1. Comparative analysis of FWI projections across islands' NUT03

In the framework of this study, the Canadian Fire Weather Index (FWI) was used as climate hazard indicator. The index was calculated for the fire season (1st May- 31st October) over the period 1986-2005 and the near (2046-2065) and distant (2081-2100) future periods, based on the two extreme Representative Concentration Pathways (RCPs): RCP2.6, and RCP8.5. The calculations were performed over selected GCM/RCM and only the grid cells that represent a land fraction: l.f. > 15 % for the Mediterranean islands participating in the SOCLIMPACT project (Baleares, Corse, Sardinia, Sicily, Malta, Crete and Cyprus) were retained for the subsequent analysis. Although the risk analysis was carried out at the island level, in the following figures (from Figure S1 to S5), a graphical display of the normalized FWI across time periods and RCPs at the highest administrative level is provided.

The fire danger for Baleares is among the lowest of the Mediterranean islands and only the central areas of Mallorca reach medium fire danger by the end of the century. It seems that under RCP2.6, the index slightly increases at the middle of the century, while it returns to present levels towards the end of the century. On the other hand, under RCP8.5, an increased fire danger exceeds 30% at the end of the century.

The fire danger for Corse is quite low and the majority of the island is characterized by very low and low fire danger, with few areas exhibiting medium danger. Though by the end of the century areas with medium fire danger increase substantially. Under RCP2.6, the index slightly increases at the middle of the century, while it returns to present levels towards the end of the century. The fire danger increases exceeding 30% at the end of the century under RCP8.5.

While the majority of Sardinia exhibits very low and low fire danger in the present climate as well as under RCP2.6 for the near and the distant future, it seems that under RCP8.5, many areas cross over into medium fire danger. Towards the end of the century fire danger increases into high fire danger mainly inland. The overall increase exceeds 40%.

In Sicily, most areas exhibit very low, low and medium fire danger in the present climate and under RCP2.6 for the near and the distant future as well, it seems that under RCP8.5, more areas exhibit medium danger at mid-century, while towards the end of the century a major part of the island will be under medium and high fire danger. The overall increase for the island exceeds 30%.

As Malta has small extent, the grid cells present low land fraction and are influenced by the sea. It seems that under RCP2.6, the index slightly increases at the middle of the century, while it halts towards the end of the century. On the other hand, under RCP8.5 there is an increased fire danger of about 20% at the end of the century. It should be noted that the fire danger values for all areas are classified as low, thus, for all scenarios/periods all areas belong to the same class.

The fire danger in Crete is among the highest in the Mediterranean. For the present climate, most areas of the island pertain to the medium fire danger classification. It seems that under RCP2.6, the index increases by almost 10% at the middle of the century, while this increase is halted towards the end of the century. On the other hand, under RCP8.5 the fire danger increases substantially, reaching a 30% increase at the end of the century, while there are areas in the central and southern parts of the island that cross over into very high fire danger.

The fire danger for Cyprus is the highest among the Mediterranean islands. According to the model simulations, some areas already belong to the very high fire danger class. It seems that under RCP2.6, the index slightly increases by 5%. On the other hand, under RCP8.5 the increase in fire danger exceeds 20% by the end of the century. Even though

this increase is lower than in other islands, the major part of the island will be under high and very high fire danger.

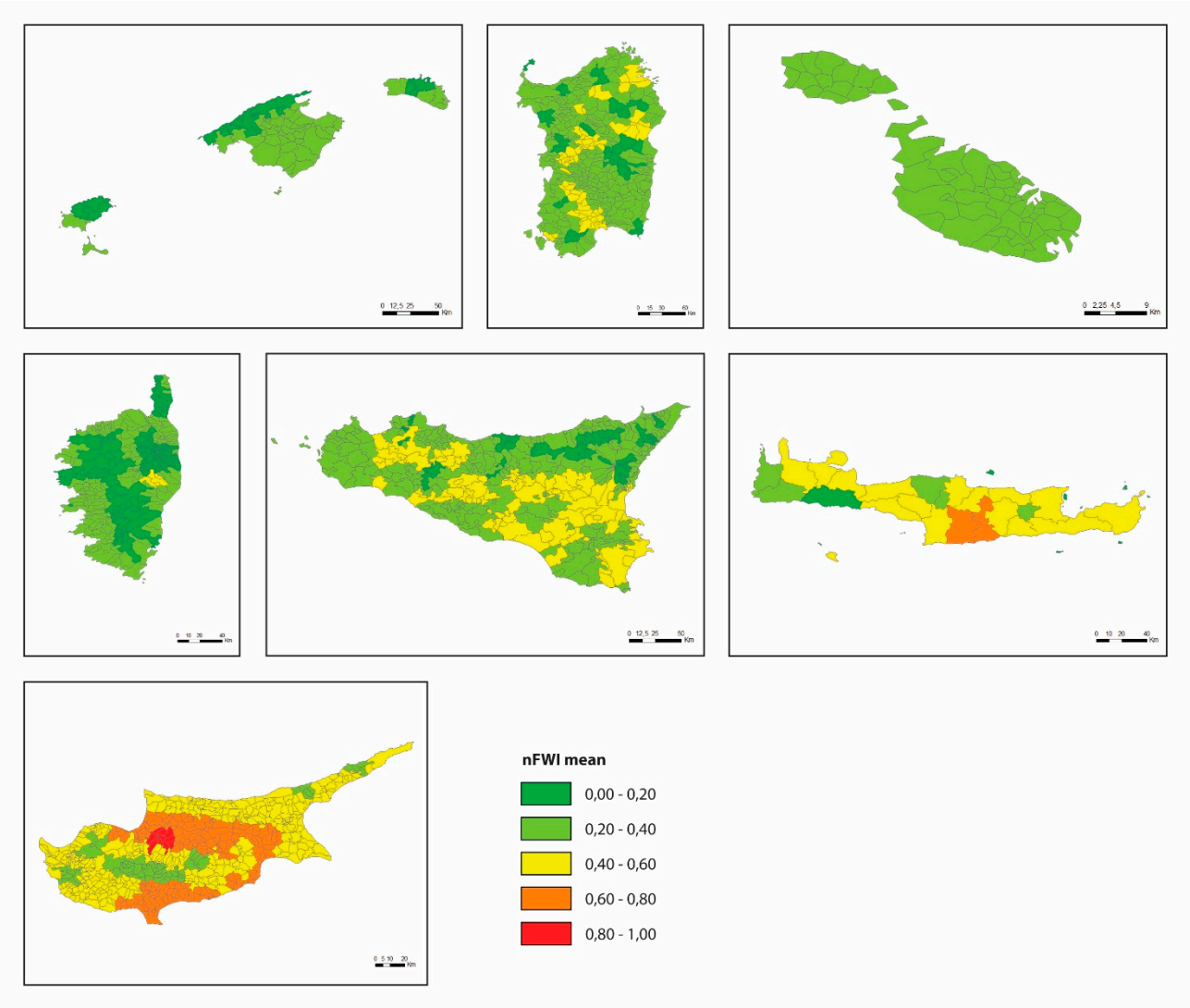

Figure S1. Spatial distribution of FWI model-ensemble values for the reference period (1986-2005) on sub-island level (municipality level) for the seven Mediterranean islands. The values are normalized across islands, scenarios and periods in order to be intercomparable.

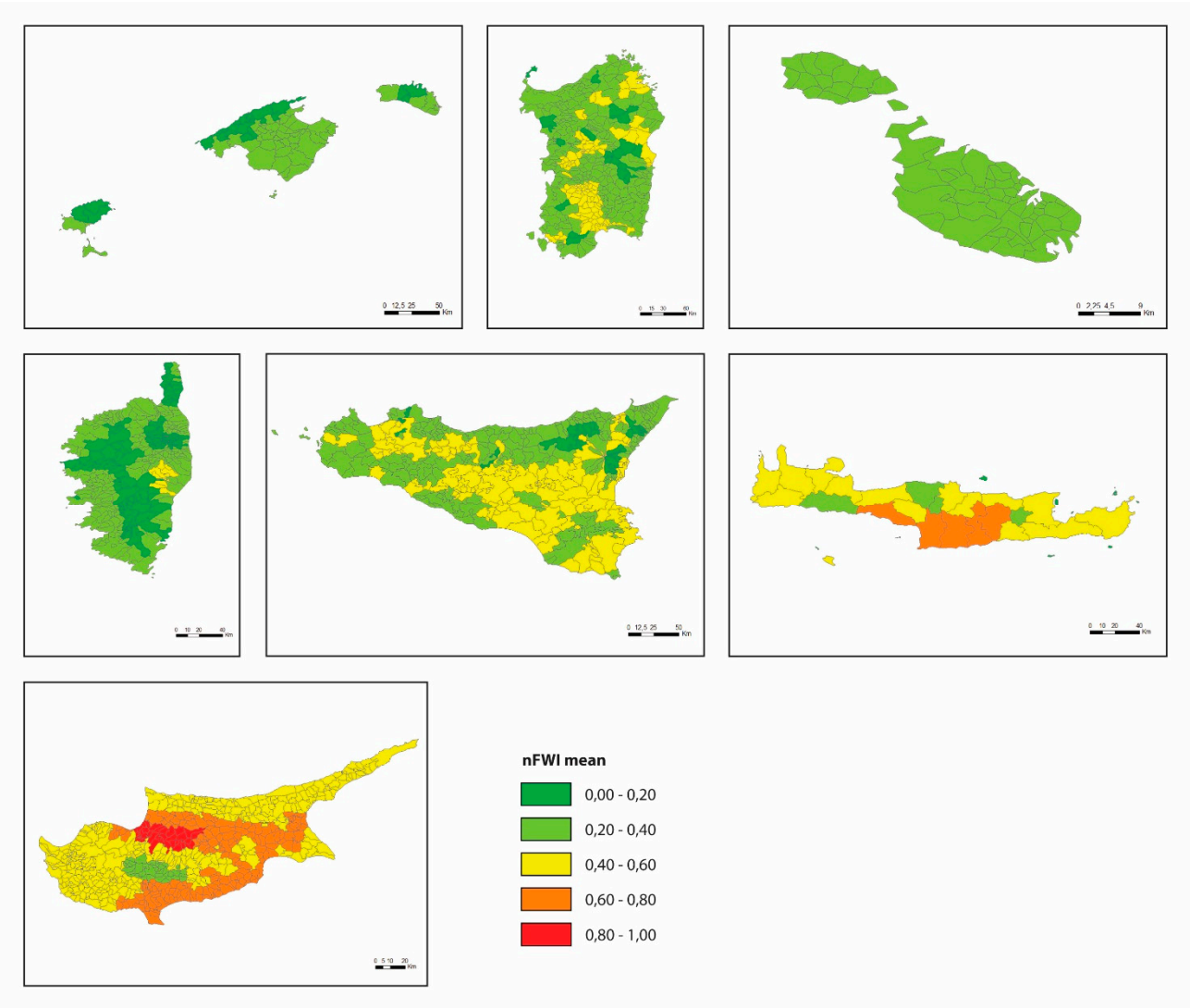

Figure S2. Spatial distribution of FWI model-ensemble values for the near future (2046-2065) under RCP2.6 on sub-island level (municipality level) for the seven Mediterranean islands.

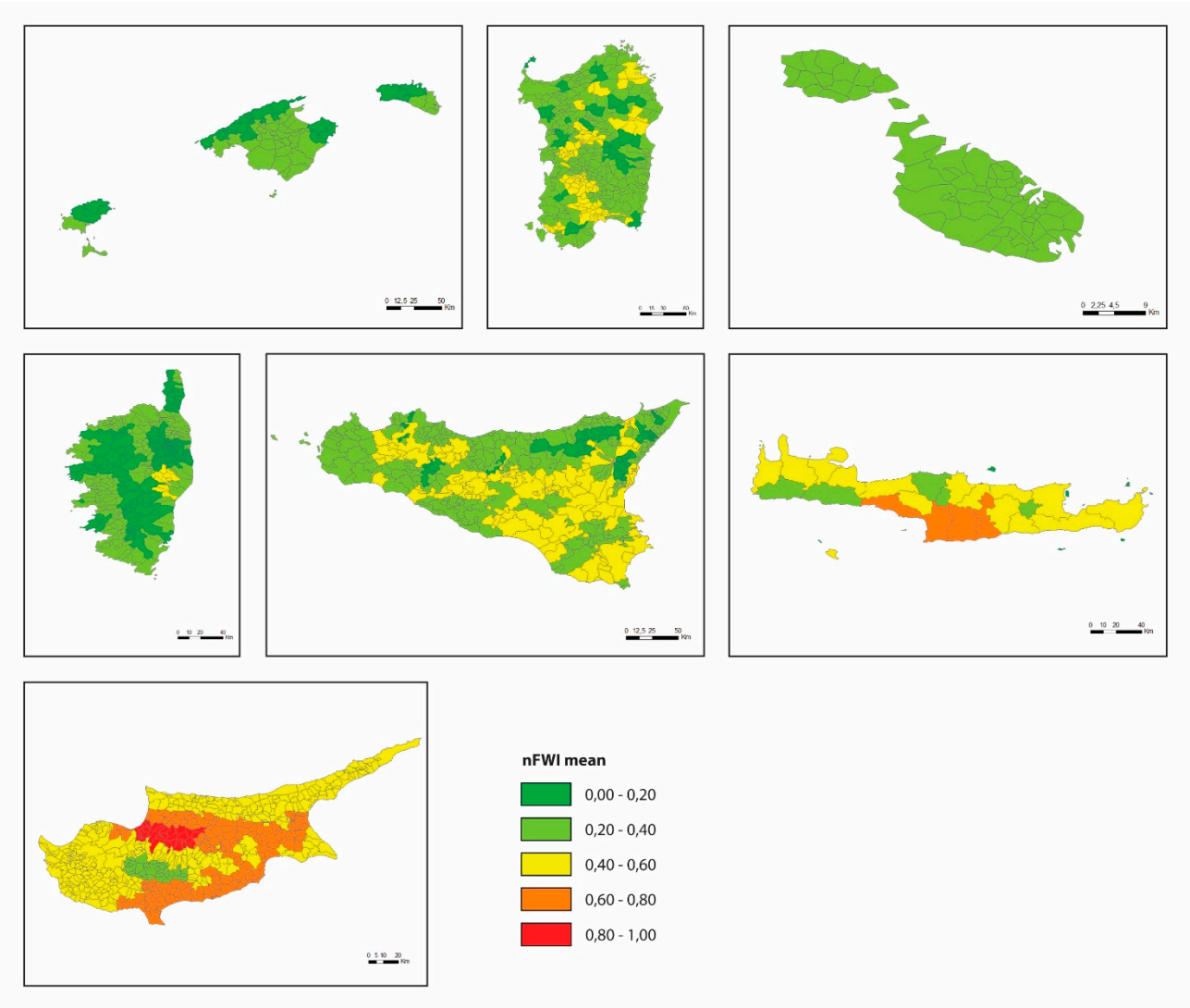

Figure S3. Spatial distribution of FWI model-ensemble values for the distant future (2081-2100) under RCP2.6 on sub-island level (municipality level) for the seven Mediterranean islands.

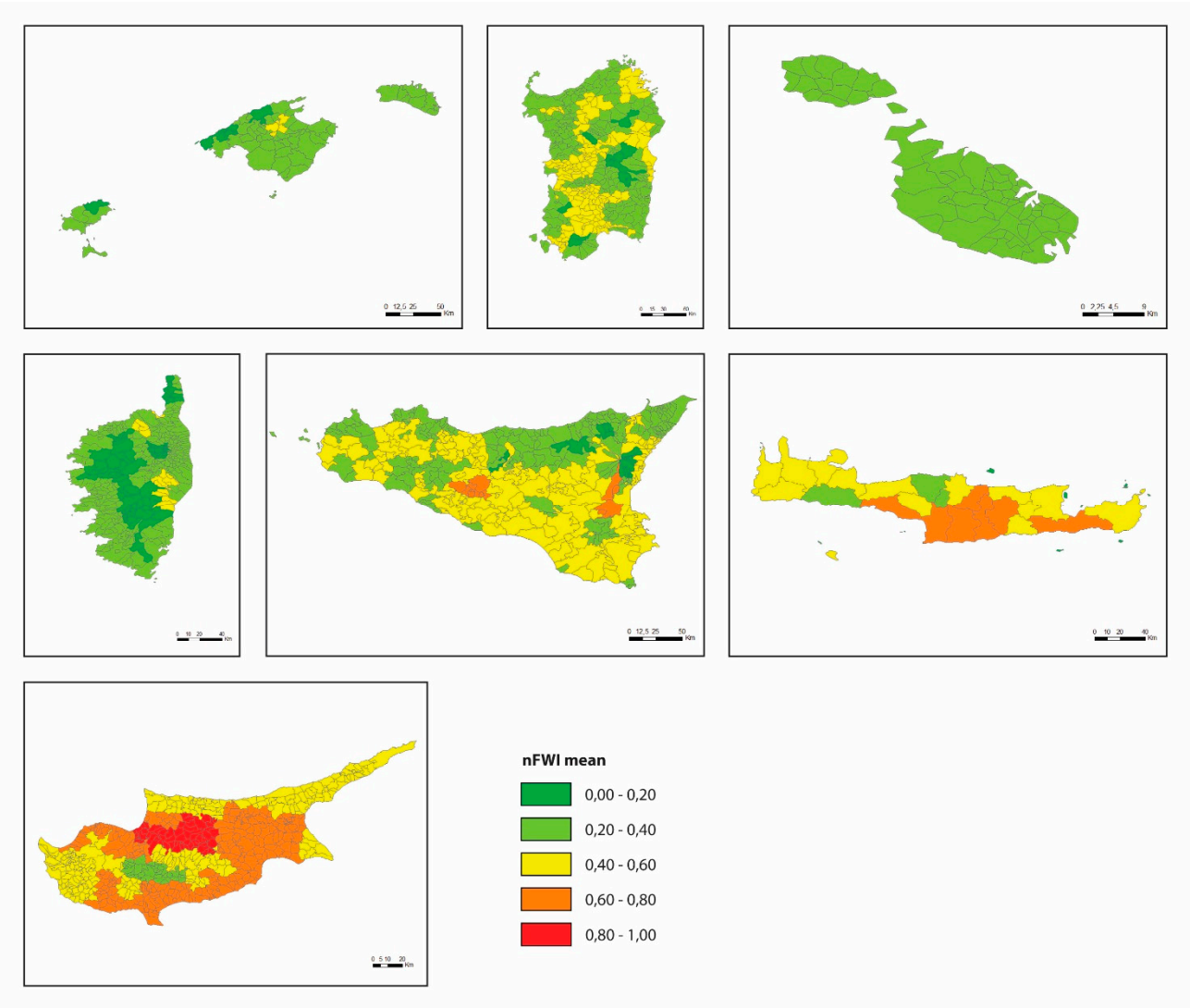

Figure S4. Spatial distribution of FWI model-ensemble values for the near future (2046-2065) under RCP8.5 on sub-island level (municipality level) for the seven Mediterranean islands.

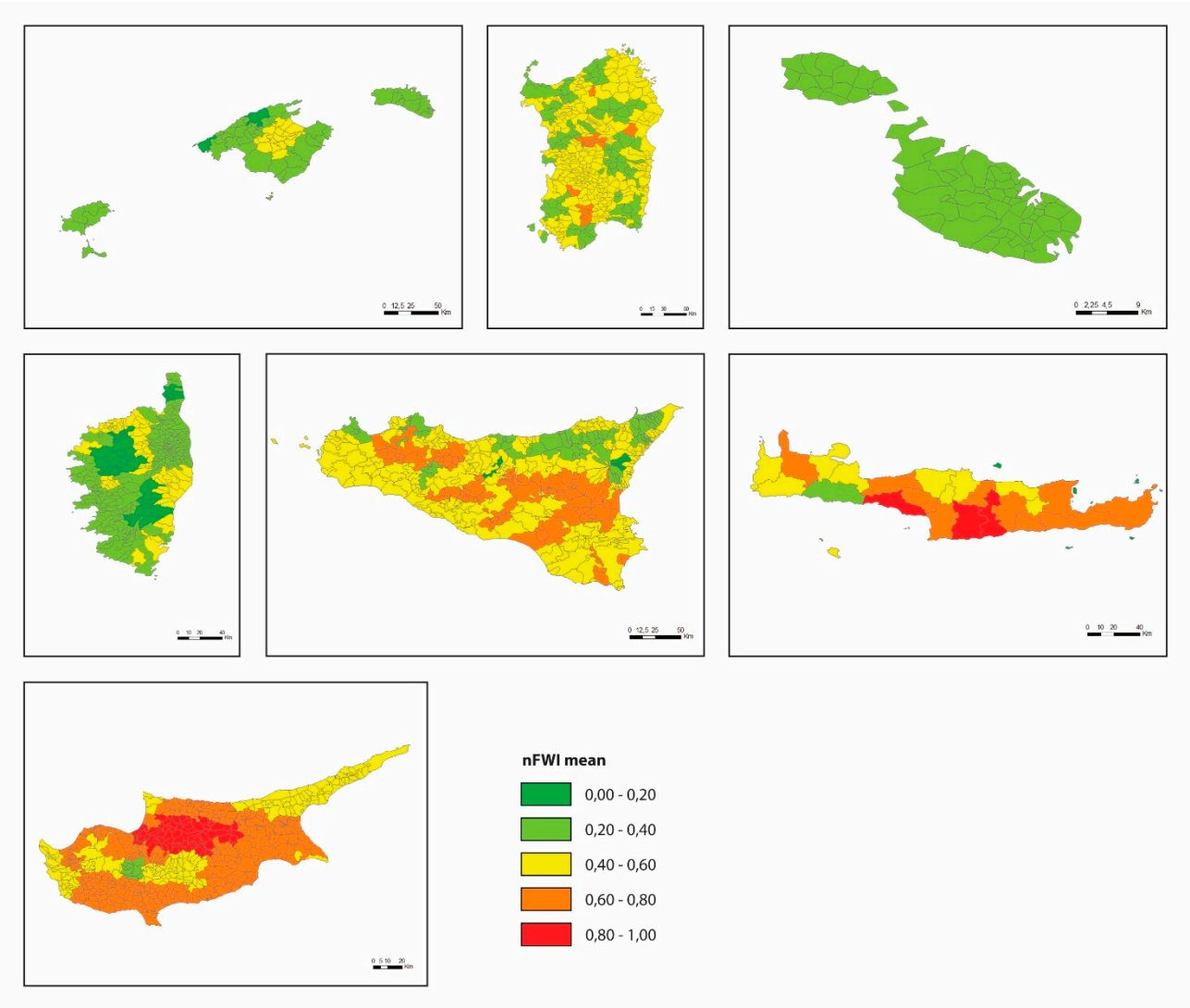

Figure S5. Spatial distribution of FWI model-ensemble values for the distant future (2081-2100) under RCP8.5 on sub-island level (municipality level) for the seven Mediterranean islands.