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*Fundulus heteroclitus*, more commonly known as the mummichog, is a species of brackish water killifish found along the Atlantic Coast of the United States and Canada. Their saltmarsh habitats experience a wide range of temperatures, making the species exceptionally resilient to extreme fluctuations of environmental stressors. This study uses approximately 211 pairs of sagittal otoliths to age fish collected from different populations in Maine and Massachusetts that experience large fluctuations in temperatures, and correlates the age with metabolic and thermal tolerance traits to determine if age influences differences in tolerances to environmental stressors. It was determined that age has a significant influence on body mass and critical thermal maximum at both acclimation temperatures. Two-year old fish were found to be larger than one-year old fish, and one-year old fish were found to have a higher thermal tolerance than two-year old fish.