16th SESSION OF THE INFORMAL CONFERENCE OF SOUTH-EAST EUROPEAN NMHSs DIRECTORS (ICSEED-16)

BELGRADE, SERBIA
23-24 October 2017

Hosted by the Republic Hydrometeorological Service of Serbia (RHMSS)
Kneza Viseslava 66, Belgrade

DAY 1 / 23 October 2017

The meeting was preceded by the 3rd Session of the Council of the South East European Consortium for Operational weather Prediction (SEECOP) and a scientific lecture titled *NMMB achievements and future development plans*, delivered by Professor Zavisa Janjic, author of the NMMB model for numerical weather prediction. Both events were open for all interested parties.

Registration of participants

(List of Participants ICSEED16, Appendix 1)

The meeting was attended by participants from 14 National Meteorological and Hydrological Services from the following countries: Bosnia and Herzegovina – the Federation of B&H (FHMZ) and the Republic of Srpska (RHMZ RS), Bulgaria (NIMH), Croatia (DHMZ), Cyprus (CYMET), the former Yugoslav Republic of Macedonia (UHMR), Greece (HNMS), Hungary (OMSZ), Israel (IMS), Montenegro (IHMS), Romania (NMAR), Serbia (RHMSS), Slovenia (ARSO) and Ukraine (UHMC).

Along with the representatives of ICSEED Members, the representatives of the World Meteorological Organization (WMO), European Centre for Medium-Range Weather Forecasts (ECMWF), European Severe Storms Laboratory (ESSL) and International Sava River Basin Commission (ISRBC) were also present at the meeting.

Opening of the session

The session was opened on 23 October 2017 at 14:00 by Dr Nataša Strelec Mahović, Director of DHMZ and ICSEED Chair since its previous session. Dr Strelec Mahović welcomed the participants and stressed the importance of gatherings such as this one and benefits of the exchange of information, especially on a sub-regional level. It is important to actively collaborate in the region and share ideas and developments in order to be able to meet the challenges that we are facing in the global environment.

Host of the meeting, Professor Jugoslav Nikolić, Director of RHMSS also welcomed the participants, recalling that over the years ICSEED, as an informal group of the WMO Regional Association VI – Europe (WMO RA VI), had become one of the key advocates of the WMO's strategic goal related to the know-how and technology transfer among the existing specialized meteorological and hydrological regional and sub-regional organizations, centres, forums, consortia and projects. Professor Nikolić also informed the participants that simultaneously with ICSEED, RHMSS was also hosting the Workshop on the Use of the NMMB Atmospheric Model for Weather Prediction in South-East Europe (SEEWEATHER) as an activity of the South East European Consortium for Operational weather Prediction (SEECOP) aimed at joint strengthening of analytical and forecasting capacities in the region.

On behalf of WMO the meeting was addressed by Mr Ivan Čačić, President of WMO RA VI, and Mr Milan Dacić, Representative of the WMO Office for Europe. Mr Čačić stated that strengthening of cooperation within the WMO informal groupings was one of the goals of the new WMO reform. He noted that some of the WMO key priority areas, such as disaster risk reduction, multi-hazard early warning system and climate activities, were in the core of the initiatives such as ICSEED and SEECOP, and added that ICSEED represented one of the best practices of WMO and RA VI since it directly dealt with the needs and requirements of its members. Mr Dacić first conveyed regards from the WMO Secretary-General, who was not able to attend the meeting, and then stressed that informal groupings were becoming an increasingly important mechanism for conducting business in RA VI and as such were not taken for granted by WMO, which, within the framework of its strategic and operating planning process, had been considering the ways to empower them to even more efficiently and in a more formal way tackle the issues of interest for the member states.

Approval of the 16th ICSEED Session Agenda

The proposed Agenda for the 16th ICSEED Session was accepted without any objections (Appendix 2).

Short report and approval of the Minutes from ICSEED-15

The Chair gave a short report from the previous ICSEED meeting held in Zagreb in 2016, recalling that, along with the country presentations, the key topics of that meeting had been the Flash Flood Guidance System, Disaster Risk Reduction and related activities. Participants unanimously adopted the Minutes from that meeting.

CYMET mentioned that the documentation from all ICSEED meetings should be archived in one place, as agreed during the previous ICSEED session. The Chair reported that most of the materials from previous ICSEED meetings were now uploaded on the ICSEED website, kindly hosted by the colleagues from the Turkish service (TSMS), and added that hopefully this practice would continue with the documents from future ICSEED meetings.

Appointment of the new ICSEED Chair

According to the established practice, Director of the hosting NMHS, Prof. Jugoslav Nikolić, took over chairmanship of ICSEED until its next session.

Revision and update of ICSEED principles

RHMSS proposed that a new article should be added at the beginning of the ICSEED principles, defining ICSEED in accordance with the WMO RA VI organigram.

CYMET wondered if the word "informal" should remain in the name of ICSEED, bearing in mind that its conclusions were considered formal, that new members were required to submit formal requests for membership and that it applied formally defined rules.

President of RA VI responded that everything was up to the members. He explained that there were both formal and informal groupings within WMO. For example, there was a very formal grouping of the Commonwealth of Independent States, while in the Central, South Eastern and Western Europe there were informal conferences of Directors: ICCED, ICSEED and ICWED. He noted that the meetings of formal groupings required additional efforts and engagement, especially of those chairing them, in terms of the preparation of official meeting documents and decisions and use of specific formal procedures, so the key point that should be taken into consideration was not only the name, but rather the background and activities of these groupings, as well as their common working arrangements. He added that the introduction of the proposed article to the ICSEED principles was a good step ahead since it was in line with the WMO strategy and the upcoming WMO reform which foresaw strengthening of the entities in sub-regions, which could eventually result in the transformation of informal into formal groupings.

Representative of the WMO Office for Europe noted that the word "informal" was not necessary from the legal point of view, since ICSEED was a body in which Directors represented their services. The only reason that this word had been used in the first place could be that this form of groupings had not been envisaged in the WMO Convention.

President of RA VI added that another reason in favour of ICSEED becoming formal was the potential for cooperation with the World Bank which favoured approaching and doing business with formal bodies. This kind of transformation would be a process which would require the use of a process tracing procedure and application of certain rules.

NMAR reminded that in Romania the National Hydrological Institute was separate from the National Meteorological Administration and asked whether in such cases directors of both institutions should be invited to ICSEED meetings. She explained that it should be clarified if ICSEED was a meeting of WMO Permanent Representatives from SEE or a meeting of the representatives of the National Meteorological and Hydrological Services from SEE.

DHMZ agreed that this issue should be clarified and noted that if it was decided that ICSEED participants should represent their countries and if ICSEED became a formal body, it would require that the participants should obtain formal approvals from their ministries or governments for ICSEED membership and attendance at ICSEED meetings. She stated that although she did not object to omitting the word "informal" from ICSEED, she considered that in the end, it would probably be more efficient, due to procedural matters, to keep ICSEED as is was: an informal meeting of directors.

OHMZ and IMS supported the view of DHMZ, bearing in mind that in terms of procedure it was less complicated to make agreements and consider issues of mutual importance in an informal framework.

CYMET asked what the word informal implied – that ICSEED was an informal, i.e. "free" gathering or that its decisions were informal.

President of RA VI reminded the participants that it had been an informal body – ICWED that initiated the establishment of ECMWF, which showed that the activities and decisions of informal groupings could carry a lot of weight. He added that the informal talks were necessary since they provided filtering of ideas and information and implied a greater procedural freedom and flexibility, but again stressed that their results could be very much formal. One additional example of such formal results was the establishment of the SEE-MHEWS-A system.

RHMSS noted that the simple removal of the word informal, without the transformation of ICSEED into a formal body and introduction of formal procedures, would significantly benefit and facilitate resource mobilization, thus the possibility of such name change should be considered by ICSEED members in the future.

A discussion followed in which the participants considered if representatives of the hydrological services from the countries in which hydrological services were separate from meteorological services should attend ICSEED meetings, which led back to the consideration of the addition to the ICSEED principles of Article 1 proposed by RHMSS. After several different proposals concerning the formal designation of the ICSEED member institutions, including the used abbreviations, it was agreed that the text of Article 1 should read as follows:

„The Informal Conference of South-East European National Meteorological and Hydrological Services' Directors (ICSEED) is an informal group within the Regional Association VI (Europe) of the World Meteorological Organization (WMO RA VI), representing the National Meteorological and Hydrological Services of WMO Member States from South-East Europe."

It was once again clarified that ICSEED was an informal grouping of Directors representing the National Meteorological and Hydrological Services of WMO Member States from SEE and that it was not by any means a grouping of WMO Permanent Representatives from SEE countries. The issue of whether ICSEED should continue to exist as an informal grouping or should a process be initiated to transform it into a formal body remained to be further discussed in the future.

ICSEED Membership

UHMS was unanimously accepted as a new ICSEED member.

The participants agreed that the principles of possible further extension of ICSEED membership should be considered in more detail during the next ICSEED meeting.

Addresses by the representatives of international organizations

1. Mr Ivan Čačić, President of WMO RA VI, delivered a presentation on RA VI Achievements and Future Plans towards the 17th RA VI. He highlighted some of the recent RA VI achievements related to some of the WMO priority areas such as WIGOS (e.g. support to the WIGOS Implementation Plan, establishment of regional WIGOS centres), Disaster Risk Reduction (development of the SEE-MHEWS-A project, Pro News project, cooperation with Roshydromet) and Climate Activities (establishment of the Climate Watch Advisory website and RA VI CCl Data Rescue website, strengthening of RCCs and RCOFs, collaboration with Copernicus/EFAS and Meteoalarm), as well as to the better performance of WMO/NMHSs (establishment of the WMO Project Office in Zagreb, Croatia and WMO Eurasian Office in Minsk, Belarus). He further presented the challenges facing RA VI and ICSEED, such as enhancing the NMHSs visibility, ensuring the relevance and value of the NMHS services for society and strengthening the sub-regional approach in the implementation of WIGOS, and pointed out that key priorities for the future were integration of the meteorological, hydrological, oceanographic and climate communities in Multi-Hazard Early Warning Systems and the mission of NMHSs, keeping a clear focus on relevant issues and sharing of knowledge, advancing the European Meteorological Infrastructure (EMI) in RA VI through the 2016–2025 Strategy for the European NMHSs, resolving the vague status of aviation and improvement of monitoring, prediction and services in the Arctic and high mountain areas. Over the years, WMO had become more and more complex, which generated certain challenges. To address those challenges, WMO had formulated its strategic priorities on the member/regional level for 2017−2023 as follows: enhanced service capability, high quality of observation/operational systems, enhanced cooperation between countries, enhanced cooperation within countries: met-hydro-marine-R&D, optimization of WMO constituent body activities, and interaction with the private sector. Furthermore, WMO was currently developing its Strategic Plan 2020−2023, which should define WMO vision, overarching priorities, long-term goals, strategic objectives and programmes, and considering the WMO reform, including the gradual reform of the structure, role and operation of RAs and regional and sub-regional offices. In line with this, the RA VI Management Group had also discussed RA VI reform at its previous meeting and agreed that the structure of RA VI should remain nearly the same, with the exception that the Task Teams should be more flexible, active and project-oriented. As regards the forthcoming RA VI meeting, to be held 7−9 February 2018 in Geneva, he explained that it would be preceded by a PR-level Regional Conference (RECO) (5−6 February 2018), which would provide input for the RA VI session through panel discussions. He added that the questions suggested as the base for possible topics for RECO concerned the form, role, benefits, needs, activities and working structure of RA VI, as well as the topic related to public-private partnerships and emerging issues for RA VI.

IMS remarked that, when it comes to the forthcoming reform, RA VI should examine the manner in which EUMETNET operated, evolved and prospered. If RA VI was organised in a different way in terms of structure, budget allocation and procedures, maybe it could perform even the activities that were currently carried out through EUMETNET.

President of WMO RA VI responded that EUMETNET was indeed a great model, not only on a regional, but on a global scale, noting that EUMETNET mechanisms differed from those of WMO and RA VI, for example in terms of budgetary procedures and frequency of meetings. WMO was working on its priority areas, such as WIGOS, and EUMETNET contributed to those activities, due to the complementarities between the two organizations. One of the goals of the WMO reform should be to motivate WMO members to become more involved and actively engaged in its activities by organizing highly interactive meetings with relevant topics and concrete issues, which was the model currently used by EUMETNET.

2. Mr Milan Dacić, WMO Representative for Europe, delivered a presentation on "WMO activities: regionalizing the work: Regional Office for Europe – scope of its work", explaining that the Regional Office for Europe (ROE) consisted of two officers whose task was to assist the 50 members of RA VI. One of its main current challenges was that the NMHSs from RA VI members were not on the equal level of development, so that one of the key priorities was to narrow the existing gaps in their performance. For this reason, ROE currently focused primarily on the RA VI areas which were more in need than the others, bearing in mind that the successful operation of Earth System Models and implementation of WIGOS and other WMO initiatives in RA VI required all the members to be similarly, if not equally well developed. Some of the mechanisms to achieve this, for example, were to encourage PRs to align their thinking with the regional strategic and operating plans of WMO to the greatest possible extent, to facilitate members' fund raising activities, including project preparation, and to establish project offices in the region, similar to the one established in Zagreb. Adding to the previous discussion, Mr. Dacić explained that several decades ago, due to staff and budget restrictions, the European countries and their NMHSs that shared similar goals and visions had been forced to join their resources and thus optimize their performance, which had resulted in the establishment of several international organizations such as EUMETNET and ECMWF. That model implied joining forces into small teams of experts which shared the joint burden and thus benefitted all members. In RA VI a similar concept could be applied through sub-regional groupings (ICCED, ICWED, ICSEED, Eurasian region) working informally and freely discussing to find a common set of priorities, challenges and potential project proposals. Once the members of those groupings would officially communicate, this time as PRs, their conclusions, including their needs and requirements to WMO, they would formalize the entire process, which could further lead to resource mobilization (e.g. Horizon 2020 opportunities) and, finally, implementation of envisaged activities, potentially through task teams in charge of specific projects/activities. The concept of such open discussions on various topics of highest importance for members (e.g. relationship with the private sector, open data policy, etc.) would also be used during the Regional Conference (RECO) which would precede and produce input for the forthcoming RA VI session where RECO decisions and conclusions would be formally adopted.

CYMET noted that to compete for H2020 projects it was necessary to have dedicated personnel, which presented a difficulty in a time of economic restrictions and capacity reductions, and Mr. Dacić responded that teaming up with universities and research institutions on a national level could be a possible solution.

3. Mr Umberto Modigliani, representative of the European Centre for Medium-Range Weather Predictions (ECMWF), delivered a presentation titled “The strength of a common goal”. He briefly summarized the history of ECMWF, including its members and partnerships, explaining that its core purpose and goal – earlier notice of weather events – according to the ECMWF 2016–2025 Strategy rested upon three main pillars: the Earth system approach, ensemble prediction with the highest resolution possible and scalability across the NWP chain. He then focused on the advancements in science planned for the next four years (couplings, data assimilation and use of satellites) as key drivers for the implementation of the ECMWF Strategy. Some of the latest developments and activities at ECMWF are related to experimenting with a 5km-resolution ensemble, scalability programme, improving the code efficiency, planning for a new generation of the ECMWF seamless seasonal forecasting system (SEAS6), parametrizations testing with a single column model and implementation of IFS Cycle 45r1, increased use of hyperspectral infrared sounders over land, sustaining high performance computing (transfer of the ECMWF Data Centre to Bologna (BOND project) and purchase of a new HPC) and experimenting with the possibility of running in the single precision mode. All these developments are serving Member and Co-operating States, which are also benefiting from improved tools, data and products delivery and increased number of available workshops, trainings courses and eLearning modules. ECMWF has started the implementation of the Cloud Computing & Big Data project, which envisages implementation and deployment of ECMWF CC infrastructure by the end of 2018/beginning of 2019. In terms of collaborations with third parties, ECMWF actively contributes to the C3S, CAMS and CEMS services of the EU Copernicus Programme, and fosters long-lasting cooperation with WMO.

CYMET asked if Brexit impeded ECMWF performance in any way and caused the move of its data center to Bologna. Mr Modigliani responded that the move to Bologna was not caused by Brexit, since the discussions on the data center transfer had begun much earlier than the Brexit referendum. In terms of ECMWF operations, formally there had been no visible consequences so far. Since ECMWF was an intergovernmental organization, and not an EU agency, there were no obstacles for its headquarters to remain in the UK, and the only impact could be that potential new staff from Europe could be demotivated to move and work in the UK, but this impact was yet to be monitored closely and investigated in more detail.

President of RA VI congratulated ECMWF on its close cooperation with WMO, its recent designation as a World Meteorological Center, which is very important in the light of the establishment of the WMO Global Multi-hazard Alert System (GMAS) technical platform which would contribute to the UN humanitarian and crisis management operations, create fund raising opportunities on the global level and enable members to get the information they required. In terms of ECMWF involvement with the European Commission and Copernicus, he asked if that partnership could lead to the changing of ECMWF policies and opening of its data, since the EC investment lowered the financial burden of ECMWF member states. Mr Modigliani responded that it was not very likely that EC would offer the arrangement of investing money in exchange of ECMWF opening its data. ECMWF was, however, aware of the societal benefits that such data opening would provide, so it had been looking into some

other options, such as offering data for free but with a very basic service and charging for full service. These options were currently being considered, but the final decision would of course be made by the ECMWF members.

4. Mr Pieter Groenemeijer, representative of the European Severe Storms Laboratory (ESSL), presented the Educational Activities and Severe Weather Data collection at ESSL. He briefly described the ESSL background and its core purpose, including its key product: the European Severe Weather Database (www.eswd.eu), a pan-European database of severe weather reports. He explained the manner in which the ESWD data were gathered (from general public/European Weather OBserver App – EWOP, Voluntary Observer Networks – VONs, NHMSs and ESSL), quality checked (by ESSL, VONs and NHMSs) and used for the purposes of forecast verification, development of an ESWD-based severe weather climatology (currently lacking data for the SEE area), modelling of severe weather frequency and for scientific purposes. When it comes to educational activities, ESSL was organizing seminars for forecasters, led by renowned lecturers at its Research and Training Centre, and offering courses at other locations, workshops and a summer school on severe convection. Mr Groenemeijer described the structure and dynamics of the ESSL courses and particularly stressed the importance of the ESSL Testbed, a course for forecasters with experience in forecasting convective storms, meant for providing training for forecasters in severe convective weather forecasting and nowcasting, and evaluating new forecast-supporting products. He then described the concept of the European Storm Forecast Support (ESFS), a Working Group aimed at improving severe storms forecasting across Europe, and presented its main goals, benefits, activities and current stage of its development in which ESFS was being discussed in the EUMETNET STAC Working Group and in which it was trying to build a critical mass of interested weather services. Mr Groenemeijer concluded by stating that ESSL would welcome additional NHMS members, reminding that ESSL membership meant full access to the ESWD database, voting right in the ESSL General Assembly, reduced participation fees for workshops, seminars, the Testbed and the ECSS conferences and regular updates on ESSL projects.

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Addresses by the representatives of international organizations (cont'd)

1. Mr Dragan Zeljko, International Sava River Basin Commission (ISRBC), gave a presentation related to the Data Exchange and Flood Forecasting in the Sava River Basin. In that regard, he particularly focused on defining the data and information exchange referring to the FASRB Article 4 in addition to highlighting a wide range of data exchanged in connection with the river basin management, flood management, navigation, sediment management and accident prevention and control. Moreover, detailed information on Sava GIS and Sava HIS was provided with an overview of the assessment of the GIS capabilities, GIS strategy, implementing documents, as well as standards, services and end-user applications, respectively. Additionally, he noted that HM Data Exchange Policy was in accordance with national and international legal frameworks, briefly outlining the main principles as well as

the organizations involved. He placed a particular emphasis on the flood forecasting and warning system, Sava FFWS, providing extensive insight into the chronology of development (hydrologic and hydraulic models) as well as improvements of the hydraulic model. It was followed by a schematic overview of the Sava FFWS, with special reference to the implementing status as well as to project time schedule. Lastly, the operation period with post project organization was discussed.

NMHSs' Presentations – Achievements between two meetings and present activities

1. Republic Hydro-Meteorological Service of the Republic of Srpska, Bosnia and Herzegovina (RHMZ RS): Mr Igor Kovačić, RHMZ RS, introduced his presentation by highlighting positive effects of new and additional legislative acts in terms of the adoption of systematization of workplaces, simultaneously addressing the issue of restrictive budget as a key obstacle for the engagement of experts from various fields of activity. Subsequently, he put an emphasis on the project related to the establishment of a technical meteorological service and modernization of the hail protection of the Republic of Srpska carried out in conjunction with the hail suppression public company. Among the most important initiatives he underlined Bosnia and Herzegovina's Cooperation Agreement with the European Center for Medium-Range Weather Forecasts (ECMWF) "for eventual accession to the Convention", particularly referring to the start of negotiations in accordance with Article 3.2(a) and Article 6.1(e) of the ECMWF Convention. He also mentioned that in the aftermath of the floods, erosions and torrents in 2014, the strengthening of the observation and forecasting system took place in terms of the implementation of a number of projects related to the reconstruction of the damages and protection of facilities, as well as projects related to establishing of an appropriate monitoring system and Hydrological Forecasting System in B&H as a key activity in the domain of flood prevention and flood early warning system. Lastly, he briefly outlined the main goals set by RHMZ RS indicating that in 2017 it marked 25 years of its inception.

2. Federal Hydrometeorological Institute of the Federation of Bosnia and Herzegovina, Bosnia and Herzegovina (FHMZ): In his presentation, Mr Almir Bijedić, FHMZ, provided an insightful overview of the FHMZ legal framework indicating a number of directives (DIRECTIVE 2000/60/EC of the European Parliament) as well as laws (Framework Law on the Protection and Rescue of Citizens and Property in Bosnia and Herzegovina, Law on Federal Ministries and Other Bodies of Federal Administration) of vital importance for the functioning of their institution. Moreover, he displayed the organizational structure of FHMZ outlining the main activities such as monitoring of hydrological and meteorological parameters, archiving of hydrometeorological monitoring data, modelling weather forecasts, monitoring weather forecasts, monitoring of climate change, modelling of hydrological forecasts etc. Additionally, departments of hydrology and meteorology were particularly discussed with regard to the implementation of EFAS membership as well as a number of ongoing projects related to WMO: Development and implementation of a system of regional indicators of torrential floods in project South Eastern Europe Region Flash Flood Guidance (SEE – FGG), Multi-Hazard Early Warning System (MHEWS), Aid program from the Finland Ministry of Foreign Affairs, and UNDP project: Integration of Climate Change into

the Reduction of Flood Risk in the Vrbas River Basin. Furthermore, Mr Bijedić provided information on the Air Quality Department of FHMZ, especially focusing on the monitoring of air quality and its network. At the end, Mr Bijedić identified the most critical problems they are currently facing referring primarily to the small budget and equipment maintenance. Simultaneously, he highlighted the list of the prioritized goals in terms of modernization and automation of the meteorological and hydrological parameters monitoring along with the development of the IT sector and the introduction of the new software (WISKI), underlining the importance of membership in ECWMF and EUMETCAL, and chiefly, of the increase in the budget for maintenance and calibration, energy costs and telecommunications.

3. National Institute of Meteorology and Hydrology, Bulgaria (NIMH): Ms. Milena Milenkova, NIMH, introduced her presentation by providing a historical overview of the most important milestones in the establishing of their institution, indicating the relevance of the year 1950 in terms of merging of hydrological and meteorological activities into one integrated HM Service, as well as the year of 1990 related to the renaming of their institution in line with the resolution of the Council of Ministers. Additionally, she provided an in-depth outlook of the NIMH structure, briefly describing roles and functions of all departments, sectors and branches, as well as their governing body, with information on the currently employed staff. It was followed by a detailed overview of the observation system with a focus on the ground stations as well as aerological measurements by radiosondes. Furthermore, she outlined the new information products, particularly referring to the importance of the early warning system in case of natural disasters (rainfall, snow, wind), early warning system for urban pollution on PM10, fire detection and monitoring based on the remote sensing techniques, as well as short-term fire weather forecasting based on numerical prediction models. Lastly, new projects financed by EU Programs in 2018 were summarized.

4. Meteorological and Hydrological Service of Croatia (DHMZ): Ms. Nataša Strelec Mahović, DHMZ, opened her presentation with a brief overview of the Croatian observation system providing information on the operation of meteorological, climatological and rain gauge and rain storage stations. In that regard, she also stressed the fact that the number of automated main meteorological stations has been enhanced (34) and that 40 new automatic weather stations have been installed, making a total of 74 stations. Subsequently, she focused on the recent activities primarily related to the installation of the new software for meteorological diary at MMS, program based on open source programs intended for input transfer and control of data for professional observers in real time. Additionally, she emphasized that they carried out an upgrade of the radio sounding system (manual and semi-automatic, in Zagreb and Zadar, respectively) as well as modernization of a Doppler radar. Furthermore, she stressed the importance of the contract signed for the EU-funded strategic project Metmonic, related to the modernization of the meteorological monitoring network with the goal of modernizing a total of 150 automatic stations, as well the EU-funded project for modernization of the air quality network. Moreover, she highlighted the fact that their calibration laboratory completed the process of becoming a national designated institute for air quality measurements. Lastly, she talked about the current status, ongoing projects as well as the future activities with a special emphasis on the budget.

5. Department of Meteorology, Cyprus (CYMET): Mr. Kleanthis Nicolaides, CYMET, provided thorough information on the Department, defining its status as well as structure within the Ministry of Agriculture, Rural Development and Environment. He stressed the fact that it is a relatively new organisation, operating in its new form since 1976 but with the 130 year long record of historical data. Moreover, he briefly outlined the most important certifications such as ISO 9000 – 2015, NSA, EASA (ICAO Civil Aviation) and Certified/Accredited Personnel (WMO and ICAO standards). After providing detailed overview of the organizational structure with the emphasis on the various sections and their activities, he referred to the meteorological station network indicating its high density. Within the AWS (Automatic Weather Station) System particular emphasis was put on the efforts related to the automatization, that is, transformation of the old climatological stations to modern AWS with an "in house" developed procedure. Subsequently, the focus was set on the operational NWP that is, WRP with an outlook of its most important characteristics. Additionally, he summarized the key clients of the most relevant products of the CYMET particularly referring to the aviation (Eurocontrol almost 81% of CYMET budget), marine, energy, academic organizations, tourism, industry, technical organizations as well as general public. Lastly, he outlined the primary activities and goals referring to the data base and quality control, NWP, CAP-MHEWS-A, automatization/computerization and relocation/centralization.

6. Hydrometeorological Service of the former Yugoslav Republic of Macedonia (UHMR): Mr. Rade Balabanoski, UHMR, gave a presentation on the role, organizational structure as well as the key activities of the institution specifying its legal status within the Ministry of Agriculture, Forestry and Water Economy. At the beginning he indicated that financial resources were extremely limited which was reflected in the last year's budget, thus leading to significant financial constraints and greatly influencing the performance of the basic operational tasks. Additionally, he provided information on the functioning of the main departments as well as divisions within the institution focusing on the structure of hydrological network and outlining the main meteorological, phenological and rain gauge stations. Moreover, it was highlighted that implementation of the ISO 9001 standard was in its final phase, indicating that achievement of certification is expected soon. Furthermore, he stressed the successful cooperation with the media, national TV and radio stations in terms of releasing and disseminating of hydrometeorological information. The active engagement of UHMR in the bilateral sub-regional and regional activities was also highlighted.

7. Hellenic National Meteorological Service, Greece (HNMS): In his presentation, Mr. Panagiotis Skrimizeas, HNMS, provided an overview of the key activities related to the numerical weather forecasting. In that regard, he pointed out that their service aims at improving forecasting capacities and participates in the COSMO consortium for development of the limited area model on two versions, 7 and 2.2 km resolution. Additionally, he provided information on the climate model, COSMO with the standard European domain of 6 km resolution. Moreover, he indicated that the future plans imply the use of dust forecast, high resolution of COSMO wind, that is, coastal forecast in addition to the existing wave model, also referring to the data implementation and assimilation.

8. Hungarian Meteorological Service (OMSZ): Dr. Kornélia Radics, OMSZ, gave a comprehensive overview of their governance system providing insight into institutional status, budget resources and staff, in addition to unrealized pursuits in terms of full membership to ECMWF. Furthermore, she underlined that observations have a 300-year long tradition in Hungary, and provided detailed information on the observation network consisting of 272 stations. Additionally, special emphasis was put on the development of data logger and replacement of old QLC data acquisition units in addition to the development of visualiser software to display measurements. Moreover, she highlighted that the renewal of the radar network was completed in January 2017, along with the refurbishment of the weather radar in Napkor. Regarding weather forecasting, she indicated that special attention was paid to aviation meteorology referring to the development of the new aviation meteorological website, whereas within the numerical modelling developments related to the AROME model, and new services for the end users based on ECMWF probability, diagrams for precipitation type and visibility were presented. Furthermore, Ms. Radics highlighted their strong involvement in climate activities, not only in statistical but also in modelling parts, focusing on the interpolation and homogenization softwares that have been widely used throughout Europe and world. OMSZ is participating in the activities of the Task Team on Homogenization within WMO. Subsequently, the issue of air quality in Hungary was also addressed with attention being drawn to the fact that OMSZ was registered as accredited proficiency test provider at the end of 2016. At the end, she briefly summarized the international relations in terms of the organized as well as future meetings.

9. Israel Meteorological Service (IMS): Mr Nir Stav, IMS, introduced his presentation focusing on the new international collaborations such as the EMMA Programme (2016) undertaken with EUMETNET, related to the launching of Israel weather warnings in MeteoAlarm (2017). In that regard, he also stressed the importance of full membership in the COSMO consortium since 2017, as well as the Black Sea and Middle East Flash Flood Guidance System (2017/2018). Special attention was drawn to the ongoing UNDP project concerning Hydro-Meteorological high resolution climate modeling for Jordan, Palestine & Israel, aiming at downscaling the existing regional climate models to a finer resolution of 4 to 6 km in order to obtain the generation of quantitative data on current and future water availability in the sub-region of the Core Parties in light of the possible climate change. Moreover, he emphasized the progress made in open data tools illustrating the expansion of the availability to meteorological data in terms of new weather dial-a-number service in Hebrew, Arabic and English (2017), API for Meteorological data in *data.gov.il,* allowing a use of data by web/cellular applications (2017), design of a modern web site (2018/2019) as well as wind Energy GIS site. Information on the observation network, including AWOS on a Voluntary Observing Ship (VOS) (2017/2018), Israeli AMDAR program, as well as new Eilat airport were provided, especially highlighting the need for a new radar. Furthermore, he indicated the most important activities, improvements as well as the future plans related to the NWP research, climate research as well as administration and education.

10. Institute of Hydrometeorology and Seismology of Montenegro (IHMS): Mr Luka Mitrović, IHMS, gave an insightful presentation of their involvement within ICSEED,

providing essential information related to the most significant historical milestones in the establishing of the institution, accompanied by the overview of the ongoing projects as well as future plans. In that regard, he provided an extensive overview of the number of mandates such as: observation and measurement of meteo, hydro, eco and agrometeo parameters, production of studies, elaborates, analyses and information about climate, condition of the soil, air, surface and ground water and coastal sea, forecasting and dissemination of data (meteo, hydro, eco and agrometeo), as well as establishing an IT system with databases (climate, hydrology, ecology, agrometeorology). Additionally, he outlined the main stations as well as the hydrological station network, putting an emphasis on its current status and on the observation methods. Water quality monitoring points and air quality network station were also discussed. Moreover, Mr Mitrović presented active engagement of IHMS in international cooperation, including the participation and organization of a number of international meetings. At the end, he highlighted the involvement of IHMS in several ongoing project, as well as the next steps they are intending to make regarding the improvement of HM observation networks, strengthening of human capacities of IHMS and ensuring greater financial support.

11. National Meteorological Administration of Romania (NMAR): In her presentation, Ms Florinela Geogerscu, NMAR, pointed out that there is an increased risk of extreme weather events in Romania, referring to the rising number of weather warnings, a total of 58, issued in the first 9 months of 2017. She continued by providing an overview of the immediate warnings (yellow, orange, red), highlighting the fact that four red immediate warnings were released in connection with the severe weather episodes that affected Romania, that is, blizzards observed in January, April and October, as well as a heat wave recorded in July 2017. In that regard, she explained the functioning of the weather warning system in Romania, in particular the immediate warning application, which provides information on weather alerts, traffic alerts as well as natural disasters. Moreover, in light of the information presented, she underlined the importance of NMAR project: Developing of the national system for monitoring and warning of extreme weather phenomena for the protection of life and property. At the end, she briefly outlined the future objectives regarding the acquisition of a new visualization system, modernization of the weather data communication system, improvement of the informatics security of the IT infrastructure of the whole meteorological system, along with the modernization of the radar network.

12. Republic Hydrometeorological Service of Serbia (RHMSS): Mr Jugoslav Nikolic, RHMSS, introduced the presentation by stressing the role of RHMSS within the public administration system, indicating its responsibility in conducting several programmes: the programme of meteorological and hydrological activities of interest for the Republic of Serbia, hail suppression programme, and programme of international cooperation and representation of the Republic of Serbia with international organizations. Additionally, Mr Nikolic pointed out that RHMSS participates in the implementation of the National Strategy of Protection and Rescue in Emergency Situations, the National Sustainable Development Strategy, the Action Plan for the Implementation of the National Sustainable Development Strategy (2011-2017), the Public Administration Reform Strategy and the Action Plan for the

Implementation of the Public Administration Reform Strategy (2015-2020). Subsequently, he outlined the key achievements within the meteorological and hydrological observation system, such as the installation of a new automatic meteorological station in Ivanjica and the reconstruction and equipping of ten hydrological stations. The information on the main activities related to the aerological and special meteorological measurements in terms of upgrade of the isotherms calculation program – isotherms "in the cloud" – was provided in addition to the information on the meteorological laboratory and calibration. With regard to the Hydrometeorological early warning and alert system, Mr Nikolic briefly outlined extreme weather events that affected Serbia in 2017, and focused on the numerical models that are operationally used in the RHMSS. He particularly underlined the importance of the nuclear accident simulation ConvEx3 related to the testing of the DREAM model application in the modelling of transport of other aerosols. Lastly, RHMSS membership in the European Severe Storms Laboratory (ESSL) and Partnership Agreement on the European Severe Weather Database (ESWD) was also emphasized.

13. Slovenian Environmental Agency (ARSO): Mr Gregor Sluga, ARSO, opened the presentation highlighting the fact that in April 2017 ARSO underwent significant reorganization by joining its meteorological and hydrological office, resulting in synergies between the hydrological, meteorological and numerical forecasting departments. On the other hand, he indicated that the established Environmental Measurement Office, encompassing hydrological and measurement departments, is responsible for measurements and data quality, whereas the integrated hydrological and meteorological office is in charge of forecast analyses. In that regard, he also pointed out that this new organizational structure proved to be more efficient. Consequently, he reiterated that this reorganization, as well as the investments into the new infrastructure led to the cancellation of professional manual measurements, indicating that the only exceptions were the airport and some observatories (Triglav). Furthermore, he stressed the importance of the Act on National Meteorological, Hydrological, Oceanographic and Seismologic Services adopted by the Government, implying that official duties got separated from other services, allowing the Agency to charge for their services and to protect the measurement sites. Moreover, he provided information on the new European Project related to the upgrade of the system for monitoring air quality, estimating the main causes and analysing the effect of the measures to reduce air pollution in Slovenia.

14. Ukrainian Hydrometeorological Center (UHMC): Mr Mykola Kulbida, UHMC, gave an insight into the structure and functioning of their national institution, highlighting the main activities it performs, including the observation, data collection, processing, transmission, storage and use of data in the field of meteorology, climatology and geophysics of the atmosphere, as well as the basic observations of pollution of the environment. Additionally, he pointed out that Ukraine has been a member of WMO since 1948 and that the general principles of hydrometeorological activities in Ukraine are determined by the Ukrainian Law on Hydrometeorological Activity and the provisions of the State Emergency Service of Ukraine. Moreover, Mr Kulbida provided an extensive overview of the structure of the State Emergency Service of Ukraine and the principal institutions it is built upon. Depiction of the

hydrometeorological network of UHMC, with the brief information on the hydrometeorological, agrometeorological and hydrological observations, as well as automated stations, was also presented. Subsequently, he focused on the automated working places (AWPs) which allow all relevant current meteorological, radar, satellite information, prognostic maps and processed information to be received on-line and presented in the desired form. In that regard, he briefly outlined the main end-users and the importance of the actual and forecast hydrometeorological information for executive power bodies, including presidential administration, cabinet of ministers, ministries, public utilities, aviation, fuel and energy sector, agriculture and transport (including rail, road, river, sea), and consequently gave an overview of the forms and methods of disseminating weather-forecasting information to the end-users.

Global Multi-hazard Alarm System (Global Meteoalarm – GMAS)

Mr Ivan Čačić, President of WMO RA VI, provided an extensive insight into the concept of the Global Multi-hazard Alarm System (GMAS), specifically indicating its role and importance in the context of the development of global DRR services platform. He introduced his presentation by identifying all the key drivers and emphasized the growing threat at the national, regional and global level due to the increasing impacts related to the weather, water and climate hazards. In that regard, he simultaneously pointed out that significant advancements have been made, especially in terms of the accuracy and timeliness of monitoring, forecasting and warnings capacities. Furthermore, Mr Čačić outlined the most essential benefits of GMAS referring to the increased recognition of the NMHS products and services, increased standardization of hydrometeorological warning information among WMO Members (through utilization of the Common Alerting Protocol), increased sharing and harmonization of hydrometeorological warning and hazard products/information among WMO Members. Subsequently, he particularly highlighted the GMAS overarching goal reflecting its vision to be recognized globally by decision makers as a source of authoritative warnings and information related to high-impact weather, water, ocean and climate events endorsed by the EC-69 Decision and advanced through the guidance of the EC Working Group on DRR. Moreover, he talked about the pilot and demonstration projects illustrating them with a number of examples, such as the EU Aristotle project (proof of capability / demo in 2018), Asia (GMAS) including SWIC/WWIS upgrade and Alert Hub, METEOALARM (operational since 2007), METEOALERT (CAP demo in 2018), etc. At the end, he clarified the GMAS Implementation Roadmap, providing a brief overview of each of the phases: development, implementation, testing and operational phase.

Discussion

During the discussion, several important issues were addressed regarding the ongoing activities that is, topics primarily related to the Multi-hazard Early Warning System, Meteoalarm, Flash Flood Guidance System and future plans. In that regard, DHMZ started the discussion by shedding light on the issue of discrepancies between warning levels issued in different countries, referring in particular to the case of neighbouring countries. Indicating the complexity of the problem in terms of the existence of differences even between different

parts of one country, DHMZ highlighted the need of defining the same criteria related to the release of warning levels with the aim of their harmonization. Additionally, DHMZ clarified the concept of impact-based warnings stating it is not currently feasible in Croatia for several reasons, among others, due to the engagement of civil services. In the light of the raised issue, RHMSS stated that Serbia thus far hasn't had one-to-one communication with any of the services in similar situations and that the criteria were harmonized on the European level. In the view of RHMSS, the starting point should be the harmonization of the criteria with the neighbouring countries. CYMET drew the attention to the issue of homogeneity prior to delivering warnings to the technocrats and general public. In the opinion of CYMET, it is of vital importance that the language is characterized by unambiguity.

WMO RA VI President continued the discussion focusing on the positive outcomes related to the Meteoalarm and pinpointed the principal obstacle to harmonization, stressing the fact that some countries are not allowed to deliver information on impact. Therefore, he suggested that instead of forcing harmonization, hazard impacts and hazard mapping should be flagged, especially taking into account that different members have different abilities and perspectives. In that regard, he referred to the scope of the WMO Resolution 9 and hazard classification, emphasizing the importance of attribution of hazards in terms of hazard impact and hazard mapping. Furthermore, he stated that an imperative for the Global Multi-Hazard Alert System is achieving harmonization firstly at this level.

The issue of Meteoalarm warnings was further discussed by Mr. Dacić, Representative of the WMO Office for Europe, who also referred to Resolution 9, indicating that data on loss and damage could relate with a database in order to produce impact-based warnings, which is a long-term, and far-away process currently only based on the estimates. WMO RA VI President pointed out that Meteoalarm has existed for 10 years and that it is undergoing an upgrade in terms of more flexibility that allows all input from the experts to be included.

Conclusions

After a two-day session consisting of presentations by international organization representatives and NMHSs' presentations covering the most relevant topics chiefly indicating NMHSs current status, key activities and future plans, followed by the lively discussions on the most significant issues arising from the foregoing addresses, the Directors of the NMHSs from SEE agreed upon the several points:

(1) firstly it was reiterated that ICSEED was an informal grouping of Directors representing the National Meteorological and Hydrological Services of WMO Member States from SEE as specified in Article 1 proposed by RHMSS and adopted as an amendment to the ICSEED Principles, whilst the issue related to the defining of the status of ICSEED as an informal/formal body is envisaged for future discussions;

(2) ICSEED members unanimously concurred to accept UHMS as a new ICSEED member;

(3) agreement was also reached on the importance of harmonization as a prerequisite for the Global Multi-Hazard Alert System (GMAS) at the sub-regional level;

(4) involvement of ISRBC into the WMO Information System (WIS) was also deemed important, and the primary step should be to designate the WMO Project Manager as a coordinator for cooperation between WMO-ISRBC;

(5) all representatives further agreed on the ever-increasing role of ICSEED in terms of the growing need for strengthening of collaboration, implying the exchange of information and ideas in particular on a sub-regional level, aiming at better understanding and tackling of challenges of the global environment.

Date and place for the next ICSEED meeting

The next ICSEED meeting will take place in Ohrid, the former Yugoslav Republic of Macedonia on the kind invitation of UHMR.

Closure

ICSEED-16 was closed on 24 October 2017 at 3:30pm.

ANNEX 1

16th Session of the Informal Conference of South-East European National Meteorological and Hydrological Services' Directors (ICSEED-16)

Belgrade, Serbia, 23–24 October 2017

LIST OF PARTICIPANTS

	Name	*Country*	*Institution*	*Email*
1	Almir Bijedić	Bosnia and Herzegovina (Federation of B&H)	Federal Hydrometeorological Institute (FHMZ)	
2	Igor Kovačić	Bosnia and Herzegovina (Republic of Srpska)	Republic Hydrometeorological Service (RHMZ RS)	
3	Darko Borojević	Bosnia and Herzegovina (Republic of Srpska)	Republic Hydrometeorological Service (RHMZ RS)	
4	Hristomir Branzov	Bulgaria	National Institute of Meteorology and Hydrology (NIMH)	
5	Milena Milenkova	Bulgaria	National Institute of Meteorology and Hydrology (NIMH)	
6	Nataša Strelec Mahović	Croatia	Meteorological and Hydrological Service (DHMZ)	
7	Borivoj Terek	Croatia	Meteorological and Hydrological Service (DHMZ)	

8	Kleanthis Nicolaides	Cyprus	Department of Meteorology (CYMET)	
9	Panagiotis Skrimizeas	Greece	Hellenic National Meteorological Service (HNMS)	
10	Ivica Todorovski	the former Yugoslav Republic of Macedonia	Hydrometeorological Service (UHMR)	
11	Nina Aleksovska	the former Yugoslav Republic of Macedonia	Hydrometeorological Service (UHMR)	
12	Rade Balabanoski	the former Yugoslav Republic of Macedonia	Hydrometeorological Service (UHMR)	
13	Kornélia Radics	Hungary	Meteorological Service (OMSZ)	
14	Horvat Gyulia	Hungary	Meteorological Service (OMSZ)	
15	Nir Stav	Israel	Meteorological Service (IMS)	
16	Luka Mitrovic	Montenegro	Institute of Hydrometeorology and Seismology (IHMS)	
17	Florinela Georgescu	Romania	National Meteorological Administration (NMAR)	
18	Jugoslav Nikolic	Serbia	Republic Hydrometeorological Service (RHMSS)	

19	Gregor Sluga	Slovenia	Environmental Agency (ARSO)	
20	Mykola Kulbida	Ukraine	Hydrometeorological Center (UHMC)	
21	Ruslan Reviakin	Ukraine	Hydrometeorological Center (UHMC)	
22	Umberto Modigliani		ECMWF	
23	Pieter Groenemeijer		ESSL	
24	Dragan Zeljko		ISRBC	
25	Milan Dacic		WMO	
26	Ivan Čačić		WMO	

ANNEX 2

16th SESSION OF THE INFORMAL CONFERENCE OF SOUTH-EAST EUROPEAN NMHSs DIRECTORS (ICSEED-16)

BELGRADE, SERBIA
23-24 October 2017

Republic Hydrometeorological Service of Serbia (RHMSS)
Kneza Viseslava 66, Belgrade

Monday, 23 October 2017	
08:30-11:00	3rd SEECOP Council meeting (all interested parties are welcome)
11:00-12:00	Scientific lecture prepared specially for SEECOP and ICSEED members **NMMB achievements and future development plans** - *Professor Zavisa Janjic, NMMB author, NCEP - USA*
12:00-13:30	Lunch break for SEECOP and ICSEED participants ***on both meeting days lunch will be provided by RHMSS at RHMSS premises**
13:30-14:00	Registration of ICSEED participants
14:00-14:30	**Opening:** - *Dr. Nataša Strelec Mahović, Director of the Meteorological and Hydrological Service of Croatia, ICSEED Chair* **Welcome addresses:** - *Prof. Jugoslav Nikolić, Director of the Republic Hydrometeorological Service of Serbia* **High WMO representatives welcome addresses:** - *Mr. Ivan Čačić, President of Regional Association VI WMO* - *Mr. Milan Dacić, WMO Representative for Europe*
14:30-14:40	**Approval of the 16th ICSEED Session Agenda** **Short report and approval of the Minutes from the 15th ICSEED** **Appointment of the new *ICSEED Chair*** - *Dr. Nataša Strelec Mahović, Director of the Meteorological and Hydrological Service of Croatia, ICSEED Chair*
14:40-15:00	**Revision and update of the ICSEED principles** **ICSEED Membership** - *ICSEED Chair*

15:00-15:30	**COFFEE / TEA BREAK & GROUP PHOTO**
15:30-16:00	**RA VI Achievements and Future Plans** - *Mr. Ivan Čačić, President of Regional Association VI*
16:00-16:30	**WMO Activities** - *Mr. Milan Dacić, WMO representative for Europe, WMO*
16:30-18:00	**Addresses by the representatives of international organizations** - *Mr. Umberto Modigliani, ECMWF* - *Mr. Pieter Groenemeijer, ESSL* - *Mr. Dragan Zeljko, ISRBC*
18:00	**END OF DAY 1**
19:30	**DINNER HOSTED BY RHMSS** *Kafanica restaurant (2-3 minutes walking distance from RHMSS)*

Tuesday, 24 October 2017	
08:30-10:30	**Country Presentations (10 minutes per country)** - *Achievements between two meetings and present activities*
10:30-11:00	**COFFEE / TEA BREAK**
11:00-12:00	**Country Presentations (10 minutes per country, cont'd)** - *Achievements between two meetings and present activities*
12:00-12:30	**Global Multi-hazard Alarm System (Global Meteoalarm)** - *Mr. Ivan Čačić, President of Regional Association VI*
12:30-12:45	**Discussion**
12:45-14:00	**LUNCH BREAK**
14:00-15:00	**ICSEED Future Plans** **Discussions and suggestions for on-going and future common projects in SE Europe** (Flash flood guidance system, Multi hazard early warning, OPERA, Climate modelling)
15:00-15:30	**Date and place for the next ICSEED meeting** **Any other business** **Conclusions**
15:30	**CLOSURE of the 16th Session of ICSEED**

ANNEX 3

ICSEED – Meeting Overview

Meeting	Place	Date	Note
1st ICEED	**Sofia, Bulgaria**	**2001**	Signing of the basic document on co-operation
2nd ICEED	**Geneva, Switzerland**	**2002**	On the occasion of the WMO Congress
3rd ICEED	**Athens, Greece**	**2003**	Role of sub-regional NMHSs for the coming Olympic games in 2004
4th ICEED	**Bucharest, Romania**	**2004**	Establishment of the document on the role and importance of the ICEED sub-region within the WMO structure / policy
5th ICEED	**Sarajevo, Bosnia and Herzegovina**	**2 – 4 June 2005**	- ICEED Principles (11 articles) - ICEED Operative Actions / Projects as the basis of the NMHSs cooperation and sub-regional programmes in SEE
6th ICEED	**Dubrovnik, Croatia**	**2 – 5 May 2006**	WMO sub-regional centers of excellence proposals
7th ICEED	**Belgrade, Serbia**	**11 – 12 October 2007**	

8th ICEED	**Podgorica, Montenegro**	**29 – 30 September 2008**	
9th ICEED	**Ljubljana, Slovenia**	**10 – 11 December 2009**	
10th ICEED	**Istanbul, Turkey**	**21 – 22 September 2010**	
11th ICSEED	**Tel-Aviv, Israel**	**10 – 11 October 2011**	- Changed name from ICEED to ICSEED - New ICSEED principles
12th ICSEED	**Sofia, Bulgaria**	**18 – 19 April 2013**	
13th ICSEED	**Banja Luka, Bosnia and Herzegovina**	**28 – 29 April 2014**	
14th ICSEED	**Bucharest, Romania**	**5 – 6 November 2015**	
15th ICSEED	**Zagreb, Croatia**	**6 – 7 October 2016**	
16th ICSEED	**Belgrade, Serbia**	**23 – 24 October 2017**	