Dust REgional Atmospheric Model (DREAM) is updated to perform forecast of iron transport. High resolution database of mineral content in arid soils (GMINER30) and information of iron content in minerals are used as iron source mapping for the atmospheric model which performs uptake and transport of dust particles that contain information of iron content and update it in each time step. Iron part of dust particle is divided in soluble and non soluble fragment. The model takes into account atmospheric Fe processes and consequent Fe solubility increased with distance from sources in horizontal. Similar spatial dependence of Fe solubility is simulated in the vertical as well. As iron has large influence on ocean productivity, tests with DREAM-Iron model are performed for a case when large amount of dust is transported from Sahara region towards Atlantic Ocean. Obtained results show general agreement of simulated dependency of solubility on particle size with measurements.