

Product: Identification of alerted areas by CN algorithm

Detailed information about the method and its application to the Italian territory is available in the following paper:

Peresan A., V. Kossobokov, L. Romashkova, G.F. Panza (2005) - "Intermediate-term middle-range earthquake predictions in Italy: a review". *Earth Science Reviews*, 69 (1-2), 97-132.

as well as via the following website:

<http://www.geoscienze.units.it/esperimento-di-previsione-dei-terremoti-mt.html>

The prospective testing experiment by CN algorithm has been extended to a fourth region, namely the Adria region, starting on January 2005. A description of the new region is provided in the following paper: Peresan A., E. Zuccolo, F. Vaccari, A. Gorshkov e G.F. Panza (2011) – "Neo-deterministic seismic hazard and pattern recognition techniques: time dependent scenarios for North-Eastern Italy". *Pure and Applied Geophysics*. Vol. 168, 583-607. DOI 10.1007/s00024-010-0166-1.

CN predictions for Northern, Central and Southern regions are regularly updated every two months since 1998, and for the Adria region since 2005 (beginning of January, March, May, July, September, November).

A complete archive of predictions is accessible via the following web page:

http://www.ictp.trieste.it/www_users/sand/prediction/prediction.htm

CN current predictions for Italy are protected by password.

In fact, although CN predictions are intermediate-term and by no means imply a "red alert", there is a legitimate concern about maintaining necessary confidentiality.

Password can be requested by mail to: aperesan@units.it

We assume that requesting the credentials to access current predictions, implies accepting to take the necessary precaution against premature release of predictions.

Information and files description:

FILE: CN-REGIONS-COORDINATES.TXT

It contains the coordinates of the three regions monitored by CN algorithm in real-time since 1998 (since 2005 for the Adria region). Predictions are regularly updated on a schedule and are compared with earthquakes, which occur in the next two months.

For each monitored region, the magnitude threshold for the identification of target events, M_0 , is also specified as follows:

Northern Region: $M_0=5.4$

Central Region: $M_0=5.6$

Southern Region: $M_0=5.6$

Adria Region: $M_0=5.4$

FILES: NORD.DOCX, CENTRO.DOCX, SUD.DOCX, ADRIA.DOCX

include tables with the following information:

- TIP starting time

- TIP ending time

- time of occurrence of target events, with the corresponding magnitude.

Time-series from retrospective and real time analysis are provided in separate tables.

Note that parameters for the target events (e.g. magnitude estimates) are those reported in the input earthquake catalog (namely UCI+ISC) as on the time of the first prediction updating, which follows the occurrence of the target event.

(example: for an earthquake occurred on June 10, parameters are those reported in the updated catalog as on July 1 updating of predictions)

TIP: Time of Increased Probability, with respect to normal conditions, for the occurrence of a target event within the monitored region.