

Redazione e traduzioni a cura di Stefano Folli

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FROM ARPARIVISTA TO ECOSCIENZA

Giancarlo Naldi, Stefano Tibaldi – *Arpa Emilia-Romagna*

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THE YOGA TEACHER AND THE BIG BOX

Francesco Bertolini – *Università Bocconi, Milano*

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SAVING THE PLANET, WE WILL WIN OR LOSE TOGETHER

Global choices to face climate change are strongly influenced by bilateral agreements between Usa and China, who are not willing to subscribe binding commitments. The European Union, even it was united in doing more than anyone else, both for CO2 reductions and in financing developing countries, must reflect on how to find a new strategy, aiming at a global agreement to save the planet.

Stefania Prestigiaco – *Italian Minister for Environment*

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MANY STARRING ROLES, LITTLE RESULT

The waving of unconfirmed reports about the positions of the great States, resulting in a big final distance; the unheeded role of protesting movements; the activism of many subjects, wishing to assume real commitments, even if with partial or local competences: this was Copenhagen in brief. The after-conference period has already begun.

Lino Zanichelli – *Assessore all'Ambiente e sviluppo sostenibile, Regione Emilia-Romagna*

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CLIMATE CHANGE, NEW EVIDENCES FROM IPCC

After the Fourth Assessment Report released in 2007, Ipcc is working on the implementation of new scientific research to update the evolution framework. The Copenhagen accord is a "result in progress". There is no "climate-gate": few assessment errors cannot invalidate the work of thousands of excellent scientists.

Interview to Sergio Castellari – *Focal Point Ipcc, Italy*, by Daniela Raffaelli, *ArpaRivista*

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VERY LITTLE REMAINED OF "HOPENHAGEN"

The Copenhagen summit was charged of too many expectations. The non-binding mini-accord that was signed was not a total failure, anyway. At mid-2009 it was certain that COP15 would not be the place to reach a post-Kyoto treaty; it was a little step, but it was agreed by a higher number of governments. Europe plays an important role, showing on a large scale that well-being and innovation can go together with a strong reduction in emissions.

Karl-Ludwig Schibel – *Alleanza per il clima*

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CLIMATE VARIATIONS AND ENVIRONMENTAL TOXICOLOGY

Evidence is arising that climate change can determine important effects on the distribution and the destiny of environment pollutants, having possible outcomes on the toxicity of individual compounds and complex matrices. Some studies on pesticides show, for example, that the increase in toxicity is directly related to the increase in temperature and to the production of deeply modified metabolic profiles.

Annamaria Colacci – *Arpa Emilia-Romagna*

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2009-2010, AN ANOMALOUS WINTER THAT DOES NOT INVERT THE TREND

2009-2010 was one of the coldest winters of the last 20 years, even if it is still on the average, considering a wider time span. Precipitation and temperature anomalies of the last two winters are in counter-trend compared to the long period, but they don't allow hypothesis of an inversion of the trend.

Valentina Pavan, Rodica Tomozeiu, Andrea Selvini, Paolo Mezzasalma, Sandro Nanni, Carlo Cacciamani – *Arpa Emilia-Romagna*

## P. 15

LAND SECURITY POLICY IN EMILIA-ROMAGNA REGION

Emilia-Romagna Region land and coast defence actions are not limited to damage compensation, but they are aimed at the removal of the causes of instability, at the reduction of risk and at prevention. Coast defence also implies the implementation of Integrated coastal zone management guidelines.

Marioluigi Bruschini – *Assessore sicurezza territoriale, difesa del suolo e della costa, Regione Emilia-Romagna*

## P. 16

NEW STUDIES ON STORM AND EROSION EVENTS

The European project Micore will develop operational predictive tools of erosion events of the coast, including Emilia-Romagna. Results for 2009-2010 winter show the contribution of high water to erosion. An active predictive system is needed and protection actions must be continued.

Andrea Valentini, Marco Deserti – *Servizio Idro-Meteo-Clima, Arpa Emilia-Romagna*

Paolo Ciavola, Clara Armaroli, Marinella Masina – *Università degli studi di Ferrara*

Luisa Perini, Lorenzo Calabrese – *Servizio geologico sismico e dei suoli, Regione Emilia-Romagna*

## P. 19

WHEN FISHES FREEZE TO DEATH, THE CASE OF ROUND SARDINELLA IN JANUARY 2010

Remarkable fish death caused by water low temperatures were sometimes (exceptionally) registered. Round sardinella comes from the southeast area of the Mediterranean and spread to the upper Adriatic Sea because of climate change, but it cannot bear the low temperatures that were registered in January.

Attilio Rinaldi – *Direttore Struttura oceanografica Daphne, Arpa Emilia-Romagna*

## P. 20

TOWARDS A BETTER TRACEABILITY OF WASTE

The enlargement of the European Union and the relative increase of illegal shipment of waste makes it more important to control the whole stream. Regione Emilia-Romagna activated a plan concerning municipal waste. The Sistri system has been activated at a national level to track industrial waste.

Gian Franco Saetti – *Responsabile Servizio Rifiuti e bonifica siti, Regione Emilia-Romagna*

## P. 21

WASTE MANAGEMENT IN EMILIA-ROMAGNA, PRESENT SITUATION AND FUTURE DEVELOPMENT

The latest report on waste management shows a situation which is consistent with national and European directions. Per capita production of municipal waste is still high, also because of the high level of industrial waste counted as municipal waste, thus allowing a stricter control. The goal of 45% of recycling was achieved, even if there are many differences among local areas. There is a decrease in the use of landfills. Packaging waste shows a good level of recycling. Industrial waste in Emilia-Romagna are four times the municipal waste.

Barbara Villani – *Arpa Emilia-Romagna*

## P. 24

GREEN PUBLIC PROCUREMENT, CRITERIA WERE DEFINED FOR PAPER AND SOIL AMENDMENTS

The Minimum environmental criteria must be defined according to the National action Plan for GPP. Italy thus begins his path to align itself to other European countries in the development of green economy.

Emanuela Venturini – *Responsabile Unità operative Nodo regionale Emas Ecolabel Gpp, Arpa Emilia-Romagna*

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ENVIRONMENTAL TOXICOLOGY, EMERGING CONTAMINANTS

Apart from high persistence contaminants in water, new substances raise a further concern for their possible effects on health and the environment. Among them, dugs and hormones, mycotoxins and pesticides, deriving from an

increase in consumption and from a higher economic well-being. In the urban air of great cities the particulate matter increasingly shows noteworthy traces of psychotropic drugs, cocaine, cannabinol, nicotine, caffeine.

Vito Belladonna – *Direttore tecnico, Arpa Emilia-Romagna*

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NEONICOTINOIDS, DOUBTS ON USEFULNESS AND LONG TERM EFFECTS

Neonicotinoid insecticides hit without selecting harmful and useful insects. Their direct and indirect effect on bees and other pronube insects seems particularly critic. This aspect was not considered when their use was authorised. There are still many doubts: can they have chronic effects? How do they accumulate in the environment?

Roberto Barbero – *Association of honey producers Piemonte, Aspromiele*

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RISK FROM ENDOCRINE DISRUPTORS IN THE RIVER PO

Recent scientific literature is describing more and more cases of different pollutants that can interfere with the normal functioning of the endocrine system in many living species, including human beings. Many of these substances are daily used. Among them, there are some pesticides and their metabolites.

Luigi Viganò – *Istituto di ricerca sulle acque, Cnr*

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PARTICULATE MATTER, OLD AND NEW POLLUTANTS

Some known effects of air pollution are respiratory disease, early death, eutrophication and degradation of ecosystems. The scientific community particularly stresses the relevance of PM10, PM2.5 and of the different molecules that enter the respiratory system. Recently other substances were found in the air, such as psychotropic substances, polybrominated diphenyl ethers, aromatic nitro compounds. Particles and other typical air pollutants have value limits in the European law, while further research and regulation is necessary for new pollutants.

Barbara Elisabetta Daresta, Gianluigi de Gennaro, Annamaria Demarinis Loiotile – *Dipartimento di Chimica, Università di Bari*

Angelo Cecinato – *Istituto sull'inquinamento atmosferico, Cnr*

## P. 32

PESTICIDE MIXTURES IN WATER, THE NATIONAL MONITORING

Since 2003 Ispra has realised yearly a national report on the presence of phytosanitary products leftovers in water. The last report, concerning 2006, shows that 125 substances were present in surface water, 52 in groundwater. Due to the high number of possible combinations, it is necessary to fix priorities for toxicological studies.

Pietro Paris, Dania Esposito, Debora Romoli, Emanuela Pace – *Istituto superiore per la protezione e la ricerca ambientale (Ispra)*

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SURFACE WATER, NEW LAWS

2010 is the first year of application of the new European Framework Directive on water environmental monitoring in Italy. The focus is centered on the monitoring of biological communities of water ecosystems. Arpa and Regione Emilia-Romagna started a control plan for the period 2010-2012.

Donatella Ferri, Gisella Ferroni, Silvia Franceschini – *Arpa Emilia-Romagna*

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ECOTOXICOLOGICAL TESTS WITH SENTINEL BIVALVES

Ecotoxicological tests are one of the methods to verify if and to what extent a specific "poison" can interfere with living organisms. For several years, Arpa Emilia-Romagna has used an integrated ecotoxicological approach and made tests using organisms belonging to different trophic levels. Arpa Ferrara's Integrated laboratory joined a research project studying emerging pollutants and using biological probes together with traditional chemical analysis of water.

Fernando Gelli, Federica Savorelli, Pier Luigi Trentini – *Arpa Emilia-Romagna*

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WHEN NANOSCIENCE MEETS FOOD

Ultrafine particles are a byproduct of anthropic activity. Everyone, in every moment, uses nanotechnology products, contributing to the production of nanoparticles. The source is therefore not only air pollution. Nanoscience is widely applied to electronics and IT, to pharmaceuticals and to the nutraceutical sector; miniaturisation of food, for example, allows an increase in bio-availability of nutritive elements. On the contrary, the effects of nanoparticles on the organism are still unclear.

Annamaria Colacci – *Arpa Emilia-Romagna*

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ENVIRONMENT AND HEALTH IN THE AREA AT HIGH RISK OF GELA

From 2007 to 2009 WHO carried out technical assistance activities to support the reclamation plans on the three areas at high environmental risk in Sicily. The Epidemiological Observatory of Regione Sicilia updated a specific study to understand the exposition of the community to pollutants, starting from the knowledge about health and environment in the considered area. Arsenic is the most hazardous pollutant.

Liliana Cori – *Ifc Cnr*

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PM2.5 DISTRIBUTION IN EMILIA-ROMAGNA

Evaluation about values and spatial distribution of PM2.5 mass concentration is a topic question to study the exposition of population and, in general, the impact on health of this pollutant. The regional air pollution monitoring network of Emilia-Romagna was gradually provided with automatic systems for PM2.5 monitoring. The results of a study in Emilia-Romagna show that, as it was expected, the concentration is lower in hill areas than in plain areas; urban area stations have around the same concentration values of those in rural areas.

Vanes Poluzzi, Fabiana Scotto, Linda Passoni, Eriberito De Munari, Davide Mazza – *Arpa Emilia-Romagna*

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POLLEN AND FUNGAL SPORES, THEIR EFFECTS ON HEALTH

Many pathologies are the consequence of the diffusion of specific air-dispersed risk factors; they include inhalation allergies provoked by pollen. The study of possible interaction between air pollution and air-dispersed biological matter is of high priority.

Andrea Ranzi, Paolo Lauriola – *Arpa Emilia-Romagna*

Giovanni Cavagni – *Ospedale pediatrico Bambin Gesù, Roma*

Vincenzo De Gironimo – *Ispra*

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THE STATE OF FORECASTS IN EMILIA-ROMAGNA

The forecast model on daily and weekly pollen concentration that Arpa has used experimentally since 2009 is based on a neural network and has weather parameters and past data of pollen concentration as predictors. Forecasts in the period April-May 2009 included 14 botanical families in 12 stations.

Stefano Marchesi, Paolo Lauriola – *Arpa Emilia-Romagna*

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AEROBIOLOGICAL RING TEST OF ARPA EMILIA-ROMAGNA

The regional allergenic pollen monitoring network, managed by Arpa, consists of 10 stations in the main cities. Arpa Emilia-Romagna organised an internal ring test to verify the level of homogeneity in the identification and calculation of pollen and fungal spores. The good results obtained in 2009 encouraged to take the second edition of the test, involving also Arpa Toscana and Arpa Umbria.

Mario Felicori, Giuliana Bordignon, Bianca Maria Billi – *Arpa Emilia-Romagna*