Call for Participation to new IAHS Working Group

STA.HY.

Statistics in **Hy**drology **W**orking **G**roup

Mission

Statistical methods for analysis of hydrological data has a long history and continues to be an intense research topic. Such tools have proved very effective and useful in numerous applications and case studies. The effectiveness of statistical descriptions of hydrological processes may reflect the enormous complexity of the hydrological systems, which makes a purely deterministic description ineffective.

Recently the number of available tools, approaches and procedure in several statistical fields are increasing faster then before. The correct application of new and old updated methods is fundamental for hydrological applications. In literature there are more than 100 international Journals on Statistic and more than 40 Journals that accept contributions on statistical hydrology. Many Software, Routines are available in several languages (S, R, C++, fortran, etc., etc.) either commercial and freeware. For a single hydrological application there are many potential statistical approaches to use. Consequently it seems necessary to try to synthesize the enormous number of information and resources presents in literature (and not only) creating a virtual common space of statistical hydrology. This space, useful to coordinate, optimize and concentrate resources, would be fundamental for Statistician would like to understand the hydrological applications, for Hydrologists that needs to use a statistical tool and would like to easily understand what is the right approach, for Statistical Hydrologist to easily be updated on recent developments on their research field.

The **STA**sticis in **HY**drology working group should create, manage, update, disseminate and make available this virtual common space.

Aims

The Working Group could concretize the activities thought a WebSite. The proposed activities are the following:

- **STAHY Data-Base**: each member and/or institution registered to the working group could make available and/or use hydrological data set. In the first period the effort could be to collect data, to accurately describe their characteristics and quality and to make it available on the STAHY Portal in a friendly way.
- **STAHY "R" Library**: each member could make available their routines on Statistical tools written in S, R or other languages. These routines will be tested and eventually translated in R freeware language, organized in specific themes in order to create a STAHY R Library available for registered researchers.
- **STAHY References:** fixing some "hot" themes, members could keep strongly updated the latest publication on these topics.
- **STAHY School of Statistical Hydrology.** Starting from a recent experience proposed in Italy the STAHY working group could give the main patronage to the School of Statistical Hydrology newly created. The aim of this school is to periodically (every 6-8 months) organize international short courses (one week – 30 hours) on different topics proposed by the scientific committee.

Call for Participation

The first step of the WG is to collect people that want actively collaborate to STAHY sharing knowledge, information, papers, data, routines.
The idea is to fix some main topics on which focalize the attention of STAHY activities described above (Sessions, Workshop, Short Courses, Routines, Benchmark papers and data). For each topic it should be identified a group of expert people with a coordinator that could stimulate the activities, help to collect information and organize initiatives.

Preliminary the following topics are proposed. Each participant is invited to indicate in which topic he can contribute or eventually to propose new TOPICs.

TOPIC A: *Univariate Frequency Analysis*
- Extreme values
- Regional Analysis
- Inference

TOPIC B: *Multivariate Frequency Analysis*
- Extreme values
- Copula Function
- Inference

TOPIC C: *Time Series Analysis*
- Liner Modelling (ARMA,etc.) and Markov Chain
- Non Linear Modelling
- Long memory behaviour
- Non stationary detection
- Point Processes

Confirm your Participation

In order to confirm your participation please send an e-mail to:

Francesco Serinaldi (francesco.serinaldi@uniroma1.it)
and Cc Salvatore Grimaldi (salvatore.grimaldi@unitus.it)

briefly describing in which topic you could collaborate, what kind of material you could be able to share, if you have a topic to propose..... any suggestion will be welcome.

STAHY WebSite

Once WG participants will be defined we will start the activities collecting material and setting up the website.
The role of the website will be fundamental either to advice and describe activities and to organize and make available data, routines, references related to the topics.
The access to the website will be through a free registration process in order to guarantee the identification of users.
The Call for free registration to the STAHY Website will be launched in a couple of months.