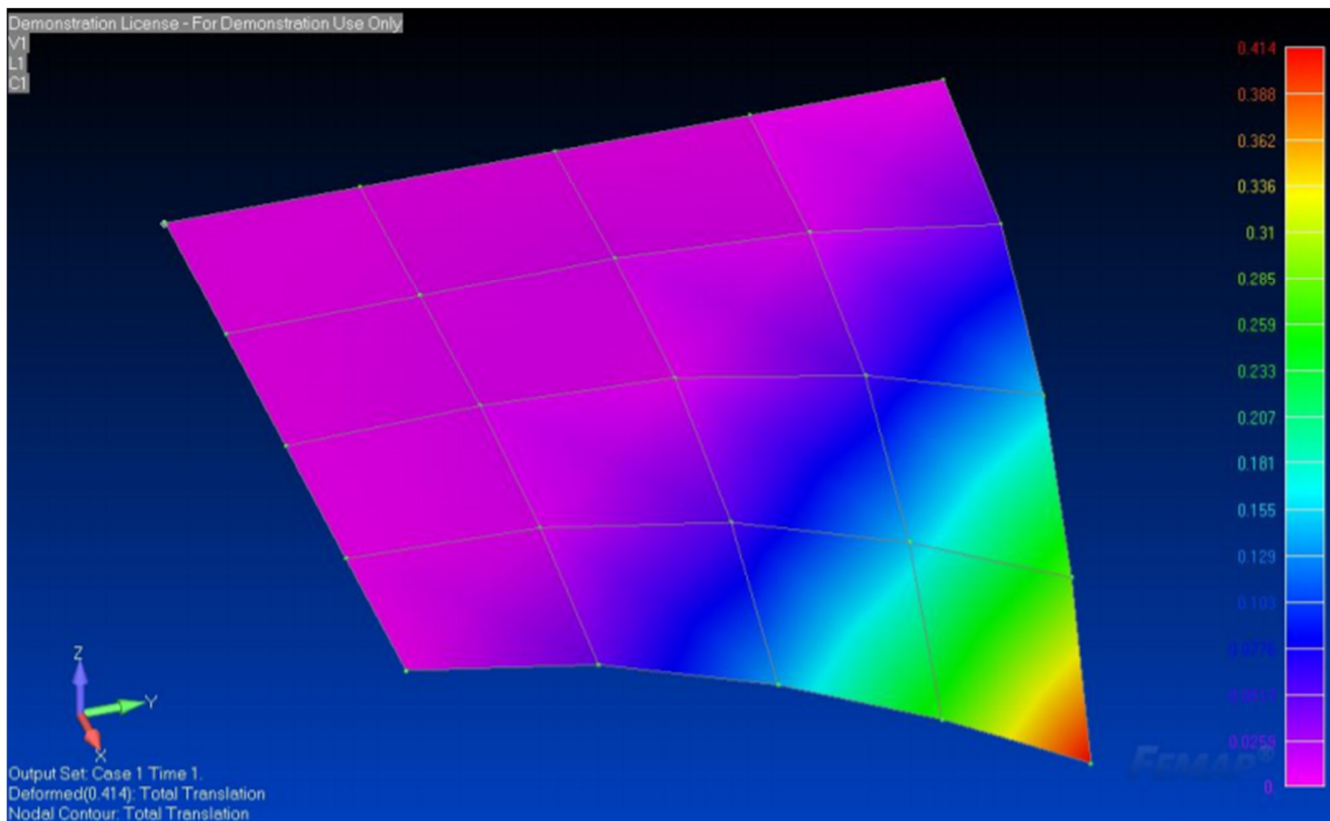


How to display displacement results as a contour vector (arrow) plot using Femap

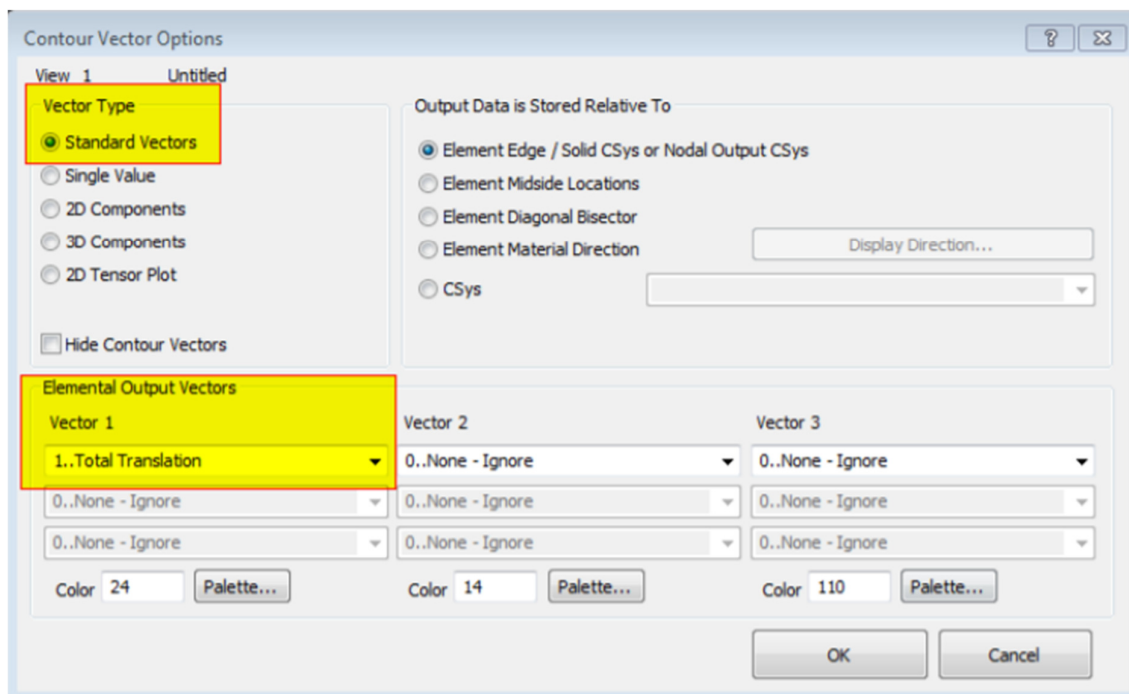
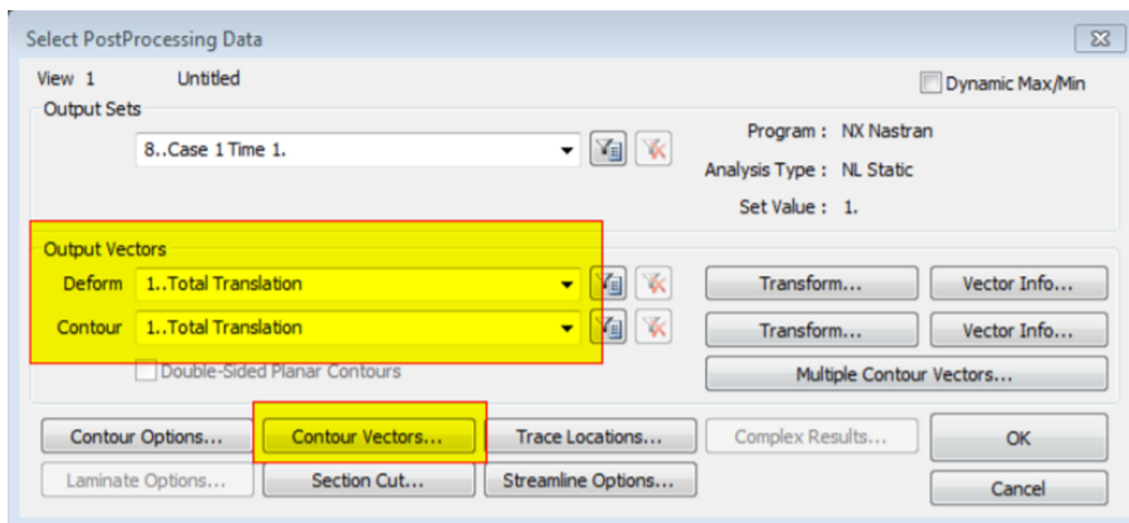
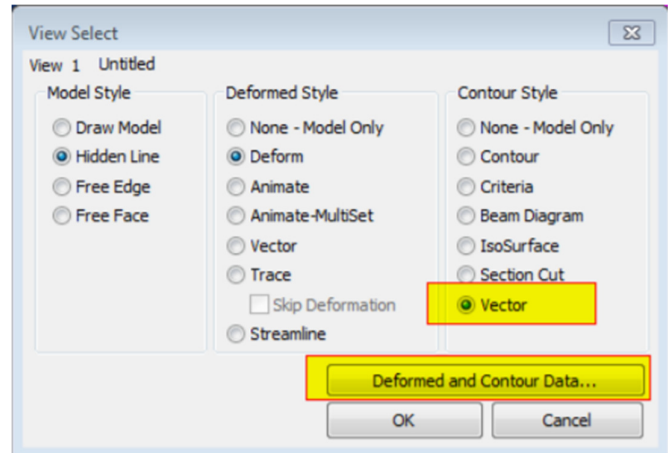
This tech tip describes how to display displacement results as a contour vector (arrow) plot using Femap. The description is based upon the use of Femap v11.2.0 but should be equally valid for other versions of Femap. The example model used below is a simple square plate modelled using thin shell elements, constrained along two sides and with a pressure load applied. The model has been solved using NX Nastran 10.1 (SOL 106) for large displacements.

1. Display the analysis deformation results as a deformed contour plot:

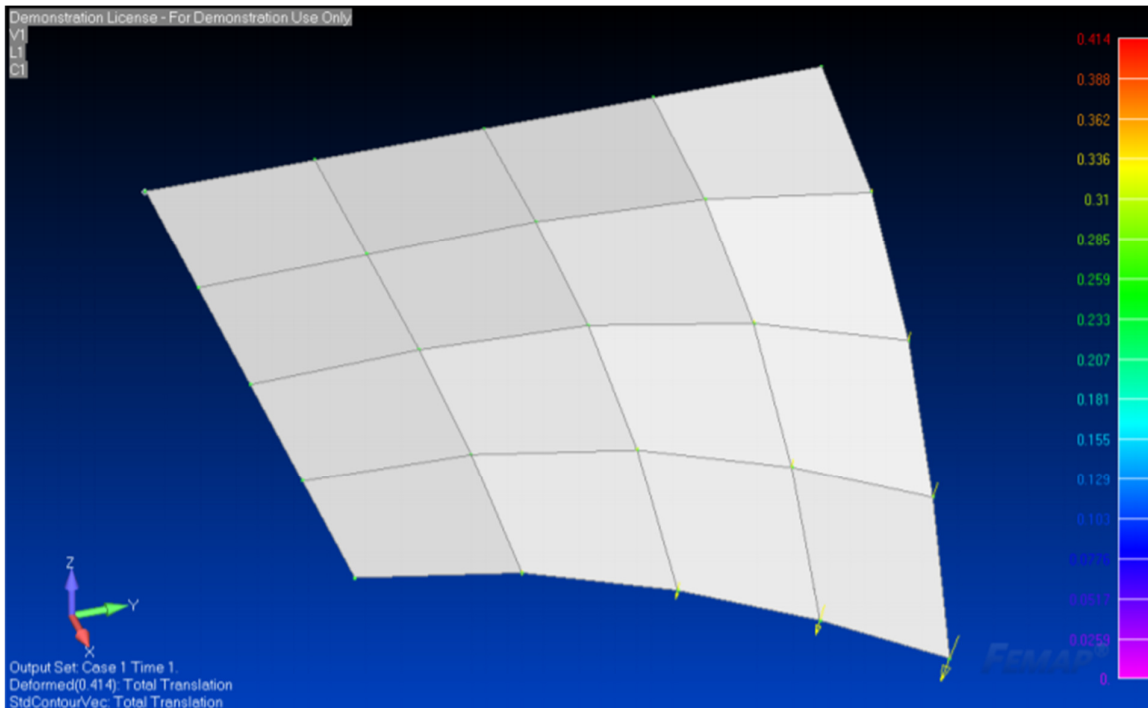


2. Pick the command:

- View
- Select
- Contour style – vector
- Deformed and contour data
- Output vectors, deform = total translation, contour = total translation
- Contour vectors • Vector type = standard vectors
- Element output vectors, vector 1 = total translation
- 'Okay' all the forms

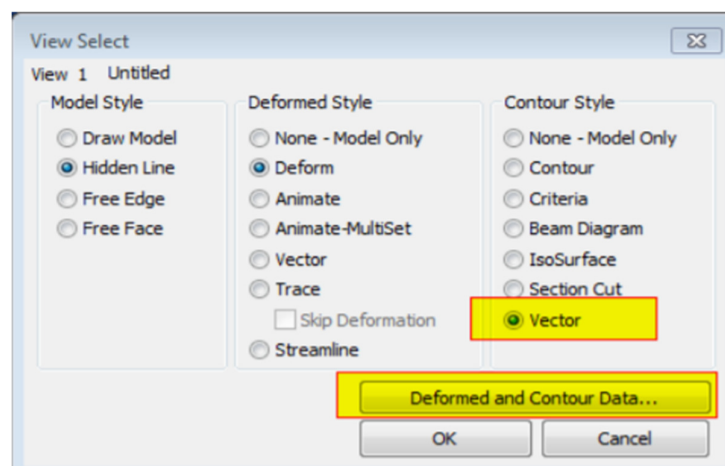


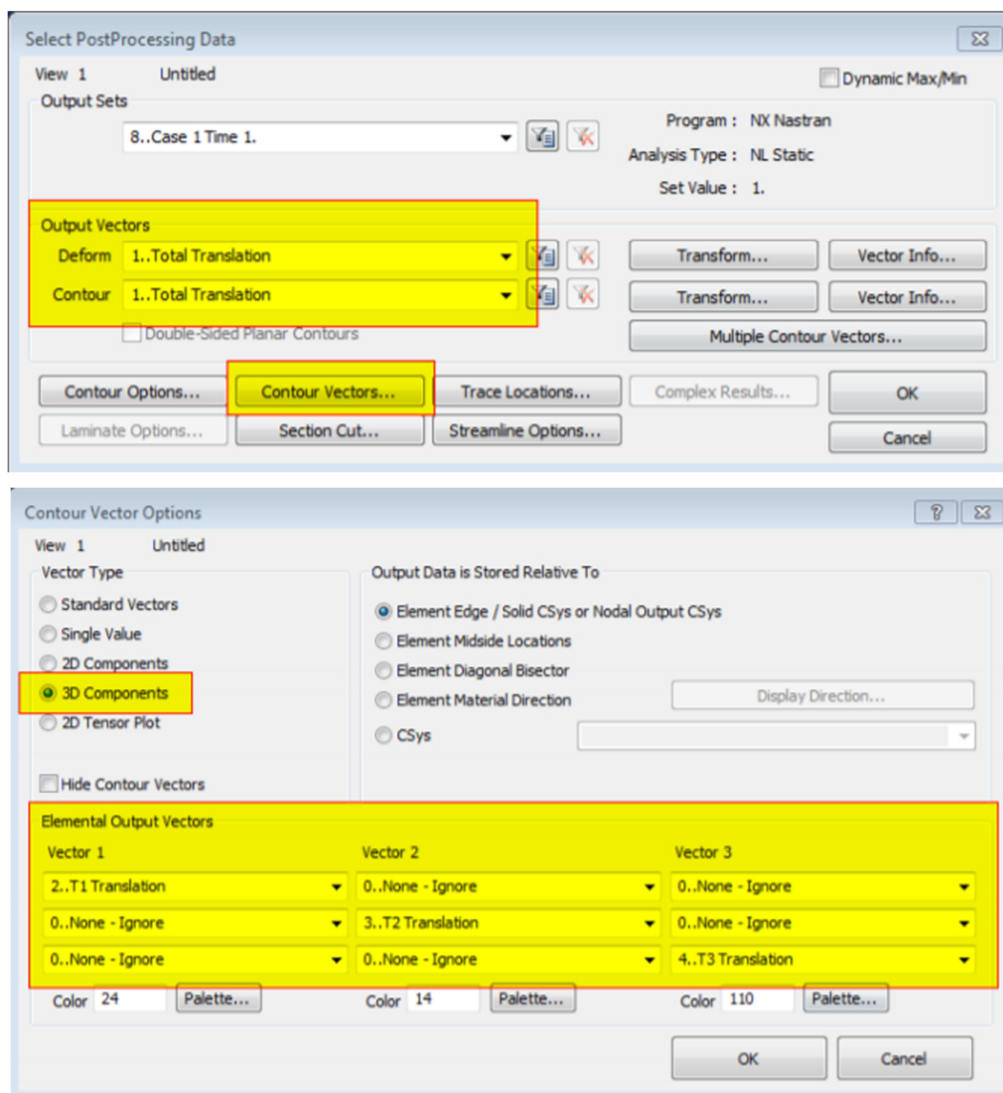
3. The display should now be of the deformed geometry with a single arrow at each node in the vector direction of the placement:



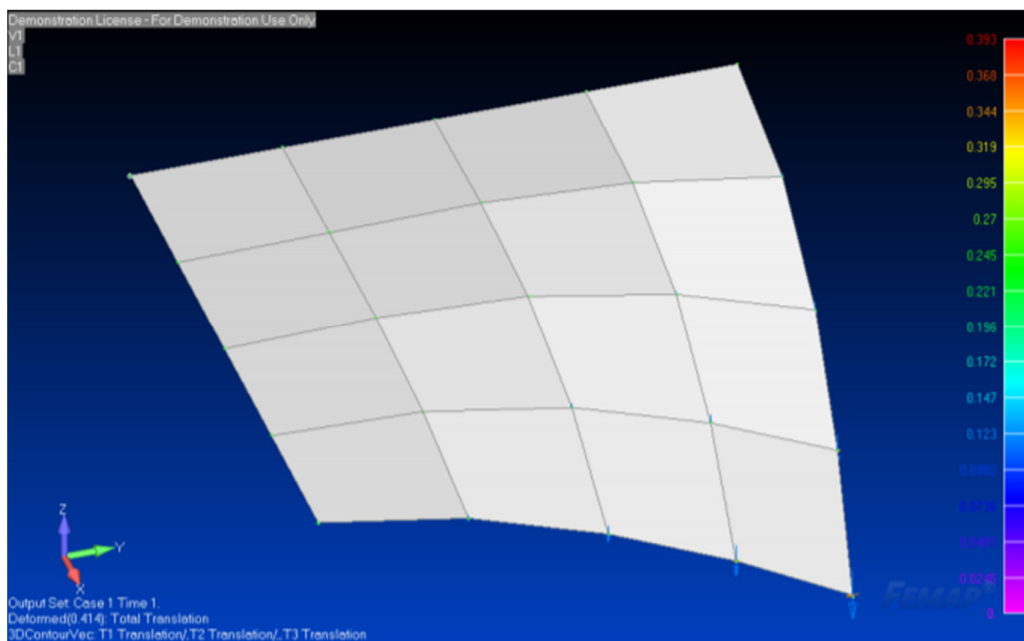
4. To view the 3 component directions which make up the resultant vector, select the command:

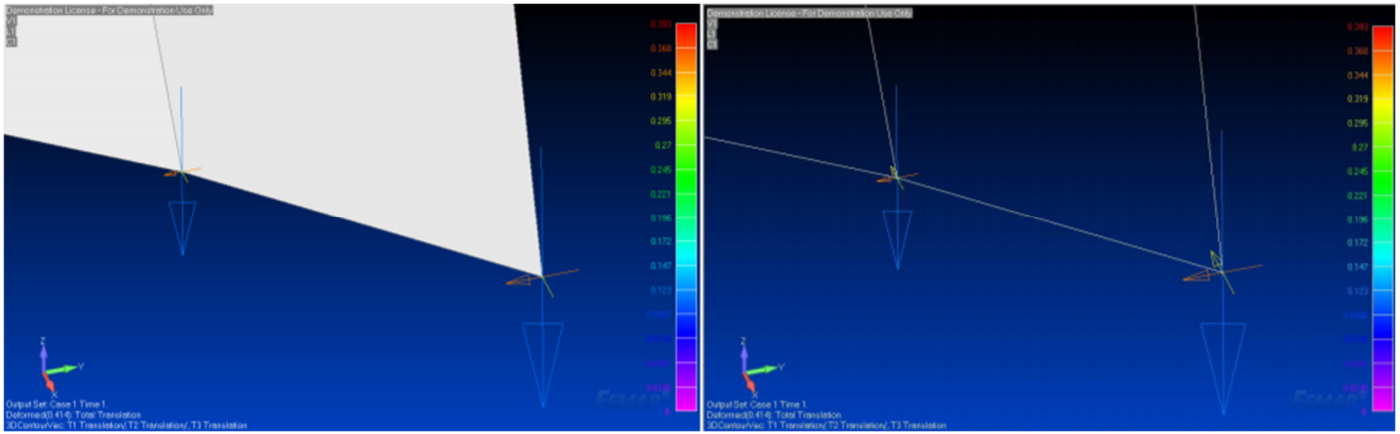
- View
- Select
- Contour vectors
- Contour style – vector
- Deformed and contour data
- Output vectors, deform = total translation, contour = total translation
- Vector type = 3D components
- Elements output vectors, vector 1 = t1 translation (1 st box in list), vector 2 = t2 translation (2 nd box in list), vector 3 = t3 translation (3 rd box in list)
- 'Okay' all the forms





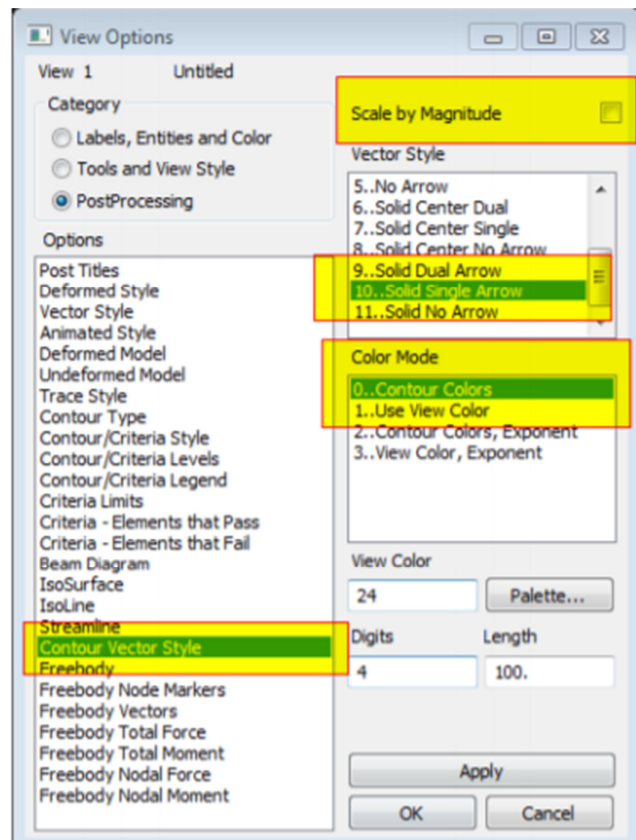
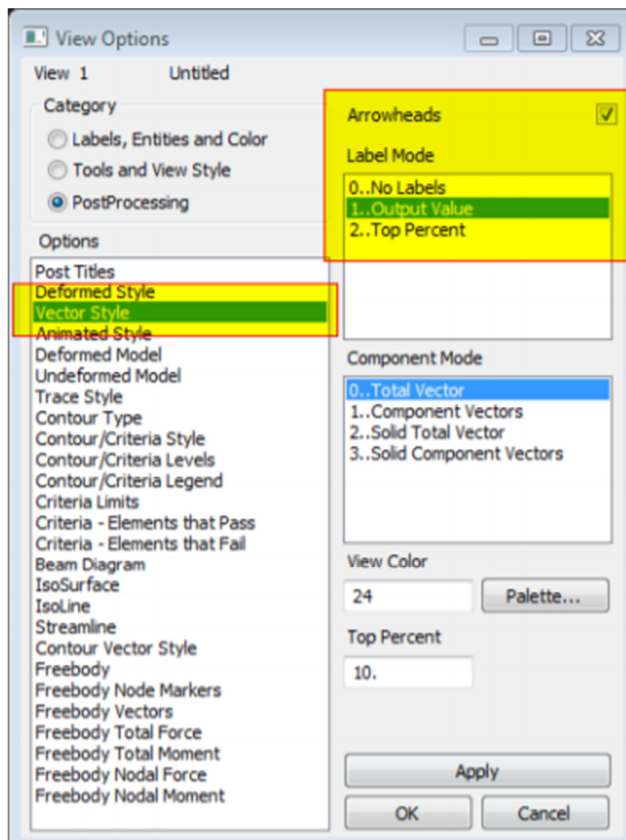
5. The display should now be of the deformed geometry with three arrows at each node – these arrows are in the vector directions of the x, y, z displacements:





6. The display of the arrows can be modified further to help visualise the results, for example:

- View
- Options
- Post-processing
- Vector style
- Arrow heads = on
- Label mode = output value
- Contour vector style
- Scale by magnitude = off
- Vector style = solid single arrow
- Colour mode = contour colours



7. The above changes would result in the following displays:

