

# Magmatic Evolution 2: A New View of Post-Differentiation Magmatism

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## Chapter Themes

Introduction *Shearer, Neal*

Summary of lunar magmatism in NVM1 *Shearer, Neal*

Earliest stages of post-differentiation magmatism LEAD: *Prissel* CONTRIBUTORS: *Neal, Shearer*

### Summary of observations (significant information from other chapters):

Mg-suite chronology, distribution, related volcanism  
Alkali-suite chronology, distribution, related volcanism  
Newly identified magmatic lithologies

### Implications for the Origin of the Mg- and Alkali-suites

Melting and ascent  
Petrogenesis

Mare magmatism LEAD: *Shearer* CONTRIBUTORS: *Bell, Fernandes, Gaddis, Head, Hiesinger, Magna, Neal, van Westrenen, Launville (thermal)*

### Summary of observations (significant information from other chapters):

Distribution  
Chronology (including <1.0 Ga)  
Composition

### Implications for the Origin of Mare Magmatism

Mantle Sources  
Melting and ascent  
Magmatism within the context of lunar thermal history  
Role of volatiles in melting and eruption  
Magmatic processes revealed by pyroclastic deposits  
Petrogenesis

KREEP Magmatism LEAD *Neal*, CONTRIBUTORS: *J. Taylor, Shearer, Stopar (IMPs)*

### Summary of observations (significant information from other chapters):

Distribution  
Chronology (including <1.0 Ga)  
Composition

### Implications for the Origin of Mare Magmatism:

Impact melts and endogenous melts of the lunar interior  
Magma chamber processes  
Source regions  
Petrogenesis

**Silicic-felsic magmatism** LEAD: *Glotch* CONTRIBUTORS: *Bell, Jolliff, Neal, Simon*

**Summary of observations (significant information from other chapters):**

Distribution  
Chronology (including <1.0 Ga)  
Composition

**Implications for the Origin of Silicic-felsic Magmatism:**

Mantle Sources  
Melting and ascent  
Role of volatiles in melting and eruption  
Petrogenesis

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