With ENM@INP, the French Met School, Gain a MS-Level Semester Specializing in Weather and Climate Services.

THE OBJECTIVE
The expertise you will acquire will meet the growing requirements of climate-sensitive businesses, companies, public entities.

AN INNOVATIVE LEARNING METHOD
Attendance to a school semester is limited to about 20 students: this allows, during the whole term, for individual coaching, close interaction with all contributors, and collaborative work in groups of students.

Increasing your autonomy, identifying and strengthening your competencies, trans-disciplinary included, belong to the aim of the course. Semester entirely given in English.

JOB OPPORTUNITIES
Identified Met-Sensitive areas include:
- Transportation
- Agriculture
- Construction and Public Works, Infrastructure
- Energy: production, supply, business operators
- Mass markets: production, distribution
- Climate warranties and risk coverage: insurance, reinsurance, brokerage, banks
- Tourism, leisure industry
- Airline companies, tour-operators, hotel trade, catering and restaurant industry

Weather- and climate- dependence has the potential to affect financial results, performance and client satisfaction: thus becoming for many companies a risk of the highest importance.

An 85% of companies reckon their occupation is weather-dependent*. A 56% know precisely how their occupation is weather-dependent*.

*From a 2016 study by Jean-Louis Bertrand, head of the Financial Dept at ESSCA, Angers, France.

The Economic Value of Met and Climate Information
With experts from the insurance companies AXA and Météo-Protect.

Climate hazards have a cost: study the financial impact of climate change information. Based on the use of a industrial-level application.

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Create weather and climate observation data
With CNRM, the Research Center @ Météo-France; ENM; UPS; Paul Sabatier University in Toulouse; SAFIRE (airborne research)

Observing The Climate: a conference cycle.
Study actual measurement campaigns, including the use of SAFIRE observation aircraft and UAI, unmanned aerial vehicles.

Set up and use simulation tools in NWP – Numerical Weather Prediction – to forecast weather and climate.
With experts from Met and Climate Services of Météo-France, and CNRM.
You will be using Meso-NH (Web link) to forecast the weather, from the campaign data in TU-5, and ALADIN-CLIMAT to forecast the climate of the future.

Answering a need from a client at a Weather and Climate Service
With the DCSC, Climate Services Unit at Météo-France.
With the help and collaboration of Météo-France, you will analyze the needs of users in diverse sectors and develop applications for them.

Some examples of addressed themes: companies and their access to climate change; managing water resources in Europe.

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SIX TEACHING UNITS (TU), 5 ECTS* EACH:
SEMIESTER TOTAL IS 30 ECTS
- You will produce observation and modeling data (TU-1, TU-2)
- Use the data to answer client needs (TU-4) while being able to discuss your results (TU-3)
- Process the data and evaluate the economic worth of weather and climate forecasts (TU-5)
- TU-6 is dedicated to your personal project.

TU1 (5 ECTS)
Create weather and climate observation data
With CNRM, the Research Center @ Météo-France; ENM; UPS; Paul Sabatier University in Toulouse; SAFIRE (airborne research)

Observing The Climate: a conference cycle.
Study actual measurement campaigns, including the use of SAFIRE observation aircraft and UAI, unmanned aerial vehicles.

TU2 (5 ECTS)
Set up and use simulation tools in NWP – Numerical Weather Prediction – to forecast weather and climate.
With experts from Met and Climate Services of Météo-France, and CNRM.
You will be using Meso-NH (Web link) to forecast the weather, from the campaign data in TU-5, and ALADIN-CLIMAT to forecast the climate of the future.

TU3 (5 ECTS)
Climate Change Issues: a formal debate
With experts in: Health – Biodiversity – City planning – Digital world - Hydrology – Carbon tax, with the intervention of IPCC representatives.
You will be debating what is at stake in climate scenarios and their impacts.

TU4 (5 ECTS)
Answering a need from a client at a Weather and Climate Service
With the DCSC, Climate Services Unit at Météo-France.
With the help and collaboration of Météo-France, you will analyze the needs of users in diverse sectors and develop applications for them.
Some examples of addressed themes: companies and their access to climate change; managing water resources in Europe.

TU5 (5 ECTS)
The Economic Value of Met and Climate Information
With experts from the insurance companies AXA and Météo-Protect.

Climate hazards have a cost: study the financial impact of climate change information. Based on the use of a industrial-level application.

TU6 (5 ECTS)
Your Personal Project
With the help of our tutors, you choose a theme and build a project, according to your academic studies as a whole and your project.
And there is a bonus: a specific module to prepare for job interviews: don’t be under the weather for that special day!
ADMISSIONS
The Semester at ENM @ INP
This is a Fall Semester, from mid-September to the beginning of February. ENM @ INP is located in Toulouse, France.

ACADEMIC PREREQUISITES
- Knowledge of scientific calculation and of a computing language to perform it.
- Skill in statistics used with multidimensional data, e.g. the R language.
- ENM provide documents and support as a refresher course on Weather and Climate Forecasting for students with no academic background in that specific field.

ADMISSION REQUIREMENTS
Please submit your comprehensive application portfolio (Resume, Reasons for applying, Official transcripts and grades - for the two academic years prior to your application, two reference letters) before April 30th to the initial training department (see Contacts).

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BECOME A SPECIALIST IN WEATHER AND CLIMATE SCIENCES

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