Climate change and extreme weather as an emerging issue in occupational health
- Macedonian perspective-

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6th Croatian Congress on Occupational Health with international participation (September 30- October 4, 2015, Sibenik, Croatia)
WHO Global Plan of Action on Workers’ Health 2008-2017

Protecting health from climate change

- urges countries to incorporate workers’ health in climate mitigation and adaptation strategies and within the measures for environmental protection, including environmental preparedness and response.

- requires building capacities to anticipate, recognize, assess and control changes in the work environment and occupational hazards as well as addressing the potential impacts of mitigation measures on workers’ health.

World Health Day 2008:
Protecting Health from Climate Change

Intergovernmental Panel on Climate change – IPCC
IVth Assessment Report, 2007 climate change and workers health
Climate change and workers’ health consequences

3 levels: individuals, natural resources, socioeconomic context

Exposures and hazards with direct or indirect impact on OH&S:

- extreme weather events/hurricanes
- heat stress/cold
- precipitation/floods
- air pollutants, pollens
- vectors
- ultraviolet (UV) radiation (ozone depletion)

Adversed effects—Injuries, diseases, disability, apsentism, death

Canadian Research group “Institut de recherche Robert-Sauvé en santé et en sécurité du travail”, Montreal, 2013
Climate changes and national circumstances

- R. Macedonia - small mostly hilly and mountainous land-locked country, 25.713km2
  Diverse climate- featuring Mediterranean, continental, and mountainous conditions, with hot and dry summers and cold winters.

- Climate change scenarios - average increase of temperature 3.8°C in 2100, average decrease of precipitation -13% compared with 1970–1990 averages. More frequent and more intense heat waves, droughts and flood events, Potential harmful health effects on vulnerable population-including working population

Lines of actions
Identifying and implementing adaptations
Adaptations - actions to reduce the risk and exposure to climate sensitive and occupational hazards: international, national, enterprise / occupational setting
Policy document, regulations, action plans

**International level**: GPA on Workers Health, Global network of WHO CC, SEE Network on Workers’ Health

**National level**:  
National Strategy with Action plan for adaptation of health care sector to the climate changes 2011-2015 - with special focus on workers health  
Heat Wave - Health National Action plan  
Cold Wave - Health National Action Plan  
Strategy for Safety and Health at Work 2011-2015  
WHO project “Protecting health from climate change”, Climate Change Health Vulnerability Assessment, 2011

Since 2007, the **Institute of Occupational Health of RM**, WHO CC a national top level institution in the field of occupational health is directly involved, as a part of a institutional and experts’ network in the country, in the realization of different activities related to the prevention of workers’ health from the climate changes at national and international level.
Climate change, temperature, pollens, respiratory allergies

The prevalence of atopy, sensitization to common pollen allergens, and respiratory allergies (allergic rhinitis and asthma) among adult population in the city of Skopje in relation to changes in pollen distributions caused by climate change and particularly maximum temperature, in the period 1996-2010

**Bislimovska J. et al. Prevalence of the Respiratory Allergies among Adult Population in the City of Skopje in Relation to Climatic Change and Change in Pollen Micro Flora**
*Journal of Environmental Protection, 2012, 3, 1364-1372*

The impact of current and future burden of the ambient temperature to pollen distributions in Skopje.

**Kendrovski V. et al. The Impacts of Maximum Temperature and Climate Change to Current and Future Pollen Distribution in Skopje, Republic of Macedonia**
Research- Heat wave effects on workers’ health in R. Macedonia

- **HOTHAPS methodology** - „high occupational temperature health and productivity suppression“,

- **1st phase of HOTHAPS programme** - a descriptive study with aim to identify vulnerable groups of workers exposed to heat waves

- **Research instrument**- two types of questionnaires were for two different groups of subjects (I group - exposed workers, II group-key stakeholders) about 400 subjects – examinees

- **relevant data were obtained** (high risk sectors and activities, working conditions in the hot season, perceptions about health status of exposed workers, adverse effects, implementation of preventive measures including PPE, use of safety procedures at the workplace, information and training etc.).

- **The study confirmed the need of intersectoral and multidisciplinary approach** in coping with heat waves effects on workers health, producing recommendations for all actors involved.
UV radiation

Report

Prevention, early warning and management of UV radiation in Republic of Macedonia with specific accent on workers’ health

-Situation analysis-

Intersectoral experts’ Meeting, December, 2013

Recommendations for monitoring and prevention of adverse health effects of solar UV radiation on population’s health with special focus on workers’ health 2014

<table>
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<th>ACTION</th>
<th>MEASURES</th>
<th>RESPONSIBLE INSTITUTIONS</th>
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<tr>
<td>1. Establishment of system for monitoring and report of UV Index and health risks for population.</td>
<td>Establishment of UV radiation monitoring, Implementation of Law for hydro meteorological matters art./8,9,10. related to the Solar UV radiation, Building of measurement station, Report of UV Index and health risks for population with special focus on workers exposed to solar UVR, Information and education of rural population and agricultural workers, and outdoor workers for health risks and UVR protection</td>
<td>MoH., NHMS, IPH, IOH</td>
<td>December 2014</td>
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<tr>
<td>2. Surveillance of incidence and prevalence of diseases related to the exposure of solar UV radiation</td>
<td>Improvement of informative system (system of evidence) for Solar UVR related diseases, Establishing of data basis or registry for UVR related diseases in R. Macedonia, Improvement of functioning of Cancer Registry and Occupational diseases Registry as a source of relevant data</td>
<td>MoH, IPH, IOH</td>
<td>2014-2015</td>
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Attitudes, knowledge and practices on UV radiation health effects among outdoor workers - ongoing research, 2015- New!
Active early warning system for extreme weather events is established

HEAT-WAVE ALERT

National Committee for climate change
IOHRM - OHS
Labour Inspectorate
Employer  Employees
Raising the knowledge and awareness

- Increasing public awareness of hazards can be an effective way of reducing this risk

- Different target groups in the community: health professionals, employees, employers, labour inspectors, policy makers,

- Dissemination of information: workshops, round table, brochure, pamphlets, leaflets, media, social networks, campaign

- Education - basic medical curricula, programmes of continuing medical education, special training courses

National Campaign in Macedonia "Protect the Health from Climate Changes"
**Recommendations**

**Employers** should establish a policy and plan of action; identify the workplaces at risk; control the working conditions; provide adequate information to the workers; supply first aid kits; adequate organization of the work implementation of alert system.

**Workers** regular health check-ups and should be adequately informed about the risks and protective measures as well as signs and symptoms of illnesses. They should receive first aid training, advice on clothes, beverages, food, breaks and shelters and other preventive measures in an event of heat wave.

**OH Specialists** should take part in the risk assessment process, promote and carry out the preventive health check-ups, and provide information to the employers and workers about the existing risks and the measures for risk management.

**Policy makers** - climate change effects on workers’ health should be included in the national policies, strategies, programs and action plans in the area of safety and health at work.
Macedonian experience

- the need for implementation of preventive interventions and policies (resilience building and adaptation) that can reduce the potential climate change effects on workers health.

- serve as a basic framework for assessment of the efficiency of proposed policies, sharing our experience with other countries in the world.

**FURTHER STEPS**

**Partnership in action**

WHO Health 2020 strategy’s principles, by involving all relevant stakeholders in public health actions through “all society” approach and “health in all policies approach”.