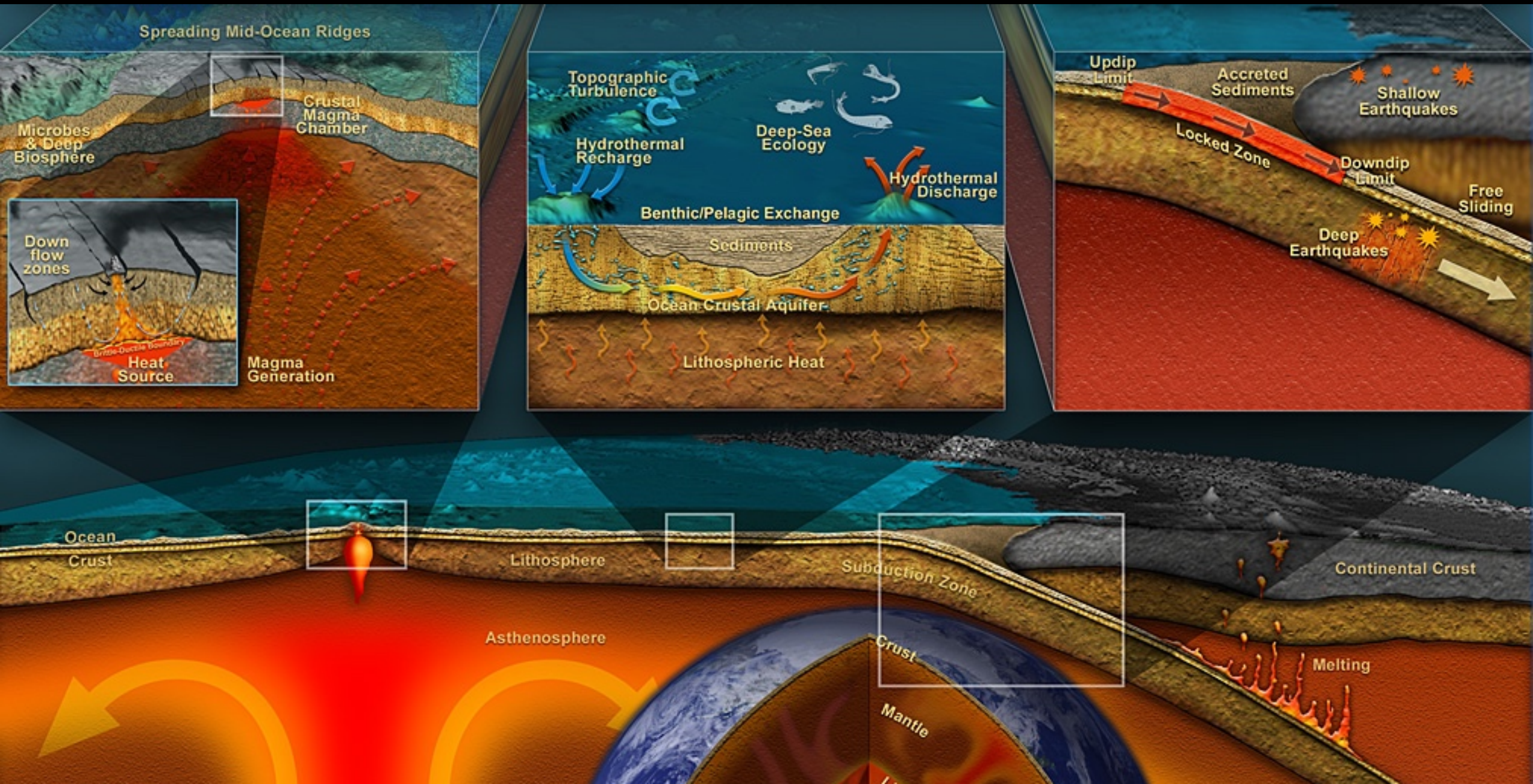
DESCEND2: recommendations



Technology recommendations

- **Develop and deploy vehicles/platforms that address long standing questions/underserved regions**
  - Serve the coastal environment
  - Full-Ocean Depth ROV / AUV
  - AUVs and ROVs provided as standard for an “increasingly science--capable” next generation of US ice-breakers
  - Need vehicles/technologies to support near and under ice research
  - Establish Arctic and Antarctic cabled observatories

Technology recommendations

- **Develop and deploy technologies that address long standing questions, enhance efficiency, promote participation**
  - Telepresence
  - Increased Automation
  - Improved *In Situ* Analysis and Collection; *In situ* molecular biological analyses
  - Improved survey technologies, incorporating acoustic and imaging capability with environmental sensors
  - Computer vision for identification
  - Enhanced navigation capabilities; e.g. basin-scale navigation systems for long--range under-ice operations

Technology recommendations

- **Prioritize activities that help address time-critical questions**
  - high resolution models for the deep ocean
  - Prioritize deployment of existing sensors/sampling equipment to begin to address biogeochemical data gaps

Behavioral / cultural recommendations

- **Breakdown funding stove-pipes within and among federal agencies, as well as with philanthropic partners.**
  - This is the highest priority

- **Heighten awareness of relevance of deep sea to society**
  - Deep sea habitats provide ecosystem services relevant to all marine life including commercially important species.
  - Seismic activity/geohazard awareness
  - Natural mineral resources

Behavioral / cultural recommendations

- **Improve data awareness and data management processes**
- **Diversity and nurturing of the next-generation of deep-ocean scientists**
- **Coordinated efforts towards open-source sensors/samplers, other platforms**
- **Multi-vehicle and multi-institution operations should be better coordinated**