

HEALTH - ENVIRONMENT

Historical actor in the field of atmospheric pollution and the consequences on human health resulting from the exposure to chemical, biological or physical agents, NUMTECH specifically deals with the assessment of pollution impact on populations' health, provides support in communicating results and training on this topic.

Interpretation of the environmental media condition and Health risk assessment (HRA)

Since 2007, NUMTECH has been providing health risk assessments for a wide range of facilities and road infrastructures.

The risk assessment process usually begins by collecting measurements that characterize the nature and extent of chemical contamination in the environment, as well as information needed to predict how the contaminants behave in the future. If required, measurements of pollutants in different medias (soil, water, food, air) have to be made via an external partner. For a new facility, these measurements help to define the environment to its initial state. In case of an existing facility, it can be used to determine if atmospheric emissions contribute/or not to degrade the environment. Moreover, these data can be compared with health standards guidelines.

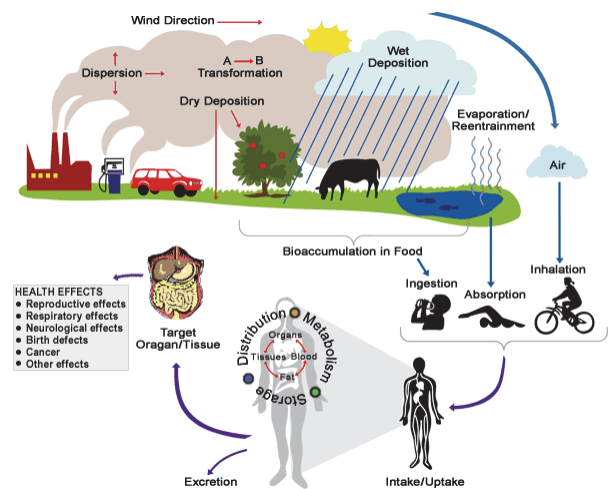
If there are no guidelines available for substances or the facility's releases seem to be significant in the investigated area comparing with the environment to its initial state, the process of health risk assessment is initiated. This process includes 4 basic steps:

1. Hazard Identification,
2. Dose-Response Assessment,
3. Exposure Assessment,
4. Risk Characterization.

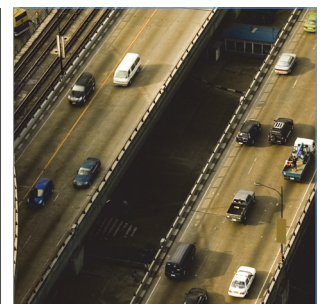
Support in communicating results

Communication and dissemination of results is a major component in health risk assessments because great sensitivities exist surrounding health information.

Logical follow-up of the majority of the studies carried out by NUMTECH, our services frequently involve an exercise of results communication with the sponsor (environmental department, CHSCT), with the public administration or/and with the population, if necessary (public meeting).



Conceptual scheme of exposure used in step 3 of HRA approach.



Health and environmental expertise

NUMTECH provides critical analysis of health risks assessments. This third-party expertise can occur in or out of a regulatory framework (e.g. specific request from a company to validate work done internally).

NUMTECH keeps informed of knowledge and practices on the field of health risk assessment. This active watch, is illustrated by the carrying out of literature reviews in this domain:

- Literature review on the assessment of health risks linked to electromagnetic fields within the Senscity project (Orange Lab),
- Drafting of a methodological guide for aluminum smelters (RIO TINTO) or methane plants (FONROCHE) to carry out health impact assessments,
- Literature review on traffic-related health impact (AIRAQ),
- Literature review on indoor air pollution in France and abroad (OQAI - CSTB).

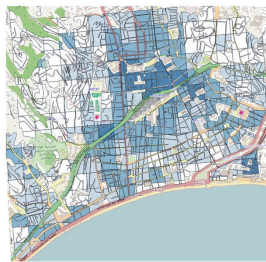
NUMTECH is also a member of the French Society for Environmental Health (SFSE) in a working group specialized in the field of health risk assessment methodology.

Training

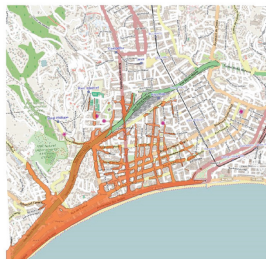
NUMTECH provides design and conduction of training sessions in the field of health-environment. The audiences targeted by these trainings are engineering offices, health and environment departments of industrial firms or public administrations.

These classes can be adapted to customers' priority expectations.

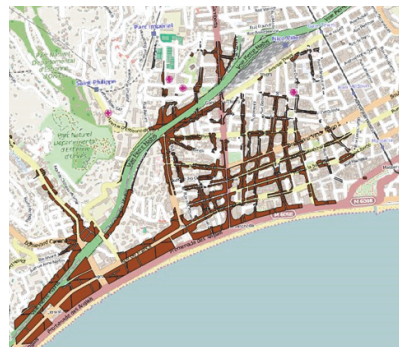
NUMTECH has already trained agents of the French National Public Health agency and the staff of the RIOTINTO group.



Layers cross between land use & spatial distribution of population.



Sanitary threshold overrun.



Assessment of the number of people concerned by a sanitary threshold overrun.

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