

HYDROLOGY-METEOROLOGY FIELD OF STUDY – CHANCES FOR LIFE

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ABSTRACT. **Hydrology-meteorology field of study – chances for life.** Geographical teaching has a long tradition in Cluj-Napoca. There are many fields of study at the Faculty of Geography from Cluj-Napoca, which has separated from a larger faculty in 1994, such is Hydrology – Meteorology. It first appeared in 2006, and already has five generations of students. The enquiry made at eight institutions between 1972 and 2013 shows that students' penetration inside meteorological and hydrological institutions was a good one. A big part of these students come from the Geography field of study, which has a long tradition, and from the new field – Hydro-Meteorology. It can be observed a pronounced increase of employment since 1999. The biggest chances in obtaining a job in this field appear three years after the graduation. Many specialists finished their Geography studies after obtaining the job. Most of our students work as hydrologist or meteorologist, but also in other jobs, a great number belonging to those working in leadership positions. From this enquiry it can be observed that the field of Hydrology – Meteorology was an appropriate one, succeeding to fulfil its purpose.

Keywords: graduate, employee, field of study, domain, enquiry, hydrologist, meteorologist, functions, licence degree, master degree.

1. INTRODUCTION

The geographic school from Cluj-Napoca has always been in the elite of the geographic university education. The first period of geographic teaching appeared at the end of the XIXth century and at the beginning of the XXth century, when teaching and research activity benefited by some great personalities, such as Cholnoky Jenő and George Vâlsan, who were great teachers and researchers. Through these years, the fields of study varied in number, period of study and number of students. Together with the Geography Field, there must be remembered the Fields of History – Geography, Geology – Geography, Hydrology, Biology – Geography, Geography – Foreign language, Environmental Science, etc.. It should be told that between the years 1953-1959, some highly recognised hydrologist studied at the Hydrology Department from the Faculty Geography from Cluj-Napoca, finishing their studies abroad.

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The year 1994 was a very important step in the evolution of geography teaching at Cluj-Napoca. The Faculty of Geology – Geography separated from the Faculty of Biology, becoming a freestanding faculty of the Babes-Bolyai University – The Faculty of Geography.

This was the begging of an accelerated development of geographic fields. From one single field of study – Geography, it ended with five: Geography, Tourism Geography, Cartography, Spatial Planning and Hydrology - Meteorology. Students’ number increased from 100 to 3000, and also the teachers’ number multiplied. More fields of study for master degree were introduced. From a single line of study, today there are three: in Romanian, Hungarian and German.

2. HYDROLOGY – METEOROLOGY FIELD OF STUDY

It was first introduced in 2006, at license level. Its purpose is specialists’ formation into an applied domain that will respond to the necessities of our national economy, especially of the national hydro-meteorological network. This challenge put its mark on the curriculum and on the study approach, practical works, and also on field trips.

Table 1. Ratio of graduates/matriculates

Academic Year	Matriculated students	Graduates	Ratio Matr/Grad	Matric. RRMH	Ratio Grad/RRMH
2006-2007	19				
2007-2008	25				
2008-2009	21	13	62%	11	85%
2009-2010	32	15	49%	12	80%
2010-2011	23	16	70%	10	63%
2011-2012	21	13	62%	7	54%
2012-2013	26	12	46%	11	92%
2013-2014	22				
Average	24	14	58%	10	71%

The number of students presents a relative constancy: 20-30 matriculates - 12-16 graduates. The average number of matriculates was 24 students per year, and the average number for graduates was 14 students/year. This represents an average ratio of matriculates/graduates of 58 %, but it varied a lot all over the years, from 46% to 70%, but it’s not very much, because of teachers’ desire to prepare good specialists.

In 2009 there was introduced a new field of study for master degree, named “Hydro-atmospheric environment resources and risks”, for a better specialization in this domain. It continues the tradition of training specialists in master degree (one year) that began with the Master “Integrated evaluation and inventory of hydro-climatic resources”. If it’s taken into account the ratio master

matriculates/graduates, it can be observed that the values vary between 54 – 92%. The average number is also very relevant (71%) and shows that most students go for the specialisation they started at the beginning of faculty. Some students come from other academic centres (especially from the Faculty of Geography and Geology of the “Al. I. Cuza” University, Iași), from other universities of Cluj-Napoca and from other faculties of the “Babeş-Bolyai” Univesity.

3. GRADUATES SITUATION

After five series of graduates, it is right to make an evaluation of graduates’ absorption degree from this field of study, but also of all graduates from the Faculty of Geography. For this purpose it was made an analysis inside the “Apele Române” National Administration and in the National Meteorological Administration Network, the two organisations monitoring air and water environment in Romania. It was taken into account only the subunits where it was known the existence of graduates from this faculty.

The received answers cover a long time period – 41 years – from 1972 to 2013, and gave answers about graduated field of study, year of graduation, year of employment, employment subunit, locality and function.

From the eight institutions in study, the biggest number of employees from our faculty belongs to the “Someş - Tisa” Basin Administration, with 25%. A similar number appears for the Mureş Basin Administration and for the North Transylvania Regional Meteorological Centre - 19 %. 14% were registered at the Olt Basin Administration, and 11% at the South Transylvania Regional Meteorological Centre. 5% are working at Banat – Crişana Regional Meteorological Centre and at the Crişuri Basin Administration. One graduate was also registered at the National Meteorological Administration.

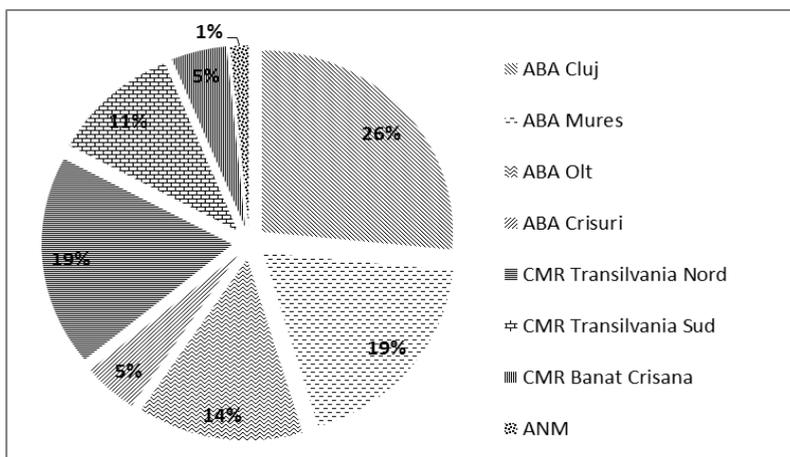


Fig. 1. Graduates distribution at organisations

Probably, more geography students work at other territorial units and complete the general absorption image of our fields of study. We must mention that our study does not take into account the graduates with jobs outside the national hydro-meteorological network.

The analysis of employment in hydrology and meteorology shows that from a total number of graduates from Geography Faculty, 65% work in Hydrology, and 35% in Meteorology.

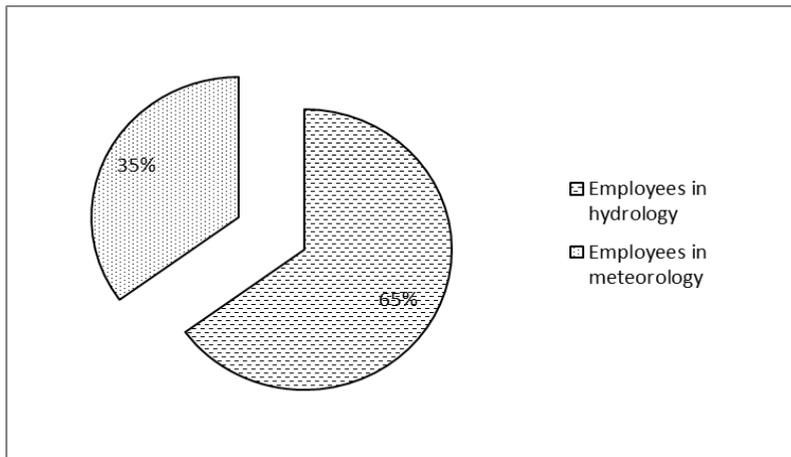


Fig. 2. Percentage of hydrologists and meteorologists

The biggest number of graduates belongs to the Geography field – 31 employees. The reason for this number is the long analysis period for this field. In all these 41 years, the Geography field functioned alone for half of the period (until 1990), the rest developing slowly after.

The next field is Hydrology – Meteorology, with 15 employees. In the five classes that graduated between 2009 and 2013, 69 students have graduated. 15 of these 69 were hired into their domain of study. If we take into account the average number of graduates and the average number of employment in the last 5 years, it can be observed that 3 graduates/year found a job in their domain, this meaning (in relative values) that 22% of graduates/year found a job in their study domain.

The Environmental Science field, that comprises disciplines such as Meteorology – Climatology and Hydrology – Water Management, brought 7 employees. Some employees graduated from Geography – Foreign language and from Cartography, where they also have studied Hydrology and Meteorology. A strange situation appears for the graduates of Tourism Geography. They don't have these two disciplines, but still have some employees in Hydrology and Meteorology.

The distribution by years varies very much. Most employments appeared between 1999 and 2006, when ten and eight, respectively, students entered in the practical activity. The distribution can be separated into two parts: the first interval

1972-1998 with a relative small number of employments (< 1/year) and after 1999, when the number of employments presented an obvious increase (> 3/year).

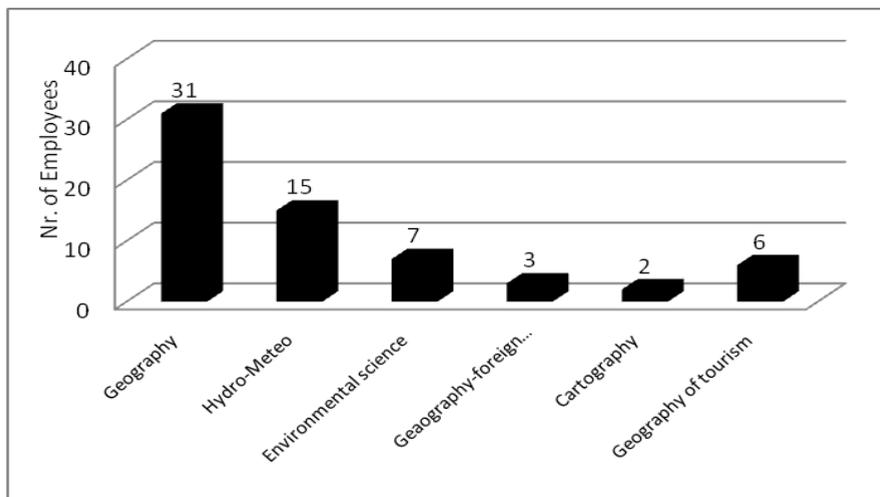


Fig. 3. Graduated field of study

This evolution not only shows the role of Hydrology – Meteorology field of study, but also the quality of teaching inside this field of study in our faculty. The average employments in this study period is 1,5 employee/year. It is a nice average if we take into account the size of the National Hydro-Meteorological Network and the general absorption capacity of our national economy.

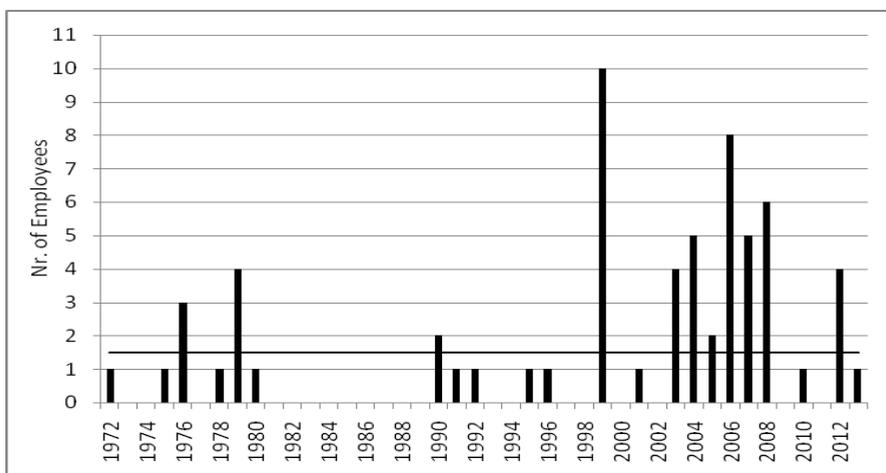


Fig. 4. Employment distribution by years

The analysis of employment moment is relevant in relation to the graduation year. It can be observed that the first four years after graduation are

critical for employment. In the graduation year and the year that followed, 10 students found a job, respectively 12 students. In the second and third year, the number of employees decreased to 7 and 5, respectively.

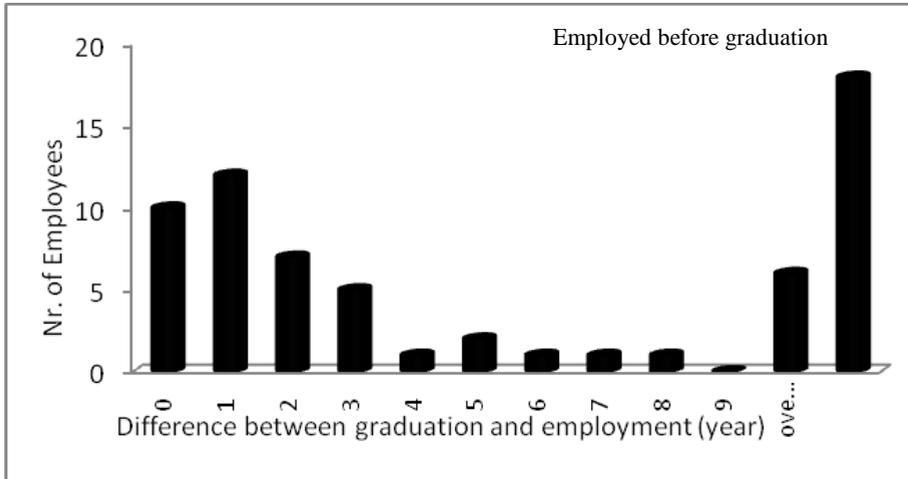


Fig. 5. Difference between graduation and employment (year)

After that, it is more and more difficult to find a job. In these years only 1-2 graduates found a job. Of course in real life, once you find a job in another domain it is very difficult to change your occupation. Finding a job after ten years of graduation (6) it is not relevant, because the enquiry was made on a very long time period.

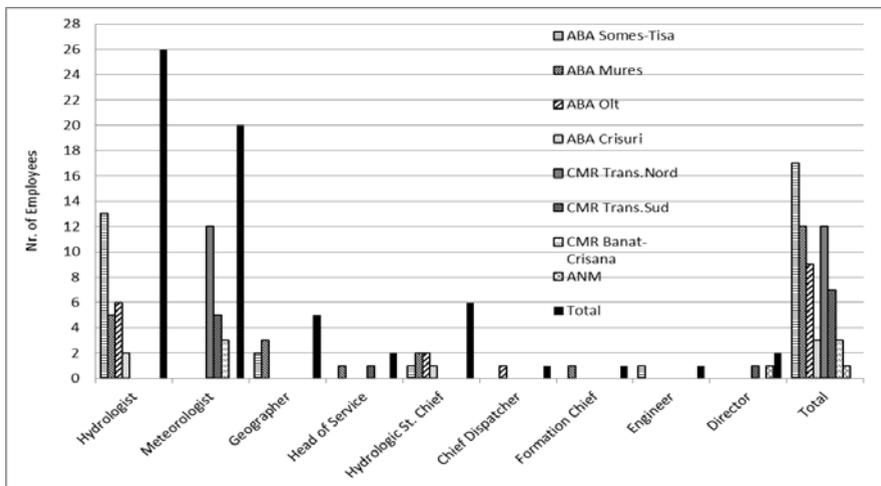


Fig. 6. Functions obtained by Geography graduates

It can be observed that many people came to the Faculty of Geography after they've been hired in the National Hydro-Meteorological Network. If we

analyse the number (18 employees) from our period of 41 years, it shows that a person completed his studies once at two years.

The jobs taken by the graduates vary very much. The most important are Hydrologist (26) and Meteorologist (20). Five are Geographer, probably taken some years before by persons who specialized after employment. We have two Heads of Service, one in Hydrology and one in Meteorology. The job Head of Hydrological Station is well represented, with at least one head in each water basin administration. The same function does not appear at any meteorological station. In other functions we have Dispatcher Head, Formation Head, engineers and 2 directors (at CMR South Transylvania and the General Deputy Director from the National Meteorological Administration).

4. CONCLUSIONS

The statistics show that the Faculty of Geography trains highly prepared specialists in the fields of Meteorology and Hydrology. The foundation of the field Hydrology and Meteorology represented a necessity and has a great success. The graduates from our field of study can compete with graduates from other academic centres, including the technical universities, and also can penetrate the national Hydro-Meteorological Network.

The “Hydro-atmospheric environment resources and risks” master is well promoted by the license level, it is very attractive for other students and offers a deeper study of Hydrology and Meteorology, so needed in obtaining a well job.

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