**Search for Thermophiles**

**Thermophile Information**

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| **Microorganism** | **Location** | **Color** | **Metabolism** | **Temp (°C)** | **pH** |
| *Green nonsulfur chloroflexus* | Mammoth Hot Springs, Upper, Midway, and Lower Geyser Basins | Green mats | Anoxygenic photosynthesis | 35-85°C  95-185°F | 7-9 |
| *Red algae*  *Cyanidioschyzon* | Norris Geyser Basin, Lemonade Creek, Nymph Creek | Bright green | Photosynthesis | 40-55°C  104-131°F | 0-4 |
| *Aquifex hydrogenobaculum* | Norris Geyser Basin and  Amphitheater Springs | Yellow and white streamers | Uses hydrogen, hydrogen sulfide, and carbon dioxide as energy sources; can use arsenic in place of hydrogen sulfide | 55-72°C  131-162°F | 3-5.5 |
| *Cyanobacteria oscillatoria* | Mammoth Hot Springs, Chocolate Pots | Orange mats | Photosynthesis; oscillating moves it closer to or away from light | 36-45°C  97-113°F | 6-8 |
| *Thermus thermus* | Lower and Upper Geyser Basins | Bright red or orange streamers | Chemosynthesis; can obtain energy for growth from nearby photosynthetic organisms | 40-79°C  104-174°F | 5-9 |
| *Sulfolobus acidocaldarius* | Norris Geyser Basin, Lemonade Creek, Nymph Creek | Dark Green | Chemosynthesis | 40-55°C  104-131°F | 0-4 |
| *Cyanobacteria synechococcus* | Mammoth Hot Springs, Upper, Midway, and Lower Geyser Basins | Green mats | Photosynthesis by day; fermentation by night | 52-74°C  126-165°F | 7-9 |
| *Green algae zygogonium* | Norris Geyser Basin, Lemonade Creek, Nymph Creek | Appears black or dark purple in sunlight | Photosynthesis | 32-55°C  90-131°F | 0-4 |
| *Cyanobacteria calothrix* | Mammoth Hot Springs, Upper, Midway, and Lower Geyser Basins | Dark brown mats | Photosynthesis by day; fermentation by night | 30-45°C  97-113°F | 6-9 |
| *Cyanobacteria phormidium* | Mammoth Hot Springs, Upper, Midway, and Lower Geyser Basins | Orange mats | Photosynthesis | 35-57°C  86-113°F | 6-8 |
| *Sulfolobus acidocaldarius* | Norris Geyser Basin, Lemonade Creek, Nymph Creek | Dark Green | Chemosynthesis | 40-55°C  104-131°F | 0-4 |
| *Red algae*  *Cyanidioschyzon* | Norris Geyser Basin, Lemonade Creek, Nymph Creek | Bright green | Photosynthesis | 40-55°C  104-13°F | 0-4 |
| *Green algae zygogonium* | Norris Geyser Basin, Lemonade Creek, Nymph Creek | Appears black or dark purple in sunlight | Photosynthesis | 32-55°C  90-131°F | 0-4 |