typology. For agriculture we can highlight Agri-environmental Programmes/Schemes, land replotting and consolidation and national and sub-national ecological networks, called the Territorial Systems of Ecological Stability of the Landscape aiming at creation of the multifunctional landscape.

The significant problem in developing and implementing adaptation strategies causes weak regional prediction of climate change impacts. It is difficult to work on any strategy without progress in this area and so we have to wait for particular results of ongoing research.

In terms of research, there are two projects on adaptation to climate change in the Czech Republic going on at the moment. The aim of one of them is to downscale global models to regional conditions of the Czech Republic and to elaborate concrete measures in water management, agriculture and forestry sectors. The second project addresses adaptation measures in small forest drainage areas/river basins with a special view to water management in those ecosystems. Results from these projects are expected in a 5-year term.

In addition, some projects on possible climate change impacts on the model components of biological diversity at all three main levels have been carried out mainly by universities and institutes of the Academy of Sciences of the Czech Republic, funded by the Council of the Government of the Czech Republic for Research and Technological Development through the Ministry of the Environment of the Czech Republic (e.g., modelling the possible distribution of plant invasive alien species throughout the country, shifting the tree line, etc.)

5. DENMARK / DANEMARK

CURRENT AND PLANNED INITIATIVES ON CLIMATE CHANGE AND BIODIVERSITY

Major relevant initiatives include:

- **An overall national strategy for adaptation to climate changes** (“Strategi for tilpasning til klimaændringer i Danmark”) was launched by the Government in March 2008. The strategy describes a number of initiatives to be implemented by the various sectors during the next decade.

Concerning nature and nature conservation the following climate effects are expected in Denmark: 1) Increased biological production caused by increased temperatures and prolongation of the growth season; 2) increased eutrophication causing increasing overgrowth and increased oxygen depletion in the interior waters; 3) increased erosion and flooding of shallow coastal areas, salt-marshes and river-valleys due to increased water-levels in the sea, increased precipitation and changes in the temporal pattern of the precipitation.

Among the climate adaptation tools relevant in nature management the strategy emphasizes:

1) restoration of certain river-valleys to the state of natural, extensively managed wetlands; 2) targeting the use nature protection orders, detailed planning related to the NATURA 2000 and Water framework directives, nature restoration and grant schemes in order to increase ecological connectivity in the fragmented Danish landscapes; 3) an action plan on invasive species will include analyzes of the need of efforts related to the climate changes in order to prevent negative consequences of existing or possible new invasive species.

Economic analyzes will be needed to assess the gains and losses of the various initiatives including the use of nature’s own climate adaptation measures supported by physical planning and regulations.

Eventually, the strategy will e.g. support widespread dissemination of information through a ‘climate adaptation portal’ (to be established at the new Ministry of Climate and Energy) and a strategy on research on adaptation for climate changes will be developed. A forum for cross-sector coordination between public authorities will also be established.

The strategy is available (so far only in Danish), at <http://www.ens.dk/sw66173.asp>

- **New national energy plan 2008-2011.** A new plan for the production of energy in Denmark was politically decided in February 2008. Important elements are the target of reducing the overall energy consumption in 2011 with 2 % compared to 2006 and the target of having 20 % of the energy consumption 2011 based on renewable sources (wind, solar energy, biogas, biomass).
- **Bio fuels.** There are growing concerns about the negative ecological and environmental impacts of the EU-targets on 5.75 % and 10 % bio fuels (bio-ethanol, bio-diesel) to be used in the transport sector by 2010 and 2020.

The lack of sustainable produced bio fuels has been criticised. Impacts on biodiversity, climate and local communities due to deforestation or change of land-use for growing crops for bio fuels can become serious on a global scale. On a national scale an increased demand for crop land for the production of bio fuels may put pressure on the biodiversity depending on the marginal farmlands, which today are important habitats for a number of plant- and animal-species, which no longer are able to survive in the intensively cultivated monoculture areas in the farmland.

- **Nordic co-operation.** Denmark co-operates with the other Nordic countries in the field of environment under the umbrella of the Nordic Council of Ministers. Relevant projects related to climate and biodiversity includes “Conservation of Nordic Nature in a Changing Climate” available at <http://www.norden.org/pub/sk/showpub.asp?pubnr=2005:572>

and the ongoing project “Nordic Climate Changes Indicators of Effects on Nature” (further information from project leader Maria Mikkelsen, consultant, Ministry of the Environment, Agency for Spatial and Environmental Planning, Denmark (e-mail: ann@blst.dk).

- **National Environmental Research Centre (NERI), University of Aarhus.**

NERI implements a number of research projects including several in Greenland and other parts of the Arctic, which are targeting effects of the climate changes on various aspects of biodiversity, a list of ongoing projects can be found at http://www.dmu.dk/Samfund/Klimaændringer_miljoe/Projekter/

- **Upcoming events:**

International conference: Biodiversity Informatics and Climate Change Impacts on Life.

Venue: University of Aarhus, Denmark. April 5-6, 2008.

Conference website: <http://www.danbif.dk/conference2008/>

- *Nordic conference: One small step – includes theme on biodiversity and climate change.*

Venue: Odense, Denmark. September 15-17, 2008.

Conference website: <http://www.odense.dk/WEB1/onesmallstep/>

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6. FRANCE / FRANCE

Travaux engagés sur l'adaptation de la biodiversité au changement climatique

La prise en compte des impacts du changement climatique sur la biodiversité, et l'adaptation à ces impacts, représentent un enjeu majeur pour la France. La France est en effet située, pour sa partie métropolitaine, au carrefour de plusieurs zones biogéographiques et à la frontière entre Sud et Nord de l'Europe ; de plus, l'outre-mer français, support d'une très forte biodiversité, est constitué en grande partie d'îles et sous des latitudes tropicales, ou intertropicales et sera fortement touché par le changement climatique : montée du niveau de la mer, variations de température des eaux, mais aussi variations dans la fréquence et l'amplitude des événements cycloniques par exemple.

Face à cet enjeu que représente l'adaptation de la biodiversité au changement climatique, deux axes de travail sont actuellement engagés en France :

1. Comprendre et caractériser les impacts du changement climatique sur la biodiversité et déterminer les stratégies d'adaptation pertinentes en conséquence

- Des programmes de recherche dédiés ont été mis en place depuis 2003 afin de comprendre, de caractériser et de prédire les impacts du changement climatique sur les différents compartiments de la biodiversité, et notamment sur les espèces et les écosystèmes. Ces travaux permettent notamment de mieux identifier les modifications de composition et de fonctionnement de communautés ou d'écosystèmes en réponse aux variations climatiques de leur environnement (citons par exemple les coraux, les zones humides, les forêts, les réseaux trophiques marins, etc). Des études de modélisation ont également été réalisées afin de projeter les aires de répartition potentielles de plusieurs centaines d'espèces de faune et de flore à l'horizon 2050 et 2100 selon les différents scénarios climatiques du GIEC ; ces projections sont en train d'être affinées afin de mieux prendre en compte les caractéristiques écologiques et les capacités de migration des espèces d'une part, et la gestion des incertitudes d'autre part.

Une nouvelle stratégie de recherche conjointe est à présent déclinée sur les bases de ces premiers résultats par l'Institut français pour la biodiversité - plate-forme nationale de recherche interdisciplinaire dans le domaine de la biodiversité - en particulier pour progresser sur les aspects prospectifs et l'évolution du fonctionnement des écosystèmes et des services écosystémiques¹.

- Des systèmes d'observation des changements climatiques et de leurs impacts sont également en cours de construction, en lien avec l'Observatoire national des effets du réchauffement climatique (ONERC) : ainsi, des indicateurs sont spécifiquement développés pour suivre l'impact du changement climatique sur les oiseaux, et ont vocation à être complétés par des indicateurs portant sur d'autres groupes². Des indicateurs sur l'évolution des températures et du niveau de la mer sont également en cours de déploiement pour l'outre-mer.

Des observatoires ont aussi été mis en place, comme l'observatoire **éco-climatique qui a été monté dans le Vercors** (Alpes) avec une association des gestionnaires des aires protégées locales avec des laboratoires universitaires afin d'analyser les changements climatiques et leurs impacts en zone de montagne. L'objectif de l'observatoire est d'étudier de manière transversale les évolutions climatiques (via des stations météorologiques), la ressource en eau, et la biodiversité. Outre l'intérêt de l'approche interdisciplinaire, l'observatoire occupe une position particulièrement intéressante car il est situé à la rencontre des trois régions biogéographiques.

La première évaluation de l'état de conservation des espèces et des habitats d'intérêt communautaire au titre de la directive Habitats, faune, flore a par ailleurs permis de constituer une base d'informations sur les espèces et les habitats pour lesquels le changement climatique est un facteur d'impact avéré ou potentiel, ce qui permettra une réflexion opérationnelle sur le traitement de celui-ci dans le cadre de Natura 2000.

¹ <http://www.gis-ibf.org>

² <http://www.environnement.gouv.fr/Presentation,640-.html>

- Certains milieux ou territoires font enfin l'objet d'études spécifiques, notamment les zones de montagne pour lesquelles il est d'ores et déjà possible de dégager un ensemble de constats cohérents sur les impacts du changement climatique et de définir ainsi des pistes d'adaptation. La forêt a également fait l'objet d'analyses poussées débouchant sur des propositions de stratégie d'adaptation opérationnelle. Enfin, le Conservatoire du littoral est fortement impliqué dans le projet européen BRANCH³ qui porte sur les systèmes d'aménagement de l'espace littoral pour une adaptation aux changements climatiques.

2. Préparer l'adaptation de la biodiversité au changement climatique

La stratégie française d'adaptation au changement climatique (juillet 2007) comporte un volet consacré à l'adaptation de la biodiversité⁴. La stratégie nationale pour la biodiversité (2004) permet également une prise en compte des impacts du changement climatique sur la biodiversité même si celui-ci est peu mentionné explicitement, notamment à travers ses volets sur la protection des espèces, des milieux sensibles et la constitution d'un réseau écologique national⁵.

Sur ces bases, plusieurs chantiers sont lancés ou en cours de lancement pour préparer l'adaptation de la biodiversité au changement climatique :

- faire connaître et approprier la nécessité de cette adaptation

L'Observatoire national des effets du réchauffement climatique a réalisé plusieurs documents à l'usage des collectivités territoriales afin de les accompagner dans la mise en place de stratégies d'adaptation au changement climatique, y compris concernant la biodiversité même si ce thème reste à développer⁶.

D'autres documents d'information et de communication, à l'usage des collectivités et des gestionnaires, ont également été réalisés, concernant en particulier la forêt. Une stratégie d'adaptation des forêts au changement climatique est également en cours de finalisation en France : elle visera d'une part à valoriser le rôle des forêts comme régulateur du changement climatique et tampon de leurs effets, et d'autre part à proposer des pistes de prise en compte des impacts du changement climatique sur la biodiversité forestière.

Plusieurs événements soutenus ou initiés par l'Etat à destination des scientifiques et des gestionnaires ont eu ou vont avoir lieu pour partager l'information sur les impacts du changement climatique sur la biodiversité et dégager des pistes d'adaptation : colloque 2007 de l'Institut français de la biodiversité qui a fait un nouveau bilan des recherches en cours et de leurs implications, colloque sur les îles, la biodiversité et le changement climatique qui aura lieu début juillet sur l'île de la Réunion dans le cadre de la Présidence française du Conseil de l'Union européenne, congrès à venir de France nature environnement (fédération d'associations de protection de la nature) sur le thème des continuités écologiques et de leurs rôles dans le contexte du changement climatique.

- en identifiant et en favorisant les continuités écologiques sur le territoire et une gestion adaptative

Certains projets Life + ont permis d'avancer sur la gestion adaptative et le sujet des espaces protégés dans le contexte du changement climatique (projet porté par l'Office national des forêts notamment).

Au-delà du partage d'informations et de la mise à disposition de tous de pistes d'outils pour prendre en compte, aux différentes échelles, les besoins d'adaptation de la biodiversité au changement climatique, un chantier d'envergure nationale a été lancé sur la constitution d'une trame « verte et bleue » visant à assurer la continuité écologique sur le territoire.

Cette trame verte et bleue, qui est l'un des aboutissements du Grenelle de l'environnement organisé en 2007, sera un outil d'aménagement du territoire, constitué de grands ensembles naturels et d'éléments de connectivité les reliant ou servant d'espaces tampons et complété par une trame bleue

³ http://www.branchproject.org/achieve/option_scoa_st/normandyfrance/

⁴ http://www.environment.gouv.fr/IMG/pdf/Strategie_Nationale_2.17_Mo-2.pdf

⁵ <http://www.environment.gouv.fr/Strategie-nationale-pour-la-7338.html>

⁶ <http://www.environment.gouv.fr/Publications-et-colloques-.html>

formée des cours d'eau et masses d'eau et des bandes végétalisées généralisées le long de ces cours et masses d'eau. Cet outil vise ainsi à créer une continuité territoriale, et sera la déclinaison du réseau écologique paneuropéen ; il s'inscrit notamment dans la perspective de l'adaptation au changement climatique en favorisant les déplacements des populations et les flux de gènes. La trame verte et bleue sera pilotée localement en association avec les collectivités locales et en concertation avec les acteurs de terrain dans un cadre cohérent défini par l'Etat. Certaines collectivités ont déjà constitué une telle trame sur leur territoire ou sont en train de le faire⁷.

⁷ <http://www.legrenelle-environnement.fr/grenelle-environnement/spip.php?rubrique140>

7. GERMANY / ALLEMAGNE

Report from the German Federal Agency for Nature Conservation

INFORMATION ON RECENT/ONGOING INITIATIVES AND ACTIVITIES RELATED TO BIODIVERSITY AND CLIMATE CHANGE IN GERMANY

A) Research projects

There is a number of ongoing research projects at the national level which aim to enhance the knowledge base for climate change adaptation related to biodiversity.

The project “Modelling the impact of climate change on plant distribution in Germany” is nearing completion. First results from the projections of future distribution patterns of about 550 vascular plant species in Germany under three different climate scenarios until 2080 are available at: <http://www.ufz.de/index.php?en=6536>. The projections were undertaken by an ecological niche modelling approach.

The project “Protected Areas in Germany under Global Change – Risks and Policy Options” is ongoing and set to run until July 2009. This project will produce among other things ecological risk assessments with regard to the conservation targets of selected protected areas in Germany and aims to formulate concrete steps towards necessary adaptations, also at the national scale. So far, methods have been developed for the modelling of habitat changes and for assessing risks to species, regionalised climate scenarios have been developed for the selected protected areas and modelling of plant and bird distributions has been undertaken. More information is available at: http://www.pik-potsdam.de/forschung/aktuelle-forschungsfelder/klimawirkung-vulnerabilitat/vme/schutzgebiete/index.html?set_language=en.

The project “Invasive species and climate change in Germany and Austria” is carried out in collaboration with the Austrian Umweltbundesamt (Federal Environment Agency Austria). This project aims to produce a list of species which are or might become problematic under climate change as well as to set up the basis for an early warning system. It is set to run until early 2009. Further information can be obtained from Mr. Franz Essl, e-mail address: franz.essl@umweltbundesamt.at.

A number of further research projects are dealing with the impacts of the increasing use of renewable energies on biodiversity.

Several new project ideas, including an analysis of legal aspects of climate change adaptation for biodiversity, the development of target group-oriented communication strategies, the development of strategies for the consideration of adaptation needs in spatial planning and the elaboration of monitoring concepts, are currently being discussed.

In addition to projects carried out at the national level, relevant research activities are also undertaken at the level of the federal states. There is no complete overview on these activities, although many have been listed in response to a questionnaire sent out by the Federal Environment Ministry in the course of information gathering for the National Strategy for Adaptation to Climate Change (see below). For example, studies summarizing and analyzing (*inter alia*) available data on observed and projected impacts of climate change on biodiversity have been carried out or are ongoing in the states of Baden-Württemberg, Bavaria, Brandenburg, Hessen, North Rhine Westphalia, Saxony and Schleswig-Holstein.

B) Development of strategies

At the federal level, a National Strategy for Adaptation to Climate Change is currently being developed. The process is coordinated by the Federal Environment Ministry and the strategy is expected to be drawn up and consulted upon by the end of this year. Nature conservation will be one of the sectors considered in the strategy.

The NGO project “Climate change and biodiversity – a communication strategy for non-professionals engaged in nature conservation”, which is supported by the Federal Environment Ministry, aims to raise awareness on the consequences of climate change for nature conservation and

to establish a dialogue with private conservation activists on the possible ways forward. The project is set to run until autumn 2008, the project homepage (in German) is to be found at: http://www.nabu.de/m06/m06_12/06172.html.

Several of the federal states are in the process of developing regional adaptation strategies for their own territories. For example, a strategy paper outlining possibilities for adaptation to climate change in various sectors (including nature conservation) has been published in North Rhine-Westphalia in September 2007. In the state of Baden-Württemberg, the development of recommendations for the adaptation of nature conservation strategies to climate change is undertaken in a project within the context of the development of the regional sustainability strategy. The development of strategies for adaptation as part of an integrated approach to dealing with climate change is ongoing *inter alia* in Bavaria, Brandenburg and Saxony.

March 5, 2008
Cordula Epple
Federal Agency for Nature Conservation

8. LATVIA / LETTONIE

RECENT ACTIVITIES ON BIODIVERSITY AND CLIMATE CHANGE IN LATVIA

I. The policy documents:

- The Climate Change Mitigation Programme for 2005-2010 was elaborated and approved in 2005; mainly aiming at reduction of emissions and use and development of different types of energy resources;
- A new Climate Change Adaptation Policy is under preparation;
- The National Environmental Policy Plan (containing chapters "Climate Change" and "Biodiversity") is also under preparation. The Policy Plan will be approved by the Government till the end of 2008 and is planned that it will also aim to minimize the clash between biodiversity conservation and climate change mitigation measures.

II. Projects

- The Faculty of Geography and Earth Sciences of the University of Latvia as a partner was involved in the INTERREG III B project "Developing Policies & Adaptation Strategies to Climate Change in the Baltic Sea Region" (ASTRA) (2005-2007). The main objective of the project was to assess regional impacts of the ongoing global change in climate and to develop strategies and policies for climate change adaptation. The project's documents and publications are available at www.astra-project.org

III. Researches

Several researches were and are being done on climate change and its impact, major of them:

- National Research Program „Climate Change Impact on Water Environment in Latvia” (<http://kalme.daba.lv>) starting from 2006. Scientists in Latvia have joined forces to investigate how climate change will potentially influence Latvian lakes, rivers and the Baltic Sea coast and coastal waters, and to elaborate scientifically justified proposals to adapt to and mitigate adverse impacts;
- Publication „Climate Change in Latvia” (2007) contains 18 articles on three main topics: the character of climate change, the impacts of climate change and climate policy and technologies (publication supported by the above mentioned ASTRA project and National Research Programme);
- The main interest of the State Forest Monitoring Programme for 2008 is to explore the impact of climate changes to forest ecosystems, forest biodiversity status and changes as well as to forest soils. Responsible – the Ministry of Agriculture, State Forest Service and Latvian state Forestry Research Institute “Silava”;
- Project of the Latvian Ornithological Society in 2006 “Development of unified data base of spring migratory birds’ phenology”. The unified data base will ensure systematic storing of data, possibilities for analysis and comparison with meteorological data, which may point to climate changes and its impact to bird fauna in Latvia during the last century;
- Project of the Latvian Ornithological Society in 2006 “Identification of development zones of wind power systems and elaboration of mitigation measures”. As a result of the project the map with zones showing territories where development of wind power stations is prohibited or should be strictly evaluated was prepared for Kurzeme (western part of Latvia) for the protection of migratory and nesting birds.

9. NORWAY / NORVÈGE

A **Norwegian strategy for climate change adaptation** will be developed (spring 2008). The strategy is going to be an overall strategy and is part of a national climate adaptation programme which started in 2007 and will go on for up to 5 years. The Ministry of Environment chair the work in which the most relevant ministries/sectors (12 ministries) are involved. The secretariate of the programme is located in the Directorate for Civil Protection and Emergency Planning (below the Ministry of Justice and Police). A website will be published in June.

NorACIA (2005-2009) is a Norwegian national following up of Arctic Climate Impact Assessment, published in 2004. This project is going to publish a regional assessment (in 2009) of predicted climate changes, impacts on ecosystems and biodiversity as well as impacts on sectors and society, and adaptation proposal for the most northern areas in Norway. Link to webpage in Norwegian: <http://acia.npolar.no>.

VACCA - Vulnerability and Adaptation to Climate Change in the Arctic is an Arctic Council project. A 2 step project: 1) database with activities and projects going on in the arctic countries, and 2) workshop 22.-23.10.08. Project leader in Norwegian Polar Research institute. Link to webpage: <http://portal.sdwg.org/content.php?doc=58&xvm=true>

The Research Programme “Climate Change and Impacts in Norway” (2004-2013). <http://www.forskningssradet.no/Servlet/Satellite?cid=1088796719038&pagename=norklima%2FPage%2FHovedSideEng>. The programme contains research to enhance knowledge about the climate and promote a better interface between different types of research to give society a stronger platform for dealing with changes in global climate – as a basis for adaptive responses by human society. Project catalogue in English. 17 new projects from January 2008, including about 7 concerning biodiversity.

Climate change and adaptation in nature management.

The Directorate for nature management (DN) has recently published 3 reports

- Framstad; E. et al: Effects of climate change on ecosystems and biodiversity. DN utredning 2006-2 (in Norwegian with English abstract)
- Directorate for nature management 2007. Climate change – adaptation and measures in nature management. DN-report 2007-2b. <http://www.dirnat.no/content.ap?thisId=500031941&language=0>
- Haugan, P. et al. 2006. Effects on the marine environment of ocean acidification resulting from elevated levels of CO₂ in the atmosphere. DN utredning 2006-1. <http://www.dirnat.no/content.ap?thisId=500013099&language=0>

DN has also published a [climate effect database](#) on studies/results on climate change effects on biodiversity (in Norwegian). DN also work to strengthen the national monitoring programmes on biodiversity to improve the climate change aspect of the monitoring activities. Our palssamir monitoring programme and also repeated vegetation analyses at GLORIA (mountain) sites (in 2008 compared to 2001) are of special interest with respect to climate change effects.

10. SERBIA / SERBIE



Ministry of Environmental Protection of the Republic of Serbia

REPORT ON CLIMATE CHANGE AND BIODIVERSITY IN THE REPUBLIC OF SERBIA

Bearing in mind that researches of biological diversity have a long and very rich tradition in Serbia, in this report presents some of the important recent and ongoing activities and project results related to the increase impact of climate change on biodiversity.

Despite the great diversity of different taxa, the process of biodiversity erosion is marked, not only in Serbia but in wider regions of Balkan peninsula. Many species disappeared from Serbia, and some rare species are endangered to alarming limits. Human induced pressures on habitats (urbanization, development of agriculture, industry, mining, transport infrastructures) resulted in:

- degradation of natural ecosystems to cultivated agro-ecosystems, sylvicultures or (sub)urban area,
- fragmentation of habitats
- overexploitation of genetic and biological resources
- introduction of alien species from remote areas
- contamination of air, water and soil by toxic, mutagenic or cancerogenic pollutants
- induced climate changes

In this context, Republic of Serbia has signed and ratified several international agreements focusing on the treatment of global warming. Many of those agreements outline the principle and legal and economic instruments that could slow down climate change. By adopting the Law on Ratification of Montreal Protocol on Substances that Deplete the Ozone Layer (16/90, and 24/04) our state was actively involved in the programmes aimed at protecting the stratospheric ozone. The Law on Endorsing the United Nations Framework Convention on Climate Change, as well as, the Kyoto Protocol, and the Combat on Desertification Convention, and the Bern Convention, and the Bonn Convention were adopted 2007.

National climate change observation and research activities as fundamental base for monitoring of impact climate change on biodiversity

In the framework of its jurisdiction, Republic Hydrometeorological Service of Serbia (RHMSS) carries out the national program for systematic monitoring, analyzing, forecasting and research of the weather, climate and water, air and water quality, and national program of early notification and warning against the occurrence of atmospheric and hydrological disasters and climate extremes as well as accidental air and water pollution. Development and research activities are carried out within the scientific-technical Programs of the World Meteorological Organization (development and application of numerical weather and climate models, applied meteorological and hydrological research, climate change research etc.).

RHMSS also participates in the realization of national implementation programs of relevant international conventions and protocols (UN Framework Convention Climate Change, UN Convention on drought and desertification, UN Convention on Biological Diversity etc.).

RHMSS, in cooperation with other stakeholders in the implementation GEF/UNDP project "Capacity building activities for the creation of the First national communication of Serbia for the UN Framework Convention on Climate Change", now in preparation, plan to carry out research program in the part dealing with the climate change impacts assessment on forestry and other ecosystems,

vulnerability research and assessment of options for adaptations of the economic activities, natural and human systems to climate change.

A number of major projects for capacity building is either in progress or planned to make RHMS more efficient in performing its functions and tasks in the field of climate change monitoring and research are listed below.

List of ongoing or planned international research and development projects relevant for the assessment of climate change impacts on biodiversity and habitats at the national and local level
UN/ISDR PROJECT "Assessment of needs for capacity building of RHMS" within the Regional project of International strategy for mitigation of natural catastrophes in coordination with WMO
Project under bilateral Technical cooperation program with Italy "SINTA: Simulations of Climate Change in the Mediterranean Area"
Project on establishment of CLIDATA System for climate database management under WMO Program for technical cooperation
Project "Upgrading of measuring system and registering of hydrological data through the introduction of new technologies" in cooperation with Norwegian Directorate for Water and Energy-NVE
Project "Design and optimization of national network of hydrological stations in Serbia" in cooperation with Norwegian Directorate for Water and Energy-NVE
Project "National forecasting system for medium and minor basins" in cooperation with Norwegian Directorate for Water and Energy - NVE

Results of the recent observation and research activities in the field of forest biodiversity and climate change

Climate influences the composition, structure, and function of forest ecosystems, the amount and quality of forest resources, and the social values associated with forests, native forests are adapted to local climatic features. Climate variability and change are examined by looking at four key issues: forest processes, disturbance, biodiversity, and socioeconomic impacts. These categories represent key interactions between a changing climate, forest structure or function, and human interactions with forests.

Climate and land use are the two major factors controlling biological diversity. Species richness generally increases with increasing air temperature and precipitation. As climate changes during the this century, biological diversity will also change. Under all of the climate scenarios, many of parts of forest types in Serbia will migrate.

The region of Serbia is characterised by the wealth of forest communities, lowland, upland, mountainous and sub alpine forests, and the unique forest ecosystems with a great number of endemic species of trees, shrubs and ground flora.

The big magnitude of biological diversity in Serbia is caused by biogeographically position openness of territory in accordance with the other (neighbouring) regions, and to historical processes of genesis of flora and genesis of fauna during the long history.

Except part of Panonia lowland on the north, the most parts of territory of Serbia are situated on Balkan peninsula, which is one of the "hot" points in regard to centres of biodiversity in Europe.

On the region of Serbia there are three biomes: Sub-Mediterranean as part of Mediterranean, middle-European and ponts-southiberian. with help of elevation zoning of mountain`s ecosystems, there are elements of boreal, Middle-European mountain`s (including alp`s) and the South-European mountain`s biomes. It is estimated that there are about 1000 plant communities in Serbia. Balkans endemic species consist 8,06% of flora of Serbia (287 taxons), and local endemic species 1,5% (59 species). Numerical and diversity of fauna, also, is very high.

Based on the typological definition of the space occupied by forests, about 160 forest types were identified within the main coeno-ecological co-ordinate system composed of seven complex forest types.

The major forest complexes are:

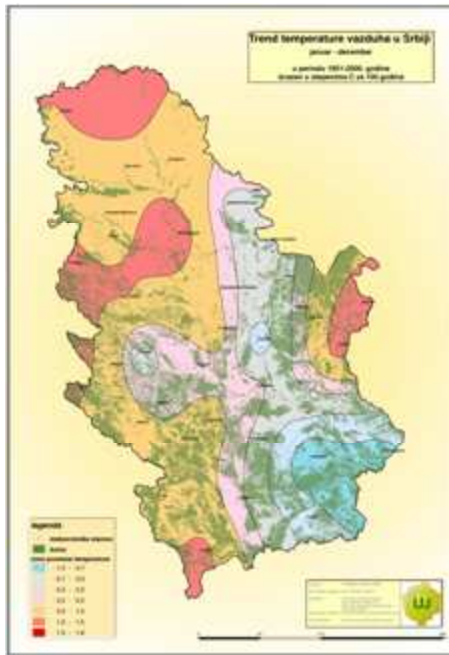
- complex of alluvial - hygrophilic forest types,
- complex (belt) of xero-thermophilic hungarian oak – turkey oak and other forest types,
- complex (belt) of xero-mesophilic sessile oak and hornbeam forest types,
- complex of mesophilic beech and beech - conifer forest types,
- complex (belt) of thermophilic pine forests (orno-eric ion) on a series of soils on basic rocks,
- complex (belt) of frigoriphilic conifer forest types,
- belt of subalpine shrubby conifers and broadleaves.



Picture 1: The inventory of forests in Serbia includes : 79 tree species, 184 forest types, 662 variations stand units which are also often anthropogenically conditioned

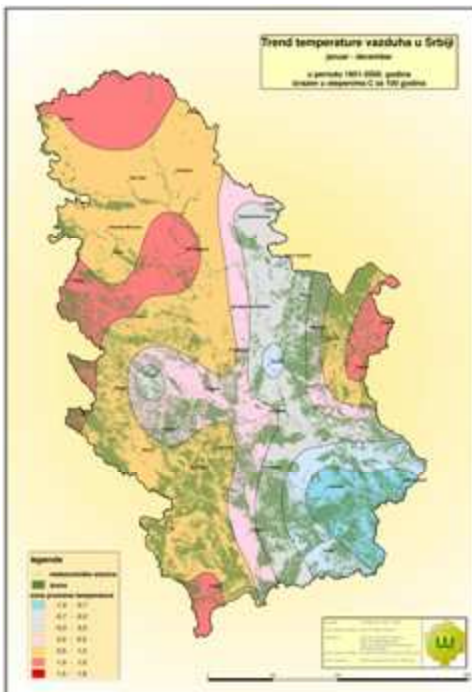
Serbia's forests are undergoing rapid change due to a warming climate and large-scale disturbances. These changes has been exacerbated by management policies and practices resulting in forest simplification.

In Serbia, the mean annual temperature is expected to increase up to 4-6°C on the end of 21st century. If the temperature increase is substantial, droughts, insect infestations and fires could become more likely, and forest cover loss may occur and persist while the new forest types migrate north. If the average global temperature increase is 2°C over the next 100 years, tree species will have to migrate 2-5 km every year, except for trees whose seeds are spread by birds.



Pictures 2 and 3:

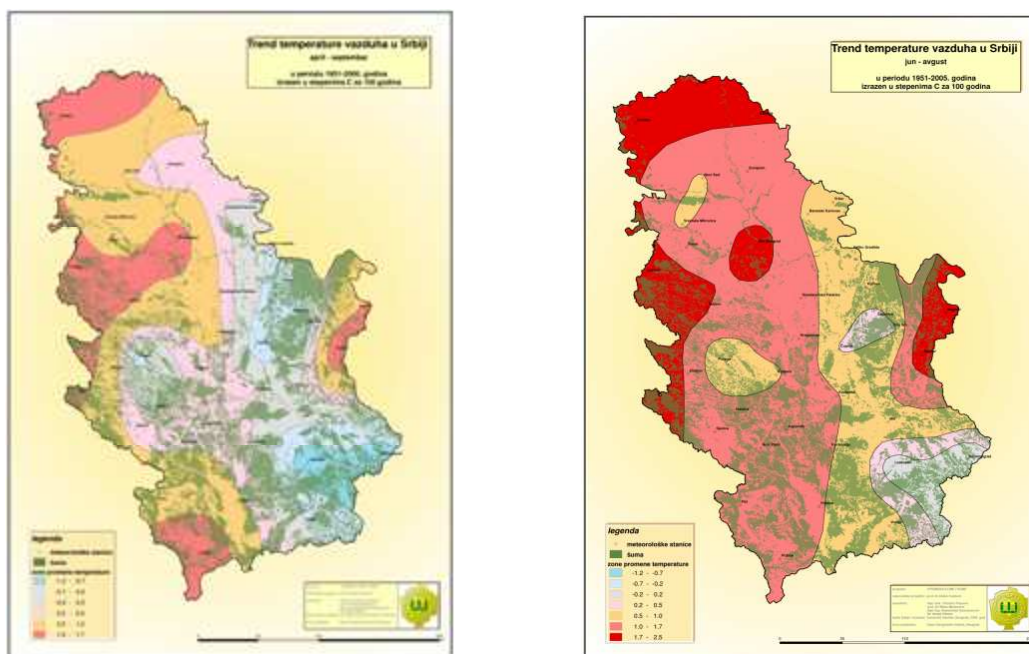
In Serbia, the mean annual temperature is expected to increase up to 4-6°C on the end of 21st century. If the temperature increase is substantial, droughts, insect infestations and fires could become more likely, and forest cover loss may occur and persist while the new forest types migrate north. If the average global temperature increase is 2°C over the next 100 years, tree species will have to migrate 2-5 km every year, except for trees whose seeds are spread by birds.



Pictures: 4 and 5:

While the effect of changes in tree compositions on other species is difficult to predict with the modeling tools currently available, plants and animals that live in the forest will be affected, both by changing habitat and in direct response to temperature increases and changes in precipitation, fire regimes, and storm events. It is unknown as yet whether biological diversity would be reduced if

climate change occurred at a fast rate, but the new composition of species is likely to be one of heat-tolerant fast adapters.



Pictures 6 and 7:

Wildlife has been able to adapt to changing climates for millions of years. But unlike during previous climate changes, roads, development and other changes to the natural environment now block their migration routes or otherwise impede their adaptations. Parks and nature reserves established to protect certain species may no longer be hospitable to those species.

Forest management has been advised to strongly promote changes that comply with current principles and measures aimed at enhancing the ecological stability of forests. The forests of the Serbia are already being weakened and endangered by a long-term increase in the different pressures. Precautionary measures to mitigate the effects of global climate change are, to a large degree, identical to measures for assuring the stability and viability of forests, even if no climate change occurs. Such measures are in harmony with approved state forestry policy, which abides by the principles of sustainable forest management, in the interest of current and future generations.

Forest processes and forest biodiversity are uniquely capable of providing goods such as:

- wood products,
- wild game,
- harvested plants,
- ecological services such as water purification, and amenities such as scenic vistas and wilderness experiences the socio-economic benefits of forests.

Changes in forest species composition, growth, and mortality alter the possible supply of specific types of wood products, wildlife habitat, and recreation. Clearly, forest changes caused by human use of forests could exceed those impacts from climate change.

However, climate change could impact many of the amenities, goods, and services from forests including productivity of locally harvested different plants and products; local economies through land use shifts from forest to other uses; forest real estate values; and tree cover and composition in urban areas, and associated benefits and costs.

Review of the Recent/Ongoing Projects on Biodiversity and Climate Change

1. *Subproject* « Climate Change and Sustainable Development of Forest Ecosystems in Serbia within the National Project «Sustainable Development and Protection of Forest Ecosystems in Serbia – Harmonization with International Standards» which is realized as a I Phase by the Faculty of Forestry University of Belgrade

2. *Project Proposal* “Impact of Climate Change on the Forest Biodiversity” is elaborated by the Ministry of Environmental Protection of the Republic of Serbia and Forest Faculty of the Belgrade University for IPA Funds.

This project will enable UNFCCC, Kyoto Protocol, UNCCD, UNCBD and NEAP implementation by strengthening capacities for monitoring effects of climate change on forest ecosystems biodiversity in Serbia

The overall goal:

–to improve state of forestry in Serbia and describe most likely impacts of climate change and its consequences for forest management, timber production and biodiversity with the risk assessment

Specific objectives:

- Establishment of the system of monitoring of climate change on forest ecosystem biodiversity
-Establishment of the system of forest protection and reforestation and afforestation of forest related to the decrease impact of climate change on forest diversity
- Defining concept and measures of the adaptation management of forest ecosystems related to the of forest ecosystems related to the climate change

Expecting results:

- Identifying common interest/areas in the region, stronger regional and international cooperation on forest and climate change issues, develop a common technological base
- Defining models of effects of climate change impact on forest ecosystems in Serbia
- Established the system of monitoring of the state of forest related to the decrease impact of climate change on forest diversity and water resources
- Built capacities of institutions/human resources for monitoring and protection of forest for implementation of landscape typology

Follow up activities

As a first step towards harmonisation of the regulations in the area of the nature protection and biodiversity, as well as towards the implementation of Bern convention and CBD, several important international projects have been started and are in progress in this field.

- Elaboration of the National Strategy on Sustainable Development
- The National Environmental Action Plan is established by the Government of the Republic of Serbia
- The National Strategy for Sustainable Use of Natural Resources and Goods
- The National Strategy of Biodiversity Conservation and Action Plan
- The Law on Nature Protection – Harmonization with EU regulations

Future work for developing Emerald network in the Republic of Serbia will greatly benefit from information and research through the UNDP projects such as Biodiversity Strategy, and other ongoing programmes targeted protected areas.

Creating terms for accessing to future work on Natura 2000 in Serbia several projects are developed:

- ✓ Harmonisation of national nomenclature for classifying of habitats with International community standards

- ✓ Project “Development of the EMERALD Network in the Republic of Serbia”
 - ✓ Inventory of marshlands and wetlands in Republic of Serbia
 - ✓ Important plant areas (IPAs) in Serbia
 - ✓ Important bird areas (IBA)
 - ✓ Action Plan on Invasive Alien Species Control in the Republic of Serbia etc.
- Belgrade, March, 2008.

11. SPAIN / ESPAGNE

CLIMATE CHANGE AND BIODIVERSITY IN SPAIN: IMPACTS, VULNERABILITY AND ADAPTATION

Bastos Araujo, M.; Felidísimo Pérez, A.M.; Gómez Calmaestra, R.; Gutiérrez Teira, A.;
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INTRODUCTION

The *UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE*, in its article 4.1b, states that all Parties to the Convention shall “*formulate, implement, publish and regularly update national programmes containing measures to facilitate adequate adaptation to climate change*”.

Spain signed the Convention in June 1992, the ratification took place on December 1993 and it has entered into force on March 1994.

The ECCE PROJECT (*A preliminary assessment of the Impacts in Spain due to the effect of Climate Change*, 2005) was the first national evaluation of climate change effects in Spain. It was developed by a group of more than 400 experts in different ecological systems, and economic and social sectors. The ECCE project dealt with the impacts of these projected climate changes on 15 sectors and systems.

The NATIONAL PLAN FOR THE ADAPTATION TO CLIMATE CHANGE (NPACC) is the reference framework for the coordination of all activities related to the evaluation of impacts, vulnerability and adaptation to climate change in Spain.

The NPACC, promoted by the *SPANISH CLIMATE CHANGE BUREAU (MINISTRY OF ENVIRONMENT)*, was presented in February 2006 to the *ENVIRONMENTAL SECTORAL CONFERENCE* (administrative body that embodies the cooperation between Central Government and Autonomous Communities in environmental policy issues), and has been approved by the relevant national participation and coordination bodies dealing with Climate Change: *NATIONAL COMMISSION FOR THE COORDINATION OF CLIMATE CHANGE POLICIES* (Administrations) and the *NATIONAL CLIMATE COUNCIL* (Administrations and stakeholders) in July 2006.

Its main objective is the integration of the adaptation to climate change in the planning strategy of, initially, fifteen sectors and systems through a series of Work Programmes. Under the first Work Program, the priority sectors and activities considered are the generation of regional climate scenarios and the evaluation of the impact of climate change in water resources, coastal areas and biodiversity.

CLIMATE CHANGE AND BIODIVERSITY IN SPAIN: IMPACTS, VULNERABILITY AND ADAPTATION

The *MINISTRY OF ENVIRONMENT* started in 2006 the preparation of a project to assess the impacts of climate change on biodiversity and to make informed decisions on practical adaptation actions and measures.

The project –started in January 2008 and with a planned duration of two years– involves the participation of the *UNIVERSITY OF EXTREMADURA* (flora species and habitat types) and the *NATIONAL MUSEUM OF NATURAL SCIENCES-CSIC* (fauna species).

The main objective of the project is to assess the impacts and vulnerability of biodiversity to climate change, as well as the adaptation measures required to prevent biodiversity loss related to climate change. For this purpose, representative series of habitat types, flora and fauna taxa, are being

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selected taking into consideration relevant criteria for biodiversity conservation like geographic distribution, conservation status, degree of threat, etc.

In order to evaluate the effect of climate change on biodiversity, the territory has to be analyzed not only in terms of its *current natural characteristics* (elements, structure and natural processes), but considering also the *potentiality of what the territory can house*.

Land cover and vegetation maps, as well as biodiversity inventories and other natural resources information, provide us with a general scope of *current* biological richness. But it is also necessary to estimate the *predicted situation in the future*, incorporating the projected change(s) provided by different climate scenarios and predicting future species and habitat types distributions. This is considered a very important issue, especially in areas like the Iberian Peninsula where all climate change models predict substantial variations in biodiversity limiting factors, like rainfall regime or maximum temperatures.

The project can be differentiated in two main working lines:

- ✓ Development and application of methodologies to assess climate change impacts on biodiversity (APPLIED INVESTIGATION)
- ✓ Promotion of participation mechanisms for relevant partners like Public Administrations, researchers/academic institutions, NGOs, etc. and development of information campaigns (COMMUNICATION AND PARTICIPATION)

APPLIED INVESTIGATION

It comprises the application of statistical modelling and spatial analysis techniques aiming to:

- Assess the potentiality of the territory to house flora and fauna taxa and relevant habitat types.
- Assess the expected changes in this potentiality under several climate change scenarios for the XXI Century.
- Evaluate changes in biodiversity distribution patterns along different time horizons of the XXI Century and identify species turnover rates, including the identification of areas of persistence, disappearance and colonization.

It is important to highlight that the assessment of biodiversity changes in response to climate change is an evolving field of work, and it entails some constraints:

- First, neither biological data nor the simulations required to evaluate the nature and extension of future changes in ecosystems and taxa distribution are still complete, so the predicted effects can only be partially assessed.
- Second, in the current state-of-the-art of predictive habitat and species distribution modelling techniques, the species-climate envelope modelling approach –also known as ecological niche modelling– has been widely used to support estimates of species' extinction risk under climate change; despite the fact that other important influences related to biological factors (i.e. dispersion, interactions among living organisms, habitat fragmentation) and anthropic factors (i.e. changes in land use, pollution) can not be fully assessed.

In this context, the proposed approach has to be seen as a *first step* to assess the complex response of biodiversity to climate change, but in the light of current scientific knowledge, it is considered appropriate: (1) to evaluate biodiversity vulnerability to climate change, (2) to estimate the expected impacts of climate change on our natural heritage and (3) to identify those biodiversity elements that can be more seriously threatened by climate change. Results of this project are intended to provide decision-makers with tools to facilitate the prioritisation of actions and to assess adequate adaptation measures.

The key activities to be developed under this working line are:

1. Selection of biodiversity elements (flora and fauna taxa and habitat types) representative of Spanish biodiversity, taking into consideration conservation status and degree of threat.

2. Development and integration of nationwide geographic databases of current taxa and habitat types potential distributions, environmental variables –including bioclimatic variables both for present-day and future climate scenarios–, protected areas, land use and infrastructures, etc.
3. Application of statistical modelling methods to project spatial shifts in potential species and habitat types distributions according to different climate change scenarios
4. Identification of biodiversity distribution patterns –both at present-day and in the different climate change scenarios– and of species turnover rates, including the identification of areas of persistence, disappearance and colonization
5. Assessment of the interaction between the impacts of climate change on biodiversity and land use planning considering –for instance– connectivity, habitat fragmentation, etc.
6. Proposal of adaptation measures to reduce the impact of climate change on biodiversity, including the identification of priority fields for further investigation and research.

COMMUNICATION AND PARTICIPATION

It comprehends the development –in parallel to Working Line 1: Applied Investigation– of communication campaigns and participation processes with relevant agents involved in biodiversity management, research, investigation, monitoring and public awareness.

Spain is characterised by a highly decentralised administrative system, where Autonomous Communities (Regional Governments) have significant regulatory and management powers, including biodiversity and nature conservation. In this context, the Central Government and Regional Governments are obviously the main agents due to their responsibility in biodiversity management, but the scientific and academic community (researchers and scientists) and the Non-Government Organizations are also relevant ones, taking into consideration their role in investigation, research and monitoring, and public awareness. Besides, specific actions to inform stakeholders will also be implemented.

The objective of this working line is to promote the participation of these agents by means of the development of a communication strategy, the promotion of inter-disciplinary working groups and discussion forums where project development and results can be presented and adaptation measures can be discussed.

The key activities to be developed under this working line are:

1. Presentation of the project at its first stages to relevant administrative and scientific bodies, and to the media.
2. Establishment of participation mechanisms with the administrative authorities and scientific community, aiming to inform on project development and to promote synergies with related initiatives.
3. Dissemination of the results of the project and starting of a wide debate for the assessment and discussion of adaptation measures in the framework of current biodiversity management policies, priorities for investigation and research and need of reconsideration of environmental and sectoral policies in light of the predicted impact of climate change on biodiversity.

REFERENCES

- Araújo, M.B. and New, M. (2007). Ensemble forecasting of species distributions. *Trends in Ecology and Evolution*, **22**: 42-47.
- Araújo, M.B. and Pearson, R. G. (2005). Equilibrium of species' distributions with climate. *Ecography*, **28**(5): 693-695.
- Felicísimo, A. M., E. Francés, et al. (2002). Modelling the potential distribution of forests with a GIS. *Photogrammetric Engineering & Remote Sensing* **68**(5): 455-461.
- Guisan, A. and N. E. Zimmermann (2000). Predictive habitat distribution models in ecology. *Ecological Modelling* **135**: 147-186.
- Hampe, A. (2004). Bioclimate envelope models: what they detect and what they hide. *Global Ecology & Biogeography*, **13**: 469-476.
- Hijmans, R.J. and Graham, C. (2006). The ability of climate envelope models to predict the effect of climate change on species distributions. *Global Change Biology*, **12**, 2272-2281.
- Instituto Nacional de Meteorología (2007). *Generación de escenarios regionalizados de cambio climático para España. Primera Fase*. INM. S. G. para la Prevención de la Contaminación y del Cambio Climático. Ministerio de Medio Ambiente. 124 pp.
- IPCC-Intergovernmental Panel on Climate Change, UNEP. *IPCC Reports. I (1990): First Assessment Report. II (1995): Second Assessment Report. III (2001): Third Assessment Report. IV (2007): Fourth Assessment Report.*
- Martinez Meyer, E. (2005). Climate change and biodiversity: some considerations in forecasting shifts in species' Potential distributions. *Biodiversity Informatics*, **2**: 42-55.
- Moreno Rodríguez, J. M. (coord.) (2005). *Evaluación Preliminar de los Impactos en España por Efecto del Cambio Climático. Informe Final*. Centro de Publicaciones. Secretaría General Técnica. Ministerio de Medio Ambiente.
- Muñoz, J. and A. M. Felicísimo (2004). Comparison of statistical methods commonly used in predictive modelling. *Journal of Vegetation Science* **15**: 285-292.
- Oficina Española de Cambio Climático (2006). *Plan Nacional de Adaptación al Cambio Climático. Marco para la coordinación entre Administraciones Públicas para las actividades de evaluación de impactos, vulnerabilidad y adaptación al cambio climático*. Oficina Española de Cambio Climático. S. G. para la Prevención de la Contaminación y del Cambio Climático. Ministerio de Medio Ambiente. 59 pp.
- Pearson, R. G. and Dawson, T.P. (2003). Predicting the impacts of climate change on the distribution of species: are bioclimate envelope models useful? *Global Ecology & Biogeography*, **12**: 361-371.
- Segurado, P. and Araujo, M.B. (2004). An evaluation of methods for modelling species distributions. *Journal of Biogeography*, **31**: 1555-1568.
- Thuiller, W., Lafourcade, B., Enler, R. and Araújo, M.B. (in review). BIOMOD. A platform for ensemble forecasting of species distributions.

12. SWEDEN / SUEDE



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Sweden facing climate change – threats and opportunities, SOU 2007:60

The final report from the Swedish Commission on Climate and Vulnerability was published in October 2007. The Swedish Government appointed the Commission in June 2005.

The Commission has analysed how the climate of Sweden may develop over the next hundred years. Important aspects that have been investigated are vulnerability to floods, landslides and storms. Terrestrial, marine and freshwater ecosystems will face great upheavals, and the loss of biodiversity may increase. The commission propose various measures to reduce vulnerability and adapt society to long-term climate change and extreme weather events.

The report: <http://www.sweden.gov.se/content/1/c6/09/60/02/4b04b42e.pdf>

Biological diversity and climate changes – What do we know? What do we need to know? What can we do?

The Swedish Biodiversity Centre (CBM) has made a report in 2007 on different aspects of climate change and biodiversity. It includes published knowledge as well as interviews with scientists, officials and people working practical with nature conservation. The report is an enclosure to the final report from the Swedish Commission on Climate and Vulnerability (more information above).

CBM points out that effects of climate change on biodiversity must be determined in relation to other effects, above all land use and economization of nature resources. Land use that is negative for biodiversity today will continue to be so even in a changed climate. The conservation work on biodiversity should therefore not be narrowed down to focus on the effects of climate change only. Instead we need to be aware and prepared for additional problems linked to climate change, for example changes in cultivation. An important conclusion of the report is that changes in cultivation due to climate change could have larger impacts on biodiversity than the climate change itself.

The report: <http://www.cbm.slu.se/publ/annat/bmochklimat.pdf>

Effects on biodiversity in a changing climate in Stockholm

The local authority in Stockholm has made a report on the effects of climate change on biodiversity in the area of Stockholm. It is based on published knowledge as well as interviews with scientists, officials and consultants.

The report describes the knowledge of today as well as the additional knowledge and analyses that will be needed to adapt the city to the climate change and effect on biodiversity. For example, new requirements and system-boundaries will be necessary in management and administration of natural areas.

The report

<http://www.stockholm.se/upload/Fackforvaltningar/Miljoforvaltningen/Vaxthuseffekten/Pdf/Anpassning/Biologisk%20mangfald.pdf>

Nordic nature management in a changing climate

The Nordic Council of Ministers has made a report in 2005 that describes how the climate and nature may develop in the Nordic Region south of the Arctic Circle in the next 100 years. The report also describes how effects of climate changes can be integrated in nature conservation and management.

The report: <http://www.norden.org/pub/miljo/miljo/sk/TN2005571.pdf>

Ongoing activities at the Swedish Environmental Protection Agency

Climate change is a priority area at the Swedish Environmental Protection Agency. Potential risks have been mapped to get a general view of potential vulnerabilities to climate changes in the working area of the Nature Department. For examples, we need to be more alert on the status of species depending on cold water, how the saltiness in the Baltic Sea develop and how the tree line develop on high mountains.

13. TURKEY / TURQUIE

NATIONAL REPORT OF TURKEY

Turkey has been a party of United Nations Framework Convention on Climate Change (UNFCCC) since 2004. The Ministry of Environment and Forestry (General Directorate of Environment Management), acting as the national focal point to the UNFCCC is the leading governmental agency for all issues related to climate change in Turkey.

The most important activities on climate change and biodiversity in are as follows:

Turkey's Climate Change Coordination Committee was established by the Turkish Government in 2001. This Committee has 8 working groups composed of Government Institutions, NGO representatives, Universities. Working Group's Reports include climate change potential future effects on agriculture, ecosystems, fisheries, water resources, diseases (Leptospirosis, Malaria..etc.), forestry, and climate scenarios, mitigation and adaptation options, measures...etc.

For more information :www.iklim.cevreorman.gov.tr, www.meteor.gov.tr

Conference on Climate Change was arranged by the Ministry of Environment and Forestry in 2004. Government Institutions, International Institutions, UNDP and NGO representatives, Universities have participated to the Conference. The agenda contains *Past, Present and Future Global Efforts on Climate Change*, Perspectives for International Cooperation on Climate Change, Scientific Bases of Global Warming and Climate Change, *Fundamentals and Modelling of Global Climatic Variability*, Observed Changes in Turkey's Climate, Environmental, Social and Economic Consequences of Climate Change, *Impacts and Adaptation to Climate Change*, / Estimations and Projections of GHG Emissions, Land Use, Land Use Change and Forestry, Agriculture and Waste, Integration of Rural Development Projects into Mitigation of Greenhouse Gases, *Climate Friendly Farming*, New and Renewable Sources of Energy, Global warming, responsible and measures to be taken..etc. (For more information :www.iklim.cevreorman.gov.tr)

First National Communication of Turkey on Climate Change was completed in 2006. This report contains climate change, vulnerability assessment and adaptation measures, climate change scenarios, sea level rise and coastal implications, assessment of impacts and adaptation measures (impact of climatic changes on water resources, agriculture, marine ecosystems and fisheries, terrestrial and freshwater ecosystems, wetlands, special protection areas and biodiversity, health (Malaria and Leptospirosis Cases, Crimean Congo Hemorrhagic Fever), national greenhouse gas inventories and mitigation scenarios and measures, awareness raising...etc. (Coordinated by: Ministry of Environment and Forestry, Implemented by United Nations Development Program (UNDP), Turkey. Funded by the GEF Project for Preparation of First National Communication of Turkey to UNFCCC-Global Environmental Facility-UNDP National Communication Support Program) (Second National Communication of Turkey on Climate Change will be completed 2009.)

For more information :www.iklim.cevreorman.gov.tr, www.meteor.gov.tr

Biodiversity Strategy and Action Plan Preparing Project was prepared by the The Ministry of Environment and Forestry (General Directorate of Nature Conservation and National Parks) and completed in 2007. Project duration was 18 months. This Action Plan contains determination and monitoring of climate change, potential future effects on biodiversity and taking measures to prevent the climate change effects on vulnerable species and ecosystems. For more information : www.bcs.gov.tr.

Forestry Strategy and Action Plan Workshop was held in 2007. Forestry Strategy and Action Plan will be developed by the The Ministry of Environment and Forestry (General Directorate of Forestry) Climate change took place as a threat factor for forestry in this Action Plan. For more information : www.ogm.gov.tr/strateji

Fisheries Expert Group Report was published in 2007 containing climate change potential future effects on fisheries. (in Turkish only)

Meetings on Climate Change :

(For more information :www.iklim.cevreorman.gov.tr)

The Effects of Climate Change of Turkey and Industry (2005) NGOs and Climate Change Forum (2006)

The First National Congress on Climate Change (2007)

Climate Change, Drought and Water Management Symposium (2007)

Congress on Climate Change and Environmental Effects (2007)

A workshop was held in October 2007 entitled **The effects of Climate Change on Aquatic ecosystems**. (For more information: <http://www.limnology.metu.edu.tr/page=events.php>)

The Projects:

(The outputs of the following projects took place in First National Communication of Turkey on Climate Change)

- **Climate change Scenarios for Turkey.** This report includes the results of research on climate change in Turkey during the last century and developments in climate change projections made at the Eurasia Earth Sciences and Informatics Institutes of the İstanbul Technical University: (For more information: www.iklim.cevreorman.gov.tr, www.meteor.gov.tr)
- **Modeling for Climate change effects in the Gediz and Büyük Menderes River Basins.** Hydrologic systems and water resources are likely to be seriously affected by global climate change and the purpose of this study is to provide preliminary assessment of such impacts for the Gediz and Büyükenderes Basins. (Dokuz Eylül University Water Resources Management Research Center (SUMER) İzmir, Turkey)
(For more information: www.klim.cevreorman.gov.tr, www.meteor.gov.tr)
- **Effects of climate change on the ecosystem of Büyük Menderes.**
The benthic macroinvertebrate assemblages broadly reflect environmental conditions and are used as indicators of environmental degradation and restoration. Multivariate methods permit considerable understanding of the community structure and relationship with corresponding environmental properties. (Hacettepe University)
(For more information: www.klim.cevreorman.gov.tr, www.meteor.gov.tr)
- **Correlation between Temperature, Rainfall and Leptospirosis Incidence in İstanbul, Turkey.**
This study aims at providing preliminary assessments regarding the possible impacts of global climate change on the force of leptospira transmission.
(For more information: www.klim.cevreorman.gov.tr, www.meteor.gov.tr)
- **Correlation between Temperature, Rainfall and Malaria Incidence in Turkey.**
This is an interm report on the investigation of the relation between temperature and rainfall changes and malaria incidence in Turkey.
(For more information: www.iklim.cevreorman.gov.tr, www.meteor.gov.tr)
- **Impact of global climate change on lake ecosystems in Turkey.**
This study aims to investigate the impacts of global climate change on the hydrological and ecological characteristics of the naturally formed large lakes including Lake Beyşehir, Tuz and Van. (Funding Agency: The Scientific and Technological Research Council of Turkey (TÜBİTAK)
(For more information: <http://www.limnology.metu.edu.tr/page=events.php>)

Promoting Climate Change Policies in Turkey :

Project Partners : Ministry of Environment and Forestry (Turkey), REC Turkey, Exergia (Greece), cofinancor; Italian Trust Fund (Italy)

Project Aim and Objectives :-Building capacity related to Climate Change within national administration, promote intra-governmental cooperation,-Increasing the awareness of societal actors and improve their role in Climate Change debate,-Supporting the development of Climate Change policies for priority sectors, enhance public participation and access to environmental information(For more information : www.rec.org.tr)

- **Capacity Building For Stakeholders And Government in Climate Change :** Target Group :Government experts, National adm inistration, Non-Governmental Organizations (NGOs)

Project Aim and Objectives : The overall project objective is to facilitate the involvement of the Turkish government and key stakeholders (business, environmental and academia community) in participating at the climate change activities at national and international level. (For more information : www.rec.org.tr)

- **Climate Change Public Awareness Campaign in Turkey :** Target Group :General Public

Project Aim and Objectives : To increase awareness and understanding of the climate change concept in general public. (For more information : www.rec.org.tr)

- **Promotion of Zerocarboncity Campaign in Turkey :** Target Group : General Public
Project Aim and Objectives :To facilitate dissemination of British Council ZeroCarbonCity campaign inTurkey. (For more information : www.rec.org.tr)

- **CEMRE (REC Turkey Climate Change Bulletin) :** Cemre publishes 1000 copies and three issues in a year. Each issue involves articles and news on some topics; Changing Climate, Mitigating Climate Change, Climate Change and REC, Climate Change and Turkey, Cover Story, Agenda of UNFCCC, Kyoto Protocol, Glossary, natural and anthropogenic greenhouse effect...e.t.c. (For more information : www.rec.org.tr)

Climate Change Action Plan Project Facilitating Workshop was held in 2007. : (Enabling Activities for the Preparation of Turkey's Initial National Communication to the UNFCCC : Second National Communication of Turkey on Climate Change) Ministry of Environment and Forestry General Directorate of Environment Management will coordinate this project. UNDP is acting as the implementing agency.The project will be working under a priority area / category selection approach in order to allocate resources in the most effective manner. The *main components* of the project are: an inventory of greenhouse gases for the year 1990-2003, analysis of potential measures to abate the increase in greenhouse gas emissions in Turkey; an assessment of potential impacts of climate change in Turkey and adaptation measures; assessment of cost and benefits of various energy policy alternatives on climate change; capacity building in the areas of scientific and technical potential and institutional relations infrastructure and data network for information and data acquisition to enable the development of national communications in Turkey on a continuous basis; preparation of the INC of Turkey and submission to the COP. In addition, public awareness activities and stakeholder consultations will be cross-cutting along the overall course of this exercise. Project duration is twelve months. (Second National Communication of Turkey on Climate Change will be completed 2009.)

For more information :www.iklimnet.org, www.iklim.cevreorman.gov.tr

Informative Web links about climate change:

www.iklim.cevreorman.gov.tr, www.iklimnet.org

www.cevreorman.gov.tr with link Gazi University web page

www.meteor.gov.tr.

www.rec.org.tr.

<http://www.tem.a.org.tr/CevreKutuphanesi/KuresellSimma/KuresellSimma.htm>

www.wwf.org.tr/iklim-degisikligi

14. UNITED KINGDOM/ ROYAUME UNI

NATIONAL REPORT OF UK

Policy Instruments

The **UK Climate Change Bill** was introduced to Parliament in November 2007. The Bill will create a new approach to managing and responding to climate change in the UK through: setting ambitious targets, taking powers to help achieve them, strengthening the institutional framework, enhancing the UK's ability to adapt to the impact of climate change and establishing clear and regular accountability to the UK, Parliament and devolved legislatures. The Bill should become law by the end of 2008. www.defra.gov.uk/environment/climatechange/uk/legislation/index.htm

On January 29 2008, the Scottish Government published a consultation which sets out proposals for a **Scottish Climate Change Bill**. The Bill is intended to create a long-term framework for the current and successive administrations in Scotland to ensure that carbon emissions are cut by 80% by 2050. www.scotland.gov.uk/Publications/2008/01/28100005/0

The Department for Environment, Food and Rural Affairs (Defra), on behalf of the UK Biodiversity Partnership, have published (May 2007) a report setting out six guiding principles to reduce the impacts of climate change on biodiversity and how to adapt existing plans and projects in the light of climate change. "**Conserving biodiversity in a changing climate: guidance on building capacity to adapt**" www.ukbap.org.uk/library/brig/BRIGGuidanceWebpdf.pdf

The England Biodiversity Strategy, Climate Change Adaptation workstream (the EBS CCA) is developing a set of **adaptation** principles which will be applied across all sectors of the EBS. This work builds on options outlined in the report: "**England Biodiversity Strategy- Towards adaptation to climate change**" published in May 2007. www.defra.gov.uk/wildlife-countryside/resprog/findings/ebs-climate-change.pdf. The adaptation principles will be published this summer and embedded across the EBS by the end of 2008.

At the 8th CoP on CMS the UK reported on the strength of links between climate change and migratory species' behaviour, abundance and distribution. As a result CMS parties called for more research on the subject. In May 2007 Defra commissioned a study "**Climate Change Indicators for Migratory Wildlife**" a response to a call for further research at the 8th CoP of CMS the work is being led by a consortium of research institutes (the British Trust for Ornithology with Centre for Environment, Fisheries and Aquaculture Science; Centre for Ecology and Hydrology; Swansea & Aberdeen Universities). This study aims to identify a set of species whose attributes can act as indicators of likely climate change impacts on the range of migratory species; and to develop standardised international protocols for monitoring the effects of climate change on populations of these migratory indicator species. A report is due to be delivered in May 2008.

Publications

A report of the meeting: "**Biodiversity-climate interactions: adaptation, mitigation and human livelihoods**" organised by the Royal Society in partnership with the Global Environmental Change Committee, Global Biodiversity Sub-Committee (GBSC) has been published (Feb 2008). <http://royalsociety.org/displaypagedoc.asp?id=29026>

The Marine Climate Change Impacts Partnership (MCCIP) has published an "**Annual Report Card 2007-2008**" (Jan 2008). This provides a comprehensive assessment of UK marine climate change impacts; the underlying evidence and predicted changes to the marine environment and its biota. www.mccip.org.uk/arc/2007/default.htm

The Environment Agency has published (May 2007) the results of a study designed to model how climate change might affect river-dwelling organisms. **“Preparing for climate change impacts on freshwater ecosystems (PRINCE)”** http://publications.environment-agency.gov.uk/pdf/SCHO0507BMOJ-e-e.pdf?lang=_e

A Climatic Atlas of European Breeding Birds (2007). Brian Huntley , Rhys E. Green , Yvonne C. Collingham , Stephen G. Willis. Published as a partnership between Durham University, the RSPB and Lynx Editions in association with the University of Cambridge, BirdLife International and EBCC. www.hbw.com/lynx/en/books-on-birds/paleartico/ALT0007-climatic-atlas-european-breeding-birds.html

The Environment Agency and Countryside Council for Wales have published (May 2007) a report **“Climate proofing rural resource protection policies and strategies in Wales”** Researchers at the University of Wales in Bangor used projected climate and socio-economic scenarios for 2020 and 2050 to investigate how six natural resource policies, strategies and plans would affect a case study area in the River Usk Catchment. <http://publications.environment-agency.gov.uk/epages/eapublications.storefront/47cd25960074c0962740c0a8029606d2/Product/View/SCHO0407BMGV&2DE&2DE#>

The Joint Nature Conservation Committee (JNCC), with funding from the Overseas Territories Environment Programme of the Foreign and Commonwealth Office, have contracted The Caribbean Natural Resources Institute (CANARI) to produce a range of outreach materials on **Climate Change: Adaptation, Mitigation and Ecosystem Services in the UK Overseas Territories** (UKOTs). Material produced will include a series of booklets and multimedia products, including a dedicated website.

The **UK Climate Impacts Programme** website: www.ukcip.org.uk presents much of the work being done in the UK to understand the relationships between biodiversity and climate change.

Deborah Procter
March 2008